Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

(50 Years Serving Coastal Los Angeles and Ventura Counties)

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/rwqcb4

Gray Davis
Governor

August 20, 2001

Ms. Melinda Marks, Chairperson
Stormwater Quality Task Force
c/o Fresno Metro Flood Control District
5469 East Olive Avenue
Fresno, CA 93727

BEST MANAGEMENT PRACTICE GUIDE - RETAIL GASOLINE OUTLETS, CALIFORNIA STORMWATER QUALITY TASK FORCE, MARCH 1997

Dear Ms. Marks, Melinda

I am writing to request a letter from you or the SWQTF that briefly describes the intent of the 1997 BMP Guide for Retail Gasoline Outlets and whether it is obsolete in light of new information from studies and other information. As background information, this Regional Water Quality Control Board (RWQCB) is currently in the process of renewing the Los Angeles County Municipal Storm Water Permit. One of the permit requirements is the Standard Urban Storm Water Mitigation Program (SUSMP). The SUSMP essentially requires post-construction controls and numeric design criteria for certain developments and re-developments.

The SUSMP requirements were appealed to the State Water Resources Control Board (State Board) and the requirements for retail gasoline outlets (RGOs) were put aside pending further justification. In June 2001, the Los Angeles and San Diego RWQCBs submitted a technical report to the State Board for inclusion in the Administrative Record to support the application of numerical mitigation criteria to RGOs. On August 6, 2001, the Western States Petroleum Association (WSPA) submitted a comment letter and report titled, "Review of Retail Gasoline Outlets: New Development Design Standards For Mitigation Of Storm Water Impacts" to the Los Angeles RWQCB.

The August 6 letter among other things, states that storm water pollution at RGOs is best controlled through the implementation of the Task Force BMPs. Further, the letter also says that requiring treatment control BMPs at RGOs exceeds the MEP standard that is the standard of compliance to municipal storm water programs.

For your information, we have included a copy of the San Diego and Los Angeles RWQCB technical report dated June 2001 and the August 6, 2001 letter and report from WSPA. Thank you again and we look forward to your reply and to working with you and the Task Force on storm water issues.

R0004974

If you should have any comments or questions in regard to this letter or the Los Angeles program, please feel free to call me at (213) 576-6654, or Carlos Urrunaga at (213) 576-6655.

Sincerely,

Xavier Swamikannu, D.Env
Chief, Los Angeles/Long Beach Storm Water Program

Cc: Geoff Brousseau, Executive Director, BASMAA

R0004975

Ms. Melinda Marks, Chairperson
Stormwater Quality Task Force
c/o Fresno Metro Flood Control District
5469 East Olive Avenue
Fresno, CA 93727

September XX, 2001

Xavier Swamikannu, D. Env
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

BEST MANAGEMENT PRACTICE GUIDE - RETAIL GASOLINE OUTLETS, CALIFORNIA STORMWATER QUALITY TASK FORCE, MARCH 1997

Dear Dr. Swamikannu,

Thank you for your letter of August 15, 2001 in which you request a comment letter from the Storm Water Quality Task Force (Task Force) regarding the Retail Gasoline Outlet (RGO) BMP Guide of March 1997 (Guide).

The RGO BMP Guide was, as you know, put together by the Retail Gasoline Outlet Work Group (Group) set up by the Task Force. The Group included representatives of city and county agencies, State and Regional Board staff, petroleum companies, the Western States Petroleum Association (WSPA), and their consultants.

The Guide issued by the Task Force was the culmination of a literature review and discussions conducted by the Group regarding appropriate BMPs for fueling and other activities that take place at retail fueling operations. Although the Guide is informative, it was never intended to be a comprehensive or a compliance document. For example, the disclaimer section of the Guide reads:

> "Implementation of these best management practices can not be construed as compliance with all other applicable regulations, including local requirements." (Page 2)

Furthermore, the Task Force municipalities have never taken the position that good housekeeping practices alone, when implemented fully at all RGOs, will reduce the discharge of pollutants in storm water to the municipal storm sewer system (MS4) to the maximum extent practicable. No such determination has been made to date. Rather municipalities contemplated that additional conditions might apply to industrial/ commercial facilities such as RGOs to reduce the discharge of pollutants.

> "As part of its storm water management program, a municipality is required to develop a program to monitor and control pollutants in storm water discharges from its municipal system. These programs must include structural and source control measures to reduce pollutants from runoff from commercial and industrial areas. Thus it is important for commercial and industrial facilities located within municipalities to realize that there may be municipal requirements on storm water discharges from their facilities." (Page 3)

The Guide also states clearly the purpose of the document:

> "The intent of the SWQTF is that these best management practices serve as a "default" set of BMPs for use throughout California." (Page 4)

Certainly, studies and research conducted since 1997 and the experience of municipalities with program implementation since that time may have rendered the Guide obsolete. There is evidence that suggests that treatment control BMPs, if designed and maintained properly at new and significantly remodeled RGOs, are effective in controlling the discharge of pollutants, such as heavy metals and polycyclic aromatic hydrocarbons, in storm water.

I sincerely hope that my letter will have addressed any concerns you had on the Task Force's intended use of the Guide. If you have any questions, please do not hesitate to call me.

Sincerely,

Melinda Marks, Chairperson
Stormwater Quality Task Force

cc: Geoff Brosseau, Executive Director, BAFSMA

cc. DD
WP
XS ✓

Executive Advisory Committ
Stormwater Program - Los Angeles Cour

As 2h

August 22, 2001

2001 AUG 27 P 4:12

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

STAKEHOLDER INVOLVEMENT IN PREPARATION OF TENTATIVE ORDER OF THE LOS ANGELES COUNTY NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

I would like to thank you and your staff for taking the time to meet with the Executive Advisory Committee (EAC) to go over the Board's intentions in the development of the next National Pollutant Discharge Elimination System Permit. We all felt that the meetings were very productive and help both of our groups to understand where the other was coming from. It is with this success in mind that the EAC requests that we continue the dialog up to the printing of the Tentative Order.

On several occasions during our discussions, we found that issues which appeared to be areas of dispute were the result of poor language selection. It is obvious that our two groups utilize different jargon and that this sometimes gets in the way. The experience of "seeing it through the other party's eyes" has already helped us resolve several issues. We are requesting that the process continue up to the time that the Tentative Order is printed. For many of the issues on which we appeared to reach agreement we have not yet seen the revised proposed language. It would be a shame to have our work go for naught because we failed to follow through and work out the mutually agreed upon language. We feel a few meetings to go over the language you are contemplating will save time at the Board Public Hearing. The time saved in resolving minor wording issues will provide everyone with more time to work through the major issues.

Your thoughtful consideration of this request is greatly appreciated. Please contact either me or Mr. Mustafa Ariki of the Los Angeles County Department of Public Works, at (626) 458-5948, Monday through Thursday, 7:15 a.m. to 6 pm, to inform us of your decision.

Very truly yours,

Desi Alvarez
Chairman
Executive Advisory Committee

ES:es

cc: All Permittees
Chief Administrative Office (John Lounsbery)
State Water Resources Control Board
United States Environmental Protection Agency, Region 9

Draft Outline for Peak Discharge Study Meeting
August 23, 2001 @ 10:00
Los Angeles River Conference Room

- Discuss purpose of peak discharge study (Xavier)
- Status of Ventura County efforts (Matt)
- Discuss possibilities for development of study in LA County (location, site selection, parameters to be monitored, time needed to determine numeric criteria)
- Discuss possibility of achieving the goals of the New Development Impact study[1] with this study (depends on site selection and parameters monitored)
- Questions
- Other

[1] Regional Board is in process of scheduling meeting to discuss the City of Santa Clarita's involvement

LA COUNTY MS4 PEAK DISCHARGE STUDY MEETING 8-23-01

NAME	ORGANIZATION	PHONE	EMAIL
Megan Fisher	RWQCB	213-576-6790	mfisher@rb4.swrcb.gov
Glenn Howe	LACDPW		
Carolina Trevizo	LACoDPW	626-458-3978	Ctrevizo@dpw.co.la.ca.us
TJ Kim	LACDPW	626-458-4320	tjkim@dpw.co.la.ca.us
Wai So	LACDPW		
MATT YEAGER	RWQCB	213-576-6749	myeager@rb4.swrcb.ca.gov

R0004981

RESOURCE CONSERVATION DISTRICT
OF THE
SANTA MONICA MOUNTAINS

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MALIBU CREEK WATERSHED ADVISORY COUNCIL MEETING

Tuesday, September 4th at ***6:30 p.m.*** *(note time change)*

Las Virgenes Municipal Water District Board Room
4332 Las Virgenes Road, Calabasas

1. Call to Order
2. Introductions
3. Approval of Minutes
4. Status Reports:

   Watershed Management Area Plan (WMAP)
   Malibu Lagoon Task Force
   Habitat and Species Task Force
   (formerly Exotic Species Task Force & Steelhead Recovery Task Force)
   Water Quality/Monitoring
   Education Committee

5. Fine Tuning the Council
   Melissa Cole Johnson, RCD
6. Presentations:
   a. **Status of the Los Angeles County Municipal Storm Water Permit Renewal**
      Carlos Urrunaga, LARWQCB
   b. Nutrient and Coliform TMDL's for the Malibu Creek Watershed
      Rod Collins, LARWQCB
   c. Tidal Influences on Bacteria Levels in Malibu Lagoon and Local Beaches
      Randal Orton, LVMWD
7. Public Comment and Announcements
8. Next Meeting's Date/Agenda

R0004982

Please email Melissa Cole Johnson at mcjohnson@rcdsmm.org with questions/comments.

♻ Printed on Re-Vision Bond Paper, 100% Recycled: 50% Tree-Free Kenaf, 50% Post Consumer Waste, Chlorine Free

Handout
04 Sept 2001

For further Information regarding:

General Storm Water Information (Statewide)
http://www.swrcb.ca.gov/stormwtr/index.html

For Local Information:

LA County Municipal Storm Water Permit, see:
http://www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html

SUSMPs, see:
http://www.swrcb.ca.gov/rwqcb4/html/news/susmp/susmp_details.html

For TMDLs please see:
http://www.swrcb.ca.gov/rwqcb4/html/programs/regional_programs.html

September 4, 2001

Overview of the Los Angeles County Municipal Storm Water Permit

Malibu Creek Watershed Advisory Council Meeting

Carlos Urrunaga, Environmental Specialist III
Coastal Storm Water Unit

California Regional Water Quality Control Board
Los Angeles Region

R0004984

What is a Municipal Permit?

- 1987 Clean Water Act
- Nov 16, 1990, Federal Regulations promulgated
- 1st LA Permit adopted June 18, 1990
- 2nd LA Permit adopted July 15, 1996

R0004985

Permitting History

- First LA County MS4 Permit [1990]
  - Phased in cities over a three year period (3 Phases)
  - Assess existing pollution control best management practices
  - Propose additional best management practices
  - Characterization monitoring
  - 13 Minimum BMPs as a baseline

- Second LA County MS4 Permit [1996]
  - Develop and implement model programs - public education, development planning, development construction, elimination of illicit connection/ discharges, public agency activities
  - Adopt storm water / urban runoff ordinance
  - Conduct receiving water impact monitoring

R00004986

Permit

- Changes from the 1996 Permit
  - Includes State Board's Receiving Water Limitations (to be consistent statewide)
  - Includes provisions to enforce TMDLs without reopener
  - Eliminates the Notice of Intent to Meet and Confer provision (consistent with the State's Progressive Enforcement Policy)
  - Requires inspection of industrial/ commercial facilities (As specified in 40 CFR 122.26)
  - Lowers the threshold for construction from 2 to I acre (To be consistent with Ventura County and Long Beach Permits)
  - Incorporates SUSMP requirements
  - Requires a pro-active Illicit connection/ illicit discharges elimination program (As envisioned by USEPA and provided for in federal guidance)
  - Includes specific requirements for catch-basin cleaning and street sweeping to control trash (Permittees rank their catch basins and streets and comply with preset cleaning frequency)
  - Requires evaluation to reduce toxicity based on monitoring results

R0004987

Permit Structure

- **FINDINGS**
- **Part 1. DISCHARGE PROHIBITIONS**
- **Part 2. RECEIVING WATER LIMITATIONS**
- **Part 3. STORM WATER QUALITY MANAGEMENT PLAN (SQMP) IMPLEMENTATION**
- **Part 4. SPECIAL PROVISIONS**
  - A.Best Management Practice Substitution
  - B.Public Information and Participation Program (PIPP)
  - C.Industrial/Commercial Facilities Program
  - D.Development Planning Program
  - E.Development Construction Program
  - F.Public Agency Activities Program
  - G.Ilicit Connections and Illicit Discharges Elimination Program
- **Part 5. DEFINITIONS**
- **Part 6. STANDARD PROVISIONS**
- **MONITORING AND REPORTING PROGRAM**

R0004988

Receiving Water Limitations

- Standard for Compliance
  - Shall not cause or contribute to violation of WQ standards and objectives
  - Shall not cause or contribute to a condition of nuisance

- Authorities
  - CWA Section 301(b)(1) (c)
  - CWC Section 13263 (a)
  - *Defenders of Wildlife v Browner* (9th Cir. 1999)
  - Memorandum from State Board Office of Chief Counsel dated Oct. 14, 1999. [Agenda p 27]
  - Memorandum from USEPA General Counsel dated Jan. 9, 1991 [Agenda p 33]

R0004989

Public Information and Participation Program

- Improves Current Program
  - Increased coordination among Permittees
  - Pollutant-specific outreach
  - Annual submittal of the PIPP to the Regional Board Executive Officer for review and approval
  - Corporate Outreach Program to educate environmental managers of gas stations and restaurant chains
  - Encourages a voluntary Business Assistance Program to provide technical, non-enforcement assistance to small businesses
  - Educational site visit program upgraded to inspections
    - Industrial and commercial

R0004990

Inspections

- Key goal: Get Permittees and business to better focus on preventing pollution.
- Performance Measures
  - Types of facilities: specified in permit
  - Frequency of inspections: specified in permit
  - Level of inspection: specified in permit - Permittees must require compliance with:
    - model programs (i.e. approved BMPs)
    - local ordinances

R0004991

Inspections

- Enforcement
  - Phase 1 facilities - RB lead.
    - Permittees must check for WDID and presence of SWPPP (do not have to evaluate the SWPPP) - refer cases where facilities do not have either.
  - Others facilities - Permittee lead.
  - Requires interagency coordination and support.

R0004992

CLEAN

Inspections - Summary

- More aggressive approach needed to effect behavioral changes on the part of business, and to better protect water quality.
- Inspections need to address BMPs to prevent pollution - not just wait for an illicit discharge.
- The "focused" approach will optimize scarce state and local resources, toward a better State and local partnership.

R0004994

Development Planning Program

- Regulatory Requirement
  - implement and enforce controls for new development / significant redevelopment [40CFR 122.26 (d)(2)(iv)(A)(2)]

- Existing Permit
  - System for designating project as priority
  - Master List of BMPs
  - Standard Urban Storm Water Mitigation Plans
  - Guidelines on storm water for CEQA documents
  - Update of General Plans to include storm water considerations
  - Information program for developers

R0004995

Development Planning Program

- New Permit
  - Development of criteria for peak discharge control to prevent downstream erosion and protect habitat
  - Requirements applied to all developments meeting categories and thresholds
  - Requirements applied to projects in environmentally sensitive areas
  - Numerical mitigation criteria not applied to hillside developments less than 1 acre.
  - Gas stations subject to numerical mitigation criteria if threshold [100 or more ADT] exceeded
  - Industrial/ Commercial threshold lowered [to 1 acre in 2003]
  - General Plan update [requires notice to Regional Board]
  - Water Quality Flow criteria added for flow based BMP design
  - Custom Technical Guidance after California BMP Handbook update

R0004996

Development Construction Program

- All sites [regardless of size]
  - Manage construction waste
  - Eliminate non-storm water discharges
  - Control Sediment
  - Minimize erosion
  - Limit grading during wet season

R0004997

Development Construction Program

- For sites 1 to 5 acres
  - Require local SWPPP to ensure compliance with local ordinances and inspect to verify
  - Require proof of coverage under the State General construction storm water permit and pollution prevention plan has been prepared [effective March 2003 per USEPA Phase II regulations, 64 *Fed. Reg.* 68722]
  - Keep record of grading permits issued

R0004998

Development Construction Program

- For sites 5 acres and greater:
  - require local SWPPP to ensure compliance with local ordinances and inspect to verify
  - require proof of coverage under the State General construction storm water permit and pollution prevention plan has been prepared
  - keep record of grading permits issued

R0004999

Development Construction Program

- What's new?
  - Requirement to obtain proof of coverage under the State permit program for sites between 1-5 acres beginning March 2003.
  - Requirement to prepare a local SWPPP for projects 5 acres or more to ensure compliance with the local ordinance

R0005000

Public Agency Program

- Continue current program with improvements:
  - Site specific SWPPPs at Permittee Facilities
  - Implementation of BMPs at Permittee Facilities
- Significant changes to current program:
  - Assessments of measures to determine trash reductions;
  - Implement a response plan for sewer overflows (2 tiers);
    - Limited for non-owners/operators of sewer system
    - Owner/operator of sewer system
  - Public Construction equivalent to private construction sites;
  - Permittee wash racks plumbed to sewer for new sites and any redeveloped sites;
  - Protocol for pesticide application and storage;

Public Agency Programs (Catch Basin Cleanouts)

- Permittees Designate Catch Basins as Priority A, B, or C.
  - A - Highest volumes of trash
  - B - Moderate volumes of trash
  - C - Low volumes of trash

- Catch Basin Cleaning Frequency
  - A - At least 1time per month during wet season
  - B - Until July 1, 2003, cleaned whenever 40% full, wet season
  - B - After July 1, 2003, cleaned whenever 25% full, wet season
  - C - When necessary, but no less than 1 time per year
- For special events (i.e. Laker parade, screens on catch basins)

Public Agency Programs
Streets and Roads

- Permittees Designate Street Segments as Priority A, B, or C.
  - A - Highest volumes of trash
  - B - Moderate volumes of trash
  - C - Low volumes of trash
- Street Sweeping Frequency
  - A - At least 2 times per month
  - B - Until July 1, 2003, cleaned at least 1 time per month
  - C - When necessary, but no less than 1 time per year

Public Agency Programs
Dry Weather Diversions

- Permittees to prioritize drains for possible dry weather diversion of flows

- Permittees to investigate strategic locations for dry weather treatment devices

IC/ID - Existing Permit

- Permit: Requires development of a model program
- Model Program: Relies heavily on a passive approach
  - field screening for illicit connections "during scheduled maintenance"
  - no performance measures

R0005005

Surveys - Illicit Connections to Underground Drains

- Existing permit has no performance standards.
- Model program specifies a field survey only during scheduled maintenance.
- Most Permittees cannot estimate:
  - total length surveyed during scheduled maintenance
  - total length of their storm drains

R0005006

Storm Water Monitoring Program

- Objectives:
  - To assess permit compliance
  - To measure and improve SQMP effectiveness
  - To assess chemical, physical, and biological impacts of receiving waters from urban runoff
  - To characterize storm water discharges
  - To identify sources of pollutants
  - To assess overall health and long-term trends in receiving water quality
  - To provide information for TMDL development

R0005007

Significant Changes in Monitoring Program

- Added Tributary monitoring for source ID and TMDL info
- Moved Shoreline Monitoring from Hyperion permit to draft (City of LA will continue to conduct monitoring)
- Added participation in Regional Monitoring (Bight-wide 03 Study), sediment sampling in estuaries
- Added Bioassessment (at least 20 stations)
- Added new Special Studies
  - New Development Impact Study
  - Peak Discharge Impacts Study
  - BMP Effectiveness Study

R0005008

Los Angeles County
Municipal NPDES Permit
Executive Advisory Committee
Wednesday, September 12, 2001 - 1:30 P.M.
Los Angeles County Department of Public Works
900 South Fremont Avenue, Alhambra
12th Floor Conference Room

1. Call to Order
2. Approval of the August 8, 2001, Minutes
3. Regional Board Report
4. Draft NPDES Permit Discussion
5. Total Maximum Daily Load (TMDL) Discussion
   - Task Force Report
6. Presentation by Pat Haddon of WERF Storm Water Research
7. Public Comments
8. Closed Session Discussion
9. Next Meeting - October 10, 2001
10. Adjournment

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September 12, 2001
EAC Meeting
Notes from Dan Radulescu

Dennis Dickerson's comments:

- Special Meeting on 26th – EAC members. Floor 1 – Conference room "D" 2:00pm-4:00pm (validation on issues already discussed)
- Third Draft
- Address specific issues we talked about last time discussed in the EAC meeting (the language discussed)
- Language with specific issues
- Third draft on October 10th
- Comments on Nov. 9th

Wendy Phillips' comments:

- Inspection of industrial facilities through LA County City of LA.
- Timeline – due to administrative processing may take some months
- (USEPA – Tetra Tech contract – Ventura Co. inspections industrial facilities

TMDL:

- First TMDL considered and voted upon (LA River). Then the second will be considered and voted upon (Ballona)
- Request for participation for future TMDL process by the Permittees. Dennis Dickerson encourages participation to the working groups for TMDLs specific for watersheds.
- (Watershed Management Committee vehicle for updates on TMDLs??)
- Coordination through different mechanisms about TMDLs, Basin Plan updates, or different items of interest?
- Identify the stakeholder involvement? In TMDLs?

WERF:

- Local governments R&D for SW projects
- EPA, major companies
- NPDES compliance issues
- $1 investment – get out $3
- BMP monitoring program
- Special advisory panel
- As a subscriber access to all the reports and projects
- Peer review for WERF through Non-point source Committee

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

TELECOPY COVER SHEET

DATE: 9/17/01

TO:

Name: DAN RADULESCU

Agency: RWQCB - L.A.

Telephone Number: (213) 576-6668

Telecopier Number: (213) 576-6660

FROM:

Name: Carolina Trevizo

Division: WATERSHED MANAGEMENT DIVISION

Telephone Number: (626) 458-3978

Telecopier Number: (626) 457-1526 or (626) 458-3534

NUMBER OF PAGES (including cover sheet) 3

REMARKS: As requested...

P:\...\ADMIN\CLERICAL\FORMS\FAXSHT

R0005011

Los Angeles County NPDES Stormwater Permit

September 12, 2001

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JOHN DORSEY	City LA/Stormwater		jdorsey@san.lacity.org

R0005013

9-17-2001 9:23AM FROM P.3

From: Xavier Swamikannu
To: Betsy Jennings
Date: 9/13/00 3:30PM
Subject: Re: SUSMPs

Yes, I have an answer. The intent was to cover the scenario you present.

The intent was to include redevelopment projects in the specified categories where a developer takes 5,000 square feet of exisiting structure, razes it to the ground, and builds anew without extending. That would be considered "replacement" of impervious surfaces to differentiate it from "addition". "Creation" is a less exact term for "replacement".

Otherwise, the effect of the criteria on storm water discharges from redevelopment projects would be only to prevent water quality from getting worse, but make no advances to improve water quality as communities redevelop over generations.

[AR Ref]
03/08 SUSMP p 4. Definition of redevelopment discusses "addition", "expansion", and "replacement" of structures and footprint

Jan 26 RB Hearing Transcript Vol 1 at p 24 - Dennis in his opening statement states that the purpose of the requirements is in part to make developed lands less polluting over time, as cities rebuild over generations.

Thanks for asking.

Xavier

>>> Betsy Jennings 09/13/00 01:44PM >>>
I received a question about the meaning of "added or created" regarding redevelopment. Specifically, if a developer takes a 5,000 square foot site, demolishes the existing structure and rebuilds on the same site, is that included? Do you have an answer as to the Regional Board's intent? Is there anything in the record you can point me to? Thanks

CC: Dennis Dickerson; Jorge Leon

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

September 20, 2001

Mr. David Fike
Director of Public Works
City of Monrovia
415 South Ivy Avenue
Monrovia, California 91016-2888

Dear Mr. Fike:

Municipal Storm Water Permit for the County of Los Angeles and Municipalities

Thank you for your letter, dated April 18, 2001, in which you expressed your concern regarding the procedure for renewing the municipal storm water permit for the County of Los Angeles and the tentative agenda for our workshop on April 24, 2001. We received similar letters from the Cities of Paramount and Signal Hill.

Staff at the Regional Board are committed to making all reasonable efforts to facilitate public review and comment on the proposed permit, which our Board will consider for adoption in November 2001. As we have discussed at our workshops on April 18, 2001 and July 26, 2001, we have prepared a renewal schedule that allows permittees and interested parties at least one month to review each of a first draft (issued March 16, 2001), second draft (issued June 29, 2001), and third draft (scheduled to be issued on October 10, 2001) of the permit. In addition to your written comments on the first and second drafts and oral comments at the workshops on April 24th and July 26th, you will have opportunity for written comments on the third draft and oral comments before the Board at the public hearing scheduled for November 29, 2001. Finally, we are committed to continuing to meet with the Executive Advisory Committee, permittees, and other interested parties to facilitate communication prior to adoption.

Thank you for your interest in renewing the municipal permit. Should you have questions, please do not hesitate to contact Wendy Phillips at (213) 576-6618 or Xavier Swamikannu at (213) 576-6654.

Sincerely,

Dennis A. Dickerson
Executive Officer

cc: Mustafa Ariki, County of Los Angeles Department of Public Works

R0005015

From: "Ciuba, Stan" <sciu461@ECY.WA.GOV>
To: "'Xavier Swamikannu'" <XSWAMI@rb4.swrcb.ca.gov>
Date: 9/20/01 8:04AM
Subject: RE: FW: Manual and Questions

I apologize for not getting back to you right away. It's been hectic here in the last week or so.

The answer to your question is that the gas station BMPs in the new Manual (published last week), is virtually the same as in the 1992 Manual. The language has been changed and several items are expressed more directly. The new 2001 Manual applies to Western WA and is offered as technical guidance to local governments and others. However, the BMPs in the new Manual may be incorporated into the various municipal and industrial general NPDES Stormwater Permits. Exactly how and when that will happen has not been determined.

Best regards, Stan

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Thursday, September 13, 2001 2:38 PM
To: Ciuba, Stan
Cc: Dan Radulescu
Subject: Re: FW: Manual and Questions

Hello Stan:

Some follow-up questions.

Have these requirements for gas-stations been in effect for certain parts of Western Washington State for some time....for e.g. the Puget Sound Area?

What were the requirements for gas stations in the Stormwater Management Manual for the Puget Sound Basin (1992)?

Xavier

>>> "Ciuba, Stan" <sciu461@ECY.WA.GOV> 09/12/01 01:37PM >>>
Xavier, the new manual, which should be published in the next couple of weeks, applies to new and redevelopments. Local governments can also use it for retrofits as they judge necessary. The impervious containment area of the fuel island is considered a pollutant generating source requiring treatment for hydrocarbon pollutants. The 5000 square foot threshold pollutant generating surface applies to the parking area adjacent to the fuel island and includes any convenience store parking area. Hope this helps. Stan

-----Original Message-----
From: Lynch, Donna
Sent: Wednesday, September 12, 2001 9:42 AM
To: Ciuba, Stan
Subject: FW: Manual and Questions

Stan,
Please answer these gas station questions. Thanks.

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Monday, September 10, 2001 5:36 PM
To: Lynch, Donna
Subject: RE: Manual and Questions

Would you kindly respond to the following two questions:

1. Does a new gas station development that creates 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?

2. Does an existing gas station that replaces 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use.?

Thanks for your assistance.

Sincerely

Xavier
Storm Water Program
CalEPA- RWQCB Los Angeles
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

(213)576-6654

Subject: **Discussion Topics** from 9-21 Storm Water Monitoring Meeting with Long Beach

ANALYTES AND DETECTION LIMIT ISSUES

(Agenda Items 5 and 6)

5. Years 3-5

- **The San Pedro Bay receiving waters study that is included in the monitoring requirements for years 3-5 is no longer part of the County program. The City may apply the cost-savings from this to the implementation of lower detection levels.**
- **SCCWRP 2003 bight-wide study**

6. Discuss City's questions:

- **Guidance on determining and prioritizing pollutants of concern**
- **Other**

Two improvements suggested in our Report Presentation meeting were to examine the possibility of dropping the detection limits (actually Reporting Limits) for analytes in order to better detect the presence of potential toxicants in the Long Beach storm water samples. This is particularly important as this Long Beach Storm Water Monitoring Program is designed with parallel chemical and toxicity testing.

A second topic would to better refine the analyte list to reflect contaminants of concern, but to eliminate those analytes that are repeated non-detects at appropriate detection limits or are of little concern for other reasons.

- **Recommended Long Beach Storm Water Monitoring Program Reporting Limits (Sept. 2001)**

  The attached Table presents an analysis of the Reporting Limits used on the Long Beach program, along with other guideline values, and recommended levels for the 2001 storm year.

  - With the exception of organophosphate pesticides, most historical reporting limits are consistent with those being proposed in the Draft Los Angeles County permit. Organophosphate pesticide reporting limits will be equal to or lower than listed in the Draft LA County Permit. A few notable exceptions include
    - Oil and Grease – Attaining a reporting limit of 1 mg/L would require use of the freon extraction method. Although this method is still in limited use by a few laboratories, most have switched to EPA Method 1664. This method is only capable of 5 mg/L.
    - Glyphosate – Very few laboratories analyze this herbicide. The lowest detection limit achievable by laboratories that we have contacted in California is 5 ug/L. One out-of-state laboratory was located that indicated they could achieve a reporting limit of 0.5 ug/L.
    - Carbamate and Urea Pesticides – Detection limits for carbaryl are twice the level proposed in the Draft LA County Permit and detection limits for

what NPDES use

round up

• Topics used as justification for the same changes to LA County Monitoring Program

Diuron are four times higher. Detection limits achieved in historical data are the lowest practical limits for laboratories that we contacted.

- Metals – Metal detection limits generally equivalent to levels proposed in the LA County Permit. Detection limits for chromium, copper, and lead were twice the limit in the LA permit during previous years. Detection limits for these metals will be dropped from 1.0 ug/L to 0.5 ug/L.

- **Recommended List of Semivolatiles**

The attached Table presents an analysis of the semivolatile organic compounds used on the present Long Beach program, along with other guidelines, and recommended levels for the 2001 storm year.

- The current list of semivolatile organic compounds includes many analytes that are not priority pollutants and are not routinely analyzed in any other stormwater programs in the State. These compounds were not previously detected in the Long Beach program and, to our knowledge, have not been detected in the Los Angeles County Program
- Reducing the analytical suite to the standard EPA Contract Laboratory Program (CLP) set would allow lower detection limits for many of the priority pollutants. In some cases, detection limits could be reduced by an order of magnitude. Note that the CLP list includes all priority pollutants along with a few additional compounds.
- One priority pollutant, benzo(g,h,I)perylene, is not on the list and should be added.

Why included in first place

Long Beach Storm Water Monitoring Program Reporting Limits (Updated September 2001)

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry Weather 1999-2000 2000-2001	City of Long Beach Wet Weather 2000-2001	Target RLs City of Long Beach 2001-2002	Units
CONVENTIONALS								
Oil and Grease	1.0			NDL	5.0	5.0	5.0	mg/L
Total Phenols	0.1			NDL	0.1	0.1	0.1	mg/L
Cyanide	10	5.2	NALS	**10**	**5.0**	**5.0**	**5.0**	**ug/L**
pH	0-14			0-14	0.01	0.1	0.1	pH units
Dissolved Phosphorus	0.05			0.05	0.05	0.001	0.03	mg/L
Total Phosphorus	0.05			0.05	0.05	0.002	0.03	mg/L
Turbidity	0.1			0.1	0.1	0.1	0.05	NTU
Total Suspended Solids	2			2.0	1.0	1.0	1.0	mg/L
Total Dissolved Solids	2			2.0	1.0	1.0	1.0	mg/L
Volatile Suspended Solids	2			2.0	1.0	1.0	2.0	mg/L
Total Organic Carbon	1			1.0	1.0	1.0	1.0	mg/L
Total Recoverable Petroleum Hydrocarbon	1			1.0	5.0	5.0	1.0	mg/L
Biochemical Oxygen Demand	2			2.0	5.0	10.0	2.0	mg/L
Chemical Oxygen Demand	20-900			20-900	4.0-20	4.0	10	mg/L
Total Ammonia-Nitrogen	0.1			0.1	0.1	0.1	0.1	mg/L
Total Kjeldahl Nitrogen	0.1			0.1	0.1	0.1	0.1	mg/L
Nitrite Nitrogen	0.1				0.2	0.2	0.1	mg/L
Nitrate Nitrogen	0.1			0.1	0.01-0.1	0.01	0.1	mg/L
Alkalinity, as CaCO3	2			2.0	0.1-2.0	0.1-1.0	2.0	mg/L
Specific Conductance	1			1.0	1.0	1.0	1.0	umhos/cm
Total Hardness	2			2.0	1.0	1.0	2.0	mg/L
MBAS	0.5			0.5	0.5	0.02	0.5	mg/L
Chloride	2			2.0	1.0-2.0	1.0	2.0	mg/L
Fluoride	0.1			0.1	0.1-2.0	0.1	0.1	mg/L
Sulfate	2			2.0	0.1-2.0	2.0	2.0	mg/L
Methyl tertiary butyl ether (MTBE)				NDL	1.0	1.0	1.0	mg/L
BACTERIA								
Total Coliform	20			20	2.0	2.0	20	MPN/100 mL
Fecal Coliform	20			20	2.0	2.0	20	MPN/100 mL
Fecal Streptococcus	20			20	1.0	1.0	20	MPN/100 mL
TOTAL METALS								
Aluminum	100			100	25-50	50	25	mg/L
Arsenic	**1**	150	1	**10**	**0.5-1.0**	**0.5**	**0.5**	**mg/L**
Beryllium	**0.5**	NALS	**0.5**	**5**	**1.0**	**1.0**	**0.5**	**mg/L**

R0005020

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry Weather 1999-2000 2000-2001	City of Long Beach Wet Weather 2000-2001	Target RLs City of Long Beach 2001-2002	Units
Cadmium	0.25	2.2	0.25	10	0.2-0.5	0.5	0.25	mg/L
Chromium	0.5	180	0.5	10	1.0	1.0	0.5	mg/L
Copper	0.5	9.0	0.5	10	1.0	1.0	0.5	mg/L
TOTAL METALS (Continued)								
Hexavalent Chromium	5	11		10	0.01-0.02	0.02	5.0	mg/L
Iron	100			100	25-50	25	25	mg/L
Lead	0.5	2.5	0.5	10	1.0	1.0	0.5	mg/L
Mercury	0.2	[Reserved]	0.2	1	0.2	0.2	0.2	mg/L
Nickel	1	52	1	10	1.0-2.0	1.0	1.0	mg/L
Zinc	1	120	1	50	5-10	5.0	1.0	mg/L
DISSOLVED METALS								
Aluminum	100			100	25-50	50	25	mg/L
Arsenic	1		1	10	0.5-1.0	0.5	0.5	mg/L
Beryllium	0.5		0.5	5	1.0	1.0	0.5	mg/L
Cadmium	0.25		0.25	10	0.2-0.5	0.5	0.25	mg/L
Chromium	0.5		0.5	10	1.0	1.0	0.5	mg/L
Copper	0.5		0.5	10	1.0	1.0	0.5	mg/L
Iron	100			100	25-50	25	25	mg/L
Lead	0.5		0.5	10	1.0	1.0	0.5	mg/L
Mercury	0.2		0.2	1	0.2	0.2	0.2	mg/L
Nickel	1		1	10	1.0-2.0	1.0	1.0	mg/L
Zinc	1		1	50	5.0-10	5.0	1.0	~~mg/L~~ ug/L
CHLORINATED PESTICIDES								
Aldrin	0.005	NALS	0.005	NDL	0.05	0.05	0.005	ug/L
Alpha-BHC	0.05	NALS		NDL	0.05	0.05	0.05	ug/L
beta-BHC	0.05	NALS		NDL	0.05	0.05	0.05	ug/L
Delta-BHC	0.05	NALS		NDL	0.05	0.05	0.05	ug/L
gamma-BHC (lindane)	0.05	NALS	0.02	NDL	0.05	0.05	0.05	ug/L
Alpha-Chlordane	0.05	0.0043	0.1	NDL	0.5	0.5	0.50	ug/L
gamma-Chlordane	0.05	0.0043	0.1	NDL	0.5	0.5	0.50	ug/L
4,4'-DDD	0.05	NALS	0.05	NDL	0.02-0.05	0.05	0.05	ug/L
4,4'-DDE	0.05	NALS	0.05	NDL	0.02-0.05	0.05	0.05	ug/L
4,4'-DDT	0.01	0.001	0.01	NDL	0.02-0.1	0.05-0.1	0.01	ug/L
Dieldrin	0.01	0.056	0.01	NDL	0.1	0.1	0.01	ug/L
Endosulfan I	0.1	0.056	0.02	NDL	0.05	0.05	0.05	ug/L
Endosulfan II	0.1	0.056	0.01	NDL	0.05-0.1	0.05-0.1	0.05	ug/L
Endosulfan sulfate	0.05	NALS	0.05	NDL	0.1	0.1	0.05	ug/L
Endrin	0.01	0.036	0.01	NDL	0.1	0.1	0.01	ug/L

R0005021

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry Weather 1999-2000, 2000-2001	City of Long Beach Wet Weather 2000-2001	Target RLs City of Long Beach 2001-2002	Units
Endrin Aldehyde	0.01	NALS	0.01	NDL	0.1	0.1	0.01	ug/L
Endrin Ketone					0.1	0.1	0.10	ug/L
Heptachlor	0.01	0.0038	0.01	NDL	0.05	0.05	0.01	ug/L
Heptachlor Epoxide	0.01	0.0038	0.01	NDL	0.05	0.05	0.01	ug/L
Methoxychor	0.5			NDL	0.5	0.5	0.50	ug/L
Toxaphene	0.5	0.0002	0.5	NDL	1.0	1.0	0.50	ug/L
CHLORINATED PESTICIDES (Continued)								
Total PCBs		0.014	0.5		1.0	1.0	1.00	ug/L
AROCLORS								
Aroclor-1016	0.5			NDL	1.0	1.0	0.5	ug/L
Aroclor-1221	0.5			NDL	1.0	1.0	0.5	ug/L
Aroclor-1232	0.5			NDL	1.0	1.0	0.5	ug/L
Aroclor-1242	0.5			NDL	1.0	1.0	0.5	ug/L
Aroclor-1248	0.5			NDL	1.0	1.0	0.5	ug/L
Aroclor-1254	0.5			NDL	1.0	1.0	0.5	ug/L
Aroclor-1260	0.5			NDL	1.0	1.0	0.5	ug/L
CARBAMATE & UREA PESTICIDES								
Oxamyl					10	10	10	ug/L
Methomyl					10	10	10	ug/L
Fenuron					4.0	4.0	4.0	ug/L
Monuron					4.0	4.0	4.0	ug/L
Propoxur					10	10	10	ug/L
Carbofuran	5.0			NDL	10-40	10	10	ug/L
Carbaryl					10	10	10	ug/L
Flumeturon					4.0	4.0	4.0	ug/L
Diuron	1.0			NDL	4.0	4.0	4.0	ug/L
Propham					10	10	10	ug/L
Siduron					10	10	10	ug/L
Methiocarb					10	10	10	ug/L
Linuron					4.0	4.0	4.0	ug/L
Swep					4.0	4.0	4.0	ug/L
Chlorpropham					10	10	10	ug/L
Brabane					10	10	10	ug/L
Neburon					4.0	4.0	4.0	ug/L
ORGANOPHOSPHATE PESTICIDES								
Diazinon	0.01			NDL	0.01	0.01-1.0	0.01	ug/L
Chlorpyrifos	0.05			NDL	0.05-1.0	0.05-1.0	0.05	ug/L

R0005022

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry Weather 1999-2000, 2000-2001	City of Long Beach Wet Weather 2000-2001	Target RLs City of Long Beach 2001-2002	Units
Malathion	1.0			NDL	0.1	0.1-1.0	1.0	ug/L
Prometryn	2.0			NDL	1.0	1.0	1.0	ug/L
Atrazine	2.0			NDL	1.0	1.0	1.0	ug/L
Simazine	2.0			NDL	1.0	1.0	1.0	ug/L
Cyanazine	2.0			NDL	1.0	1.0	1.0	ug/L
HERBICIDES								
Dalapon					2.0	2.0-3.1	5.0	ug/L
Dicamba					0.5	0.22-0.50	0.5	ug/L
HERBICIDES (Continued)								
MCPP					250	22-250	100	ug/L
MCPA					250	22-250	100	ug/L
Dichlorprop					1.0	0.22-1	1.0	ug/L
2,4-D	0.02			NDL	1.0	0.22-2.0	0.02	ug/L
2,4,5-TP-Silvex	0.2			NDL	0.5-5.0	0.22-0.50	0.2	ug/L
2,4,5-T					0.5	0.22-1.0	5.0	ug/L
2,4-DB					1.0	0.22-20.0	5.0	ug/L
Dinoseb					0.5	0.22-10.0	5.0	ug/L
Bentazon	2.0			NDL	1.0	1.0-20.0	1.0	ug/L
Glyphosate	0.5			NDL	5.0	5-10.0	5.0	ug/L
SEMIVOLATILES								
Acenaphthene	0.5	NALS	0.5	NDL	0.5	0.5	0.5	ug/L
Acenaphthylene	0.2	NALS	0.2	NDL	0.5	0.5	0.2	ug/L
Acetophenone	3			NDL	3.0	3.0	3.0	ug/L
Aniline	3			NDL	3.0	3.0	3.0	ug/L
Anthracene	2.0	NALS	2	NDL	0.5	0.5	0.5	ug/L
4-Aminobiphenyl	3			NDL	3.0	3.0	3.0	ug/L
Benzidine	3	NALS	5	NDL	3.0	3.0	3.0	ug/L
Benzo(a)anthracene	1	NALS		NDL	1.0	1.0	1.0	ug/L
Benzo(b)fluoranthene	1	NALS		NDL	1.0	1.0	1.0	ug/L
Benzo(k)fluoranthene	1	NALS	2	NDL	1.0	1.0	1.0	ug/L
Benzo(g,h,i)perylene		NALS					0.1	ug/L
Benzo(a)pyrene	1	NALS	10	NDL	1.0	1.0	1.0	ug/L
Benzyl butyl phthalate	3	NALS	10	NDL	3.0	3.0	3.0	ug/L
Bis(2-chloroethyl)ether	1	NALS	1	NDL	1.0	1.0	1.0	ug/L
Bis(2-chloroethoxy)methane	1	NALS	5	NDL	1.0	1.0	1.0	ug/L
Bis(2-ethylhexyl)phthalate	3	NALS	5	NDL	3.0	3.0	3.0	ug/L
Bis(2-chlorisopropyl)ether	1	NALS		NDL	1.0	1.0	1.0	ug/L
4-Bromophenyl phenyl ether	1	NALS	5	NDL	1.0	1.0	1.0	ug/L

R0005023

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry Weather 1999-2000 2000-2001	City of Long Beach Wet Weather 2000-2001	Target RLs City of Long Beach 2001-2002	Units
4-Chloroaniline	1			NDL	1.0	1.0	1.0	ug/L
1-Chloronaphthalene	1			NDL	1.0	1.0	1.0	ug/L
2-Chloronaphthalene	1	NALS	10	**NDL**	**1.0**	**1.0**	**1.0**	**ug/L**
4-Chlorophenyl phenyl ether	1	NALS		**NDL**	**1.0**	**1.0**	**1.0**	**ug/L**
Chrysene	1	NALS	5	**NDL**	**1.0**	**1.0**	**1.0**	**ug/L**
p-Dimethylaminoazobenzene	3			NDL	3.0	3.0	3.0	ug/L
7,12-Dimethylbenz(a)-anthracene	1			NDL	1.0	1.0	1.0	ug/L
a-,a-Dimethylphenethylamine	3			NDL	3.0	3.0	3.0	ug/L
Dibenz(a,j)acridine	3			NDL	3.0	3.0	3.0	ug/L
Dibenz(a,h)anthracene	0.1	NALS	0.1	NDL	1.0	1.0	0.1	**ug/L**
1,3-Dichlorobenzene	0.5	NALS	1	**NDL**		0.5	0.5	**ug/L**
SEMIVOLATILES (Continued)								
1,2-Dichlorobenzene	0.5	NALS	2	NDL		0.5	0.5	**ug/L**
1,4-Dichlorobenzene	0.5	NALS	1	NDL	0.5	0.5	0.5	**ug/L**
3,3-Dichlorobenzidine	3	NALS	5	NDL	3.0	3.0	3.0	**ug/L**
Diethyl phthalate	0.5	NALS	2	NDL	0.5	0.5	0.5	**ug/L**
Dimethyl phthalate	0.5	NALS	2	NDL	0.5	0.5	0.5	**ug/L**
Di-n-butylphthalate	3	NALS	10	NDL	3.0	3.0	3.0	**ug/L**
2,4-Dinitrotoluene	0.5	NALS	5	NDL	0.5	0.5	0.5	**ug/L**
2,6-Dinitrotoluene	0.5	NALS	5	NDL	0.5	0.5	0.5	**ug/L**
Diphenylamine	3			NDL	3.0	3.0	3.0	ug/L
1,2-Diphenylhydrazine	1	NALS	1	NDL	3.0	3.0	1.0	**ug/L**
Di-n-octylphthalate	3	NALS		NDL	3.0	3.0	3.0	**ug/L**
Ethyl methanesulfonate	3			NDL	3.0	3.0	3.0	ug/L
Endrin ketone					1.0	1.0	1.0	ug/L
Fluoranthene	0.05	NALS	0.05	NDL	1.0	1.0	0.05	**ug/L**
Fluorene	0.1	NALS	0.1	NDL	1.0	1.0	0.1	**ug/L**
Hexachlorobenzene	0.5	NALS	1	NDL	0.5	0.5	0.5	**ug/L**
Hexachlorobutadiene	1	NALS	1	NDL	1.0	1.0	1.0	**ug/L**
Hexachlorocyclopentadiene	3	NALS	5	NDL	3.0	3.0	3.0	**ug/L**
Hexachloroethane	1	NALS	1	NDL	1.0	1.0	1.0	**ug/L**
Indeno[1,2,3-cd]pyrene	0.05	NALS	0.05	NDL	1.0	1.0	0.05	**ug/L**
Isophorone	0.5	NALS	1	NDL	0.5	0.5	0.05	**ug/L**
3-Methylcholanthrene	3			NDL	3.0	3.0	3.0	ug/L
Methyl methanesulfonate	3			NDL	3.0	3.0	3.0	ug/L
Naphthalene	0.2	NALS	0.2	NDL	0.5	0.5	1.0	**ug/L**
1-Naphthylamine	3			NDL	3.0	3.0	3.0	ug/L
2-Naphthylamine	3			NDL	3.0	3.0	3.0	ug/L

R0005024

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry Weather 1999-2000 2000-2001	City of Long Beach Wet Weather 2000-2001	Target RLs City of Long Beach 2001-2002	Units
2-Nitroaniline	3			NDL	3.0	3.0	3.0	ug/L
3-Nitroaniline	3			NDL	3.0	3.0	3.0	ug/L
4-Nitroaniline	3			NDL	3.0	3.0	3.0	ug/L
Nitrobenzene	0.5	NALS	1	**NDL**	**0.5**	**0.5**	**0.5**	**ug/L**
N-Nitrosodimethylamine	**3**	NALS	5	**NDL**	**3.0**	3.0	**3.0**	**ug/L**
N-Nitrosodiphenylamine	**1**	NALS	1	**NDL**	**3.0**	**3.0**	**1.0**	**ug/L**
N-Nitroso-di-n-propylamine	**1**	NALS	5	**NDL**	**1.0**	**1.0**	**1.0**	**ug/L**
N-Nitrosopiperidine	3			NDL	3.0	3.0	3.0	ug/L
Phenacitin	3			NDL	3.0	3.0	3.0	ug/L
Phenanthrene	0.05	NALS	0.05	**NDL**	**0.5**	**0.5**	**0.05**	**ug/L**
2-Picoline	3			NDL	3.0	3.0	3.0	ug/L
Pronamide	5			NDL	5.0	5.0	5.0	ug/L
Pyrene	0.05	NALS	0.05	**NDL**	**0.5**	**0.5**	**0.05**	**ug/L**
1,2,4,5-Tetrachlorobenzene	3			NDL	3.0	3.0	3.0	ug/L
SEMIVOLATILES (Continued)								
1,2,4-Trichlorobenzene	0.5	NALS	1	**NDL**	**0.5**	0.5	**0.5**	**ug/L**
Benzoic Acid	5			5	5.0	5.0	5.0	ug/L
Benzyl Alcohol	5			5	5.0	5.0	5.0	ug/L
4-Chloro-3-methylphenol	**1**	NALS	1	**3**	**3.0**	3.0	**1.0**	**ug/L**
2-Chlorophenol	**2**	NALS		**2**	**2.0**	**2.0**	**2.0**	**ug/L**
2,4-Dichlorophenol	**1**	NALS		**2**	**2.0**	**2.0**	**1.0**	**ug/L**
2,6-Dichlorophenol	2			2	2.0	2.0	2.0	ug/L
2,4-Dinitrophenol	**3**	NALS	5		**3.0**	3.0	**3.0**	**ug/L**
2-Methyl-4,6-dinitrophenol	**2**	NALS			**3.0**	**3.0**	**3.0**	**ug/L**
2-Methylphenol	3			3	3.0	3.0	3.0	ug/L
4-Methylphenol	3			3	3.0	3.0	3.0	ug/L
2-Nitrophenol	**3**	NALS	10	**3**	**3.0**	**3.0**	**3.0**	**ug/L**
4-Nitrophenol	**3**	NALS	5	**3**	**3.0**	3.0	**3.0**	**ug/L**
Pentachlorophenol	**1**	15	1	**2**	**2.0**	**2.0**	**1.0**	**ug/L**
Phenol	**1**	NALS	1	**1**	**1.0**	**1.0**	**1.0**	**ug/L**
2,3,4,6-Tetrachlorophenol	1			NDL	1.0	1.0	1.0	ug/L
2,4,5-Trichlorophenol	1			NDL	1.0	1.0	1.0	ug/L
2,4,6-Trichlorophenol	**1**	NALS	10	**NDL**	**1.0**	**1.0**	**1.0**	**ug/L**

All bold values are "Priority Toxic Pollutants" listed in Federal Register 40 CFR Part 131.
Blanks indicate that no information for that constituent is listed in the specified document.
NALS=Listed in document but no aquatic life standard is listed
NDL=No Detection Limit listed

R0005025

Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California

(Phase 1 of the Inland Surface Waters Plan and the Enclosed Bays and Estuaries Plan)

2000

STATE WATER RESOURCES CONTROL BOARD

California Environmental Protection Agency

ANALYTES	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	City of Long Beach Dry & Wet Weather 2000-2001	City of Long Beach Target RLs Weather 2000-2001	Beach Wet Weather 2001-2002	Units

[1] Criteria continuous concentration for fresh water that equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effe

[2] State Board Policy for implementation of toxic standards for inland surface waters, enclosed bays, and estuaries of California. State Water Resources Control Board, 2000.

R00005027

Recommended List of Semivolatiles and Associated ToxScan Minimum Levels (Updated September 2001)

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	Target RLs City of Long Beach 2001 - 2002[3]	ToxScan Minimum Levels[4]	Units
SEMIVOLATILES							
Acenaphthene	0.5	NALS	0.5	NDL	0.5	0.1	ug/L
Acenaphthylene	0.2	NALS	0.2	NDL	0.2	0.1	ug/L
Acetophenone	3.0			NDL	3.0		ug/L
Aniline	3.0			NDL	3.0	1.0	ug/L
Anthracene	2.0	NALS	2	NDL	0.5	0.1	ug/L
4-Aminobiphenyl	3.0			NDL	3.0		ug/L
Benzidine	3.0	NALS	5	NDL	3.0	5.0	ug/L
Benzo(a)anthracene	1.0	NALS		NDL	1.0	0.1	ug/L
Benzo(b)fluoranthene	1.0	NALS		NDL	1.0	0.1	ug/L
Benzo(k)fluoranthene	1.0	NALS	2	NDL	1.0	0.1	ug/L
Benzo(g,h,i)perylene		NALS				0.1	ug/L
Benzo(a)pyrene	1.0	NALS	10	NDL	1.0	0.1	ug/L
Benzyl butyl phthalate	3.0	NALS	10	NDL	3.0	0.1	ug/L
Bis(2-chloroethyl)ether	1.0	NALS	1	NDL	1.0	1.0	ug/L
Bis(2-chloroethoxy)methane	1.0	NALS	5	NDL	1.0	1.0	ug/L
Bis(2-ethylhexyl)phthalate	3.0	NALS	5	NDL	3.0	0.1	ug/L
Bis(2-chlorisopropyl)ether	1.0	NALS		NDL	1.0	1.0	ug/L
4-Bromophenyl phenyl ether	1.0	NALS	5	NDL	1.0	0.1	ug/L
4-Chloroaniline	1.0			NDL	1.0	0.5	ug/L
1-Chloronaphthalene	1.0			NDL	1.0		ug/L
2-Chloronaphthalene	1.0	NALS	10	NDL	1.0	0.1	ug/L
4-Chlorophenyl phenyl ether	1.0	NALS		NDL	1.0	0.1	ug/L
Chrysene	1.0	NALS	5	NDL	1.0	0.1	ug/L
p-Dimethylaminoazobenzene	3.0			NDL	3.0		ug/L
7,12-Dimethylbenz(a)-anthracene	1.0			NDL	1.0		ug/L
a-,a-Dimethylphenethylamine	3.0			NDL	3.0		ug/L
Dibenz(a,j)acridine	3.0			NDL	3.0		ug/L
Dibenz(a,h)anthracene	0.1	NALS	0.1	NDL	0.1	0.1	ug/L
1,3-Dichlorobenzene	0.5	NALS	1	NDL	0.5	0.1	ug/L
1,2-Dichlorobenzene	0.5	NALS	2	NDL	0.5	0.1	ug/L
1,4-Dichlorobenzene	0.5	NALS	1	NDL	0.5	0.1	ug/L
3,3-Dichlorobenzidine	3.0	NALS	5	NDL	3.0	0.2	ug/L

R0005028

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)	SWRCB Minimum Levels	City of Long Beach NPDES Permit June 1999	Target RLs City of Long Beach 2001-2002	ToxScan Minimum Levels	Units
SEMIVOLATILES (Continued)							
Diethyl phthalate	0.5	NALS	2	NDL	0.5	0.1	ug/L
Dimethyl phthalate	0.5	NALS	2	NDL	0.5	0.1	ug/L
Di-n-butylphthalate	3.0	NALS	10	NDL	3.0	0.1	ug/L
2,4-Dinitrotoluene	0.5	NALS	5	NDL	0.5	0.1	ug/L
2,6-Dinitrotoluene	0.5	NALS	5	NDL	0.5	0.1	ug/L
Diphenylamine	3.0			NDL	3.0		ug/L
1,2-Diphenylhydrazine	1.0	NALS	1	NDL	1.0	0.1	ug/L
Di-n-octylphthalate	3.0	NALS		NDL	3.0	0.1	ug/L
Ethyl methanesulfonate	3.0			NDL	3.0		ug/L
Endrin ketone					1.0		ug/L
Fluoranthene	0.05	NALS	0.05	NDL	0.05	0.05-0.1	ug/L
Fluorene	0.1	NALS	0.1	NDL	0.1	0.1	ug/L
Hexachlorobenzene	0.5	NALS	1	NDL	0.5	0.1	ug/L
Hexachlorobutadiene	1.0	NALS	1	NDL	1.0	0.2	ug/L
Hexachlorocyclopentadiene	3.0	NALS	5	NDL	3.0	0.2	ug/L
Hexachloroethane	1.0	NALS	1	NDL	1.0	0.2	ug/L
Indeno[1,2,3-cd]pyrene	0.05	NALS	0.05	NDL	0.05	0.05-0.1	ug/L
Isophorone	0.5	NALS	1	NDL	0.05	0.50	ug/L
3-Methylcholanthrene	3.0			NDL	3.0		ug/L
Methyl methanesulfonate	3.0			NDL	3.0		ug/L
Naphthalene	0.2	NALS	0.2	NDL	1.0	0.1	ug/L
1-naphthylamine	3.0			NDL	3.0		ug/L
2-naphthylamine	3.0			NDL	3.0		ug/L
2-Nitroaniline	3.0			NDL	3.0	0.1	ug/L
3-Nitroaniline	3.0			NDL	3.0	0.2	ug/L
4-Nitroaniline	3.0			NDL	3.0	0.2	ug/L
Nitrobenzene	0.5	NALS	1	NDL	0.5	0.5	ug/L
N-Nitroso-di-n-butylamine	3.0						
N-Nitrosodimethylamine	3.0	NALS	5	NDL	3.0	1.0	ug/L
N-Nitrosodiphenylamine	1.0	NALS	1	NDL	1.0	0.1	ug/L
N-Nitroso-di-n-propylamine	1.0	NALS	5	NDL	1.0	1.0	ug/L
N-Nitrosopiperidine	3.0			NDL	3.0		ug/L
Pentachlorobenzene	3.0						
Phenacitin	3.0			NDL	3.0		ug/L

R0005029

ANALYTE	County of LA Draft Permit June 2001	California Toxics Rule (40 CFR Part 131)[1]	SWRCB Minimum Levels[2]	City of Long Beach NPDES Permit June 1999	Target RLs City of Long Beach 2001-2002[3]	ToxScan Minimum Levels[4]	Units
SEMIVOLATILES (Continued)							
Phenanthrene	0.05	NALS	0.05	NDL	0.05	0.05-0.1	ug/L
2-Picoline	3.0			NDL	3.0		ug/L
Pronamide	5.0			NDL	5.0		ug/L
Pyrene	0.05	NALS	0.05	NDL	0.05	0.1-0.05	ug/L
1,2,4,5-Tetrachlorobenzene	3.0			NDL	3.0		ug/L
1,2,4-Trichlorobenzene	0.5	NALS	1	NDL	0.5	0.1	ug/L
Benzoic Acid	5.0			5	5.0	1.0	ug/L
Benzyl Alcohol	5.0			5	5.0	1.0	ug/L
4-Chloro-3-methylphenol	1.0	NALS	1	3	1.0	0.1	ug/L
2-Chlorophenol	2.0	NALS		2	2.0	0.2	ug/L
2,4-Dichlorophenol	1.0	NALS		2	1.0	0.1	ug/L
2,6-Dichlorophenol	2.0			2	2.0		ug/L
2,4-Dimethylphenol	2.0					0.2	
2,4-Dinitrophenol	3.0	NALS	5		3.0	0.2	ug/L
2-Methyl-4,6-dinitrophenol	2.0	NALS			3.0	0.5	ug/L
2-Methylphenol	3.0			3	3.0	0.2	ug/L
4-Methylphenol	3.0			3	3.0	0.2	ug/L
2-Nitrophenol	3.0	NALS	10	3	3.0	0.2	ug/L
4-Nitrophenol	3.0	NALS	5	3	3.0	0.5	ug/L
Pentachlorophenol	1.0	15[3]	1	2	1.0	0.5	ug/L
Phenol	1.0	NALS	1	1	1.0	0.2	ug/L
2,3,4,6-Tetrachlorophenol	1.0			NDL	1.0		ug/L
2,4,5-Trichlorophenol	1.0			NDL	1.0	0.1	ug/L
2,4,6-Trichlorophenol	1.0	NALS	10	NDL	1.0	0.1	ug/L

All bold values are "Priority Toxic Pollutants" listed in Federal Register 40 CFR Part 131.
Blanks indicate that no information for that constituent is listed in the specified document.
NALS=Listed in document but no aquatic life standard is listed
NDL=No Detection Limit listed

[1] Criteria continuous concentration for fresh water that equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.
[2] State Board Policy for implementation of toxic standards for inland surface waters, enclosed bays, and estuaries of California. State Water Resources Control Board, 2000.
[3] CCC is a function of pH. Value based upon pH of 7.8. CCC=exp(1.005(pH)-5.134)
[4] ToxScan list is based upon EPA's Contract Laboratory Program (CLP) list

R0005030

Discussion Topics

TOXICITY TESTING ISSUES

(Agenda Items 2, 3, and 4)

2. The Toxicity Identification Procedures (section 4.c) were not fully addressed.

Toxicity Identification Procedures utilized in this study were described in the brief Section 4.5.2.4 (Page 49). This description was very brief, comparable to the descriptions of the other toxicity testing protocols that were given as a generalized overview.

Our thought was that all of these protocols were standard and could be treated with an overview for purposes of the report. Since the TIE procedures are going to be of increasing importance, we will include a more detailed description of these in the Addendum to this annual report. This addendum is planned to transmit the results of the second dry-weather sampling effort that was carried out in August, after the submission of the report.

References to these standard TIE protocols are as follows, including those for the Phase II and III protocols that may be included in the future work discussed below.

FRESHWATER:

- USEPA. 1991. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures. Second Edition. EPA/600/6-91/003. Environ. Res. Lab., Duluth, MN.

- USEPA. 1993A. Methods for Aquatic Toxicity Identification Evaluations. Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity. EPA-600/R-92/080. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, MN.

- USEPA. 1993B. Methods for Aquatic Toxicity Identification Evaluations. Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity. EPA-600/R-92/081. U.S. Environmental Protection Agency, Office of Research and Development, Duluth, MN.

MARINE

- USEPA. 1996. Marine Toxicity Identification Evaluation (TIE). Phase I Guidance Document. EPA-600/R-96/054. U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC.

Phase I Chronic TIE manual

- USEPA. 1992. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents. EPA-600/6-91/005F. U.S. Environmental Protection Agency, Office of Research and Development, Washington, DC.

3. **Insufficient Toxicity Identification Evaluations**
   - **The Monitoring Report makes the assumption that a "substantial" amount of toxicity must be present**
   - **Insufficient permit requirement**
   - **Pollutants toxic to the water flea were often present but never identified**

4. **Discuss possible modifications**
   - **TIEs should be conducted after 2 consecutive hits, instead of 3**
   - **Detection limits should be lowered to better detect toxic levels of pollutants (SIP minimum levels).**

The basic Long Beach monitoring program is unique in that it includes parallel chemical and toxicity testing to identify pollutants of concern and to document their possible effects. An increasingly important part of this program will be the TIE testing to clarify the contaminants causing toxicity in the Long Beach storm waters. This is an extremely important step to the development of an effective management plan that addresses the correct priorities. We therefore suggest an enhancement of this part of the program, and some specific changes based on the first year's data.

- We suggest a revision/redefinition of the goal for the TIE effort.

  The **goal of the TIE Task** will be to perform 2 "successful" TIEs per species at each station during wet weather testing, and 1 "successful" TIE per species at each station during dry weather testing. A "Successful" TIE is defined below.

- We suggest the following changes in the "trigger" for TIE testing:

  a) Eliminate consecutive toxic samples as a requirement for TIE performance; i.e., begin a TIE immediately when sample toxicity is sufficient to warrant the effort.
     1) We feel that we are more likely to see "substantial" toxicity in a first flush event ("substantial toxicity is defined as at least 2 toxic units), and
     2) Toxicity in subsequent wet weather events may be due to different toxicants

  b) For *Ceriodaphnia* TIEs, require at least 50% mortality in undiluted sample **at any time during the 7-day duration of the initial chronic bioassay** (rather than 50% mortality during the first 4 days of the bioassay).

- Define a successful TIE as one that has at least 2 Toxic Units of baseline toxicity present at the start of the TIE. This definition is included to cover the possibility that sample toxicity may be lost between the time initial toxicity is determined and the time when TIEs can be initiated. As an example, we may not see 50% mortality of *Cerio* until Day 6 of the initial bioassay, and therefore would not begin the TIE until the sample is 6-7 days old. Substantial toxicity may have been lost during storage for those 6-7 days, and the TIE would be aborted.

- We suggest that the TIEs be of limited Phase 1 scope, comprising the following sample manipulations:
    a) Particulate removal by centrifugation
    b) Treatment with EDTA (cationic metals)
    c) Treatment with sodium thiosulfate (oxidants and some cationic metals)
    d) Treatment with a C18 column (non-polar organics and some cationic metals)
    e) Treatment with PBO (piperonyl butoxide)...for *Ceriodaphnia* or *Americamysis* TIEs only (organophosphate pesticides)

- Phase II and Phase III TIEs could be performed, but we recommend that this be done in subsequent program years unless an obvious reason is presented by initial results.

- We recommend reducing the level of effort for *Americamysis* bioassays, which have yielded little toxicity information thus far due to low sensitivity. We suggest running mysids at only one or two highest concentrations (50% and/or 100%) after the first flush event as we expect we would get the same information with considerably less effort.

- Chemical Detection Limits would be lowered as appropriate to better detect toxic constituents.

From: Megan Fisher
To: tjkim@dpw.co.la.ca.us
Subject: Monitoring Constituents

Hi TJ,

I think I told you that I've been working with the City of Long Beach to improve the list of analytes for their storm water monitoring program. I'd like for you to review the list so we can discuss using it in the LA County permit.

Many of the constituents on the list that is in the current LA County permit are not priority pollutants, and have never been detected in your analyses. For Long Beach, I eliminated all of the unnecessary semi-volitale organic compounds, and added the lowest corresponding ML from the SIP, with the understanding that if the lab cannot achieve a particular ML that they can use the lowest quantifiable number that they can achieve with an approved USEPA method.

I copied Mustafa on the letter I sent to Long Beach with the new Constituent List. The list is much simpler than the one in the Tentative draft permit, and I would like to use it to be consistent with Long Beach. Eliminating some of the random compounds should decrease the cost of analyses, too. The modified list is attached. Please let me know what you think.

I'll be in Ventura all next week, but I will be in the following week.

Thanks!

Megan

CC: ctrevizo@dpw.co.la.ca.us; ghowe@dpw.co.la.ca.us; mariki@dpw.co.la.ca.us; Xavier Swamikannu

LIST OF CONSTITUENTS FOR THE STORM WATER MONITORING PROGRAM AND ASSOCIATED MINIMUM LEVELS (MLs)[1]

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	**mg/L**
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005
pH	0 - 14
Temperature	None
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA	
Total Coliform	<20mpn/100ml
Fecal Coliform	<20mpn/100ml
Enterococcus	<20mpn/100ml
GENERAL	**mg/L**
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1umho/cm
Total Hardness	2
MBAS	0.5
Chloride	2
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1
METALS	**µg/L**

R0005035

[1] For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. MDLs must be lower than or equal to the ML value.

Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Copper	0.5
Hex. Chromium	5
Iron	100
Lead	0.5
Mercury	0.5
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMIVOLATILE ORGANIC COMPOUNDS	**µg/L**
Acids	
2-Chlorophenol	2
2, 4-Dichlorophenol	1
2,4-Dimethylphenol	2
2, 4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
4-Chloro-3-methylphenol	1
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10
BASE/NEUTRAL	**µg/L**
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexl) phthalate	5
4-Bromophenyl phenyl ether	5
Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1

R0005036

2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)-anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	**µg/L**
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02
beta-Endosulfan	0.01
Endosulfan sulfate	0.05

R0005037

Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
Polychlorinated Biphenyls	**µg/L**
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	**µg/L**
Chlorpyrifos	0.05
Diazinon	0.01
Prometryn	2
Atrazine	2
Simazine	2
Cyanazine	2
Malathion	1
HERBICIDES	**µg/L**
Glyphosate	5
2,4-D	0.02
2,4,5-TP-SILVEX	0.2

From: "Travis Lange" <TLANGE@santa-clarita.com>
To: <Mfisher@rb4.swrcb.ca.gov>
Date: 11/9/01 3:26PM
Subject: Monitoring Program

This e-mail is follow up to our phone conversation earlier this week and past conference calls regarding the Monitoring Program. The City has agreed to help with the monitoring program in our area with funds of no more than $100,000 to go towards the new development section of the monitoring program only. The City has also agreed to help when possible and during normal work hours with the collection of samples for the new development monitoring effort.

Thanks,
Travis Lange

CC: <CTREVIZO@dpw.co.la.ca.us>, <TJKIM@dpw.co.la.ca.us>, "Jill Fosselman" <JFOSSELMAN@santa-clarita.com>

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

Gray Davis
Governor

September 24, 2001

Don Wolfe
Assistant Director
County of L.A., Dept. of Public Works
900 S. Fremont Ave.
Alhambra, CA 91803

Dear Mr. Wolfe:

Municipal Storm Water Permit for the County of Los Angeles and municipalities – (draft dated June 29, 2001)

Thank you for your letter of January 23, 2001 regarding your request that trauma scene waste be listed as an exempted discharge under the County of Los Angeles Municipal Storm Water Permit. A similar request was made by Mr. Michael Wilkinson, Acting Deputy Fire Chief, County of Los Angeles Fire Department, in a letter dated July 25, 2001. Since January, our staff and staff from the County Department of Public Works and Fire Department have had several phone conversations and meetings on this subject. The purpose of this letter is to convey our understanding of the issue.

By way of background, staff at the Regional Board have been in the process of drafting a renewed storm water permit for municipalities in the County of Los Angeles, and circulating drafts of this permit for public comment. Both the existing permit and draft for the renewed permit prohibit the discharge of non-storm water flows into the storm drain system. The prohibition in both the existing and draft permits does not exempt blood and human tissue (from accident scenes) from this prohibition.

Under recent legislation entitled the Medical Waste Management Act (codified in the California Health and Safety Code, sections 117600 to 118360), trauma scene waste must be transported to a permitted medical waste transfer station or treatment facility (section 118321.5). It would appear that the provisions of the Medical Waste Management Act would preclude the Regional Board from considering a formal exemption. Please note that other municipalities have programs in place to manage wastes at trauma scenes without providing for discharge to the storm drain system.

Clearly, each county or municipality should have a program in place to ensure compliance with the provisions of the Medical Waste Management Act. To the extent that compliance with the Medical Waste Management Act is achieved, the Regional Board will consider any residual incidental wash down waters within the context of existing non-storm water exemptions.

R0005040

Our third draft of the renewed municipal permit will be available on October 10, 2001. Please don't hesitate to contact us with additional comments. You may reach Wendy Phillips at (213) 576-6618.

Sincerely,

Dennis A. Dickerson
Executive Officer

Cc: Mustafa Ariki, County of Los Angeles Department of Public Works
William Jones, Health Hazardous Materials Division, County of Los Angeles Fire Department
Michael A. Wilkinson, Acting Deputy Fire Chief, County of Los Angeles Fire Department

California Environmental Protection Agency
The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html
Recycled Paper
Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Agenda
California Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA
September 27, 2001
1:00 – 2:00pm

1. Introductions
2. Control of peak flows
3. Control of local land use decision making Not discussed
4. Extension of SUSMPS to ESAs
5. Inclusion of term replacement in definition of redevelopment
6. Consistency with the California Construction General Storm Permit
7. Grading during the wet season
8. Wrap up

The Regional Board's direction at the July 26th workshop was clear. Provisions of the LA permit would be no less stringent than the provisions in the Ventura and Long Beach Permits. These items include:

a. Strict compliance with the receiving water limitations;

b. Priority development categories and thresholds for SUSMPS (SWRCB ruled and included in the SUSMP);

c. Complying with the Maximum Extent Practicable (MEP) standard (The Permittees must comply with the MEP standard);

d. SUSMP numerical mitigation sizing criteria – one size fits all (SWRCB ruled and included in the SUSMP);

e. Permit provision consistency with MEP standard (The Permittees must comply with the MEP standard); and

f. Preparation of a local SWPPP for construction projects one acre and larger (Consistent with Long Beach Permit).

MEETING WITH BIA 9-27-01, 1-2:00

NAME	ORGANIZATION	PHONE	EMAIL
Xavier Swamikannu	RB	(213) 576-6654	XSwami@rb4.swrcb.ca.gov
Wendy Phillips	"	" (661)	—
CLAYTON MILLER	CONSTRUCTION INDUSTRY COALITION ON WATER QUALITY	(626) 858-4611	Lewisco@cybergate.com
MICHAEL LEWIS	"	"	"
Tim Piasky	CICWQ	(714) 396-4493	tpiasky@bia.org
MIKE LEWIS	CICWQ		
CARLOS URRUTIA	RWQCB-LA	213 576-6655	
Dan Radulescu	RWQCB-LA	(213) 576 6668	

E.D. briefly participated @ end of the meeting.

R0005043

Agenda
Thursday, Sept. 27, 2001

1. LA County Stormwater Public Education Campaign

2. LA County Environmental Education Program

3. Questions



County of Los Angeles Public Education Program

- Storm Water Education
- Environmental Defenders K-6
- Generation Earth 7-12
- HHW Public Education
- Used Oil Recycling Education
- Heal the Bay Collaboration
- 1-888-CLEAN LA and Website
- Community Events

R0005045

HHW Public Education

- Reduce illegal dumping of HHW
- Community Outreach
- Media relations
- Corporate & association partnerships
- Collateral materials

R0005046

Environmental Defenders K-6

- Presentations to 80,000 students annually
- Environmental education posters
- Community outreach

R0005047

Generation Earth 7-12

- Service Learning projects reach 10,000 students
- Teacher Training, Teacher's Guide
- Coastal Cleanup
- Radio campaigns, Youth Conferences
- Teen oriented events (Battle of the Schools)

R0005048

Used Oil Recycling Education

- Reduce improper disposal of used oil
- 650+ collection centers
- State-funded
- Industry is involved
- Other jurisdictions participate

R0005049

Heal the Bay Collaboration

- Bay Days event $100,000
- Consulting $35,000
- Also partnered with BayKeeper and SMBRP
- Current plans to work together on school program

1-888-CLEANLA

- Averages 6,300 calls per month
- HHW collection information
- Motor oil recycling centers
- Report illegal dumping
- Special events

R0005051

LA COUNTY MS4 PUBLIC EDUCATION PROGRAM MEETING 9-27-01

NAME	ORGANIZATION	PHONE	EMAIL
Megan Fisher	RB	213-576-6793	mfisher@rb4.swrcb.ca.gov
W. [illegible] Phillips	RB	1618	
Melinda Barrett	DPW	(626) 458-5975	mbarrett@dpw.co.la.ca.us
Glenn Howe	LACoDPW	626-458-5763	ghowe@dpw.co.la.ca.us
Carolina Treviz	LACoDPW	626-458-3978	CTreviz@dpw.co.la.ca.us
Kimberly Lyman	L.A. Co. Public Works	626-458-6533	klyman@dpw.co.la.ca.us
Xavier Swamikannu	RB	213-576-6654	

From: Tim Piasky <tpiasky@biasc.org>
To: "Dennis Dickerson (E-mail)" <DDICKERS@rb4.swrcb.ca.gov>
Date: 9/28/01 1:51PM
Subject: LA Permit Concerns

Dennis, this is a follow-up to a meeting between CICWQ and your staff in which you were only able to attend the last 10 minutes. You requested that we e-mail you our major concerns that we were not able to address during this meeting, based on time constraints. I am including this list of major concerns below. Thank you for taking the time to consider these items and their major impact to the building and construction industries. We are sure that we can develop a solution that meets both our needs of clean water and a healthy economy. Please do not hesitate to call with any questions.

1. Environmentally Sensitive Areas (ESA's) - We have a problem with the inclusion of ESA's as both a SUSMP category and a trigger for the requirement of a local SWPPP for construction projects. As we know from the SUSMP hearing, the State Board has ruled that ESA's are already heavily regulated. Therefore, any effort to apply additional regulation on ESA's, such as the municipal permit, should be well justified and appropriate. The regional board has not determined the potential impact, both economically and environmentally, the proposed inclusion of ESA's into this municipal permit will cause. We are very concerned that the proposed inclusion of ESA's in the municpal permit will have an extreme financial impact to the building and construction industries, since the definition of ESA's appears to cover approximately 25% of Los Angeles County, meaning all projects, without regard to size or type, within this area will need to meet SUSMP and also prepare a local SWPPP. This is extremely burdensome and financially detrimental to theoretically protect areas that are already heavily protected and not necessarily negatively impacted by the very projects that are being regulated.

2. SUSMP - Very concerned with the permit's emphasis on site-by-site mitigation measures required by SUSMP. Several years ago, I was also supportive of this approach to addressing our surface water quality concerns, however as I gathered more information, I began to determine that there had to be a better way. As more information began to develop, showing that these structural BMPs being proposed are not extremely effective, especially when trying to treat the pollutants of concern (dissolved metals and bacteria), are very expensive and difficult to maintain and are a financial burden on the public at large. The monitoring data was also starting to show that the types of projects requiring these BMPs were not necessarily the projects that were sources of our pollutants of concern. Based on this information, I lost my support of the SUSMP approach and instead moved to support regional, watershed solutions. These watershed solutions can be used to address the pollutants of concern for existing as well as future projects and can also be used to look forward toward TMDL's. I know the Regional Board feels obligated to continue the SUSMP program, but I feel a solution is to at least re-work the threshold on the categories that we know are not major contributors of pollutants of concern (residential for example). The latest draft revised the threshold of residential from 10+ units to 1 acre, which is more restrictive. A more reasonable threshold for residential is 100,000 square feet of directly connected impervious area. If we had this threshold on residential and still include the regional BMP alternative with a mitigation funding alternative that allowed a project proponent the option to pay an in-lieu

fee, where the local municipality had a mitigation fund set up. This scenario will get us toward better water quality in a quicker, more efficient and more economical manner.

3. Redevelopment definition - The definition of redevelopment was cause of much debate during the SUSMP hearing before the State Board. The final ruling from the State Board regarding this definition did not include the word replacement in the definition. No other municipal permits in Southern California, that we are aware of, either adopted or proposed, contains replacement in the definition of redevelopment. We request the removal of "replacement" from the redevelopment definition.

4. Grading during the wet season - We are very concerned about attempts in the permit to limit and/or discourage grading during the wet season. The emphasis is on implementing BMPs, to the MEP, that will reduce the discharge of sediments to the MS4. Limiting grading during the wet season will have a major impact on construction jobs. We request the deletion of any mention of grading during the wet season. At our meeting you mentioned that you could possibly change the reference for controlling erosion from slopes and channels to the approved BMP List, instead of the reference being to limiting grading during the wet season. We are supportive of this change.

5. SWPPPs on 5+ acre sites - To maintain consistency with the State General Construction Permit, SWPPPs for these sites should need to be prepared and available on site prior to grading commencing. They should not have to be prepared and submitted to the local entity prior to obtaining a grading permit.

We have many more technical and legal arguments, but these are the non-legal issues that we are able to provide suggested changes for at this time. Please call with any questions or to discuss further.

Tim Piasky
Director of Environmental Affairs
Building Industry Association, Southern CA
(909) 396-9993
(909) 396-1571 (f)

CC: "David C. Smith" <davidsmith@biasc.org>, "Michael Lewis (E-mail)" <lewisco@cyberg8t.com>

PLEASE SIGN FOR RECORD OF PARTICIPATION RESTAURANT INSPECTION MEETING

Location: ~~CRWQCB - REGION 4~~ LA County DHS
~~JUNIPERO-SERRA BUILDING~~ 2525 Corporate Pl
~~320 W. FOURTH STREET, SUITE 200, LOS ANGELES, CA 90013~~ Monterey Park

Date: 10/03/01

~~PLEASE WRITE LEGIBLY~~

	NAME	AGENCY/COMPANY/ RESIDENT	MAILING/E-MAIL ADDRESS	TEL. NO.	FAX NO.
1.	Dan Radulescu	LA RWQCB	dradules@rb4.swrcb.ca.gov	213 576 6668	–
2.	Scott Rigg	City of Vernon	srigg@ci.vernon.ca.us	(323) 583-8811	(323) 826-1135
3.	Don Truitt	L.A. County ENV. HLTH	eh@dhs.co.la.ca.us	323 881-4015	(323) 415-2863
4.	Sheila Kennedy	HK & Asso. (City of Pasadena)	SKennedy@JLHA.net	562 ext 29 802-7880	(562) 802-2297
5.	Oscar Pastro	LA Co Env Health		323 881-4007	
6.	Jackie Tay	LA Co EH		(818) 902 4463	(818) 902-4467
7.	Kenneth Marks	L.A Co EH	kmarks@dhs.co.la.ca.us	323 881-4020	323 626-1341
8.	RICHARD WAGENER	LA. Co. ENV. HEALTH	rwagener@dhs.co.la.ca.us	323 881-4011	323 269-4327
9.	Joe Nash.				

R0005055

State of California

LOS ANGELES REGIONAL
WATER QUALITY CONTROL BOARD

Environmental Protection Agency

OFFICE MEMO

TO:

DATE: 10/03/01

SUBJECT:
Restaurant Meeting Storm Water Program
LA Co. DHS
Corporate Plaza, Monterey Park

FROM:
Dan Radulescu

- Response to the Second Draft → Through the Dept of Public Works
- Directly talking to the Regional Water Quality Board
- 35,000 food outlets facilities
- 23 contract cities with the Public Works LA Co.

- Public Works - out
- Health Dept → in — identify the agencies

- some cities took the option to do the inspection

[88 incorporated cities
3 have env. health dept]

[Health Officers in the County and City
Enforce the health codes local]

- changes to the Public Health Code
  - the local jurisdiction can be modified if the State law does not address it

[working document issues]

---

and) - you do not have the authority to tell people how to do it.
- maintain a "clean" premises
- sweeper trucks →

- Funding mechanisms + Public Works [Fee per site from Public Works]
- No more inspections as of June 30, 2001 [?]

- Assessments fee
- No funding for restaurants stormwater program

R0005056

OVER

Page 1

State of California

LOS ANGELES REGIONAL
WATER QUALITY CONTROL BOARD

Environmental Protection Agency

OFFICE MEMO

TO:

DATE: 10/03/01

SUBJECT:

FROM:

- Difference is the emphasis → from the Health Standard → if you emphasis the storm water it may a need for additional notice (for storm water emphasis)
- City of Pasadena → under Public Works → doing this under Storm Water program

- Survey for 10,000 restaurants → [have been done] Report [Public Works] → ???

(*) - "Increase service of level" = possibility of reimbursements

3 BMPs → are identical with some of the approved BMPs
- "effective implementation" issue

- add Dept. of Health Department of L.A. County on the mailing list

R0005057

☐ OVER

DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH

GRADE

INSPECTION DATE: | COMPLIANCE DATE: | SITE #: | PERMIT #: | DISTRICT: | SUBDISTRICT: | CT: | SPA: | TOTAL PAGES:

DBA / NAME:
ADDRESS:
OWNER / OPERATOR:
PROGRAM ELEMENT:
INSPECTOR:
RECEIVED BY:
SERVICE: ☐001 ☐002 ☐004 ☐OTHER:
SIGNATURE:
POSITION:

COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH
MID-VALLEY DISTRICT OFFICE
6851 Lennox Ave., Suite 305
Van Nuys, CA 91405
(818) 902-4460

See reverse side for the general requirements that correspond to each violation listed below.
See attached pages for documentation as to the exact nature of the violation(s) observed at the time of inspection.

☐ No violations observed at the time of inspection. ☐ Complaint allegations not observed at time of inspectio

SECTION I

(Point Value - 6 points for violations in each category in Section I - maximum points deductible 36)

POINTS DEDUC

FOOD TEMPERATURES
1. Holding of PHF - immediate risk / multiple items or servings
2. Pooled Shelled Eggs - unapproved temperature
3. Cooking
4. Reheating
5. Cooling

FOOD
6. Adulterated Food - immediate risk

EMPLOYEE PRACTICES
7. Disease Transmission - carrier / lesion / rash
8. Handwashing - employee did not wash hands / no supplies

VERMIN
9. Rodents - immediate risk
10. Cockroaches - immediate risk
11. Flies - immediate risk

WATER / SANITIZING
12. Sanitizing - multi-use consumer utensils
13. No Hot Water - immediate risk / food preparation establishment
14. No Water

SEWAGE
15. Sewage Disposal System - immediate risk
16. Toilets - no operable toilets

SECTION II

(Point Value - 4 points for violations in each category in Section II - maximum points deductible 28)

POINTS DEDUCTED

FOOD TEMPERATURES
17. Holding of PHF - moderate risk / multiple items or servings
18. Holding of PHF - single serving
19. Shell Eggs

FOOD PREPARATION
20. Diligent Preparation
21. Thawing - improper method
22. Risk for Contamination - food prepared in unapproved area / food prepared or handled with bare hands / other

FOOD
23. Food Storage - improperly covered / labeled / elevated
24. Ready-To-Eat Food - exposed to possible contamination from raw meats / poultry / fish / eggs
25. Food Not Protected from Consumer
26. Unapproved Source
27. Reused / Re-served

OPERATIONS
28. Soap / Drying Device - dispensers empty
29. Hazardous Materials / Chemicals - storage / use
30. Employee Practices - tobacco / eating / other

UTENSILS / EQUIPMENT / SHELVING / CABINETS
31. Improperly Cleaned / Not Maintained Clean
32. Sanitizing - kitchen utensils / food-contact surfaces

PLUMBING / FIXTURES
33. Backflow / Back Siphonage
34. Critical Sink / Fixture (handwashing / utensil washing / food prep) - missing / inoperable / inaccessible hand sink

CONSUMER PROTECTION / TRUTH-IN-MENU
35. Labels - consumer foods
36. Misrepresentation - advertised food
37. Oyster Warning Signs
38. Disclosure Notification

SECTION III

(Point Value - each sub-category violation valued at 1 point in Section III - maximum points deductible 36)

POINTS DEDUCTED

FOOD
39. Pure Food / Spoilage
40. Customer Self-Service Utensils
41. Refrozen Foods
42. Improper Inspection at Delivery / Transportation

OPERATIONS
43. Dispensers - disrepair / non-functional / Supplies - unapproved type
44. Hair Restraints / Outer Garments / Nails / Ring
45. Shellfish Tags / Records
46. Hazardous Materials / Chemicals - low risk
47. Interior Premises - improper storage / linen / castoff / tools
48. Spoils Area
49. Living / Sleeping Quarters
50. Animal / Bird / Fowl

UTENSILS / EQUIPMENT / SHELVING / CABINETS
51. Condition - disrepair
52. Storage
53. Unapproved Type / Improper Use / Improper Installation
54. Wiping Rag - not clean / inadequate sanitizer / turbid / storage
55. Sanitizer - improper concentration / temperature / method / test kit
56. Thermometer - refrigeration / probe

WALLS / CEILINGS / FLOORS
57. Deterioration / Unapproved Materials / Facility Not Fully Enclosed
58. Not Maintained Clean

VERMIN
59. Rodents - no active population / rodent proofing
60. Cockroaches - low risk / harborage areas
61. Other Insects - low risk
62. Open Door / Air Curtain / Window

PLUMBING / FIXTURES / EQUIPMENT DRAINAGE
63. Sink and Fixtures / Floor Sink / Floor Drain - leaking / not clean / disrepair / unapproved
64. Drain Line / Supply Line - unapproved discharge / installation / materials / leaking / clogged
65. No Hot Water - no immediate risk

VENTILATION / LIGHTING
66. Hood - not clean / disrepair / missing filters
67. Ventilation - equipment not under hood / improper hood type
68. Ventilation - general
69. Lighting / Light Shields

TOILETS / TOILET ROOMS / DRESSING ROOMS
70. Toilets / Toilet Room - disrepair / inadequate # - door not self-closing / not clean / dispensers / toilet tissue
71. Dressing Room / Personal Items

REFUSE / PREMISES / JANITORIAL
72. Janitorial - supplies / equipment
73. Refuse / Containers
74. Exterior Premises

ORIGINAL

R0005058

	64	Drain Line / Supply Line - unapproved discharge / installation / materials / leaking / clogged (1 point deduction) This subcategory will be marked for violations involving the disposal of liquid waste and the conveyance of potable water, including floor sinks or floor drains that are clogged but pose a low risk to the public's health and safety. Examples: • reach-in refrigerator draining to a bucket / floor / pan • drain line without an air gap • leaking drain line (P-trap) of sinks • leaking inlet back pressure valve • employee sweeping waste water into back alley or washing mats outside • slow drain / clogged drain at the floor sink in the bar area (not overflowing) • ice machine condensate draining to an exterior flower bed • flexible drain line used for discharge from refrigerator • espresso machine draining to handwash sink • drain line is leaking from any sink (e.g., mop sink, hand wash sink) • an ice machine drain line is directly connected to the sewer • leaking toilet water-supply line • garden hose used to supply water to wok stove faucet • uncapped drain line • drain line from condensate pan is leaking in walk-in refrigerator Other Possible Violations: • A leaking evaporator pan or damaged equipment will be marked in subcategory 51. • Unapproved hose lacking a backflow prevention device will be marked in subcategory 33.
	114095 114100	All plumbing and plumbing fixtures shall be installed in compliance with local plumbing ordinances; shall be maintained so as to prevent any contamination, and shall be kept clean, fully operative, and in good repair. All liquid waste draining from a refrigerator, steam table, ice machine and bins, food preparation sinks, display cases and other similar equipment shall be drained by means of an indirect connection to an approved fully functional sewage disposal system. Refrigeration units shall be drained to a floor sink or other approved device by an indirect connection or to a properly installed and functioning evaporator.
	65	No Hot Water - no immediate risk (1 point deduction) This subcategory will be marked for violations involving the lack of hot water at less critical locations that pose a low risk to the public's health and safety (e.g., mop sink, pre-packaged food facility) Examples: • water throughout the restaurant 110-119°F, chemically sanitizing multi-use utensils (24 hours to abate) • water at one of the hand sinks in the food preparation area is below 110°F • water is less than 120°F at a pre-packaged food facility (24 hours to abate) Exception: • When hot water is lacking in a critical location that poses an immediate risk to the public's health and safety, such as the food preparation area or at a multi-use utensil washing sink, subcategory 13 or 34 will be marked, as appropriate. *When hot water is not available (below 110°F) but is restored (above 110°F) by the end of the inspection, only subcategory 65 will be marked.*

(Cont.)	Janitorial - supplies / equipment	
114165	A separate area away from food shall be provided for the storage of cleaning equipment and supplies. A janitorial sink or mop basin shall be provided for general cleaning purposes and for the disposal of mop bucket wastes and other liquid wastes.	
73	Refuse / Containers This subcategory will be marked for violations involving interior and exterior garbage and rubbish storage containers / areas. Examples: • exterior refuse container lids propped open • refuse containers encrusted with waste • overflowing refuse containers • leaking refuse containers • cardboard used as a receptacle in the toilet room • no trash receptacle in the toilet room Immediate Abatement: • Trash can lids are open.	(1 point deduction)
114035	All food waste and rubbish containing food waste shall be kept in leakproof and rodentproof containers and shall be covered at all times. All food waste and rubbish shall be removed and disposed of as frequently as necessary to prevent a sanitation problem.	
74	Exterior Premises This subcategory will be marked for violations involving the cleanliness and accumulation of cast-off and litter at the exterior of the building. Example: • cast-off items stored at the exterior of the facility Other Possible Violations: • Violations involving the exterior trash containers / areas will be marked in subcategory 73.	(1 point deduction)
114040	The exterior premises of each food facility shall be kept clean and free of litter and rubbish.	

SECTION IV

SIGNS & PERMITS		
75	Public Health Permit This subcategory will be marked if your facility lacks a current Public Health Permit (PHP) or fails to properly post it in a conspicuous location. This subcategory will also be marked if the Business Code listed on the PHP is not consistent with the food facility's current operation. An establishment operating without a PHP is subject to an immediate closure.	(NO POINT DEDUCTIONS)
76	Grade / Score This subcategory will be marked if your facility has not properly posted the sign as required by Ordinance #97-0071. This will not be marked if your city has not adopted the ordinance.	

Comment Version
Proposed Language is in Blue.
Comments are in Red.

Second Draft (June 29, 2001)

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

ORDER No. 01-XXX
(NPDES No. CAS004001)

WASTE DISCHARGE REQUIREMENTS

FOR

MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN (EXCEPT FOR THE CITY OF LONG BEACH)

Calif. LAW

3. ~~2.The Principal Permittee shall~~, on or before July 1, 2002, ~~amend the Los Angeles County Public Health Code to require inspections at restaurants that will address~~ Permittees are required to have the legal authority to address, during [~~public health~~] restaurant inspections, the following items:

Sec 114040 (64) ← a) Oil and Grease residue to verify that it is not poured onto a parking lot, street or adjacent catch basin.

Sec 114035 (73) ← b) Dumpster areas to verify that the dumpster area is clean, dumpster lid closed, not filled with liquid or washed out.

Sec 114100 (74) ← c) Parking lot, alley, sidewalk and street areas to verify that floormats, filters and garbage containers are not washed in those areas and that no washwater is poured in those areas.

change - Do not tell them how to do it

~~d)~~ [Parking lot area to verify that it is cleaned by sweeping and not by hosing down and that the facility operator uses dry methods for spill cleanup.]

The Regional Board cannot order a publicly elected board to amend or modify its ordinances. This part goes far beyond the requirements of 40 CFR Section 122, which requires only that the permittee demonstrate its legal authority to carry out the permit requirements, and does not require that the permittee specifically amend its ordinances. This part also exceeds the Regional Board's powers under either federal or state law and impermissibly dictates the actions of an elected Board of Supervisors.

4. ~~3.~~Each Permittee shall submit no later than July 31, 2002, a statement by the legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

A. Best Management Practice Substitution

The Regional Board Executive Officer may approve any Best Management Practice (BMP) substitution upon petition by the Permittee(s), if the Permittee can document that:

1. The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

2. The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

1. **Restaurants**

The ~~Principal Permittee~~ applicable Permittee Health Departments shall inspect all restaurants to determine that each restaurant is effectively implementing storm water BMPs.

a) Frequency: The ~~Principal Permittee~~ applicable Permittee Health Departments shall inspect each restaurant once every 24 months.

b) Level of inspection: The ~~Principal Permittee~~ applicable Permittee Health Departments shall confirm that BMPs are effectively ~~implemented~~ in accordance with County ordinances, Regional Board Resolution 98-08, and the SQMP.

2. **Retail Gasoline Outlets**

The Principal Permittee shall communicate appropriate BMPs to each RGO ~~to help ensure that RGOs are effectively implementing BMPs~~ in accordance with the SQMP and Regional Board Resolution 98-08.

3. **Automotive Service Facilities**

Each Permittee shall ~~inspect~~ field survey all Automotive Service Facilities within its jurisdiction to confirm that such facilities are effectively implementing storm water BMPs.

a) Frequency: Each automotive service facility shall be ~~inspected~~ field surveyed once every 24 months. If a ~~inspection~~ survey shows non-compliance with the SQMP and local storm water ordinances (including failure to implement pollution prevention BMPs), the facility shall be ~~re-inspected~~ re-surveyed within 90 days.

b) Level of ~~inspection~~ survey: The Permittees shall determine that BMPs are effectively implemented, in accordance with the SQMP, Regional Board Resolution 98-08, and storm water ordinances. As necessary, Permittees shall advise owners/operators of Automotive Service Facilities to implement additional BMPs, necessary to reduce the discharge of pollutants in storm water to the maximum extent practicable.

4. **USEPA Phase I Facilities**

It is the RWQCB's direct responsibility to visit Phase I facilities, determine GIASP eligibility, and conduct ongoing inspections. This requirement does not belong in the Permit.

a) Database for Source Identification: Each Permittee shall annually update a watershed-based inventory of all USEPA Phase I facilities, Retail Gasoline Outlets, Automotive Service Facilities, and Restaurants within its jurisdiction, regardless of whether or not the facility is subject to the GIASP or other individual or general NPDES permits. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-

part, "Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local government for the costs of such program or increased level of service. . . ." The imposition of the obligation to inspect to assure compliance with the GCASP is to shift responsibility for enforcement of the general permit from the regional board to the permittees. As such it is mandating a new program or a higher level of service on each permittee. Because the Board is not reimbursing the permittees for the costs of this program or higher level of service, these requirements violate the California Constitution.

The requirements also violate the General Construction Permit itself. That permit delegates to the Regional Boards the authority to implement the permit, including, but not limited to, reviewing SWPPs, reviewing monitoring reports, conducting compliance inspections, and taking enforcement actions." (State Board Order No.99-08-DWQ, Section D.1.a.) The General Permit does not give that authority to municipal storm water permittees.

The federal regulations also do not authorize imposition of these obligations on the Permittees. 40 CFR 122.26(d)(2)(iv)(D) requires a description of a program to implement best management practices to reduce pollutants in storm water from constructions sites. There is no reference in this section to overseeing or enforcing the General Construction Permit.

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of filing a Notice of Intent (NOI) for coverage under the State General Construction Activity Storm Water Permit and a certification that a SWPPP has been prepared by the project developer. The prepared SWPPP may satisfy the requirement under E.1. (in-lieu of Local SWPPP).

CALIFORNIA
HEALTH AND SAFETY CODE

CALIFORNIA
UNIFORM RETAIL
FOOD FACILITIES LAW

DIVISION 104 - Environmental Health
PART 7 - Retail Food
CHAPTER 4 - Retail Food Practices

Distributed by

County of Los Angeles ✧ Department of Health Service
Public Health Programs and Service
Environmental Healt
2525 Corporate Place, Suite 15
Monterey Park, CA 9175

Arturo Aguirre, Directo
Environmental Healt

January 200

R0005065

Celsius (120 degrees Fahrenheit), and cold water shall be provided. The water supply shall be from a water system approved by the health officer or the state department. Any hose used for conveying potable water shall be constructed of nontoxic materials, shall be used for no other purpose, and shall be clearly labeled as to its use. The hose shall be stored and used so as to be kept free of contamination. The potable water supply shall be protected with a back flow or back siphonage protection device, as required by applicable plumbing codes.

114100. (27625) **Plumbing and plumbing fixtures; disposal of liquid wastes**

All plumbing and plumbing fixtures shall be installed in compliance with local plumbing ordinances, shall be maintained so as to prevent any contamination, and shall be kept clean, fully operative, and in good repair.

All liquid wastes shall be disposed of through the plumbing system that shall discharge into the public sewerage or into an approved private sewage disposal system.

All steam tables, ice machines and bins, food preparation sinks, utensil washing sinks, display cases, and other similar equipment that discharge liquid waste shall be drained by means of indirect waste pipes, and all wastes drained by them shall discharge through an airgap into an open floor sink or other approved type of receptor that is properly connected to the drainage system. Drainage from refrigeration units shall be conducted in a sanitary manner to a floor sink or other approved device by an indirect connection or to a properly installed and functioning evaporator. Indirect waste receptors shall be located to be readily accessible for inspection and cleaning. Dishwashing machines may be connected directly to the sewer immediately downstream from a floor drain or they may be drained through an approved indirect connection. Utensil washing sinks in use on January 1, 1996, that are directly plumbed may be continued in use. This section does not require utensil washing sinks to be indirectly plumbed when the local building official determines that the sink should be directly plumbed.

114105. (27626) **Toilet facilities**

In each food establishment, there shall be provided clean toilet facilities in good repair for use by employees. The number of toilet facilities required shall be in accordance with local building and plumbing ordinances. Toilet facilities whose construction begins on or after January 1, 1985, and that are provided for use by patrons, shall be so situated that patrons do not pass through food preparation, food storage, or utensil washing areas. Toilet rooms shall be separated from other portions of the food establishment by well-fitting, self-closing doors or by other methods approved by the enforcement officer. Toilet rooms shall not be used for the storage of food, equipment, or supplies. Toilet tissue shall be provided in a permanently installed dispenser at each toilet.

114110. (27626.1) **Toilet and handwashing facilities for individual establishments within larger premises**

Amusement parks, stadiums, arenas, retail shopping centers, and similar premises, that include food facilities and toilet facilities within their boundaries, shall not be required to provide toilet facilities for employee use within each food establishment, as specified by Section 114105, if approved toilet facilities are located within 300 feet of each food establishment and are readily available for use by employees. Food establishments subject

(b) All poisonous substances, detergents, bleaches, cleaning compounds, and all other injurious or poisonous materials shall be used and stored in containers specifically and plainly labeled as to contents, hazard, and use, except for those products held for retail sale.

(c) All poisonous substances, detergents, bleaches, cleaning compounds, and all other injurious or poisonous materials shall be stored and used only in a manner that is not likely to cause contamination or adulteration of food, food contact surfaces, utensils, or packaging materials.

114030. (27607) **Prevention of entrance and harborage of animals, birds, and vermin**

A food facility shall at all times be so constructed, equipped, maintained, and operated as to prevent the entrance and harborage of animals, birds, and vermin, including, but not limited to, rodents and insects.

114035. (27608) **Waste material and rubbish; facilities for storage and disposal; removal and disposal**

Each food facility shall be provided with any facilities and equipment necessary to store or dispose of all waste material. All food waste and rubbish containing food waste shall be kept in leakproof and rodentproof containers and shall be contained so as to minimize odor and insect development by covering with close-fitting lids or placement in a disposable bag that is impervious to moisture and then sealed. Trash containers inside a food facility need not be covered during periods of operation. All food waste and rubbish shall be removed and disposed of in a sanitary manner as frequently as may be necessary to prevent the creation of a nuisance.

114040. (27609) **Premises to be clean and free of litter, rubbish, and vermin**

The premises of each food facility shall be kept clean and free of litter, rubbish, and vermin.

114045. (27610) **Animals and birds in food service areas; prohibition; exceptions**

(a) Except as otherwise provided in subdivision (b), no live animal, bird, or fowl shall be kept or allowed in any food facility.

(b) Subdivision (a) does not prohibit the presence, in any room where food is served to the public, guests, or patrons, of a guide dog, signal dog, or service dog, as defined by Section 54.1 of the Civil Code, accompanied by a totally or partially blind person, deaf person, person whose hearing is impaired, or handicapped person, or dogs accompanied by persons licensed to train guide dogs for the blind pursuant to Chapter 9.5 (commencing with Section 7200) of Division 3 of the Business and Professions Code.

(c) Subdivision (a) does not apply to dogs under the control of uniformed law enforcement officers or of uniformed employees of private patrol operators and operators of a private patrol service who are licensed pursuant to Chapter 11.5 (commencing with Section 7580) of Division 3 of the Business and Professions Code, while these employees are acting within the course and scope of their employment as private patrol persons.

COUNTY OF
LOS ANGELES

DEPARTMENT OF
HEALTH SERVICES

PUBLIC HEALTH
PROGRAMS
& SERVICES

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October 9, 2001

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(213) 847-6350
FAX: (213) 847-5443

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

CITY OF LOS ANGELES REQUEST FOR 10-DAY EXTENSION TO SUBMIT COMMENTS ON THE THIRD DRAFT OF THE NEW NPDES PERMIT

The City of Los Angeles is requesting that the due date for submitting the comments on the 3rd draft of the new Los Angeles County Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) Permit be moved from November 9, 2001 to November 19, 2001, thereby granting the City a 10-day extension to review the permit. While the City of Los Angeles appreciates and recognizes the Regional Board's efforts in issuing the NPDES permit in a timely manner, the City also believes that a 10-day extension for submitting the comments is needed due to the following reasons:

a) The due date for submitting the comments remained at November 9, 2001 even though the Regional Board recently revised the release date of the 3rd draft NPDES permit from October 1, 2001 to October 10, 2001. This significantly reduces the City's review period by 10 days.

b) The Regional Board has indicated that the 3rd draft may contain additional information and provisions that were not previously included in the 2nd draft. The additional changes will require the City more time to adequately review the 3rd draft NPDES permit.

c) The City Charter requires that any official position of the City with respect to policy-related issues proposed to or pending before a local, state, or federal agency be reviewed first by the City's Council committee (s) and then approved by the City Council in a resolution with the concurrence of the Mayor. This Charter requirement

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applies to the NPDES permit draft review process and necessitates certain reviews to be observed. The reduced draft review period will not allow the City to follow the required review procedures.

The City appreciates the Regional Board's consideration to this request. If you have any questions, please contact Shahram Kharaghani, Stormwater Program Manager, at (213) 847-6346.

Sincerely,

James F. Langley for

Judith A. Wilson, Director
Bureau of Sanitation

JAW/SK/MFS/WKT/SB:lm
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cc: James Langley, Assistant Director, BOS
Gerry Miller, CLA
Dee Carey, CAO

www.MSALAChapter.org

Los Angeles Chapter

Los Angeles and Orange Area Chapter
General Meeting and Luncheon Program

Date and Time: October 9th, 2001 - Sign in-11:00am; Meeting-11:30 a.m.
Host: Bill Higgins
Agency: City of Brea

Meeting Location: Embassy Suites
900 E Birch
Brea
Thomas Guide Map Page: 709 C-7

Menu: Marinated Top Sirloin with all trimmings
Cost: $20.00 w/ Reservation- $25.00 at the door

Lunch Program: *Public Agency Requirements and the New NPDES Permit*
Presented by: Mr. Carlos Urrunaga
Company Name/ Agency: Los Angeles Regional Water Quality Control Board

Soap Box Vendor: Heather Padron
Company : Emergency Service Restoration Experts

It is important that you RSVP by October 4th, 2001

RSVP:(626) 357-7931 Jan @ x235 or Patty @ x230

IMPORTANT!!!! Please cancel your reservation if you cannot attend, otherwise the Chapter must pay for your meal. It costs *your* organization extra money.

Forget your badge?? A $1.00 fine will be cheerfully collected at the door and contributed to the Scholarship Fund on your behalf!!

August Vendor Door Prizes

Victor Gonzalezr- West Coast Arborists
Lee Shakespeare- Breezer Equipment
Michelle Olinger- Petrochem Marketing
Michelle Olinger- Deery American
Ilan Skolnik-Concrete Creations
Doug Linder-Zumar Industries
Richard Caffey-Municipal Maint Equipt.
Norma Jean Olinger- Pacific Utilty Equipt
Michael A. Izzi, Jr.- Traffic Operations Inc
Steve Rassmussen-Traffic Control Service
Dino Perugino-Comm. Transportation Svcs
Anthony Accetta-Avery Dennison
Steve Spencer- Western Highway
Patricia Ackman- Absolute Asphalt
Candace Lee- Absolute Asphalt
Kathleen Snyder- Orange Products
Robert Nazemi-Hoffman Southwest
Vincent Wallace-Winner Industrial

R0005071

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TO: Interested Parties (see attached distribution list), including:
Permittees–County of Los Angeles Municipal Storm Water Permit;
Resource and Regulatory Agencies; Water Districts;
Environmental Organizations; Consultants; Other Local Agencies;
and Other Interested Parties

FROM: Dennis A. Dickerson
Executive Officer

DATE: October 11, 2001

SUBJECT: **Announcement of a Public Hearing and Transmittal of the Tentative Draft – County of Los Angeles Municipal Storm Water NPDES Permit**

ATTACHMENTS:
1. Public Notice
2. Tentative Permit (underline/strike-out version)
3. Staff Report
4. Response to Comments
5. Distribution List

The Regional Water Quality Control Board (Regional Board) will conduct a public hearing to consider adoption of the attached tentative permit during a public meeting on:

Thursday, November 29, 2001, starting at 9:00 a.m.
Richard H. Chambers U.S. Court of Appeals Building (Courtroom 3)
125 S. Grand Avenue, Pasadena, CA

A tentative agenda and public comment protocol for this Board Meeting will be posted on our web site by November 19, 2001. The public will have an opportunity to provide oral testimony before the Regional Board on November 29, 2001.

The County and Cities in Los Angeles County discharge storm water under a municipal storm water permit (Board Order No. 96-054), which expired on July 30, 2001. The Regional Board will consider adoption of a renewed permit at a public meeting on November 29, 2001. As part of the renewal process, we are pleased to transmit the tentative draft of the proposed new permit – the Municipal Storm Water NPDES Permit for the County of Los Angeles and incorporated cities (except for the City of Long Beach, which is covered under a separate permit). The version attached is an underlined/strike-out version to simplify the review of changes from the June 29, 2001 draft.

We have reviewed the comments received and have made changes accordingly. The main revisions are in the following programs:

R0005072

1. Development Planning:
   a. Single family structures are excluded from the redevelopment requirements; and
   b. We have proposed a time period for a study to recommend peak flow controls.
2. Inspections:
   a. Option A - Focus inspections on critical sources prioritization confirmed by monitoring study; Inspect municipal landfills, hazardous waste treatment facilities, EPCRA facilities, restaurants, retail gasoline outlets, and auto service facilities; and remaining facilities are site visits.
   b. Option B - Focus inspections on critical sources prioritization confirmed by monitoring study; Inspect the same facilities as Option A with the addition of wholesale trade (scrap, auto dismantling), fabricated metal products, motor freight, chemical/allied products, primary metals products, and facilities identified as highest ranking in their critical sources evaluation; and remaining facilities are site visits.
   c. Option C – Continued Site Visits as currently in place.
3. Illicit Connections/Illicit Discharges: Development of a listing of all permitted connections to the storm drain system.
4. Monitoring and Reporting Program: Included a reporting program with reporting requirements and performance criteria.

We have attached a staff report, containing technical justifications for changes from the existing permit. If you would like a non underline/strike-out version of the permit (clean version), please contact Wendy Abarquez by phone at (213) 576-6802 or by e-mail at wabarque@rb4.swrcb.ca.gov. Alternatively, the tentative permit and other renewal documents will be placed on our website by next week for dissemination and viewing.

Please submit your comments on the attached tentative draft in writing, to this office by November 12, 2001. This will give staff time to review and consider the comments, respond to them, propose changes to the tentative permit, and if necessary, resolve issues prior to the Regional Board consideration of the tentative permit during the public hearing. Written comments should be either hand delivered or mailed to this office to the attention of: Dr. Xavier Swamikannu.

Any comments received after November 12, 2001, will be provided to the Regional Board members ex agenda, and may not receive full consideration. Following the consideration of written comments and oral testimony, the Board may take action to adopt tentative Order No. 01-XXX during a public meeting on November 29, 2001. At its discretion, however, the Board may direct further investigation.

Please call Dr. Xavier Swamikannu at (213) 576-6654 or Wendy Phillips at (213) 576-6618 should you have any questions. Thank you for your interest in and comments on this proposed regulatory action for the County of Los Angeles and the Cities of Los Angeles County.

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

320 W. 4th Street, Suite 200
Los Angeles, California 90013
Tel No. (213) 576-6600; Fax No.: (213) 576-6660

Public Notice No. 01-060

NPDES No. CAS004001

NOTICE OF PUBLIC HEARING

CONSIDERATION OF A STORM WATER MANAGEMENT/URBAN RUNOFF PERMIT

FOR

THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN,

EXCEPT THE CITY OF LONG BEACH

Los Angeles Regional Water Quality Control Board will conduct a public hearing to consider the adoption of a municipal storm water permit for Los Angeles County (the renewal of an existing five-year permit). Regional Board staff will provide background and a brief overview of the proposed draft permit. The public will have the opportunity to testify regarding the proposed permit.

HEARING DATE AND LOCATION:

DATE: Thursday, November 29, 2001
TIME: 9:00 a.m.
PLACE: Richard S. Chambers, U.S. Court of Appeals Building
Courtroom 3
125 S. Grand Avenue
Pasadena

AVAILABILITY OF DOCUMENTS

You may contact Weindy Abarquez, at (213) 576-6802, to request a copy of the tentative draft permit and staff report. After October 15, you may also download the tentative draft permit and other related documents from the Regional Board Storm Water web page at www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html.

BACKGROUND

On January 31, 2001, the Los Angeles County Department of Public Works submitted an application for renewal of the five-year Municipal Storm Water Management/Urban Runoff Discharges Requirements for the County of Los Angeles, and the incorporated cities, except for the City of Long Beach (Board Order No. 96-045). Regional Board staff conducted a public workshop on April 24 and a formal workshop with the Regional Board on July 26 to give

background on the permit and allow for public comment. Regional Board staff have considered comments in the issuance of each of the three draft permits.

Under the requirements of the permit, the County will implement the Storm Water Quality Management Plan which includes the following provisions: (a) Program Management; (b) Public Information and Participation Program; (c) Programs for industrial/commercial facilities; (d) Public Agency Activities; (e) Programs to eliminate illicit connections and discharges; (f) Programs for development planning; and (g) Programs for construction sites. These programs collectively are expected to reduce pollutants in storm water discharges to the Maximum Extent Practicable.

In addition, the County will conduct a storm water monitoring program to assess permit compliance, assess the chemical physical and biological impacts on receiving waters from storm water runoff, characterize storm water discharges, and identify sources of water quality exceedances and toxic pollutants.

HEARING PROCEDURE

The hearing will start at 9:00 am. Regional Board staff will present an overview of the proposed permit. Interested persons are invited to attend and to testify in front of the Regional Board. For the accuracy of the record, comments should also be submitted in writing. The Regional Board may ask questions of staff and persons who testify prior to making a decision on the adoption of the proposed permit.

Date: September 27, 2001

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R0005076

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Monitoring and Reporting **T-1**

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. **Existing Permit ~~and Report of Waste Discharge~~**

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles ~~r~~Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, ~~and~~ which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. **Nature of Discharges and Sources of Pollutant**

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.

2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine

operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, ~~heavy metals,~~ lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and ~~bis (2-ethylhexyl) phthalate and mercury as resulting from atmospheric deposition~~, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order are is intended to reduce ~~and will contribute to reduced~~ the entry of these pollutants into storm water and their discharge to receiving waters.

~~3. These compounds can have damaging effects on both human health and aquatic ecosystems. In addition, the high volumes of storm water discharged from MS4s in areas of urbanization can significantly impact aquatic ecosystems due to physical modifications such as bank erosion and widening of channels. It is anticipated that, due to the nature of storm water events (i.e., large volumes of water and high velocities) that there may be short-term, reversible impacts to beneficial uses that are not directly related to water quality.~~

~~4.~~3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (iii) audit of MS4 Permittee programs; and (iv) clarifying enforcement responsibilities between the State and local governments.

5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. ~~;~~ See, e.g., ~~-~~ [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight*, Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation:*

Technical Review (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001).

6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings ~~with it~~ proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated ~~with~~ as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York.)

8. The County of Los Angeles has identified as the ~~five~~ seven highest ~~priority potential~~ priority industrial and commercial critical source types, (~~i~~i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/-parking; (iii) fabricated metal products; (iv) motor freight; ~~and~~-(v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works (~~-~~Sept 1996).

Monitoring conducted by Los Angeles County demonstrates that the priority industrial sectors and auto repair facilities (~~the only~~ one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (~~-~~*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works (~~-~~July 2000)~~)~~.

9. A review of industrial waste/ pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board. 1987. Huron River Pollution Abatement Program)

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) adequate legal authority, (ii) fiscal resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) monitoring and reporting program.

2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements ~~and a proposed~~ that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed ~~Storm Water Quality Management Plan~~ (SQMP~~)~~ and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

   Public Information and Participation
   Development Planning
   Development Construction
   Public Agency Activities
   Illicit Connection/Illicit Discharge Elimination Program

   These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water monitoring program. The

Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP~~torm Water Management Plan~~, incorporating the additional provisions contained in this Order would meet the minimum requirements of federal regulations.

5. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press. Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, , L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]

6. Retail gasoline outlets are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from retail gasoline outlets have high concentrations of hydrocarbons and heavy metals. [*Schueler and Shepp* (1992)]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The LA Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria under the MS4 program, as well in other U.S. States.

7. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant

(NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County Flood Control District within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles. Attachment B shows the map of the permitted area in Los Angeles County Flood Control District.

2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. ~~Consequently, the Regional Board recognizes that the Permittees will not be held responsible for such facilities and/or discharges.~~ The Regional Board will coordinate with these entities ~~facilities~~ to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

   About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and thence to Santa Monica Bay,

   About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and thence to Santa Monica Bay, and

   About 86 square miles of area in Orange County, which drain into Coyote Creek and thence into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to ~~control~~ reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the United States.

5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the ~~municipal separate storm sewer system~~ MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C Section 1251-1387). This section requires the ~~U.S. Environmental Protection Agency~~ (USEPA) to establish regulations setting forth NPDES requirements for storm water discharges in two phases.

   - The USEPA Phase I storm water regulations were directed at ~~municipal separate storm sewer systems~~ (MS4s) serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed Reg.* 47990).

   - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small ~~municipal~~ MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed Reg.* 68722).

2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contains certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.

4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act (ESA) and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].

5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 Ppermittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that Ppermittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).

6. Section 402 (p) of the CWA~~lean Water Act~~ (33 U.S.C. Section 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

7. ~~Section 122.2 of t~~The CWA authorizes the USEPA to permit a state to serve as the ~~delegate its~~ NPDES permitting authority in lieu of the USEPA~~to states with an approved environmental regulatory program~~. The State of California has in-lieu authority for an NPDES program~~is a delegated State~~. The Porter-Cologne Water Quality Control Act ~~(California Water Code)~~ authorizes~~d~~ the ~~State Water Resources Control~~

~~Board~~ (State Board), through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State ~~and tributaries thereto~~. The State Board entered into a ~~Memorandum of Agreement~~ [MOA] with the USEPA, on ~~22~~ September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, ~~and~~ still meet~~implement~~ applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and require ~~changes to~~ amending the SQMP~~torm Water Quality Management Plan~~ after pollutants loads have been allocated and approved.

9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. Sections 1451-1465), amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.

10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule) 65 *Fed. Reg.* 31682 (40 C.F.R. § 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, ~~and~~ enclosed bays, and estuaries. The State Board adopted the *(Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000)* on March 2, 2000, for implementation of the California Toxics Rule (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy. ~~This Policy also establishes reporting protocols for the results on analytical determinations of chemical constituents and reporting levels (Minimum Level) in wastewater and storm water discharges.~~

11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives ~~for~~ which apply to ~~-~~all discharges to the coastal waters of California.

12. The State Board *In Re*: California Department of Transportation (State Board Order WQ 2001-08), determined that the discharge of storm water to Areas of Special Biological Significance (ASBS) ~~are~~ is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan~~, and amendments thereto, which are incorporated in this Order by reference,~~ designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.

14. The Regional Board on ~~January 26, 2001 and~~ September 19, 2001, adopted amendments to the ~~*Water Quality Control Plan, Los Angeles Region*~~Basin Plan, to incorporate TMDLs for trash ~~for~~ in the Los Angeles River (Resolution No. ~~01-006 amended by Resolution No.~~ 01-013) and Ballona Creek (Resolution No. 01-014). ~~The TMDLs for trash a~~After approval by the State Board, the Office of Administrative Law, and the U.S. EPA ~~and the Office of Administrative Law are~~ the TMDLs for trash will be effective and enforceable ~~under this Order for municipal storm water discharges.~~

~~14.~~15. The Regional Board on April 13, 1998, approved ~~best management practices~~ BMPs for sidewalk ~~wash~~rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same ~~R~~resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

~~15.~~16. The Regional Board on April 13, 1998, approved recommended best ~~management practices~~ BMPs for industrial/-commercial facilities (Resolution No. 98-08).

~~16.~~17. The Regional Board on April 22, 1999, approved a list of best ~~management practice~~BMPs for use in development planning and development construction (Resolution No. 99-03)

~~17.~~18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm

water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

- The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000,) which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for retail gasoline outlets.

- The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.

~~18.~~19. The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S. is not permissible. 40 CFR Part 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any waters of the U.S. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

~~19.~~20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

~~20.~~21. To promote a watershed management approach, the County of Los Angeles is divided into ~~five~~ six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA

Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment -A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

~~21.~~22. To facilitate compliance with federal regulation, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by ~~these~~ a statewide general permits by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcementing authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

~~22.~~23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, ~~"Maintaining High Quality Water"~~ which established an anti-degradation policy for the State and Regional Boards. This ~~P~~policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.

~~23.~~24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable ~~specifies standard~~ receiving water limitations language to be included in ~~all~~ municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th. Cir, 1999). The State Board OCC~~ffice of Chief Counsel~~ has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

~~24.~~25. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; ~~and provisions~~and provisions of CWC Section 13241. The Regional Board has ~~fully~~ considered the requirements of sections 13263 and 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements~~all relevant issues~~.

~~25.~~26. ~~California Water Code~~ CWC Section 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the Federal Clean Water Act and its amendments.

F. Implementation

~~1. Permittees established an Executive Advisory Committee (EAC) to facilitate permit compliance and enhance consistency in program implementation. The EAC is formally incorporated within this permit as a representative committee of the Permittees.~~

~~2.~~1. The California Environmental Quality Act (CEQA) (Cal Pub Resources Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions ~~that~~ to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria ~~may be established~~ administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.

~~3.~~2. On March 12, 2001, the United States Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District,* 243 F3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the~~a~~t general permit.

4.3. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to ~~control~~ reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

5.4. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and ~~No.~~ 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

6.5. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then structural and treatment control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

7.6. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

7. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the ~~*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* SIP – 2000 (State Board Resolution No. 2000-15 as amended by Resolution No. 2000-30).~~ The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interferences. The SIP's MLs, therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic

priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

8. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP or requirement under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

9. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and ~~or any of~~ its requirements are not intended to restrict or control local land use decision-making authority.

10. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain treatment control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of treatment control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

3. The Regional Board has conducted public workshops to discuss ~~the~~ drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the

submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.

4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are ~~C~~co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is ~~only~~ responsible only for a discharge for which it is the operator.

5. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit, pursuant to Section 402 of the ~~Federal Clean Water Act~~CWA, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.

6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal Pub. Resources Code Section 21100 *et seq*.), in accordance with ~~California Water Code~~ CWC ~~Section~~§ 13389.

7. Pursuant to ~~California Water Code Section~~ CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.

8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the ~~federal~~ NPDES program, and the CW~~California Water Code~~ for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CW~~California Water Code~~ and regulations adopted thereunder, and the provisions of the CW~~Clean Water Act~~, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

~~Each~~The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges are:

1. covered by a separate individual or general NPDES permit for non-storm water discharges; or

2. fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:

   a) Category A - Natural flow:

      (1) Natural springs and rising ground water;

      (2) Flows from riparian habitats or wetlands;

      (3) Stream diversions, permitted by the State Board; and

      (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].

   b) Category B - Flows from emergency fire fighting activity.

   c) Category C - Flows incidental to urban activities. ~~All of which are subject to conditions that shall be approved by the Regional Board Executive Officer:~~

      (1) Reclaimed and potable landscape irrigation runoff;

~~(2) Water line flushing of potable water distribution systems;~~

      (2) Potable drinking water supply and distribution system releases ~~(once a Pollution Prevention Plan is accepted by the Southern California Chapter of the~~ consistent with American Water Works Association guidelines~~and approved by the Regional Board Executive Officer~~ for dechlorination/debromination and suspended solids reduction practices);

      ~~(2)~~(3) Drains for foundations, footings, and crawl spaces;

      ~~(3)~~(4) Air conditioning condensate;

      ~~(4)~~(5) Dechlorinated swimming pool discharges;

      ~~(5)~~(6) Dewatering of lakes and decorative fountains;

      ~~(6)~~(7) Non-commercial car washing by residents or by non-profit organizations; and

      ~~(7)~~(8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of

the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of anti-degradation policies and TMDLs.

Part 2. RECEIVING WATER LIMITATIONS

1. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.

3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of water quality objectives or water quality standards (collectively, water quality standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:

   a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of water quality standards. This report may be incorporated in the annual Storm Water Report and Assessment ~~update of the SQMP and its components~~ unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the Report.

   b) Submit any modifications to the report required by the Regional Board within 30 days of notification.

   c) Within 30 days following the approval of the report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.

4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

Part 3. STORM WATER QUALITY MANAGEMENT PLANROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order.

2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the maximum extent practicable.

3. Each Permittee shall implementmay develop a SQMP, incorporating the countywide SQMP, which identifies additional controlsprovisions where necessary, intended to reduce the discharges of pollutants in storm water to the maximum extent practicable.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution controls ~~benefits~~. When implemented, BMPs are intended to~~shall~~ result in the reduction of pollutants in storm water to the maximum extent practicable.

C. ~~Modification~~ Revision of the Storm Water Quality Management Planrogram

The Permittees shall ~~modify~~revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments~~additional provisions~~. Such ~~provision~~amendments may include regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total ~~Daily~~ Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, The Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;

2. ~~1.~~ Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;

3. ~~2.~~ Provide personnel and fiscal resources ~~for compilation, evaluation and submittal of all reports required under this Order and~~ for the necessary updates of the SQMP and its components;

4. ~~3.~~ Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;

4.5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;

5.6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;

6.7. Provide personnel and fiscal resources for the ~~preparation~~collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and

7.8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (~~see subject to provisions mentioned~~ in Findings B.2. and D.2.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;

3. Designate a technically knowledgeable representative to the appropriate WMC; and

4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and SQMP.

5. Prepare an annual summary of expenditures applied to the storm water management program. This summary of budget expenditures shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

   a) Program management

      ~~(1)~~• Administrative costs

      ~~(2)Capital costs~~

   b) Illicit connection/illicit discharge

   c) Development planning

   d) Development construction

• Construction inspection activities

e) Industrial/Commercial inspection/site visit activities

~~f)Construction inspection activities~~

~~g)~~f) Public Agency Activities

(1) Maintenance of structural BMPs and treatment control BMPs

(2) Municipal Street Sweeping

(3) Catch basin clean-up

(4) Trash collection

(5) Capital costs

~~h)~~g) Public Information and Participation

~~i)~~h) Monitoring Program

~~j)~~i) Miscellaneous Expenditures

6. Each Permittee, in addition to the budget summary, shall report any supplemental dedicated budgets, ~~if any~~, for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).

2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a) Facilitate cooperation and exchange of information among Permittees;

b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and

g) Conduct joint WMC meetings four times per year and, as necessary.

~~G. Executive Advisory Committee (EAC)~~

~~1. The EAC shall be composed of one representative from the Malibu Creek WMA, two representatives from each of the other WMAs, one representative from the City of Los Angeles, and one representative from the Los Angeles County Flood Control District.~~

~~2. The EAC shall facilitate program compliance in each watershed and enhance consistency among Permittees.~~

~~3. The EAC shall conduct its meetings in compliance with the Cal. Gov. Code § 54950 et seq.~~

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges~~, to the maximum extent practicable~~, to the storm drain system, including, but not limited to:

   a) Prohibit illicit discharges and illicit connections and a requirement ~~for~~ removal of illicit connections;

   b) Prohibit the discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;

   c) Prohibit the discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

   d) Prohibit the discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;

   e) Prohibit the discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

   f) Prohibit the discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;

   g) Prohibit the discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

   h) Prohibit washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4; and

   i) Prohibit the discharge of concrete or concrete laden wash water from concrete trucks, pumps, tools, and equipment to the MS4.

   j) Prohibit ~~spills~~, dumping, or disposal of materials into the MS4, other than storm water, such as:

      (1) Litter, landscape debris and construction debris;

      (2) Any state or federally banned or unregistered pesticides, ~~fungicide or herbicide~~;

      (3) Food and food processing wastes; and

      (4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

~~k)~~a) Require persons within their jurisdiction cComply with conditions in Permittees ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

~~l)~~b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;

~~m)~~c) Control ~~of~~ pollutants, ~~(~~including potential contribution~~)~~, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to source control, and treatment control, ~~and structural control~~ BMPs; ~~and.~~

~~n)~~d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potentially to discharge polluted storm water runoff into its MS4 ~~(including construction sites)~~.

~~o)~~e) Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s to the maximum extent practicable.

f) Require~~Ensure~~ that treatment control BMPs are~~be~~ properly ~~designed~~ operated and maintained to prevent the breeding of vectors.

~~p)~~3. Each Permittee shall, no later than~~On or before July 1, 2002~~ [9 months from permit effective date], ~~if necessary,~~ amend and adopt, (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.

~~2. The Principal Permittee shall, on or before July 1, 2002, amend the Los Angeles County Public Health Code to require inspections at restaurants that will address:~~

~~a) Oil and Grease residue to verify that it is not poured onto a parking lot, street or adjacent catch basin.~~

~~b) Dumpster areas to verify that the dumpster area is clean, dumpster lid closed, not filled with liquid or washed out.~~

~~c. Parking lot, alley, sidewalk and street areas to verify that floormats, filters and garbage containers are not washed in those areas and that no washwater is poured in those areas.~~

~~d. Parking lot area to verify that it is cleaned by sweeping and not by hosing down and that the facility operator uses dry methods for spill cleanup.~~

3. Each Permittee shall submit no later than ~~July 31, 2002~~[10 months from permit effective date], a new or updated statement by ~~the~~ its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

A.1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific Best Management Practice (BMP) substitution upon petition by the Permittee(s), if the Permittee can document that:

1. a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

2. b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

3. c) The proposed alternative BMP or program will be implemented within a similar period of time.

2. Customized SQMP

Each Permittee shall have available a local SQMP, which:

a) Is customized and reflects the conditions in the area under its jurisdiction; and

b) Specifies activities being implemented under the appropriate elements described in the countywide SQMP.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements. ~~PIPP that incorporates the components of the five-year education plan and the provisions of this section.~~

~~Permittees shall work collaboratively to implement a comprehensive education/outreach program with the following objectives~~The objectives of the PIPP are as follows:

a) To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;

b) To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions;

c) To involve and engage all socio-economic groups and ethnic ~~groups~~communities in Los Angeles County to participate in mitigating the impacts of storm water pollution (such as African American, Latino, East Asian, South Asian, and Middle Eastern).

The Principal Permittee shall convene a panel to review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer for consideration no later than December 31, annually. The PIPP will become effective upon approval. ~~The Principal Permittee shall submit the PIPP to the Regional Board Executive Officer for review and approval on or before December 31, 2001, and annually thereafter.~~

1. PIPP - Residential Program

~~a)The Principal Permittee shall implement the Public Education Program as outlined in the SQMP, including the continuation of the following activities:~~

~~Advertising~~
~~Media Relations~~
~~Public Service Announcements~~
~~"How To" Instructional Material Distributed in a Targeted and Activity Related Manner~~
~~Corporate, Community Association, Environmental Organization and Entertainment Industry Tie-Ins~~
~~1-888-CLEAN-LA and 888CleanLA.com~~
~~Events Targeted to Specific Activities and Population Sub-groups~~

~~b)~~a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than (2 years after the effective date of this Order)~~by October 25, 2003~~. S~~Legible s~~ignage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

~~c~~)b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts within 30 days of the date this order becomes effective.

~~d~~)c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year Public Education Program: ~~implement the second Five-Year Education Plan as detailed in the SQMP.~~

(i) Advertising;
(ii) Media relations;
(iii) Public service announcements;
(iv) "How To" instructional material distributed in a targeted and activity-related manner;
(v) Corporate, community association, environmental organization and entertainment industry tie-ins;
(vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented. no later than (365 days from the effective date of this Order).

(3) The Principal Permittee shall implement an outreach program to educate on proper disposal of cigarette butts.

~~(2)~~(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.

~~(3)~~(5) The Principal Permittee shall organize Public Outreach Strategy meetings for ~~with all~~ Permittees on a quarterly basis, beginning (within 3 months of the effective date of this Order). The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other

interested parties in the outreach strategy to strengthen and coordinate educational efforts.

~~(4)~~(6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

~~(5)~~(7) The Principal Permittee, in cooperation with the Permittees, shall provide ~~all~~schools within each School Districts ~~within its jurisdiction~~ in the County with materials, including, but not limited to, videos, live presentations, ~~brochures,~~ and other ~~media~~ information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

(8) The Permittees shall provide the contact information for their appropriate storm water staff to the Principal Permittee no later than (60 days from the effective date of this Order) ~~on November 25, 2001~~. Cooperative efforts with other agencies may also be used to accomplish this requirement.

(9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than (90 days from the effective date of this Order). It shall be implemented on approval.

(10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than (90 days from the effective date of this Order). The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

~~e)~~d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on target the watershed-specific pollutants listed in Table 1 no later than (365 days from the effective date of this Order) ~~on or before October 25, 2002~~. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program ~~businesses program described in the next section~~ (e.g. distribute education materials on appropriate BMPs for metal waste management reduction to

facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts. ~~Programs shall focus on the anthropogenic sources of each pollutant.~~

Table 1.	
Watershed	***Target Pollutants for Outreach***
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	~~Reserved~~Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate ~~environmental~~ managers~~ment~~ about storm water regulations. The program shall target retail gasoline outlets and restaurant chains. At a minimum, this program shall include:

(1) Conferring with corporate ~~environmental~~ management to explain storm water regulations;

(2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide ~~environmental~~ managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all retail gasoline outlet and restaurant chain corporations shall be conducted ~~occur once every 2 years, but~~ not less than twice during the permit term, with the first outreach contact to begin no later than (365 days from effective date of this Order).

b) Business Assistance Program

~~(1)~~The Principal Permittee and Permittees ~~with the available resources, including but not limited to the City of Los Angeles,~~ may implement a Business Assistance Program to provide ~~confidential,~~ technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. ~~At a minimum, p~~Programs may include:

~~(i)~~(1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and

~~(ii)~~(2) Making Aavailableility, distributicon, and discussi of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Program [Version A]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. **Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

3. Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. **Automotive Service Facilities**

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

6. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 6.

7. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

8. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

9. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

10. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

11. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

C. Industrial/Commercial Facilities Program [Version B]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. **Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

3. Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. **Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities**

a) The Permittees shall inspect

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products

facilities once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

6. Automotive Service Facilities

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

7. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 6.

8. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

9. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the

facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

10. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

11. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

C. Industrial/Commercial Educational Program [Version C]

Each Permittee shall implement an industrial/commercial site visit program. The purpose of such site visits will be solely educational and to provide industrial/commercial facilities with information regarding the Permittee's storm water program, and to provide advice when requested in understanding and complying with the Permittee's storm water regulations. To minimize cost, each Permittee is encouraged to coordinate its site visit program with existing fire, health, industrial wastes and/or other inspection type programs so that the Permittee need not institute new and separate site visit programs. The program shall contain the following components:

1. Identification of Sources

   a. The Principal Permittee in consultation with the Permittees shall maintain and update a database for listing industrial/commercial facilities by four digit SIC Industry Numbers. This database will serve as a reference resource for the public, business, industry, local government, the Regional Board, and other public agencies on storm water program participation. The initial accuracy of the database will be dependent on the accuracy of electronic and information sources used to establish the database, but the accuracy is expected to improve after Permittees begin to implement the industrial/commercial site visit program. No legal import is to be attributed to the database developed by the Permittees. The database format shall include at a minimum:

      i. Facility name;
      ii. Site address;
      iii. Watershed Management Area;
      iv. Applicable SIC code(s); and
      v. NPDES storm water permit coverage status, if applicable.

   b. Each Permittee shall update the information using the format developed by the Principal Permittee for industrial/commercial facilities within its jurisdiction and submit the information to the Principal Permittee. The list of facilities shall include, at a minimum:

      i. All industrial groups regulated under Phase I of the Federal storm water program (40 CFR 122.26; Phase I Facilities);

      ii. Motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, gas stations, and restaurants; and

      iii. Additional SIC industrial/commercial groups identified as priorities by each WMC pursuant to this Order.

   c. The Principal Permittee shall maintain and update the information submitted by each Permittee into a database of industrial/commercial facilities. This database shall include:

i. For each four-digit SIC Industry Number, primary activities that might impact runoff discharges (from national or commercial database sources); and

ii. For each four-digit SIC Industry Number, primary materials that might impact runoff discharges (from national or commercial database).

2. Source Control Measures

The Permittees, shall require the implementation of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site. The BMPs shall:

a. Address multiple pollutants;

b. Initially focus on pollutant source minimization, education, good housekeeping, and site design alternatives; and

c. Target source areas and activities with the highest potential to generate substantial pollutant loads.

The Principal Permittees shall distribute the BMP lists to the Permittees to be incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.

3. Educational Site Visits

a. Each Permittee shall implement an industrial/commercial educational site visit program according to the following schedule in Table 7:

Table 7
Schedule of Educational Site Visits

FACILITIES	SITE VISIT FREQUENCY (No. of Contacts / Time period)
i) Phase I*, [i]-[ix] and [xi] with waste discharge or pretreatment permit	1 / 24 months **
ii) Phase I, [i]-[ix] and [xi] with no waste discharge or pretreatment permit but with GIASP	1 / 24 months**
iii) Phase I, [i]- [ix] with no waste discharge or pretreatment permit, and no GIASP	1 / 24 months**
iv) Phase I [xi] with no GIASP	1 / 5 years***
v) Vehicle repair shops, vehicle body shops, vehicle parts and accessories facilities	1 / 24 months**
vi) Gas stations	1 / 24 months**
vii) Restaurants	1 / 24 months**
viii) Facilities selected by WMCs	1 / 36 months

* See Glossary of Terms for definition
** Once in 24 months with a minimum of two site visits during the five-year term of this Order
*** See exception in text below

i. Phase 1 facilities in categories [i] through [ix] and [xi] which have an industrial waste discharge permit or a pretreatment permit, once every twenty-four months;

ii. Phase 1 facilities in categories [i] through [ix] and [xi], which do not have an industrial waste discharge permit or a pretreatment permit but have obtained coverage under the GIASP, once every twenty-four months;

iii. Phase 1 facilities in categories [i] through [ix], which do not have an industrial waste discharge permit, a pretreatment permit or GIASP coverage, once every twenty-four months;

iv. Phase 1 facilities in category [xi] without an industrial waste discharge permit, a pretreatment permit, or GIASP coverage. In lieu of a site visit, contact by phone, mail-out of questionnaire and educational materials, or other similar method to inform the facilities of notice of intent (NOI) requirements and encourage good storm water quality control measures (non-responders to be identified in annual report), once in five years;

v. Vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC Industry Major Group 75); once every twenty-four months;

vi. Gasoline stations (SIC Industry Number 5541); once every twenty-four months;

vii. Restaurants (SIC Industry Number 5812), once every twenty-four months; and,

viii. Additional SIC industrial/commercial groups identified by the WMC for the watershed in which the Permittee is located, once in thirty-six months, with a maximum limit of 3,000 additional site visits per Permittee during the term of this Order.

b. During the educational site visit, the Permittee shall:

i. Consult with a representative of the facility to explain applicable storm water regulations;

ii. Distribute and discuss applicable BMP and educational materials, including information regarding the codes, regulations, ordinances, and permits applicable to the category of the facility. In the case of Phase I facilities, notify the facility of specific requirements under the GIASP including that such facilities must file an NOI with the State Water Resources Control Board and that SWPPP must be available on the site; and

iii. Follow-up with facilities, as deemed necessary and appropriate by the Permittee, to provide advice in complying with the Permittee's storm water ordinances, prohibitions, and other legal instruments.

c. Each Permittee shall submit to the Principal Permittee, on a quarterly basis, the lists of visited facilities identified by category. The Principal Permittee shall compile the submitted lists and submit them to the Executive Officer on a quarterly basis.

4. Alternative Programs

A Permittee may petition the Executive Officer to substitute the industrial/commercial educational program with an alternative industrial/commercial educational program that will achieve greater or substantially similar educational goals and which will be implemented within a similar period of time.

D. Development Planning Program

1. The Permittees shall implement a development-planning program that will require all planning priority development and redevelopment projects to:

   a) Minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CW~~Cal Water Code~~ § 13369, CWA § 319, CWA § 402(p)~~Section~~CWA § 404 ~~of the CWA~~, CZARA § 6217(g), ESA § 7, and local government ordinances~~, and other legal authorities~~;

   b) Maximize the percentage of permeable surfaces to allow ~~more~~ percolation of storm water into the ground;

   c) Minimize the quantity of storm water directed to impermeable surfaces and the MS4;

   d) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices;

   e) Ensure that treatment control BMPs are properly designed and maintained in a manner that does not promote the breeding of vectors; and

   ~~e)~~f) Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

2. Peak Flow Control

   The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in natural drainage systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. ~~The Permittees shall develop and implement numerical criteria on or before October 31, 2002, to control the post-development peak storm runoff discharge rates in natural drainage systems to maintain or reduce pre-development peak discharge rates to prevent down-stream erosion, and to protect stream habitat.~~ Natural drainage systems ~~include~~ are located in the following areas:

   a) Malibu Creek

   b) Topanga Canyon Creek

   c) Upper Los Angeles River

   d) Upper San Gabriel River

   e) Santa Clara River

f) ~~Named and unnamed coastal drainages~~ Los Angeles County Coastal Sstreams (see Basin Plan Table 2-1)

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section I).

Each Permittee shall no later than (540 days from the permit effective date) implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the peak flow control criteria with a Hydromodification Control Plan, on approval by the Regional Board, in the following circumstances:

(1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

(2) Watershed wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

3. Standard Urban Storm Water Mitigation Plans

a) Each Permittee shall require that a single-family hillside home developments:

(1) Conserve natural areas

(2) Protect slopes and channels

(3) Provide storm drain system stenciling and signage

(4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability

(5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability

b) Each Permittee shall require that a Standard Urban Storm Water Mitigation Plan as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments ~~with immediate effect~~:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet redevelopment thresholds

Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than (120 days from permit effective date) for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.

c) ~~The~~Each Permittees shall require the implementation of SUSMP provisions no later than (180 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA~~environmentally sensitive area~~, where, the development will:

(1) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and

~~(1)~~(2) create 2,500 square feet or more of impervious surface area, ~~or~~

~~(2)alter the area of imperviousness of the site to ten or more percent of the naturally occurring condition, and~~

~~(3)discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat~~

4. Numerical Design Criteria

The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below ~~the following design criteria~~ to mitigate (infiltrate, filter or treat) storm water runoff:

a) Volumetric ~~Structural or~~ Treatment Control BMP

(1) the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality*

Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998), or

(2) the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial*, (1993), or

(3) the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

(4) the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event~~;~~ ~~and /or~~

b) Flow Based ~~Structural or~~ Treatment Control BMP

(1) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity, or

(2) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County, or

(3) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above~~;~~.

5. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of planning priority projects to design and implement post-construction treatment ~~and structural~~ controls to mitigate storm water pollution:

a) Single-family hillside residential developments of one acre or more of surface area

b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units ~~one acre~~ or more~~.~~

c) A 100,000 square feet or more impervious surface area industrial/ commercial development

d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]

e) Retail gasoline outlets [5,000 square feet or more and with projected Average Daily Traffic (ADT) of 100 or more vehicles]

f) Restaurants (SIC 5812) [5,000 square feet or more of surface area]

g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

h) Projects located in, adjacent to or discharging directly to an ESA ~~environmentally sensitive areas~~ that meet threshold conditions identified above in 3.c.

i) Redevelopment projects in subject categories that meet redevelopment thresholds

6. Not later than March 9, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial category to projects that disturb one acre or more of surface area. ~~and greater to conform to USEPA Phase II storm water regulations.~~

7. Site Specific Mitigation

Each Permittee shall no later than (180 days from permit effective date) require the implementation of a site-specific plan to mitigate post-development storm water for new developments and redevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

~~(1)~~a) Vehicle or equipment fueling areas;

~~(2)~~b) Vehicle or equipment maintenance areas, including washing and repair

~~(3)~~c) Commercial or industrial waste handling or storage

~~(4)~~d) Outdoor handling or storage of hazardous materials;

~~(5)~~e) Outdoor manufacturing areas

~~(6)~~f) Outdoor food handling or processing

~~(7)~~g) Outdoor animal care, confinement, or slaughter

~~(8)~~h) Outdoor horticulture activities

8. Redevelopment Projects

~~a)~~The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all planning priority projects that undergo significant redevelopment in their respective categories.

a) Significant redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square

feet or more of impervious surface area on an already developed site.

Where -redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the change must be mitigated, and not the entire development.

b) Redevelopment does not include activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.

c) Existing Single Family Structures are exempt from the redevelopment requirements.

9. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for structural and treatment control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

a) The developers signed statement accepting responsibility for maintenance until the responsibility is legally transferred, and either

b) A signed statement from the public entity assuming responsibility for structural or treatment control BMP maintenance and that it meets all local agency design standards, or

c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year, or

d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the structural and treatment control BMPs; or

e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction structural or treatment control BMPs

10. Regional Storm Water Mitigation Program

~~2.~~A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements ~~for new development~~. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will ~~result in~~

a) result in equivalent or improved storm water quality;

b) protect stream habitat;

c) promote cooperative problem solving by diverse interests;

d) be fiscally sustainable and has secure funding; and

e) be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

11. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where the following situations occur:

a) A waiver for impracticability is granted

b) Legislative funds become available

c) Off-site mitigation is required because of loss of environmental habitat

d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation ~~for new development~~

12. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, ~~modify planning~~ procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents ~~to consider potential storm water quality impacts and provide for appropriate mitigation, with immediate effect~~. The procedures ~~CEQA guidelines~~ shall require consideration of the following:

a) Potential Impact of project construction on storm water runoff

b) Potential Impact of projects post-construction activity on storm water runoff.

c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit

e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies

f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm

g) Potential for significant increases in erosion of the project site or surrounding areas

13. General Plan Update

a) Each Permittee shall amend, revise or update its General Plans to include watershed and storm water quality and quantity management considerations and policies when the following General Plans elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, (iv) Open Space.

b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 et seq.

14. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the requirements of the development planning on an annual basis beginning no later than (six months from the effective date of this Order)~~March 31, 2002~~, and more frequently if necessary. For Permittees with a population of 250,000 or more, training shall be completed no later than (one year from the effective date of this Order).

15. Developer Technical Guidance and Information

a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.

b) The Principal Permittee in partnership with Permittees shall issue no later than (ten months from the effective date of this Order)~~March 31, 2003~~, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

(1) ~~Specifications for t~~treatment control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency~~;~~;

(2) Peak Flow Control ~~C~~criteria ~~for~~to control ~~of~~ peak discharge rates, velocities and duration~~;~~;

(3) ~~E~~expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;

(4) ~~M~~maintenance considerations; and

(5) ~~C~~cost considerations.

E. **Development Construction Program**

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

a) ~~Sediments shall not be discharged to the MS4 or receiving waters.~~ Sediments generated on the project site shall be retained using adequate treatment control or structural ~~drainage~~ controls;

b) ~~No c~~Construction-related materials, wastes, spills, or residues shall be retained at the ~~discharged from the~~ project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;

c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes;

e) ~~Discourage grading during the wet season. Proper justification for the need to grade during the wet season shall be provided to the Permittee. All erosion susceptible slopes shall be covered, netted,~~

~~planted, or protected in any way that prevents sediment discharge from the site.~~

2. ~~In addition, f~~For construction sites one acre and greater, each Permittee shall ~~require~~ compl~~y~~iance with all conditions in section E.1. above and shall:

a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects~~, that meets one or more of the following criteria~~:

~~(1)Will result in soil disturbance of one acre or more in size;~~

~~(2)Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area; or~~

~~(3)Is located in a hillside area.~~

The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

"As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

The landowner or the landowner's agent shall sign a statement to the effect:

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

b) ~~Shall i~~Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.

c) ~~Shall r~~Require, commencing March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

3. ~~In addition, f~~For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1 and E.2.and shall:

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP~~State General Construction Activity Storm Water Permit~~ and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP

is at least as inclusive in controls and BMPs as the State SWPPP~~The prepared SWPPP may satisfy the requirement under E.1. (in lieu of Local SWPPP)~~.

b) ~~Each Permittee shall r~~Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

c) ~~Each Permittee shall u~~Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of ~~A~~a database or GIS system is encouraged, but not required~~, to be used to satisfy this requirement~~.

4. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than (six months from the effective date of this Order)~~March 31, 2002~~, and annually thereafter. For Permittees with a population of 250,000 or more, initial training shall be completed no later than (one year from the effective date of this Order). A list of trained employees shall be maintained by each Permittee.

F. Public Agency Activities Program

~~1.~~Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

Sewage Systems ~~Operations~~Maintenance, Overflow, and Spill Prevention
Public Construction Activities Management
Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
Landscape and Recreational Facilities Management
Storm Drain Operation and Management
Streets and Roads Maintenance
Parking Facilities Management
Public Industrial Activities Management
Emergency Procedures
Treatment~~Dry Weather Diversions~~ Feasibility Study

~~Each Permittee shall conduct an assessment of measures that can be implemented to reduce and/or prevent trash from entering the MS4 system. The Assessment and a schedule for implementation shall be submitted to the Regional Board Executive Officer for review by July 1, 2003.~~

~~3.~~1. Sewage System ~~Operations~~ Maintenance, Overflow, and Spill Prevention

a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdictions ~~which~~, which shall consist at a minimum of the following:

(1) Investigation of any complaints received;

~~b)~~(2) Upon notification, ~~i~~immediate response to overflows for~~by~~ containment; and

~~c)~~(3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

b) In addition to 3.a.1, 3.~~b~~a.2, and 3.~~c~~a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the~~ach~~ Permittee shall also implement the following requirements ~~(until such time that the proposed Capacity, Management, Operation and Maintenance Regulations (CMOM) are promulgated by the USEPA. After which, the CMOM regulations shall be enforceable under this Order until such time they are added into an individual NPDES permit)~~:

~~d)~~(1) Procedures~~A program~~ to prevent sewage spills or leaks from sewage facilities from entering the MS4; and

e)(2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

4.2. Public Construction Activities Management

a) Each Permittee shall implement the Development Planning Program requirements (Permit Section D) at public construction projects.

b) Each Permittee shall implement the Development Construction Program requirements (Permit Section E) at Permittee owned construction sites.

a)Each Permittee shall implement a program to control runoff from construction activity at all construction sites. To accomplish this, the Permittees shall revise their Development Construction Program in the SQMP no later than March 31, 2002. The revisions shall specify a schedule for implementation by each Permittee, and must contain the following minimum elements, including performance measures, schedules for implementation, and shall include the following categories of construction:

(1)Less than one acre;

(2)Between one and five acres; and

(3)Five or more acres.

b)Each Permittee shall comply with requirements in section E. and with the following conditions, at all public construction sites:

(1)Design and construction of public facilities shall be consistent with the requirements and dates specified for private development in Part 4.D.;

(2)Prepare and retain site specific SWPPPs for municipal construction sites;

(3)Implement construction and post-construction storm water controls as required of private construction projects, including numerical mitigation criteria for post-construction BMPs;

(4)Implement a program to ensure that SWPPPs and BMPs implemented are effective;

(5)Inspect public construction sites and implement changes as necessary to maintain or replace ineffective BMPs in order to protect water quality; and

(1)c) Each Permittee shall obtain coverage under the GCASPState of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites 5

acres or greater (or part of a larger area of development~~, etc...~~) except that a municipality under 100,000 in population need not obtain coverage under a separate permit until March 10, 2003.

d) Each Permittee, ~~N~~no later than March 9, 2003, ~~each Permittee~~ shall obtain coverage under a statewide general construction storm water permit ~~the State of California General Construction Activities Storm Water Discharge Permit coverage~~ for public construction sites for projects~~sites~~ between one ~~acre~~and five acres ~~or greater~~.

3. ~~5.~~ Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Each Permittee, consistent with the SQMP, shall implement pollution prevention plans for public vehicle maintenance facilities, ~~and~~ material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:

(1) Good housekeeping practices;

(2) Material storage control;

(3) Vehicle leaks and spill control; and

(4) Illicit discharge control.

c) Each Permittee shall require:

(1) For existing facilities, that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.

(2) For new facilities or during redevelopment of existing sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.

This provision does not apply to fire fighting vehicles.

4. ~~6.~~ Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;

b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ).

~~b)~~c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

~~c)~~d) Ensure that no banned or unregistered pesticides~~, herbicides, fungicides, or rodenticides~~ are stored or applied;

~~d)~~e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

~~e)~~f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;

~~f)~~g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

~~g)~~h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

~~h)~~i) Regularly inspect storage areas.

~~7.~~5. Storm Drain Operation and Management

Each Permittee shall:

a) D~~d~~esignate catch basin inlets within its jurisdiction as one of the following:

Priority A – catch basins that are designated as consistently generating the highest volumes ~~and~~ of trash and/or litter.

Priority B - catch basins that are designated as consistently generating moderate volumes ~~and~~ of trash and/or litter

Priority C – catch basins that are designated as generating low volumes of trash and/or litter.

b) Clean catch basins according to the following schedule:

Priority A –Aat least once during the dry season and once per month during the wet season.

Priority B – At least 2 times per year and once during the wet season. Between the effective date of this Order and July 1, 2003, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 40% full during the wet season. From July 1, 2003 to the date this Order is renewed, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 25% full during the wet season.

Priority C – as necessary but at least once per year.

c) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, ~~the Permittee shall,~~ include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event~~, include provisions that provide for the proper management of trash and litter generated from the event~~. At a minimum, the Permittee shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain.

d) Place trash receptacles at all transit stops within its jurisdiction and maintain them.

~~d)~~e) ~~For each Permittee subject to a trash TMDL, t~~The Permittees shall~~may~~ implement a program which achieves the waste load allocations ~~maximizes trash removal~~ in conformance with a TMDL schedule of implementation by using an effective combination of BMPs which may include a combination of street sweeping, catch basin clean outs, installation of treatment devices, ~~and/or implementation of any~~ or other BMPs ~~that achieve waste load allocations~~).

~~e)~~f) Each Permittee shall: inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.

~~(1)Keep a record of catch basins cleaned;~~

~~(2)Record the quantity of catch basin waste collected [The data shall be reported in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g., compacted volume based on a standardized compaction rate, dry weight, etc.). The Permittees may select the unit, but all Permittees shall use the same unit of measure.];~~

~~(3)Inspect the legibility of the catch basin stencil or label nearest the inlet. Illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.; and~~

~~(4)Submit a record (preferably but not required, as a GIS layer) of all catch basins in a municipality and identify which are city-owned/county-owned, and which to note priority for more frequent cleaning.~~

~~f)~~g) Each Permittee shall implement BMPs for Storm Drain Maintenance that ~~shall~~ include:

(1) A program to visually monitor Permittee-owned open channel storm drains and other drainage structures for

debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

(2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;

(3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

(4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and

~~(5)Record the quantity of open channel waste collected by stream or channel segment in tons from Permittee owned open channels or other drainage structures [The data shall be reported in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g., compacted volume based on a standardized compaction rate, dry weight, etc.). The Permittees may select the unit, but all Permittees shall use the same unit of measure.]; and~~

~~(6)~~(5) Proper disposal of material removed.

~~8.~~6. Streets and Roads Maintenance

a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes ~~and~~ of trash and/or litter.

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes ~~and~~ of trash and/or litter.

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter.

b) Each Permittee shall perform street sweeping ~~cleaning~~ according to the following schedule:

Priority A – These streets and/or street segments shall be swept at least two times per month.

Priority B - ~~Between the effective date of this Order and July 1, 2003, e~~ Each Permittee shall ensure that each streets and/or street segments is swept~~cleaned~~ at least once per month.

Priority C – These streets and/or street segments shall be swept~~cleaned~~ as necessary but in no case less than once per year.

c) Each Permittee shall require that:

(1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain.

~~d)~~(2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent ~~pollutant~~ discharges to the MS4; and

~~e)~~(3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged ~~in~~to storm drains, open ditches, streets, or catch ~~basins leading to the storm drain system~~.

~~f)Each Permittee shall implement a program which maximizes trash removal by using an effective combination of street sweeping, catch basin clean outs, installation of treatment devices, and/or implementation of any other BMPs that achieve TMDL waste load allocations.~~

~~g)~~d) Each Permittee shall, no later than (six months from effective date of this Order), train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

(2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more training shall be completed no later than (one year from the effective date of this Order.)

~~8.~~7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

~~10.~~8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a~~n~~ discharge of storm water associated with industrial activity ~~covered under USEPA Phase I storm water regulations~~, obtain separate coverage under the GIASP~~State of California General Industrial Activities Storm Water Discharge Permit no later than November 25, 2001,~~ except that a municipality under 100,000 in (1990 Census) population need not file the

Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

~~11.~~9. Emergency Procedures

Each Permittee shall ~~continue to~~ repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

~~12.~~10. Treatment Feasibility Study ~~Dry Weather Diversions~~

~~a)Each~~ The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the ~~prioritize drains for~~ possible diversion of dry weather ~~flows~~discharges or the use of alternative treatment control BMPs to treat flows from ~~areas within~~ their jurisdiction ~~that flow to areas where the public~~ which may ~~be~~ impacted ~~(for~~ public health and safety and/or the environmental ~~reasons)~~. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of ~~possible~~ drains for potential diversion or treatment ~~no later than March 31, 2002~~ and submit a the ~~listing of~~ priority listing ~~diversions~~ to the Regional Board Executive Officer, no later than July 1,2002. ~~The Permittees shall immediately begin a feasibility study and discussions with the appropriate sewer agency for diversion of selected dry weather flows to the sanitary sewer for treatment, subject to approvals of the Regional Board and the appropriate sewer agency.~~

~~The Permittees shall investigate and determine the location of potential dry weather urban runoff treatment devices for strategic placements in areas of the watersheds where most appropriate. This information shall be submitted to the Regional Board Executive Officer no later than March 31, 2002.~~

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

b) Tracking: All Permittees shall, no later than [365 days from the effective date of this Order] develop and maintain a ~~baseline map~~ listing of all permitted connections ~~of~~ to their storm drain system.~~,~~ ~~showing all storm drain connections permitted by the Permittee, at a scale and in a format specified by the Lead Permittee. On an annual basis,~~ aAll Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to~~, and in a format specified by,~~ the Principal Permittee. No later than ~~October 25, 2002,~~ [365 days from the effective date of this Order] the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.~~, and making recommendations for corrective action.~~

c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000, training shall be completed no later than ~~March 31, 2002.~~ [six months from the effective date of this Order]. For Permittees with a population of 250,000 or more, training shall be completed no later than ~~October 25, 2002~~ [365 days from the effective date of this Order]. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

~~d) Documentation and Reporting: Document and report all illicit connections, illicit discharges, and hazardous substances that enter the storm drain, within times specified in subsections 2 and 3 below.~~

2. Illicit Connections

a) Screening for Illicit Connections

(1) ~~Baseline~~Field Screening: All Permittees shall ~~continue to~~field screen the storm drain system for illicit connections ~~during scheduled infrastructure maintenance. On an annual basis,~~ in accordance with the following schedule:

(i) Open channels: [365 days from the effective date of this Order];

~~a)~~(ii) Underground pipes in priority areas: [three years from the effective date of this Order]; and

(iii) Underground pipes with a diameter of 36 inches or greater: [five years from the effective date of this Order].

Permittees shall report, to the ~~Lead~~ Principal Permittee, on the location and length of open channels or ~~closed storm drains~~underground pipes that have been screened vis a vis the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

~~b)~~(2) ~~Priority Screening: In addition to the baseline screening that will occur during regularly scheduled maintenance, Permittees shall design and implement a plan on or before October 31, 2002, subject to Regional Board Executive Officer approval, for proactive storm drain screening of priority areas that are, or are suspected to be a source of non-storm water discharges.~~ Permit Screening: [five years from the effective date of this Order], Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

~~c)~~b) Response to Illicit Connections

(1) Investigation: Upon discovery~~through either baseline or priority screening,~~ or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

~~d)~~(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as ~~needed. For these cases of illicit connections that require more than 180 days to eliminate due to lengthy court proceedings, the Regional Board Executive Officer may grant time extensions on a case by case basis.~~ needed.

3. Illicit Discharges

a) Abatement and Cleanup:~~ Respond, within 72 hours~~Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

b) Investigation: ~~As soon as practicable, during~~Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup ~~activities,~~activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" -means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"Areas of Special Biological Significance (ASBS)" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539.

~~**"BAT/BCT Criteria"** means treatment based standards for reducing the discharge of pollutants, as defined in 40 CFR subchapter N, for specific categories of industrial facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards. Effluent limitations have been defined in 40 CFR for the reduction of toxic pollutants using Best Available Technology Economically Achievable (BAT) and for the reduction of conventional pollutants using Best Conventional Pollutant Control Technology (BCT).~~

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" ~~are~~means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, ~~multi-apartment buildings, car~~ wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" ~~shall mean~~means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" ~~shall mean~~means the Director of a municipality~~Public Works of the County~~ and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification ~~means~~ the "discharge of a pollutant."

"~~Directly~~ Discharging Directly" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

"Discharge of a Pollutant" means: Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, Aany addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United

States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. ~~This term does not include an addition of pollutants by any "indirect Discharger."~~

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

~~**"Effluent limitation"** means any restriction imposed by the Regional Board on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.~~

"Environmentally Sensitive Areas" means an area "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments" (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game's, Significant Natural Areas Program; an area listed in the ~~Regional Board~~ Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; or an area identified by a~~the~~ Permittees as environmentally sensitive, ~~for water quality purposes[1]. See Attachment B for details of each listing.~~

~~"Executive Advisory Committee" means the committee composed of representatives of the Los Angeles County Flood Control District, the City of Los Angeles, and the five six Watershed Management Areas.~~

"Full Capture Device" means any device or system that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow resulting from a one-year, one-hour, storm.

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State ~~Water Resources Control~~ Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State ~~Water Resources Control~~ Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" ~~shall~~ means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

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[1] ~~Regional Board is currently working with the City of Rancho Palos Verdes to recognize their identified local conservation areas~~

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in either the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to: 1. Pre-inspection documentation research.; 2. Request for entry; 3. Interview of facility personnel; 4. Facility walk-through. 5. Visual observation of the condition of facility premises; 6. Examination and copying of records as required; 7. Sample collection (if necessary or required); 7. Exit conference (to discuss preliminary evaluation); and, 8. Report preparation, and if appropriate, recommendations for coming into compliance.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census). as ~~The complete~~ defined~~ition is contained~~ in 40 CFR §~~Section~~ 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population estimate of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for~~if a~~the project that~~is~~ disturbs one or more acres of land. ~~not subject to the Statewide Construction Activities General Permit.~~

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. ~~It is the maximum extent possible taking into account equitable consideration and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility.~~ CWA's §~~Section~~ 402(p)(3)(B)(iii) ~~of the CWA~~ requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Specifically, municipalities must choose effective BMPs, and reject applicable BMPs only where other effective BMPs will serve the same purpose. See the legal memorandum (Feb 11, 1993) from State Board OCC to DWQ.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §~~sections~~ 307, 402, 318, and 405 ~~of CWA~~. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used personally, for businesses or for commerce with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

~~"Permit" means an authorization, license, or equivalent control document issued by USEPA or an "approve State" to implement the requirements of 40 CFR Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (§ 122.28). Permit does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."~~

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

i. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

ii. A 100,000 or more square feet of impervious surface area industrial/ commercial development

iii. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

iv. Retail gasoline outlets

v. Restaurants (SIC 5812)

vi. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

vii. Redevelopment projects in subject categories that meet redevelopment thresholds

viii. Additionally, for all projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and

ix. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

(1) Vehicle or equipment fueling areas;

(2) Vehicle or equipment maintenance areas, including washing and repair;

(3) Commercial or industrial waste handling or storage;

(4) Outdoor handling or storage of hazardous materials;

(5) Outdoor manufacturing areas;

(6) Outdoor food handling or processing;

(7) Outdoor animal care, confinement, or slaughter; or

(8) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA ~~§Section~~ 502(6) ~~of the federal Clean Water Act~~ (33.U.S.C.§1362(6)), and~~or~~ incorporated by reference into California Water Code §13373. ~~Examples of pollutants include, but are not limited to the following:~~

- ~~Commercial and industrial waste (such as fuels, solvents, detergents, plastic pellets, hazardous substances, fertilizers, pesticides, slag, ash, and sludge);~~
- ~~Metals such as cadmium, lead, zinc, copper, silver, nickel, chromium, and non-metals such as phosphorus and arsenic;~~
- ~~Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease)~~
- ~~Excessive eroded soils, sediment, and particulate materials in amounts which may adversely affect the beneficial use of the receiving waters, flora or fauna of the State;~~
- ~~Animal wastes (such as discharge from confinement facilities, kennels, pens, recreational facilities, stables, and show facilities);~~
- ~~Substances having characteristics such as pH less than 6 or greater than 9, or unusual coloration or turbidity, or excessive levels of fecal coliform, or fecal streptococcus, or enterococcus;~~

~~The term "pollutant" shall not include uncontaminated storm water, potable water or reclaimed water generated by a lawfully permitted water treatment facility.~~

~~The term "pollutant" also shall not include any substance identified in this definition, if through compliance with the best management practices available, the discharge of such substance has been eliminated to the maximum extent practicable. In an enforcement action, the burden shall be on the person who is the subject of such action to establish the elimination of the discharge to the maximum extent practicable through compliance with the best management practices available.~~

"Potable Water Distribution Systems" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

~~**"Priority Pollutants"** are those constituents referred to in 40 CFR 401.15 and listed in the USEPA NPDES Application Form 2C, pp. V-3 through V-9.~~

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA~~alifornia Environmental Quality Act~~ (Pub. Resources Code ~~§Section~~ 21065).

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region ~~within the permit area~~ that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; ~~structural development including an increase in gross floor area and/or exterior construction or remodeling~~; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to ~~with~~ structural or impervious surfaces. ~~Where redevelopment results in an increase of more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where redevelopment results in an increase in less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the addition must be mitigated, and not the entire development.~~

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA ~~Environmental Protection Agency~~ or the authorized representative of the Regional Administrator.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of ~~many~~ base flow ~~components~~ either contaminated with pollutants or uncontaminated, and nuisance flows.

"Sidew~~a~~lk Rinsing" means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

"Significant Ecological Area (SEA)" means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.[2]
Areas are designated as SEAs, if they possess one or more of the following criteria:

[2] The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.[3]

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" ~~shall mean~~means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" ~~shall mean~~means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" ~~shall mean~~means storm water runoff, snow melt runoff, and surface runoff and drainage.

[3] These criteria from the 1976 study have been modified in the *Update Study 2000*.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" ~~shall mean~~means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation" meanis a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" ~~are~~means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handlesmaterials, and provides services similar to Federal Phase I facilities;
ii. Performs fleet vehicle on ten or more vehicles per day including repair, maintenance, washing, and fueling;
iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

"Water Column Toxicity" means a 70 percent survival rate for a single test or an average of 90 percent survival for three consecutive tests.

"Water Quality Standards and Water Quality Objectives" means water quality criteria ~~applicable to the Permittee include those~~ contained in the ~~Los Angeles Regional Water Quality Control Plan~~ (Basin Plan), the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

"Waters of the State" means any surface water or groundwater, including saline waters, within boundaries of the state.

"Waters of the United States" or "Waters of the U.S." means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate "wetlands";
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
d. All impoundments of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
f. The territorial sea; and
g. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which

also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA~~lean Water Act~~, the final authority regarding CWA~~lean Water Act~~ jurisdiction remains with US EPA.

"Wet Season" means the calendar period beginning October 1 through April 15.

~~**"Whole Effluent Toxicity"** means the aggregate toxic effect of an effluent measured directly by a toxicity test.~~

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. ~~The~~ Each Permittees shall comply with all provisions and requirements of this permit.

2. Should ~~the~~ a Permittees discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.

3. ~~The~~Each Permittees shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes the attached Monitoring and Reporting Program, and SUSMP~~tandard Urban Storm Water Mitigation Plan~~(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

~~1.~~Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. Such review may be requested upon petition by a Permittee(s) or a member of the public within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. §~~Section~~ 552 (as amended) and the Public Records Act (Cali~~fornia~~ Government Code Section 6250 *et seq.*).

2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. ~~The Principal~~ Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)][1]

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][2]

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the

[1] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

[2] This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;

3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)][3]

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b) The permitted facility was being properly operated by the time of the upset;

   c) The Permittee submitted notice of the upset as required; and,

   d) The Permittee complied with any remedial measures required.

2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

[3] *Supra*. See footnote number 2.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The Clean Water Act provides the following:

   a) Criminal Penalties for:

      (1) Negligent Violations:

      The CWA provides that any person who negligently violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day ~~of~~for each violation, or by imprisonment for not more than 1 year, or both.

      (2) Knowing Violations:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

      (3) Knowing Endangerment:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

      (4) False Statement:

      The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See section 309(c)(4) of the Clean Water Act.)

   b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

2. The CWCalifornia Water Code provides that any person who violates a waste discharge requirement provision of the CWCalifornia Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation or combination violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

~~**R. Modifications to this Order**~~

~~This Order may be modified, revoked, or reissued, prior to the expiration date as follows:~~

~~1. To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;~~

~~2. To incorporate applicable requirements or statewide water quality control plans adopted by the State Board, or amendments to the Basin Plan;~~

~~3. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable; or,~~

~~4. Any amendments under the Clean Water Act.~~

~~S.~~R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

~~T.~~S. Expiration

This Order expires on ~~[October 25, 2006]~~ November 29, 2006. The Principal Permittee must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Plan~~r~~ogram in accordance with Title 23, California Code of Regulation, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on ~~October 25,~~November 29, 2001.

_____

Dennis A. Dickerson
Executive Officer

ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural
Agoura Hills
*Calabasas
Los Angeles County Flood Control
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban
Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates

*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles (City of)
Los Angeles County Flood Control

Los Angeles (County of)
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
*Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena

Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park

Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
*Long Beach[1]
Los Angeles County Flood Control
Los Angeles (County of)
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

*Santa Clarita
Los Angeles County Flood Control
Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

[1] *The City of Long Beach is covered under order No. 99-060*

R0005169

ATTACHMENT B
Critical Sources Categories Prioritization

High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

Lower Priority Categories

(12) Electric/Gas/Sanitary

(13) Air Transportation

(14) Rubbers/Miscellaneous Plastics

(15) Local/Suburban Transit

(16) Railroad Transportation

(17) Oil & Gas Extraction

(18) Lumber/Wood Products

(19) Machinery Manufacturing

(20) Transportation Equipment

(21) Stone, Clay, Glass, Concrete

(22) Leather/Leather Products

(23) Miscellaneous Manufacturing

(24) Food and kindred Products

(25) Petroleum Refining

(26) Mining of Nonmetallic Minerals

(27) Printing and Publishing

(28) Electric/Electronic

(29) Paper and Allied Products

(30) Furniture and Fixtures

(31) Laundries

(32) Instruments

(33) Textile Mills Products

(34) Apparel

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM - CI 6948

FOR

MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF LONG BEACH

(NPDES PERMIT NO. CAS004001)

I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a unified Annual Storm Water Report (unified Annual Report) documenting the progress of Permittee implementation of the SQMP and the requirements of this Order. The unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the unified Annual Report. The unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first unified Annual Report, to be submitted on October 15, 2002, shall include the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.

2. Proposed changes to the SQMP, as recommended by the WMCs.

3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment will be based upon the specific record-keeping information requirement in each major section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:

   a) Summary of common activities conducted by all Permittees;

   b) County-wide BMP implementation;

   c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;

   d) Permittee level of effort;

   e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and

recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the monitoring program. When exceedances of applicable water quality standards have been identified, a discussion of how Permittees will comply with the requirements in Part 2 of this Order (Receiving Water Limitations) shall be included.

4. A Receiving Water Limitations (RWL) Compliance Report shall be attached to the unified Annual Report every alternate year, beginning in 2003. The RWL Compliance Report shall include the following:

   a) A plan to comply with the RWL (Order 01-XXX, Part 2);

   b) Changes to the SQMP to eliminate water quality exceedances;

   c) Enhanced monitoring to demonstrate compliance; and

   d) Results of implementation.

   If all water quality exceedances have been abated, a RWL Compliance Report is not required.

B. Individual Annual Reports

Each individual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the past annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-5), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

1. Status of implementation of the monitoring program.

2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program. All data shall be compared to applicable water quality standards in the Ocean Plan, the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22).

3. An analysis of the findings of each monitoring program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.

5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.

6. An assessment of compliance with applicable water quality standards for each component of the monitoring program. The lowest applicable standard from the Basin Plan, the Ocean Plan, the CTR, or Title 22 shall be used as a comparison. When data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of how Permittees plan to comply with the requirements of Part 2 of this Order (RWL) shall be included.

7. Recommendations for improvements to the SQMP and to the monitoring program to address water quality exceedances and potential pollutant sources.

8. For each monitoring component, maps of all monitoring station locations and descriptions of each location.

9. All monitoring reports shall be submitted in both electronic and paper formats.

D. The Principal Permittee shall, not later than December 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the monitoring program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the ROWD.

E. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true,

accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

(Signature)_____(Title)_____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to EPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall mail the original of each annual report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to: 1) assessing compliance with this Order; 2) measuring and improving the effectiveness of the SQMPs; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality. Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives: 1) estimate the mass emissions from the MS4; 2) assess trends in the mass emissions over time; and 3) determine if the MS4 is contributing to exceedances of water quality objectives by comparing results to objectives in the

Basin Plan, the Ocean Plan, the CTR, Title 22, and with emissions from other dischargers.

1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River[1]. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed. Sampling at all stations shall begin no later than (the effective date of this Order), except for sampling in the Santa Clara River, which will begin no later than (the following wet season).

2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall. Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[2], unless the Regional Board Executive Officer approves an alternate protocol.

5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern

[1] Regional Board staff will work with the Principal Permittee to determine an appropriate location for the Santa Clara River station.

[2] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

(including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing. Specifically, *Ceriodaphnia dubia* (water flea) survival and *Strongylocentrotus purpuratus* (sea urchin) fertilization shall be used.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic to either test species. If a sample is substantially toxic to both species, a TIE shall be performed for both species. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, *Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[3]

3. Toxicity Reduction Evaluations (TRE)

   a) If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed. TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:

      (1) The potential sources of pollutant(s) causing toxicity;

      (2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;

      (3) Recommended BMPs to reduce the pollutant(s) causing toxicity;

      (4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and

[3] SCCRWP

(5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

b) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

c) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

d) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (ie. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

e) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per WMA will be monitored, based on the schedule described below:

a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary, subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.

b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a description and explanation of each proposed station location and

a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

c) Monitoring shall begin at the following tributaries:

(1) Aliso Creek
(2) Bull Creek
(3) Compton Creek
(4) Rio Hondo Channel
(5) Burbank West
(6) Verdigo Wash

2. Tributary monitoring shall begin (no later than the effective date of this Order).

3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[4], unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;

b) Indicator bacteria;

c) All priority pollutants (Attachment U-1) for the first storm of the year;

d) All constituents for which the water body is impaired downstream of the monitoring station[5];

e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year. These constituents shall be listed in each Monitoring Report.

f) Flow (flow may be estimated using EPA methods[6] at sites where flow measurement devices are not in place).

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[4] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

[5] The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

[6] NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas[7], and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

   a) The eighteen established shoreline water quality stations listed in Attachment U-3 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project (SMBRP) and approval from the Regional Board Executive Officer;

   b) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat)[8]
Fecal coliform[9]	CFU or MPN/100 ml	6/week (Mon-Sat)[5]
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat)[5]

   c) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;

   d) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).

   e) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;

   f) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas[10].

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[7] California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765

[8] Samples will be collected on Sundays preceding Monday holidays

[9] *Escherichia Coli (E. Coli)* may be substituted for Fecal Coliform if chromogenic substrate test kits are used

[10] Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

g) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the SMBRP regional program for the Santa Monica Bay.

E. Trash Monitoring

Permittees shall conduct trash monitoring to assess likely sources and to identify areas impaired for trash. The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to the CWC §13267 Request for Trash Monitoring, issued by the Regional Board on [date letter issued]. All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA §303(d) list for impairment for trash no later than October 15, 2003.

1. Either of the following formats for monitoring plans may be used:

a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing littler removal practices that the cities implement will remain in place, so that monitoring will evaluate how much trash is washed into the system under current practices. A structural, full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water

content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.

3. Following the first two years of data collection, Permittees shall calculate trash loading as a running three-year average (estimated total load discharged from 2003-2006, divided by three).

4. All trash collected shall be disposed of in compliance with all applicable regulations.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and should complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertibrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit cycle. Sediment samples shall be taken at each station by means of a 0.1m^2 (1.1 ft^2) modified Van Veen sediment grab sampler.

2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.

3. All samples shall be analyzed for the following:
   a) Sediment Chemistry (priority pollutants)
   b) Total Organic Carbon (TOC)
   c) Grain size

d) Sediment Toxicity

(1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.

(2) Phase I TIEs of interstitial water, using Ceriodaphnia dubia and Strongylocentrotus purpuratus (sea urchin) fertilization, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.

e) Benthic Macroinvertibrates

(1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.

(2) The Principal Permittee shall identify all organisms to lowest possible taxon.

(3) The Principal Permittee shall determine the Total Biomass of:

(i) Mollusks
(ii) Echinoderms
(iii) Annelids/polychaetes
(iv) Crustaceans
(v) All other macroinvertebrates

(4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index[11].

4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation on the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient

[11] Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

Monitoring Program (SWAMP) being developed the State Board to complete this requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.

2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.

3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.

4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Boar Executive Officer upon request.

5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal

Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.

6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)[12]. The following results and information shall be included in the annual Monitoring Report:

   a) All physical, chemical and biological data collected in the assessment;

   b) Photographs and GPS locations of all stations;

   c) Documentation of quality assurance and control procedures;

   d) Analysis that shall include calculation of the metrics used in the CSBP;

   e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;

   f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and

   g) Copies of all QA/AC documents from laboratories.

[12] California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than 180 days from the date this Order is adopted. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.

3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[13], unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS

b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.

c) Pathogen Indicators (Coliform)

d) PAHs

e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place)

[13] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.[14] The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed. The study shall begin no later than (180 days from the effective date this Order).

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

1. Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.

2. Evaluate the requirements, feasibility and cost of maintenance for each BMP.

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

[14] Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

2. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

   The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

3. Monitoring and Records [40 CFR 122.21(j)(3)]

   Records of monitoring information shall include:

   a) The date, exact place, and time of sampling or measurements;

   b) The individual(s) who performed the sampling or measurements;

   c) The date(s) analyses were performed;

   d) The individual(s) who performed the analyses;

   e) The analytical techniques or methods used; and,

   f) The results of such analyses.

4. Monitoring and Records [40 CFR 122.21(j)(4)]

   All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

   The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by both.

6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California - 2000* (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Attachment U-2. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Appendix U-1 shall be used for all analyses, and the ML for these parameters shall be lower than or

equal to the lowest applicable water quality criteria from the Basin Plan and/or the Ocean Plan.

8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

   a) An actual numerical value for sample results greater than or equal to the ML;

   b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

   c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]

    If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.

11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]

    Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.

12. If no flow occurred during the reporting period, the Monitoring Report shall so state.

13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or

b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date:

ATTACHMENT U-1
LIST OF CONSTITUENTS IN MONITORING PROGRAM
AND ASSOCIATED TEST METHODS AND METHOD DETECTION LIMITS (MDLs)[1]

CONSTITUENTS	USEPA METHOD	MDLs
CONVENTIONAL POLLUTANTS		**mg/L**
Oil and Grease	1664	5
Total Phenols	420.1	0.1
Cyanide		**0.005**
pH	150.1	0 - 14
Temperature		None
Dissolved Oxygen		Sensitivity to 5 mg/L
BACTERIA		
Total Coliform	9221B	<20mpn/100ml
Fecal Coliform	9221B	<20mpn/100ml
Enterococcus	9221B	<20mpn/100ml
GENERAL		**mg/L**
Dissolved Phosphorus	300	0.05
Total Phosphorus	300	0.05
Turbidity	180.1	0.1NTU
Total Suspended Solids	160.2	2
Total Dissolved Solids	160.1	2
Volatile Suspended Solids	160.4	2
Total Organic Carbon	415.1	1
Total Petroleum Hydrocarbon	1664	5
Biochemical Oxygen Demand	405.1	2
Chemical Oxygen Demand	410.4	20-900
Total Ammonia-Nitrogen	350.2	0.1
Total Kjeldahl Nitrogen	351.2	0.1
Nitrate-Nitrite	4110	0.1
Alkalinity	310.1	2
Specific Conductance	120.1	1umho/cm
Total Hardness	130.2	2
MBAS	425.1	<0.5
Chloride	4110	2
Fluoride	4110	0.1
Sulfate	4110	2
Methyl tertiary butyl ether (MTBE)		1

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[1] Does not include analytical methods or MLs for CTR priority pollutants that have multiple acceptable analytical methods, which are listed in Attachment U-2 (Appendix 4 of SIP). These pollutants are in bold and labeled with "SIP".

METALS		µg/L
Aluminum	202.1	100
Antimony	**SIP**	**SIP**
Arsenic	**SIP**	**SIP**
Beryllium	**SIP**	**SIP**
Cadmium	**SIP**	**SIP**
Chromium	**SIP**	**SIP**
Copper	**SIP**	**SIP**
Hex. Chromium	**SIP**	**SIP**
Iron	236.2	100
Lead	**SIP**	**SIP**
Manganese	243.2	30
Mercury	**SIP**	**SIP**
Nickel	**SIP**	**SIP**
Selenium	**SIP**	**SIP**
Silver	**SIP**	**SIP**
Thallium	**SIP**	**SIP**
Zinc	**SIP**	**SIP**
SEMIVOLATILE ORGANIC COMPOUNDS		µg/L
Acids	**8250**	
2-Chlorophenol	8250	<2
2, 4-Dichlorophenol	**SIP**	**SIP**
2,4-dimethylphenol		
2, 4-Dinitrophenol	8250	<3
4,6-dinitro-o-cresol		
2-Nitrophenol	8250	<3
4-Nitrophenol	8250	<3
4-Chloro-3-methylphenol		
Pentachlorophenol	**SIP**	**SIP**
Phenol	8250	<1
P-chloro-m-cresol		
2,4,6-Trichlorophenol	8250	<1
BASE/NEUTRAL	**8250**	µg/L
Acenapthene	8250	<0.5
Acenapthylene	**SIP**	**SIP**
Anthracene	8250	2.0
Benzidine	8250	<3
Benzo(a)anthracene	8250	<1
Benzo(a)pyrene	8250	<1
Benzo(b)flouranthene	8250	<1
Benzo(k)flouranthene	8250	<1
Bis(2-chloroethoxy)methane	8250	<1
Bis(2-chlorisopropyl)ether	8250	<1
Bis(2-chloroethyl)ether	8250	<1

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Bis(2-ethylhexl)phtalate	8250	<3
4-Bromophenyl phenyl ether	8250	<1
Butyl benzyl phthalate	8250	<3
2-Chloronapthalene	8250	<1
4-Chlorophenyl phenyl ether	8250	<1
Chrysene	8250	<1
Dibenz(a,h)anthracene	**SIP**	**SIP**
1,3-Dichlorobenzene	8250	<0.5
1,4-Dichlorobenzene	8250	<0.5
1,2-Dichlorobenzene	8250	<0.5
3,3-Dichlorobenzidine	8250	<3
Diethylphthalate	8250	<0.5
Dimethylphthalate	8250	<0.5
Di-n-butylphthalate	8250	<3
2,4-Dinitrotoluene	8250	<0.5
2,6-Dinitrotoluene	8250	<0.5
1,2-Diphenylhydrazine	**SIP**	**SIP**
Di-n-octylphtalate	8250	<3
Fluoranthene	**SIP**	**SIP**
Fluorene	**SIP**	**SIP**
Hexachlorobenzene	8250	<0.5
Hexachlorobutadiene	8250	<1
Hexochlorocyclopentadiene	8250	<3
Hexochloroethane	8250	<1
Indeno(1,2,3-cd)pyrene	**SIP**	**SIP**
Isophorone	8250	<0.5
Napthalene	**SIP**	**SIP**
Nitrobenzene	8250	<0.5
N-Nitrosodimethylamine	8250	<3
N-Nitrosodiphenylamine	**SIP**	**SIP**
N-Nitroso-di-N-propylamine	8250	<1
Phenanthrene	**SIP**	**SIP**
Pyrene	**SIP**	**SIP**
1,2,4-Trichlorobenzene	8250	<0.5
CHLORINATED PESTICIDES	**608**	**µg/L**
Aldrin	**608**	**0.005**
alpha-BHC	608	0.05
beta-BHC	608	0.05
delta-BHC	608	0.05
gamma-BHC (lindane)	608	0.05
alpha-chlordane	608	0.05
gamma-chlordane	608	0.05
4,4'-DDD	**608**	**0.05**
4,4'-DDE	**608**	**0.05**
4,4'-DDT	**608**	**0.01**
Dieldron	**608**	**0.01**
Endosulfan I	608	<0.1

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Endosulfan II	608	<0.1
Endosulfan sulfate	**608**	**0.05**
Endrin	**608**	**0.01**
Endrin aldehyde	**608**	**0.01**
Heptachlor	**608**	**0.01**
Heptachlor Epoxide	**608**	**0.01**
Methoxychlor	608	<0.5
Toxaphene	**608**	**0.5**
Polychlorinated Biphenyls	**608**	**µg/L**
Aroclor-1016	608	0.5
Aroclor-1221	608	0.5
Aroclor-1232	608	0.5
Aroclor-1242	608	0.5
Aroclor-1248	608	0.5
Aroclor-1254	608	0.5
Aroclor-1260	608	0.5
CARBAMATE & UREA PESTICIDES		**µg/L**
Carbofuran	531.1	<5
Diuron		1
Thiobencarb	507	<0.1
ORGANOPHOSPHATE PESTICIDES		**µg/L**
Chlorpyrifos		0.05
Diazinon		0.01
Prometryn	507	2
Atrazine	507	2
Simazine	507	<2
Cyanazine	507	2
Molinate	507	<0.01
Malathion		1
HERBICIDES		**µg/L**
Benzaton	515.1	<2
Glyphosate	547	5
2,4-D	515.1	<0.02
2,4,5-TP-SILVEX	515.1	<0.2

ATTACHMENT U-2

APPENDIX 4

SWRCB Minimum Levels in ppb (µg/L)

The Minimum Levels (MLs) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of this Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the SWRCB and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides & PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Bromomethane	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
1,2 Benzanthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
3,4 Benzofluoranthene		10	10	
4 Chloro-3-methylphenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene(3,4 Benzopyrene)		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		

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Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000

* The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d - PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
a-Hexachloro-cyclohexane	0.01
Aldrin	0.005
b-Endosulfan	0.01
b-Hexachloro-cyclohexane	0.005
Chlordane	0.1
d-Hexachloro-cyclohexane	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Lindane(g-Hexachloro-cyclohexane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

ATTACHMENT U-3
SHORELINE MONITORING STATIONS

Station	Location[1]	Latitude	Longitude
S1	Surfrider Beach, Malibu, 50 yds E. of breech	34.03500	118.67833
S2	Topanga Point, Malibu, seaward of lifeguard station	34.03833	118.58083
S3	Pulga storm drain, Pacific Palisades, 50 yds E. of drain	34.03361	118.53417
S4	Santa Monica Canyon storm drain, Pacific Palisades, 50 yds E. of drain	34.02639	118.51861
S5	Santa Monica Pier, Santa Monica, 50 yds S. of pier	34.00833	118.49667
S6	Pico-Kenter storm drain, Santa Monica, 50 yds S. of drain	34.00583	118.49250
S7	Ashland storm drain, Santa Monica, 50 yds S. of drain	33.99639	118.48472
S8	Windward storm drain, Los Angeles, 50 yds S. of drain	33.98778	118.47750
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083	118.45611
S11	Culver Blvd., extended, Playa Del Rey, N side of Culver storm drain	33.95639	118.45167
S12	Imperial Hwy. Storm drain, Playa Del Rey, 50 yds S. of drain	33.93028	118.43722
S13	El Porto, Manhattan Beach, 40th St. extended	33.90389	118.42250
S14	Manhattan Beach Pier, Manhattan Beach, 50 yds S. of pier	33.88360	118.41278
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S. of pier	33.86111	118.40278
S16	Redondo Pier, Redondo Beach, 50 yds S. of pier	33.83833	118.39111
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, 50 yds S. of drain	33.81889	118.39111
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	33.80500	118.39467

[1] Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999.

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Attachment U-4
Total Maximum Daily Loads Scheduled for Implementation in Los Angeles County Watershed Within 10 Years

Waterbody	*TMDL*
Malibu	Coliform, Nutrients
Malibu Creek Lakes and Tributaries	Metals
Ballona Creek	Trash, Coliform, Historic Pesticides, Metals, TBT
Dominguez Channel/LA Harbor	Coliform, PAHs, Historic Pesticides, PCBs, DDT, Metals, Nutrients, Trash
Los Angeles River	Trash, Nutrients, Coliform, Chlorpyrifos, Metals
San Gabriel River	Nutrients, Coliform, Metals, Trash
San Gabriel Lakes	Coliform
Santa Monica Bay Beaches	Coliform, Metals, Chlordane, Historic PCBs and Pesticides
Santa Clara River	Historic Pesticides, Chloride, Coliform, Nitrogen, Eutrophication, Trash
Los Cerritos Channel	Metals, Ammonia, Coliform

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

This form summarizes the requirements in Order No. 01-XXX. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Plan (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with order 01-XXX; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED *Do not leave any of the sections blank.*
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

Reporting Year 200__- 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____
Title: _____
Address: _____
City: _____ Zip Code: _____
Phone: _____ Fax: _____

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary (Part 3.E.5)

1. Does your municipality have a storm water utility? Yes ☐ No ☐

If no, describe the funding source(s) used to implement the requirements of Order No. 01-XXX.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes ☐ No ☐

3. Complete Table 2, and report any supplemental dedicated budgets for the same categories on the lines below the table.

4. List any additional state/federally funded projects related to storm water.

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-XXX
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

F. Receiving Water Limitations (Part 2)

1. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes ☐ No ☐
2. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes ☐ No ☐
3. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
   a) A description of the pollutants that are in exceedance and an analysis of possible sources;
   b) A plan to comply with the RWL (Order 01-XXX, Part 2);
   c) Changes to the SQMP to eliminate water quality exceedances;
   d) Enhanced monitoring to demonstrate compliance; and
   e) Results of implementation.

G. Storm Water Quality Management Plan (SQMP) Implementation (Part 3)

1. Have you developed a SQMP specific to your city that incorporates the countywide SQMP, and identifies additional provisions intended to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes ☐ No ☐
2. Describe the status of SQMP implementation.

3. List the BMPs that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

4. Watershed Management Committees (WMCs)
   a) Which WMC are you in?
   b) Who is your designated representative to the WMC?
   c) How many WMC meetings did you participate in last year?
   d) Describe specific improvements to your storm water management program as a result of WMC meetings.

e) Attach any comments or suggestions regarding your WMC.

5. Storm Water Ordinance

a) Have you adopted a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of Order 01-XXX? Yes ☐ No ☐

If not, describe the status of adopting such an ordinance.

b) If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes ☐ No ☐

If not, please attach a copy to this Report.

c) Were any amendments made to your storm water ordinance during the last fiscal year? Yes ☐ No ☐

If yes, submit a copy of amendments to the Regional Board.

6. Discharge Prohibitions

a) List any non-storm water discharges you feel should be further regulated:

b) List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

II. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message (Part 4.B.1.a.)

a) How many storm drain inlets does your agency own?

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by November 29, 2003.

2. Reporting Hotline

b) Has your agency established its own hotline for reporting and for general storm water management information? Yes ☐ No ☐

b) If so, what is the number?

c) Is this information listed in the government pages of the telephone book? Yes ☐ No ☐

d) If no, is your agency coordinated with the countywide hotline? Yes ☐ No ☐

e) How many calls were received in the last fiscal year?

f) Do you keep record of the number of calls received and how they were responded to? Yes ☐ No ☐

g) Describe the process used to respond to hotline calls.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes ☐ No ☐

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (*Principal Permittee only)?* Yes ☐ No ☐

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. *(Principal Permittee only)*

b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes ☐ No ☐

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water management program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented *(Principal Permittee only).*

c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

d) Describe efforts your agency made to educate local schools on storm water pollution.

e) Did you, in cooperation with other Permittees, provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution *(Principal Permittee only)*? Yes ☐ No ☐

If not, explain why.

f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts *(Principal Permittee only).*

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

g) What is the behavioral change target that was developed based on sociological data and other studies *(Principal Permittee only)?*

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

4. Pollutant-Specific Outreach

a) Attach a description of each watershed-specific outreach programs that your agency developed *(Principal Permittee only).* All pollutants listed in Table 1 (Section B.1.d.) must be included.

b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes ☐ No ☐

c) Describe, or attach, the pollutant-specific material that was distributed.

d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains *(Principal Permittee only)*.

b) How many corporate managers did your agency reach last year?

c) What is the total number of corporations to be reached through this program?

d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years? Yes ☐ No ☐
If not, describe measures that will be taken to fully implement this requirement.

e) Has your agency developed and/or implemented a Business Assistance Program? Yes ☐ No ☐
If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes ☐ No ☐
How many media outlets were contacted?
Which newspapers or radio stations ran them?

Who was the audience?

7. Did you supplement the County's media purchase by funding additional media buys? Yes ☐ No ☐
   Estimated dollar value/in-kind contribution:
   Type of media purchased:
   Frequency of the buys:
   Did another agency help with the purchase? Yes ☐ No ☐
8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes ☐ No ☐
   If so, describe the type of advertising.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes ☐ No ☐
   Describe the materials that were distributed:

   Who were the key partners?
   Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes ☐ No ☐
    How many events did you attend?
11. Does your agency have a website that provides storm water pollution prevention information? Yes ☐ No ☐
    If so, what is the address?
12. Has awareness increased in your community regarding storm water pollution? Yes ☐ No ☐
    Do you feel that behaviors have changed? Yes ☐ No ☐
    Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

B. Industrial/Commercial Facilities Program

Did you (individually or jointly) update the Database for Critical Sources Identification? Yes ☐ No ☐

Comments/Explanation/Conclusion:

Inspection and Site Visit Program

Provide the reporting data as suggested in the following tables.

Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

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Initial Number of Facilities at the start of cycle proposed for site visit by categories (after the initial year, the updated number based on the new data)	Number of facilities site visited in the current reporting year	% Completed at the time of this report for this cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

Comments/Explanation/Conclusion:

BMPs Implementation

Provide the reporting data as suggested in the following table.

Number of facilities inspected/ site visited by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected/ site visited by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade

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Comments/Explanation/Conclusion:

Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number since permit adoption

Facilities by category	Number of enforcement actions by type (Warning letter)	Number of NOVs	Number of Referral	Number of Other

Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the

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knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective ☐ Somewhat Effective ☐ Non-effective ☐

Comments/Explanation/Conclusion:

You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

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C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes ☐ No ☐
   Attach a copy of your CEQA checklist, and any other examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:
   a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes ☐ No ☐
   b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes ☐ No ☐
   c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes ☐ No ☐
   d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes ☐ No ☐

   Briefly describe each procedure and attach examples of how each was required in a priority development or redevelopment project.

3. Describe the status of the development or implementation of peak flow controls in natural drainage systems.

4. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

5. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?
   a) Residential

b) Commercial
c) Industrial
d) Automotive service facilities
e) Retail gasoline outlets
f) Restaurants
g) Parking lots
h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area
i) Total number of permits issued to priority projects

6. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

7. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?

8. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes ☐ No ☐

9. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes ☐ No ☐
If yes, attach a copy of your CEQA checklist.
If no, provide an explanation and an expected date of completion.

10. Did your agency update any of the following General Plan elements in the past year?
a) Land Use Yes ☐ No ☐
b) Housing Yes ☐ No ☐
c) Conservation Yes ☐ No ☐
d) Open Space Yes ☐ No ☐

If yes, please describe how watershed and storm water quality and quantity management considerations were included. Attach a copy of the amendment, if you have not already provided the Regional Board with a copy.

11. How many targeted staff were trained last year?
    How many targeted staff are trained annually?
    What percentage of total staff (listed on page 2) are trained annually? %
12. Has your agency developed and made available development planning guidelines? Yes ☐ No ☐
    If no, what is the expected date that guidelines will be developed and available to developers?
13. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?
   a) Will result in soil disturbance of one acre or greater Yes ☐ No ☐
   b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes ☐ No ☐
   c) Is located in a hillside area Yes ☐ No ☐

   Attach one example of a local SWPPP

3. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

4. How many building/grading permits were issued to sites requiring Local SWPPPs last year?
5. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?
6. How many building/grading permits were issued to construction site less than one acre in size last year?
7. How many construction sites were inspected during the last wet season?

8. Complete the following table.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				

Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

9. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

10. Describe the system that your agency uses to track the issuance of grading permits.

E. Public Agency Activities (Part 4.F)

1. Trash Receptacles
   a) Did your agency place trash receptacles at all transit stops within its jurisdiction and maintain the receptacles? Yes ☐ No ☐
   b) How many trash receptacles within your jurisdiction are near transit stops or commercial areas?

2. Sewage System Maintenance, Overflow, and Spill Prevention (*only applicable to agencies that own and/or operate a sanitary sewer system*)
   a) Did your jurisdiction submit its Sewage System Response Plan to the Regional Board? Yes ☐ No ☐
   b) How many sanitary sewer overflows occurred within your jurisdiction?
      How many did your agency respond to?
   c) Did your agency investigate all complaints received? Yes ☐ No ☐
   d) How many complaints were received?
   e) Upon notification, did your agency immediately respond to overflows by containment? Yes ☐ No ☐
   f) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes ☐ No ☐
   g) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes ☐ No ☐
      If so, describe the program:

   h) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes ☐ No ☐
      If so, describe the program:

3. Public Construction Activities Management

a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? Yes ☐ No ☐

Give an explanation for any sites greater than 5 acres that were not covered:

b) What is the total number of active public construction sites?

How many were 5 acres or greater in size?

c) (In March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes ☐ No ☐

4. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

b) Have you submitted a list to the Regional Board that includes contact person, location and telephone number for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

If not, explain why:

c) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

1) Good housekeeping practices
2) Material storage control
3) Vehicle leaks and spill control
4) Illicit discharge control

d) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes ☐ No ☐

If not, what is the status of implementing this requirement?

e) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above? Yes ☐ No ☐

5. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes ☐ No ☐

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes ☐ No ☐

If so, list them:

d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?

e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

f) How often are storage areas for fertilizers and pesticides inspected?

What BMPs are commonly implemented in storage areas?

6. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes ☐ No ☐

How many of each designation exist in your jurisdiction?

Priority A:
Priority B:
Priority C:

b) How many times were all Priority A basins cleaned last year?

c) How many times were all Priority B basins cleaned last year?

d) How many times were all Priority C basins cleaned last year?

e) How much total waste was collected in tons from catch basin clean-outs last year?

f) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.

g) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:

1) Provide for the proper management of trash and litter generated from the event? Yes ☐ No ☐

2) Arrange for temporary screens to be placed on catch basins? Yes ☐ No ☐

3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes ☐ No ☐

h) Has your Agency conducted an assessment of measures that can be implemented to reduce and/or prevent trash from entering the MS4 system? Yes ☐ No ☐

If yes, has this assessment been submitted to the Regional Board? Yes ☐ No ☐

If no, what is the status of conducting this assessment?

i) Did your agency inspect the legibility of the catch basin stencil or labels? Yes ☐ No ☐

What percentage of stencils were legible?

j) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes ☐ No ☐

k) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes ☐ No ☐

Is the prioritization attached? Yes ☐ No ☐

l) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes ☐ No ☐

What changes have been made?

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m) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes ☐ No ☐

n) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

o) How much total waste was collected (in tons) by stream or channel segment from Permittee-owned open channels or other drainage structures?

p) Where was the removed material disposed of?

7. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes ☐ No ☐

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes ☐ No ☐

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes ☐ No ☐

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

Priority A – These streets and/or street segments shall be swept at least two times per month? Yes ☐ No ☐

Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes ☐ No ☐

Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes ☐ No ☐

c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes ☐ No ☐

d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes ☐ No ☐

e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes ☐ No ☐

f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes ☐ No ☐

2) Identify and select appropriate BMPs? Yes ☐ No ☐

8. Parking Facilities Management

a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes ☐ No ☐

b) Were any Permittee-owned parking lots cleaned less than once a month? Yes ☐ No ☐

How many?

9. Public Industrial Activities Management

a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes ☐ No ☐

b) Does your agency serve a population of less than 100,000 people? Yes ☐ No ☐

10. Emergency Procedures

a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes ☐ No ☐

b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes ☐ No ☐

11. Feasibility Study

a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes ☐ No ☐

b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes ☐ No ☐

F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).
2. Attach a map of your storm drain system showing all permitted connections, and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

5. What is the total length of open channel that your agency owns and operates?
   What length was screened last year for illicit connections?
6. What is the total length of closed storm drain that your agency owns and operates?

What length was screened last year for illicit connections?

7. Describe the method used to screen your storm drains.

8. Attach a copy of your agency's plan for proactive storm drain screening of priority areas (Part 4.G.2.b). If a plan has not been developed, describe the status of development.

9. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# not identified
01/02							
02/03							
03/04							
04/05							
05/06							

10. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

a) Were all identified connections terminated within 180 days? Yes ☐ No ☐

b) If not, explain why.

11. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

12. What is the average response time after an illicit discharge is reported?
    a) Did any response times exceed 72 hours? Yes ☐ No ☐
    b) If yes, explain why.

13. Describe the your agency's spill response procedures.

14. What would you do differently to improve your agency's IC/ID Elimination Program?

15. Attach a list of all permitted connections to your storm sewer system.

III. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-XXX that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 3.

IV. Assessment of Program Effectiveness

F. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
3. A summary of the strengths and weaknesses of your agency's storm water management program;
4. A list of specific program highlights and accomplishments;
5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
6. Interagency coordination between cities to improve the storm water management program;
7. Future plans to improve your agency's storm water management program; and
8. Suggestions to improve the effectiveness of your program or the County model programs.

G. On a scale of 1 to 10, rate your municipality's level of compliance with Order No. 01-XXX.

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

FACT SHEET/STAFF REPORT

FOR THE

COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT (CAS004001)

TENTATIVE DRAFT
OCTOBER 11, 2001

Los Angeles Regional Water Quality Control Board

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Tentative Draft – FACT SHEET/STAFF REPORT

State of California
California Regional Water Quality Control Board Los Angeles Region
National Pollutant Discharge Elimination System (NPDES)
Permit No. CAS004001, CI 6948
Regional Board Order No. 01-XXX

I. PURPOSE

The purpose of this Fact Sheet/Staff Report is to give the Permittees and interested parties an overview of the proposed permit as well as to provide the technical basis for the permit requirements. Sections I through IV describe water quality problems from storm water and urban runoff, and permit conditions to address these problems. Sections V and VI discuss each major element of the Permittees' Storm Water Quality Management Plan (SQMP), and is meant to be used as a reference document during review of the permit.

II. INTRODUCTION - THE NEED TO REGULATE STORM WATER DISCHARGES

A. Impacts

The quality of storm water and urban runoff are fundamentally important to the health of the environment and the quality of life in Southern California. Polluted storm water runoff is a leading cause of water quality impairment in the Los Angeles Region. Storm water and urban runoff (during dry and wet weather) are often contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through the storm drain networks directly into the receiving waters of the Region. The water quality impacts and increased public health risks from Municipal Separate Storm Sewer System (MS4) discharges that affect receiving waters nationwide and Los Angeles County and its coastline are well documented.

The **National Urban Runoff Program** (NURP) Study (USEPA 1983) showed that MS4 discharges draining from residential, commercial, and light industrial areas contain significant loadings of total suspended solids. Although the NURP Study did not cover industrial sites, the study suggested that runoff from industrial sites may have significantly higher contaminant levels than runoff from other urban land use sites. Several studies tend to support this observation, for e.g., the City of Fresno, California, a NURP project site, industrial areas there had the poorest storm water quality of the four land-uses evaluated. The study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.

The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the Nation's waters from

contaminated storm water and urban runoff. The recent 1998 National Water Quality Inventory (305(b) Report)[1] showed that urban runoff/storm water discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report states that ocean shoreline impairment due to urban runoff/storm sewers increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff and storm water discharges are the leading source of pollution and the main factor in the degradation of surface water quality[2] in California's coastal waters, rivers and streams.

The Natural Resources Defense Council (NRDC) 1999 Report, "**Stormwater Strategies, Community Responses to Runoff Pollution**"[3] identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain activities, such as those from industrial sites, are large contributors of pollutant concentrations to the storm water system.

The report also identified several activities causing storm water pollution from urban areas, practices of homeowners, businesses, and government agencies.

More recent studies conducted by **United States Geological Survey** (USGS)[4] confirms the link between urbanization and water quality impairments in urban watersheds due to contaminated storm water runoff.

Furthermore, the water quality impacts of urbanization and urban storm water discharges have been summarized by several other recent USEPA reports.[5] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impairs the beneficial uses of receiving waters. Increases in population density and imperviousness result in changes to stream hydrology including:

a) increased peak discharges compared to predevelopment levels;

b) increased volume of storm water runoff with each storm compared to pre-development levels;

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[1] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress* - USEPA 841-S-00-001 - June 2000; *Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress* - USEPA 841-F-00-006 - June 2000

[2] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress*, Chapter 12 State and Territory Summaries, California., pp. 282-83: 1998.

[3] *Clean Water & Oceans: Water Pollution: In Depth Report Stormwater Strategies, Community Responses to Runoff Pollution.* Natural Resources Defense Council (NRDC), 1999.

[4] *Water Quality in the Puget Sound Basin, Washington and British Columbia, 1996-98*,Circular 1216 - USGS 2000; *Water Quality in the Long Island-New Jersey Coastal Drainages, New Jersey and New York, 1996-98*, Circular 1201 - USGS 2000

[5] *Storm Water Phase II Report to Congress* (USEPA 1995); Report to Congress on the Phase II Storm Water Regulations (USEPA1999); Coastal Zone Management Measures Guidance (USEPA 1992)

c) decreased travel time to reach receiving water; increased frequency and severity of floods;

d) reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

e) increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization, and

f) decreased infiltration and diminished groundwater recharge.

The LA County MS4 program conducts monitoring to:

1. quantify mass emissions for pollutants;
2. identify critical sources for pollutants of concern in storm water;
3. evaluate BMP effectiveness; and
4. evaluate receiving water impacts.

The monitoring indicates that instream concentrations of pathogen indicators (fecal coliform and streptococcus), heavy metals (such as Pb, Cu, Zn,) and pesticides (such as diazinon) exceed state and federal water quality criteria.[6] The mass emissions of pollutants to the ocean are significant from the urban WMAs such as the Los Angeles River WMA, Ballona Creek WMA, and Coyote Creek WMA, with the Los Angeles River WMA providing more than seventy percent of the loadings. Critical source data for facilities (such as auto-salvage yards, primary metal facilities, and automotive repair shops) show that total and dissolved heavy metals (Pb, Cu, Zn, and Cd), and total suspended solids (TSS) exceeded state and federal water quality criteria by as much as 2 orders of magnitude. The results are consistent with a limited term study conducted by the Regional Board to characterize storm water runoff in the Los Angeles region before the issuance of MS4 permits.[7] Storm water runoff data from predominant land uses in LA County showed similar patterns. Light-industrial, commercial and transportation land uses showed the highest range of exceedances. A pesticide (diazinon) was detected in higher concentrations from residential land use. The data for polycyclic aromatic hydrocarbons (PAHs), a known pollutant of concern in urban storm water runoff, is inconclusive but improved analytical methods may yield more definitive results next year. Receiving water impacts studies found that storm water discharges from urban watersheds exhibit toxicity that are attributable to heavy metals. Biosurveys of the benthic communities showed bioaccumulation of toxicants. Sediment analysis showed higher concentrations of pollutants, such as Pb and PAHs, in urban watersheds than in rural watersheds (2 to 4 times higher). In addition, toxicity of dry weather flows was

[6] *Los Angeles County 1998-1999 Storm water Monitoring Report*, Los Angeles County Department of Public Works (1999). Data summarizes results of storm water monitoring for the most recent year and the past five years.

[7] *Storm Water Runoff in Los Angeles and Ventura Counties, Final Report* (1988), California Regional Water Quality Control Board, Los Angeles, SCCWRP Contribution C292. This study found the highest mean concentrations of pollutants of concern such as heavy metals in the urban watershed rivers and that they contributed significant loads to the ocean.

observed with the cause of toxicity undetermined.[8] Other studies have found chemical concentration of pollutants that exceed state and federal water quality criteria in storm drains flowing to the ocean during dry weather,[9] and that there are adverse health impacts from swimming near them.[10]

B. Benefits of Permit Program Implementation

Implementation of the MS4 permit requirements will significantly reduce pollutants in urban storm water in a cost-effective manner. Implementation of Best Management Practices (BMPs) should also reduce pollutant discharges, and improve surface water quality. The expected benefits of implementing the provisions of the Los Angeles County MS4 NPDES permit include:

- **Enhanced Aesthetic Value**: Storm water affects the appearance and quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution will increase benefits as these water bodies recover and become more desirable.
- **Enhanced Opportunities for Boating**: reducing sediment and other pollutants, and increasing water clarity, which enhances the boating experience for users, offer additional benefits.
- **Enhanced Commercial Fishing**: Important because commercial fisheries are a significant part of the nation's economy, and 28% of the estuaries in the 305(b) Report were impacted by storm water/urban runoff.
- **Enhanced Recreational and Subsistence Fishing**: Pollutants in storm water can eliminate or decrease the numbers, or size, of sport fish and shell fish in receiving waters.
- **Reduced Flood Damage**: Storm water runoff controls may mitigate flood damage by addressing problems due to the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.
- **Reduced Illness from Consuming Contaminated Seafood**: Storm water controls may reduce the presence of pathogens in seafood caught by commercial or recreational anglers.
- **Reduced Illness from Swimming in Contaminated Water**: Epidemiological studies indicate that swimmers in water contaminated by storm water runoff are more likely to experience illness than those who swim farther away from a storm water outfall.
- **Enhanced Opportunities for Non-contact Recreation**: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.
- **Drinking Water Benefits**: Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for treatment, or render the water unusable for drinking.

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[8] *Toxicity of Dry Weather Flow from the Santa Monica Bay Watershed*, Bay, S. et al (1996), Bull. Southern California Acad. Sci. 5(1), pp. 33-45. The paper describes preliminary results on dry weather toxicity which have been confirmed by the MS4 monitoring program.

[9] *Chemical Contaminant Release into Santa Monica Bay, Final Report*, American Oceans Campaign , Santa Monica (1993)

[10] *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999), Epidemiology 10: 355-363). The study found higher risks of respiratory and gastrointestinal symptoms from swimmers.

- **Water Storage Benefits**: Storm water is a major source of impairment for reservoirs. The heavy load of solids deposited by storm water runoff can lead to rapid sedimentation of reservoirs and the loss of needed water storage capacity.[11]

III. STATUTORY AND REGULATORY HISTORY OF THE STORM WATER PROGRAM

Over the past 29 years, water pollution control efforts have focused primarily on certain process wastewater discharges from facilities such as factories and sewage treatment plants, with less emphasis on diffuse sources. The 1972 amendments to the Federal Clean Water Act (CWA) prohibit the discharge of any pollutant to waters from a point source, unless a NPDES permit authorizes the discharge. Because the focus on reducing pollutants was centered on industrial and sewage treatment discharges, the U.S. Congress amended the CWA in 1987, requiring the USEPA to create phased NPDES requirements for storm water discharges.

In response to the 1987 Amendments to the CWA, the USEPA developed Phase I of the NPDES Storm Water Program in 1990. Phase I requires NPDES permits for storm water discharges from: (i) "medium" and "large" MS4s generally serving, or located in incorporated places or counties with, populations of 100,000 or more people; and (ii) eleven categories of industrial activity (including construction activity that disturbs five acres or greater of land).

Phase II, adopted in December 2000 and scheduled to take effect in March 2003, requires operators of small MS4s and small construction sites (construction activity disturbing between 1 and 5 acres of land) in urban areas to control storm water runoff discharges. Phase II establishes a cost-effective approach for reducing environmental harm caused by storm water discharges from previously unregulated diffuse sources.

A. Basis for Permit Conditions

1. **Statutory basis for permit conditions.** The conditions established by this permit are based on Section 402(p)(3)(B) of the CWA which mandates that a permit for discharges from MS4s must: effectively prohibit the discharges of non-storm water to the MS4; and require controls to reduce pollutants in discharges from MS4 to the maximum extent practicable (MEP) including best management practices, control techniques, and system, design and engineering methods, and such other provisions determined to be appropriate. MS4s are not exempted from compliance with Water Quality Standards. Section 301(b)(1)(C) of the CWA requiring that NPDES permits include limitations, including those necessary to meet water quality standards, applies. The intent of the permit conditions is to meet the statutory mandate of the CWA.

   The permit requires the implementation of a comprehensive Storm Water Quality Management Program (SQMP) through a selection of Best Management Practices (BMPs) (40 CFR 122.44(k)) as the mechanism to

[11] *Report to Congress on Phase II Storm Water Regulations*. USEPA, Office of Water. EPA-833-R-99-001, Oct. 1999.

achieving the reduction of pollutants in storm water to the maximum extent practicable (MEP) (CWA. § 402(p)(3)(B)(iii)).

2. **Regulatory basis for permit conditions.** As a result of the statutory requirements of the CWA the USEPA promulgated the MS4 Permit application regulations, 40 CFR 122.26(d). These regulations described in detail the permit application requirements for MS4s operators. The information in the Report of Waste Discharge (ROWD) was utilized to develop the permit conditions and determine permittees status in relationship to these conditions.

3. **Discharge limitations.** No numeric effluent limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the USEPA has required a series of increasingly more effective BMPs[12], in the form of a comprehensive SQMP, performance standards, in lieu of numeric limitations.[13]

B. Public Review and Participation Process

Los Angeles County Flood Control District submitted the ROWD for on January 31, 2001. Since that time Regional Board staff has dedicated significant time and effort to providing the opportunities for public participation and comment. More than 30 meetings, 2 workshops, and numerous outreach efforts have been conducted to ensure that the public, the Permittees, and other interested parties had ample opportunity to participate in the development and comment on draft permit requirements and language prior to consideration by the Regional Board for adoption.

To invite public comment at the beginning of the renewal process, a preliminary draft, dated March 16, 2001, was issued to a working group of interested parties. This draft was used as a starting point for discussion. The workgroup had approximately 30 days to review it prior to the issuance of the first draft, on April 13, 2001. The first draft was sent to all Permittees, storm water consultants, environmental organizations, and other interested parties. It was also made available on the Regional Board Storm Water web page at www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html. More than 30 days were provided for the submittal of written comments. After considering comments submitted, Regional Board staff issued the second draft permit on June 29, 2001. Comments on the second draft (due by August 6, 2001) were considered and incorporated as appropriate in the tentative draft issued on October 11, 2001. Permittees and interested parties have an additional thirty days to submit written comments and a forty-five day period for review prior to Regional Board consideration. The tentative permit is scheduled for consideration on November 29, 200,a Regional Board meeting. A public notice was published in the Los Angeles Times on October 3, 2001, more than 45 days prior to the date of the Board meeting.

Furthermore, Regional Board staff conducted separate meetings to particular special provisions with Permittees and interested parties as necessary. In addition to these

[12] *Interpretative Policy Memorandum on Reapplication Requirements* of MS4s issued by USEPA (61 Fed. Reg. 41697)
[13] *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits* (61 Fed. Reg. 43761)

meetings, Regional Board staff held two workshops to review the permit and listen to comments, including one formal workshop with the Board members. Regional Board staff has also participated in the monthly Executive Advisory Committee meetings to answer questions and discuss permit issues. Staff has also been available for public outreach via telephone. The following table outlines some of the opportunities for permittee and public input provided by Regional Board staff.

Date	Public Involvement Activity
January 31, 2001	Application for permit renewal (ROWD)
February 27, 2001	Inspections Working Group Meeting
February 28, 2001	Illicit Connection/Discharge Working Group Meeting
March 1, 2001	Monitoring Working Group Meeting
March 12, 2001	Public Information and Participation Working Group Meeting
March 20, 2001	Inspections Working Group Meeting
March 20, 2001	Construction Working Group Meeting
March 22, 2001	Preliminary Draft Working Group Meeting
April 9, 2001	Monitoring Working Group Meeting
April 13, 2001	Issuance of First Draft
April 24, 2001	Public Workshop
April 24, 2001	Construction Meeting with Building Industry Association
April 27, 2001	Monitoring Working Group Meeting
May 9, 2001	Monitoring Working Group Meeting
May 16, 2001	First Draft Comments Due
May 24, 2001	Construction Meeting with BIA
June 4, 2001	Monitoring Working Group Meeting
June 14, 2001	Monitoring Station Identification Field Trip
June 25, 2001	Monitoring Working Group Meeting
June 29, 2001	Issuance of Second Draft
July 26, 2001	Formal Workshop with Regional Board
August 6, 2001	Second Draft Comments Due
August 8, 2001	Executive Advisory Committee Meeting
September 12, 2001	Executive Advisory Committee Meeting
September 19, 2001	Meeting with City of Rancho Palos Verdes
September 27, 2001	Meeting with County of Los Angeles Dept. of Public Works
September 27, 2001	Meeting with BIA and AGC
October 3	Meeting with County and City Departments of Health

Date	Public Involvement Activity
October 11, 2001	Issue Tentative Draft
November 9, 2001	Tentative Draft Comments Due
November 29, 2001	Proposed Permit Adoption at Board Meeting

IV. BACKGROUND - LOS ANGELES COUNTY MS4

A. Los Angeles County MS4 Permit History

In 1990, the Los Angeles Regional Board (Regional Board) adopted Order No. 90-079, the Los Angeles County MS4 Permit. That permit required the Los Angeles County Flood Control District, the County of Los Angeles and the incorporated cities in Los Angeles County to implement storm water pollution controls including amending ordinances, optimizing existing pollutant controls such as street sweeping, construction site controls, and others. The Regional Board required all Permittees to implement a minimum list of 13 BMPs for consistency across the County. The 1990 permit was issued on a system wide basis due to the highly interconnected storm drain system serving a population well in excess of 100,000 inhabitants. An NPDES permit is valid for a five-year period after the date is issued[14].

On July 15, 1996, the Regional Board adopted Order No. 96-054 that revised the 1990 permit. The 1996 LA County MS4 permit required model programs be developed and implemented by the Permittees for Public Information and Public Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges, Public Agency Activities, and Development Planning. These model programs were intended to be dynamic and expected to change with time, as more information on storm water impacts became available.

Following the adoption of Order 96-054, the City of Long Beach submitted a ROWD as an application for its own MS4 permit. The City of Long Beach Municipal Storm Water Permit (Order No. 99-060) was adopted on June 30, 1999. This Order superseded the countywide permit requirements for the City of Long Beach, and the City now operates under its separate waste discharge requirements.

On January 31, 2001, the Los Angeles County Department of Public Works submitted an application for renewal of their MS4 permit in the form of an ROWD for Los Angeles County and the incorporated cities, except for the City of Long Beach. This application started the process for reissuance of the permit, which enters into its third permit term now.

[14] 40 CFR §122.46 (a)

B. Los Angeles County Storm Drain System

The MS4 covered by this proposed permit for the County of Los Angeles and 83 incorporated cities drains the coastal slopes of the Transverse Mountain Ranges. and flows into the Santa Monica Bay and the Los Angeles/Long Beach Harbor. The storm drain structure consists of thousands of catch basins, thousands of miles of underground storm drains, as well as open channels, all owned and operated separately by Permittees. The length of the system, and the locations of all storm drain connections, are not known exactly, as a comprehensive map for the storm drain system does not exist. Rough estimates, based on information from large municipalities (population > 100,000), indicate that the length exceeds 4,300 miles, as shown below.

Permittee	Area (Square Miles)	Catch Basins	Storm Drain Length	Open Channel Length
LA County		73,000	2,650 miles	450 miles
City of LA	469	30,000	1,600 miles	31 miles
El Monte	10	316	11 miles	0.4 mile
Glendale	30.6	1,100	Unknown	Unknown
Inglewood	9	1,157	12 miles	Unknown
Pasadena	26	1,050	30	Unknown
Santa Monica	8.3	850	Unknown	Unknown
Torrance	20	2,000	20 miles	3 miles
TOTAL		**109,473**	**4,323**	**484.4**

C. Summary of Problems in the Los Angeles County Watersheds

Watersheds are geographic areas draining into a river system, ocean or other bodies of water through a single outlet. There are six Watershed Management Areas (WMAs) that represent the six major watersheds covered by the Los Angeles County MS4 NPDES permit. The following is a summary of some significant issues in each watershed.[15]

Dominguez Channel/Los Angeles-Long Beach Harbor Watershed

[15] *Watershed Management Initiative Chapter.* California Regional Water Quality Control Board – Los Angeles Region. Dec. 2000.

Permitted discharges

- 415 dischargers covered under an industrial storm water permit
- 69 dischargers covered under a construction storm water permit

Potential sources of pollution

- Historical deposits of DDT and PCBs in sediment
- Spills from ships and industrial facilities
- Leakages contaminating groundwater
- **Urban and storm water runoff**
- Impairments: metals, PCBs, PAHs, historic pesticides, coliform, trash, and nitrogen

Los Angeles River Watershed

Permitted discharges

- 1,327 dischargers covered under an industrial storm water permit
- 147 dischargers covered under a construction storm water permit

Potential sources of pollution

- Nitrogen and coliform contributions from septic systems
- Other nonpoint sources (horse stables, golf courses)
- Leakage of MTBE from underground storage tanks
- **Urban and storm water runoff**
- Impairments: nitrogen, trash, selenium, other metals, coliform, PCBs, historic pesticides, chlorpyrifos

San Gabriel River Watershed[16]

Permitted discharges

- 549 dischargers covered under an industrial storm water permit
- 175 dischargers covered under a construction storm water permit

Potential sources of pollution

- Excessive trash in recreational areas of upper watershed
- Nonpoint source loadings from nurseries and horse stables
- **Urban and storm water runoff**
- Impairments: nitrogen and effects, trash, metals, historic pesticides, coliform, chlorides, and PCBs

[16] *San Gabriel Watershed State of The Watershed* - RWQCB - LA Region - June 2000

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Santa Monica Bay Watershed

- 147 dischargers covered under an industrial storm water permit
- 107 dischargers covered under a construction storm water permit

Potential sources of pollution

- Discharges from Ballona and Malibu Creeks contribute to impairments in the Santa Monica Bay and its beaches.
- Impairments: mercury, selenium, other metals, historical pesticides, PAHs, PCBs, nitrogen, coliform, trash, TBT, habitat alteration, exotic vegetation, and salts

Coastline

- **Acute health risk associated with swimming in runoff contaminated surfzone waters**
- Chronic risk associated with consuming seafood from areas impacted by DDT and PCB contamination
- Historic deposits of DDT and PCBs in sediment

Ballona Creek Watershed

- Trash loading from creek
- Sediment contamination by heavy metals form creek to Marina del Rey Harbor and offshore
- **Toxicity of both dry weather and storm water runoff in creek**
- High bacterial indicators at mouth of creek

Malibu Creek Watershed

- Excessive freshwater, nutrients, and coliform in lagoon; contribution from POTW and other sources
- **Urban runoff from upper watersheds**
- Septic tanks in lower watershed

Santa Clara River

Permitted discharges

- 4 POTWs
- 98 dischargers covered under an industrial storm water permit
- 190 dischargers covered under a construction storm water permit

Potential sources of pollution

- Agriculture
- Increasing loads of nitrogen and salts in supplies of ground water
- POTW discharges
- Increasing development and channelization that results in increased runoff volumes and velocities, erosion, and loss of habitat
- Septic tanks

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- Impairments: chloride, nutrients (nitrogen), coliform, trash (in parts of watershed)

D. Enforcement Provision

During the renewal process for the existing permit (i.e. in 1995 and 1996), the permittees proposed and the Regional Board agreed to addition of a "Notice to Meet and Confer" provision (Part 2, section G of the existing permit). This was envisioned as an administrative review process for resolving permit disputes before the Regional Board would take formal enforcement action. It has been actually used only once (in 2000), when the Regional Board issued Notice to Meet and Confer letters to permittees in the Los Angeles River and Ballona Creek watersheds. The purpose of this process was to determine the effectiveness of municipalities' efforts to reduce trash in waters that are impaired by trash.

Subsequent to renewal of the existing permit, the State developed an enforcement policy (State Board Resolution 96-030) and guidance, which sets forth a progressive strategy that has the goal of ensuring consistent, predicable, and fair enforcement of regulations. This is now a well-established and widely implemented policy throughout the State, including in the Los Angeles Region. Therefore, with this policy of progressive enforcement in place the Notice to Meet and Confer provision is not needed; accordingly, the proposed permit does not contain this provision.

E. Total Maximum Daily Loads (TMDLs)

Part 3, Section C. of the proposed permit specifies that the Permittees shall amend the SQMPto comply with load allocations approved pursuant to adoption and approval of Total Maximum Daily Loads (TMDLs). The addition of this provision represents a significant difference from the existing permit, which does not contain a provision for implementation of TMDLs. In addition, the Special Provisions for the Permittees' Program for Public Agencies (Part 4, Sections F.7. and F.8.) specifies performance measures for watersheds subject to a trash TMDL.

TMDLs are one of the Regional Board's highest priorities. In view of the Region's highly urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions can't be forecast at this time, the Board's does envision that storm water permits will be an important mechanism for implementing load reductions. An early example of the relationship between TMDLs and storm water permits is the trash TMDL adopted for the Los Angeles River and Ballona Creek in September 13, 2001, which directs municipalities to monitor for baseline trash levels for 2-4 years, and then to start implementing trash prevention and/or control measures to reduce trash to zero by the year 2013. This proposed 5-year permit incorporates the monitoring requirements of the TMDL and, based on the results of the monitoring requirements, specified load reductions of 60% by 2006. Permits that

are adopted subsequent to this proposed MS4 permit are expected to incorporate the remaining load allocation reductions to achieve zero trash in the Los Angeles River and Ballona Creek by 2013.

Public review of the Regional Board's TMDLs, will occur during the TMDL adoption process (and there will not be an additional public process for TMDL implementation and Basin Plan amendment). Upon approval of a TMDL, the load allocations (specified in that TMDL) effective and enforceable under this permit. This TMDL requirement is consistent with TMDL provisions in the Long Beach and Ventura County MS4 permits.

F. Revision of the Permittees' Storm Water Quality Management Program

In general, MS4 permits such as the Los Angeles County MS4 Permit do not have numeric effluent limits for storm water discharges. Rather, the Regional Board relies on a BMP approach implemented by the Permittees to reduce the discharge of pollutants in storm water to the MEP. Therefore the development and implementation of the special provisions (i.e. the model programs) become of paramount importance.

The Special Provisions in the next section are - for the most part - based on the Permitees' existing model programs, which they've been implementing since at least 1999. The changes Regional Board staff has made provide to the current permit include greater specificity, and better measures to determine. Some of the Permittees are already meeting these performance measures. Many of the performance measures Regional Board staff is proposing will clarify the MEP compliance expectations, and set a consistent bar for all Permittees.

V. DISCUSSION OF SPECIAL PROVISIONS

A. Public Information and Participation Program (PIPP)

Legal Authority:

CWA § 402(p)(3)(B)(ii-iii), CWC section 13377, and NPDES regulations at 40 CFR 122.26(d)(2)(I)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include " A description of education activities, public

information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

To satisfy the Public Education and Outreach minimum control measure, the Permittees need to: (i) implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and (ii) determine the appropriate BMPs and measurable goals for this minimum control measure.

Background:

Implementation of a PIPP is a critical BMP and a necessary component of a storm water management program. The State Board Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The USEPA Phase II Fact Sheet 2.3 (Fact Sheet 2.3) finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[17]

Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and, therefore, should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program because it allows for:

- Broader public support since residents who participate in the development and decision making process are partially responsible for the program and, therefore, are more likely to take an active role in its implementation;
- Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of residents volunteers;
- A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
- A conduit to other programs as residents involved in the storm water program development process make important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, which is encouraged by the USEPA.

Discussion of New Requirements:

[17] *Storm Water Phase II Final Rule - Public Education and Outreach Minimum Control Measure.* USEPA Fact Sheet 2.3, January 2000.

Based on the background information, Los Angeles County should continue its comprehensive educational storm water and urban runoff outreach program, which is designed to measurably increase public knowledge and change behavior regarding storm water pollution. The first five-year public education plan was successful at studying segments of Los Angeles County residents to identify those who pose the greatest threat to storm water quality and those who represent the greatest opportunity to respond to a public education program, as well as providing a baseline measurement of residents' storm water-related practices and habits. This information was used to target the residents who are most likely to change their behaviors to improve storm water quality. Using various communication tactics and activities, the program successfully reached 83% of County residents with pollution prevention messages through the Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis (Five-Year Strategy).[18]

Although the Program has been successful at certain goals, it must be augmented to continue increasing public awareness of specific storm water issues. According to the USEPA, materials and activities should be relevant to local situations and issues, and incorporate a variety of strategies to ensure maximum coverage.[19] To help address local situations and sources of specific pollutants, section B.1.d. of the PIPP requires the development of watershed and pollutant-specific education programs.

A need also exists to target ethnic groups that may not be reached by or understand existing storm water educational materials. In an effort to reach these groups, section B.1.c.2. requires the development of a strategy to provide outreach and bilingual materials to target ethnic communities.

Also, the USEPA encourages partnerships and cooperation.[20] Quarterly meetings will provide the opportunity for Permittees to coordinate their outreach efforts and efficiently build on the County's existing program with local; watershed-specific efforts. Since the Program's inception, Permittees have been required to conduct educational activities within their own jurisdictions. The lack of guidance and coordination has led to duplicate efforts and confusion about developing appropriate programs that are consistent with, and enhance the Principal Permittee's regional education program. This requirement will ensure that all Permittees are coordinated for the most efficient and effective Program. It will also help identify Permittees with insufficient Programs.

It is generally more cost-effective to have numerous operators coordinate to use an existing program than all developing their own local programs. Therefore, Permittees should build on the regional program with additional information specific to local needs.

Furthermore, directing materials or outreach programs toward specific groups of commercial, industrial, and institutional entities likely to have significant storm

[18] Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis, Los Angeles County of Public Works, July 31, 2000.
[19] Phase II Fact Sheet 2.3
[20] *Id.*

water impacts is recommended.[21] Pursuant to Order 96-054, the Principal Permittee conducted educational site visits to Phase I industrial facilities, auto repair shops, retail gasoline outlets, and restaurants over the last 5 years. The next step in this targeted outreach program is education at the corporate level to facilitate employee compliance.[22] Therefore, the Principal Permittee is required to implement a corporate outreach program to educate corporate management at gas stations and restaurant chains about storm water regulations.[23] Also, a non-regulatory business assistance program would encourage small businesses that lack access to the expertise necessary to comply with storm water regulations and to implement pollution prevention measures. The business assistance program is not a requirement, however, its implementation is encouraged.

Program Performance Measures:

The current public information program does not include a protocol to measure the effectiveness of the different public education efforts. The draft permit includes requirements to measure the outcome of outreach efforts and demonstrate that they are effective at increasing knowledge and changing the behavior of the public in regards to storm water pollution. The proposed permit includes requirements for the Principal Permittee to develop a strategy for measuring the effectiveness of different educational programs and to develop a behavioral change target that will become a performance measure that must be reported on in Annual Reports.

To augment the effort to assess the public information and education programs, the following new requirement has been included in the draft:

> "The Principal Permittee shall convene a panel to annually review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer no later than December 31, 2001 annually."

In addition to the assessment requirements mentioned above, the Principal Permittee is also required to: (a) ensure that a minimum of 35 million impressions per year are made on the general public about storm water via print, local TV access, local radio, or other appropriate media; and (b) provide all School Districts within its jurisdiction with materials, including videos, live presentations, brochures, and other media necessary to educate a minimum of fifty percent of all school children (K-12) every 2 years on storm water pollution. These performance measure are justified based on their consistency with requirements in the City of Long Beach and Ventura County MS4 permits, and on the Principal Permittee's previous performance of PIPP requirements.

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[21] Phase II Fact Sheet 2.3

[22] *Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis*, Los Angeles County Public Works, July 31, 2000. Part P.5.

[23] Permit, Part 4, section B.2.a.

According to the Principal Permittee's Year Four (1999-2000) Highlights, approximately 85 million impressions were made through advertising, media relations, customized coffee jackets, corporate partnerships, special events, and business outreach. Hits on the www.888CleanLA.com web site have been consistently increasing, indicating a growing public interest, as well as greater awareness. It can be anticipated that mass media coverage will become more efficient after the Five Year PIPP Program Assessment study is completed in the Fall of 2001. Also, increased media attention and public interest in current issues, such as trash TMDLs, is expected. Los Angeles County has committed to making a minimum of 35 million impressions per year.

Furthermore, the requirement is consistent with the number of impressions (3 - 3.5 per resident) required in the Long Beach MS4 Permit and the Ventura County MS4 Permit. The City of Long Beach is required to make a minimum of 1.5 million impressions per year. With a total population of approximately 426, 000 people, this amounts to 3.5 impressions per resident per year. Ventura County is required to achieve 3 impressions per resident per year. Los Angeles County's population is 9.5 million people.[24]

According to data provided by Los Angeles County, the School Environmental Education Program has been reaching approximately 50 percent of elementary and secondary schools in the County every 2 years. It is also expected that the required coordination among Permittees will increase the effectiveness and range of this Program.

B. Industrial/Commercial Facilities Program

Legal Authority:

The Phase I regulations require, in part, that the applicant (i) develop adequate legal authority, (ii) perform a source identification, and (iv) develop a management program to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system design and engineering methods, and such other provisions which are appropriate.[25] Specifically, with regards to industrial controls, the management plan shall include the following.

40 CFR 122.26(d)(2)(iv)(C), A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

> *(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;*
> *(2) Describe a monitoring program for storm water discharges associated with industrial facilities [...]*

[24] 2000 U.S. Census Bureau
[25] 40 CFR 122.26(d)(2)

Background:

The municipality is ultimately responsible for discharges from the MS4. Because industrial awareness of the program may not be complete, there may be facilities within the MS4 area that should be permitted but are not (non-filers). In addition, the Phase I regulations that require industries to obtain permit coverage for storm water discharges is largely based on SIC Code. This has been shown to be incomplete in identifying industries that may be significant sources of storm water pollution (*by industries we also mean commercial businesses. The word "industries" is used in a broad sense*). Another concern is that the permitting authority may not have adequate resources to provide the necessary oversight of permitted facilities. Therefore, it is in the municipality's best interest to assess the specific situation and implement an industrial/commercial inspection/site visit and enforcement program to control the contribution of pollutants to the MS4 from all high risk sources.

In the preamble to the 1990 regulations, the USEPA clearly states the intended strategy for discharges of storm water associated with industrial activity:

"...Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system." The USEPA also notes in the preamble that *"... municipalities will be required to meet the terms of their permits related to industrial dischargers."*

Similarly, in the USEPA's Guidance Manual[1] (Chapter 3.0), it is specified that MS4 applicants must demonstrate that they possess adequate legal authority to:

- Control construction site and other industrial discharges to MS4s;
- Prohibit illicit discharges and control spills and dumping;
- Carry out inspection, surveillance, and monitoring procedures.[26]

The document goes on to explain that *"control"*, in this context means not only to require disclosure of information, but also to *limit, discourage, or terminate* a storm water discharge to the MS4. Further, to satisfy its permit conditions, a municipality may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities and construction sites *not* required to obtain permits.

In the same Guidance Manual[27] (Chapter 6.3.3), it is stated that the municipality is ultimately responsible for discharges from their MS4. Consequently, the MS4 applicant must describe how the municipality will help the USEPA and authorized NPDES States to:

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[26] *Guidance Manual For the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* - USEPA -November 1992

[27] *Id.*

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans (SWPPPs) and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities discharging storm water to the municipal systems to ensure these facilities are in compliance with their NPDES storm water permit, if required.

Discussion:

Recognizing that the municipality is ultimately responsible for the quality of storm water discharges in the MS4, the municipalities must evaluate the industrial/commercial facilities and determine their compliance with the permit requirements, as well as their contribution to the MS4 and potential impacts to the receiving waters. The following areas must be addressed in order to implement a meaningful industrial/commercial inspection/site visit and enforcement program.

- **Source Identification**
  - Identification of industrial/commercial sites discharging to the MS4 (by SIC codes and narrative if needed)
  - Characterization of activities, materials used, and potential for contributing pollutants along with the type of pollutants

- **Pollution Prevention**
  - Key concepts are many times overlooked: Prevent, before it happens, and be Pro-active rather than Reactive. It is more difficult to treat after the pollutant is released or mixed with storm water. BMPs and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges from industrial and commercial facilities.

- **Threat to Water Quality Prioritization**
  - Identify impaired water bodies by pollutants and link with activities and industrial/commercial sites that may contribute those particular pollutants (or potentially contribute to) the water quality impairment

- **Through existing ordinance, order, or similar means, the ability to**
  - enter premises;
  - conduct inspections;
  - review and evaluate SWPPPs and monitoring results review;
  - require control methods (BMPs) implementation; and,
  - take appropriate enforcement actions, if necessary.

It may be necessary to update existing ordinances if they do not provide sufficient legal authority to implement the above mentioned components as required by the regulations.

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Integration of NPDES Program for MS4 with NPDES Program for Industrial Activities

Recognizing the dual coverage envisioned by the USEPA regulations[28], and suggested partnership between local and State authorities, municipalities shall coordinate with State activities for the implementation of the General Industrial Activities Storm Water Permit (GIASP). The goal is to control industrial sources and other sources not specifically covered under Phase I storm water regulations but identified as significant contributors of pollutants by the municipalities through their identification and prioritization studies. The net result should be a better and improved coordinated program with greater impact on limiting and eliminating (as a final goal) the contribution of pollutants to the receiving water while maintaining and/or restore the capacity of the receiving water to sustain the beneficial uses without impairments.

The *Critical Source Selection and Monitoring Report*[29] identified seven highest ranked pollution potential activities to be, in order of ranking: (i) wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products, (vi) automotive dealers/gas stations, (vi) primary metals products. The report also outlined a complete study plan to be implemented by the Permittees during the permit term. It is significant to note that five out of seven categories of activities are subject to Phase I industrial storm water regulations. Although *automotive repair/parking* and automotive dealers/gas stations categories were not the focus of the Phase I storm water regulations, the study identified these commercial categories as significant potential pollutant contributors based on the criteria developed in the critical source criteria study.

Rank (pollution potential)[30]	Industrial Category	SIC Code	No. Facilities (estimated)
1	Wholesale trade (scrap, auto dismantling)	50	587
2	*Automotive repair/parking*	*75*	*6,067*
3	Fabricated metal products	34	3,283
4	Motor freight (including trucking)	42	872
5	Chemical and allied products	28	1,069
6	*Automotive Dealers/Gas Stations*	*55*	*2,744*
7	Primary Metals Products	33	703

It is also important to note that heavy metals are significant pollutants transported with storm water discharges and a cause of impairment to receiving waters in the Los Angeles Region. The above table identifies at least two industrial categories that have the highest potential to contribute those pollutants: fabricated metal products and primary metal products. During the previous permit term, the County conducted a Critical Source Study (1998-2000). The aim of the study was to monitor for two years the previously identified five

[28] Federal Register Vol. 55, No 222, pag. 48000; USEPA Storm Water Phase II Compliance Assistance Guide, 2000, pag. 4-32 and 5-11, where it clarifies the dual responsibility
[29] Critical Source Selection and Monitoring Report, Woodward-Clyde, 1997
[30] *Critical Source Selection and Monitoring Report (Table 1-3)* - Woodward-Clyde 1996

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priority industrial and/or commercial critical source categories. The results of the study confirmed that the critical source industries are high risk. Storm water discharges exceeded water quality standards for almost all toxic pollutants in all categories.

Based on the dual coverage and partnership approach between the permitting authority and municipalities that the USEPA called for in the storm water regulations (see letters from Alexis Strauss, USEPA Water Division Director[31, 32], and in order to best use limited resources at the State and local level, Regional the draft permit requires the following improvements.

Recognizing that this permit represents a *third term* permit, and building upon the experience and tools developed under the previous permits, the Industrial/Commercial program has been elevated to an Inspection/Site visits implementation and enforcement program. The municipalities are required to (i) control the storm water discharges associated with industrial activities and other commercial facilities identified as significant contributors of pollutants, and (ii) assist the Regional Board in implementing the general permit for industrial activities. This approach is consistent with the nationwide approach used by the USEPA in issuing *second term* MS4 permits[33]. Also, this approach is consistent with other MS4 permits issued in California: San Diego, Santa Clara permits. The education and outreach should be continued under the auspices of the Public Education program.

The strategy as outlined in the draft permit builds on the State/municipalities partnership by focusing their limited resources on the following activities:

- The Permittees will take a lead role in inspecting restaurants, automotive service facilities, retail gasoline outlets, industrial facilities mandated specifically by the regulations, top five highest ranking industrial categories identified by the Permittees through their critical sources identification and monitoring studies and site visits at the remaining industrial categories identified through their critical sources identification study while
- The Regional Board will be the lead agency for inspections of facilities covered or in need of coverage under GIASP;
- The Permittees will assist Regional Board in its activities to fully enforce the GIASP through spot check inspections, referrals, data information research, joint inspections;
- The Regional Board and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen harmonization of activities;
- The Regional Board may based on available funding enter into agreement with Permittees to contract some of the inspection activities required by the GIASP to be done by the Permittees.

[31] Letter dated December 19, 2000, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Dennis Dickerson, Executive Officer, Regional Water Quality Control Board-Los Angeles Region.
[32] Letter dated April 30, 2001, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Honorable Stephen Horn, U.S. House of Representatives
[33] MS4 NPDES Permits issued to Palm Beach County, Broward County, Sarasota County, Florida, Tulsa, Oklahoma, Denver, Colorado.

C. Construction Sites Program

Legal Authority:

USEPA storm water regulations at 40 CFR 122.26(d)(2)(iv)(D) provide that a proposed management program must include "a description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system".

The draft permit provides consistency with the Long Beach MS$ permit and the Ventura County MS4 permit.

Background:

There are different environmental impacts of construction activity.

As stated in the *California Storm Water Best Management Practice Handbook for Construction Activity* (BMP Handbook), "Construction usually increases the amount of impervious area causing more of the rainfall to runoff, and increasing the speed at which runoff occurs. Unless properly managed, this increased runoff will erode natural and/or unprotected watercourses causing the watercourse to widen...Sedimentation can also contribute to accelerated filling of reservoirs, harbors, and drainage systems.[34]

Discussion:

The prevention of erosion is a key objective of the draft permit modifications to the construction program. The Permittees currently oversee construction sites within their respective jurisdiction. The oversight of smaller construction sites (those sites under five acres) is inconsistent among Permittees. Some Permittees have incorrectly assumed that responsibility begins only after a discharge of pollutants, sediments for example, has left the site. USEPA storm water regulations do not support such interpretations. Regional Board staff have clarified this in the draft to require that the municipalities better coordinate oversight of construction activity within their jurisdiction. The Permittees are ultimately responsible for what enters and exits the MS4 that they own and/or operate. It is in the best interest of the Permittees to control what enters their storm drain system.

Specific significant changes in the draft permit and justifications:

NEW REQUIREMENT: The draft permit requires that Permittees promote the use of effective erosion and sediment controls at construction sites regardless of size.

[34] *California Storm Water Best Management Practice Handbook for Construction Activity*. 1993.

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JUSTIFICATION: The need for proper erosion and sediment controls is very apparent during, and immediately after, the rains that we experience in Southern California. The environmental effects of erosion are well documented. Erosion can be prevented or reduced with the proper planning and implementation of appropriate BMPs.

NEW REQUIREMENT: Requirements for source control and treatment control BMPs for controlling runoff at construction sites.

JUSTIFICATION: Erosion occurs when land is exposed and the sediments are mobilized. With adequately engineered and implemented structural or non-structural BMPs, the detrimental environmental effects can be eliminated or minimized. Currently, there are many manuals and guidance handbooks available to lead a developer. The municipalities, in general, are aware of these BMPs, and working with Regional Board staff facilitates the requirements being quickly implemented.

NEW REQUIREMENT: Each Permittee shall require the preparation, submittal, and implementation of a Local SWPPP prior to issuance of a grading permit for construction projects that meet one or more of the following criteria: will result in soil disturbance of one acre or more in size.

JUSTIFICATION: This is to ensure that a site that is being graded, but is less than the required size threshold for a General Construction Activities Storm Water Permit (GCASP) has oversight by the Permittee. Currently, there are inconsistent requirements for grading. USEPA Phase II storm water regulations require that sites one acre or more in size are subject to permitting.

NEW REQUIREMENT: The Permittees shall implement a process to review, approve, and enforce any erosion control plan submitted to the Permittee for implementation at construction sites, regardless of size and GCASP coverage of the sites. Local SWPPPs shall be required for projects of one acre or more in size.

JUSTIFICATION: The Permittees need to enforce local storm water ordinances at construction sites to prevent erosion. The should not wait for a discharge to react with an enforcement action.

REQUIREMENT: For sites that require a construction storm water permit, Permittees are required to ensure that a Notice of Intent (NOI) has been filed with the State Board prior to issuing a grading permit. This requirement also applies to land transfers between developers on common plans of sale or development.

JUSTIFICATION: This is currently a requirement in Board Order No. 96-054, but not all Permittees have consistently implemented this provision. Regional Board staff inspect construction sites covered by a GCASP. Some Permittees have issued a grading permit where a GCASP was not obtained. State/municipal coordination will ensure that all construction sites have obtained the required permits.

NEW REQUIREMENT: Wet weather inspections are required of all construction sites one acre or greater. The Permittees need to conduct wet weather inspections to ensure compliance with local ordinances.

JUSTIFICATION: If all sites are inspected, this allows the Permittees to ascertain compliance and focus educational and enforcement efforts on those that most need it. Additionally, Regional Board staff can assist the Permittees in compliance oversight by conducting joint inspections.

D. Illicit Connections and Illicit Discharges Elimination Program

Legal Authority:

A proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer," per federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B). A Copermittee must include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system," per subsection (1) of the above regulation.

Background:

During dry weather, much of the discharge to storm drain systems consists of wastes and wastewater from non-storm water sources. A significant amount of such discharges may be from illicit discharges or connections, or both. Illicit discharges may occur either through direct connections, such as deliberate or mistaken piping, or through indirect connections, such as dumping, spillage, subsurface infiltration, and washdowns.

The objective of a municipality's illicit connection/illicit discharge (IC/ID) elimination program should be to detect illicit connections and illicit discharges to the storm drain system, and to promptly eliminate such discharges and connections. Municipalities typically employ the approaches listed below to achieve this objective:

1. Permitting connections to the municipal storm drain.

2. Mapping the storm drain system, locations of catch basins, outfalls, permitted connections, and the names and locations of all waters of the U.S. that receive discharges from the outfalls.

3. Adopting a storm water/ urban runoff ordinance to prohibit unauthorized non-storm water discharges into the MS4, and implementing appropriate enforcement procedures and actions.

4. Implementing a program to detect and eliminate non-storm water discharges to the MS4, including illegal dumping.

5. Educating public employees, businesses, and the general public about the dangers associated with illegal discharges and improper disposal.

6. Establishing a public reporting hotline or other mechanism to report illicit discharges and illegal dumping.

7. Establishing measurable goals to evaluate successful program implementation.

Discussion:

Existing IC/ID Elimination Program

The Regional Board approved a model IC/ID elimination program for the Permittees' SQMP on March 23, 1999. However, only vague performance standards are specified in this model program.

By July 1999, all Permittees reported that they implemented an IC/ID elimination program. For the most part, however, this was a passive program, and relied upon IC/ID detection during regularly scheduled maintenance. Most Permittees cannot estimate the extent of their storm drain they have screened during regularly scheduled maintenance.

Results of the Permittees' efforts to eliminate illicit connections are summarized in Tables 1 through 5. Their estimates of fiscal resources required to implement these activities for 1999/00 range widely, with two cities – Culver City and Hermosa Beach – estimating budgets of $4.2 million and $2.8 million, respectively. At the other end, four cities estimated $0 expenditures, namely La Habra Heights, Lawndale, Maywood (which does not operate a storm drain system), and West Covina. Based on the Permittees' estimates of expenditures, the Permittees budgeted an average of $113,900 in 1999/00. Removing the anomalous estimates for Culver City and Hermosa Beach, the high ranges up to $564,809, as estimated by the City of Los Angeles, and averaged $32,500. These activities, as summarized in the tables, do not appear to bear a relationship with IC/ID expenditures by each Permittee.

Illicit Connections: As designed in the model program, Permittees with storm drain systems under their management rely upon field screening, during regularly scheduled maintenance of the storm drain system, to locate illicit

connections. However, most Permittees cannot estimate the length of the storm drain system that was field-screened; nor did the Regional Board require reporting such information.

For the 1999/00 annual reporting period, very few Permittees reported illicit connections. The attached tables show that the numbers of illicit connections varied widely among Permittees, with about half reporting no illicit connections, and with the County reporting 877 suspected illicit connections. Part of the reason for this range is that the County is responsible for maintaining over half[35] of the storm drain system. Also, several Permittees believe that few – if any – illicit connections have been identified in many cities because: (a) many cities are primarily residential, and illicit connections are unlikely to occur from residential land use; and (b) cities in the County of Los Angeles are relatively new vis a vis their eastern counterparts, and adequate controls were in place at the time storm drain connections were installed.

Table 1: Illicit Connections 1999/00
County, Ballona Creek, and Urban Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
County of Los Angeles	877	124	0	336	417[36]
Beverly Hills	0				
Culver City	None				
El Segundo	0	0	0	0	0
Hermosa Beach	None				
Manhattan Beach	0				
Palos Verdes Estates	0	1	3	3	0
Rancho Palos Verdes	None				
Redondo Beach	0				
Rolling Hills	0	0	0	0	
Rolling Hills Estates	0				
Santa Monica	70	10	50	10	0
West Hollywood	None				
Total	947	135	53	349	417

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[35] The exact length of storm drain systems operated by most cities is unknown.
[36] The County of Los Angeles reported under the "Other" category of illicit connections that 126 connections were already permitted but not properly identified and those 291 illicit connections are still under investigation.

Table 2: Illicit Connections 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges	Removed	Other
Carson	8	0	0	0	0
Hawthorne	None				
Inglewood	3				3[37]
Lawndale	None				
Lomita	1	0	1	0	0
Torrance	0				
Total	12	0	1	0	3

Table 3: Illicit Connections 1999/00 Malibu Creek and Rural Santa Monica Bay Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Agoura Hills	0	0	0	0	
Calabasas	2				2
Malibu	15	0	7	0	
Total	17	0	7	0	2

[37] The City of Inglewood reports that 3 illicit connections are to be eliminated.

Table 4: Illicit Connections 1999/00 Los Angeles River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Alhambra	0	0	0	0	0
Arcadia	0	0	0	0	0
Bell	0	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0
Burbank	4		3	1	
Commerce	14	8	6	0	0
Compton	8	6	2	0	0
Cudahy	0	N/A	N/A	N/A	N/A
El Monte	None				
Glendale					
Hidden Hills	0	N/A	N/A	N/A	N/A
Huntington Park	2			2	
La Canada Flintridge	0				
Los Angeles	29	7	8	11	3
Lynwood	0	0	0	0	0
Maywood	0	0			
Monrovia	0	N/A	N/A	N/A	N/A
Montebello	21	0	11	1	9
Monterey Park	2	0	0	2	0
Paramount	0				
Pasadena	None				
Rosemead	0				
San Fernando	None				
San Marino	0	N/A			
Sierra Madre	None				
Signal Hills	None				
South El Monte	None				
South Gate	2	0	1	1	
South Pasadena					
Temple City					
Vernon	1	0	0	0	1
Total	83	21	31	18	13

Table 5: Illicit Connections 1999/00 San Gabriel River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharged Terminated	Removed	Other
Artesia	0				
Azusa	0				
Baldwin Park	None				
Bellflower	0	0	0	0	0
Bradbury	0				
Cerritos	0	0	0	0	0
Claremont	0				
Covina	0				
Diamond Bar	0				
Duarte	3	0	1	0	2
Glendora	4	0	1	0	3
Hawaiian Garden	0				
City of Industry	None				
Irwindale	9	0	9	0	0
La Habra Heights	0				
La Mirada	1	1			
La Puente	0				
La Verne	0				
Lakewood	11	5	6	0	0
Norwalk	6	0	6	0	N/A
Pico Rivera	0				
Pomona	12	10	2	0	0
San Gabriel	2	0	0	2	0
Santa Fe Spring	0	N/A	N/A	N/A	N/A
Walnut	0				
West Covina	0				
Whittier	8	3	5	2	0
Total	56	19	30	4	5

Illicit Discharges: As designed in the model program, Permittees eliminate illicit discharges by preventing spills and, for those that do occur, by responding promptly. To prevent spills, Permittees enacted ordinances prohibiting non-storm water runoff, and are following spill prevention guidance. To respond to discharges, Permittees implement containment and cleanup procedures, coordinate with other agencies, investigate the cause of the discharge and – when the source and responsible party is know – take enforcement action. Additionally, employee training is provided on all of the above.

As with illicit connections, the numbers of illicit discharges varies widely for the annual reporting period 1999/00. The County reported a total of 788 suspected illicit discharges. Among the Cities, results at the high end include 1,876 in the City of Los Angeles, 700 in the City of Beverly Hills, and 450 in Santa Monica. At the other end of the range, many cities reported no incidents of suspected illicit

discharges. Based on information provided to date, staff cannot account for this wide range. Audits of the Permittees' programs should help clarify this.

Table 6: Illicit Discharges 1999/00
County of Los Angeles, and Ballona Creek and Urban Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
County of Los Angeles	788	95	15	2	411	265
Beverly Hills	700	70[38]	35[2]	35[2]	525	35[2]
Culver City	25	0	0	0	25	0
El Segundo	10	7	1	0	2	0
Hermosa Beach	10	2	0	0	8	0
Manhattan Beach	1	0	0	0	1	0
Palos Verdes Estates	6	2	1	0	3	0
Rancho Palos Verdes	6	0	0	0	6	0
Redondo Beach	31	3	0	0	25	3
Rolling Hills	0	N/A	N/A	N/A	N/A	N/A
Rolling Hills Estates	1				1	
Santa Monica	450	5	22	5	398	20
West Hollywood	9	1	0	0	8	0
Total	2037	185	74	42	1413	323

Table 7: Illicit Discharges 1999/00
Malibu Creek and Rural Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Agoura Hills	11	1	0	0	10	0
Calabasas	12	1			10	
Malibu	15	7	0	0	7	8
Total	38	9	0	0	27	8

[38] Documented as percentage.

Table 8: Illicit Discharges 1999/00
Dominguez Channel and Los Angeles Harbor
Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Carson	24	12	0	0	0	24
Hawthorne	10	0	1	0	9	0
Inglewood	3				3	
Lawndale	2	1	0	0	1	0
Lomita	14	0	0	0	14	0
Torrance	0					
Total	53	13	1	0	27	24

Table 9: Illicit Discharges 1999/00
Los Angeles River Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Alhambra	0	0	0	0	0	0
Arcadia	11	1	0	0	10	0
Bell	0	N/A	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0	0
Burbank	47	2	1	0	43	1
Commerce	21	4	8	0	9	0
Compton	17	9	5	0	3	0
Cudahy	0	N/A	N/A	N/A	N/A	N/A
El Monte	50	0	0	0	48	2
Glendale	?	?	?	?	?	?
Hidden Hills	0	N/A	N/A	N/A	N/A	
Huntington Park	2				2	
La Canada Flintridge	75	15	0	0	60	0
Los Angeles	1896	227	2	5	700	962
Lynwood	0	0	0	0	0	0
Maywood	1		1			
Monrovia	0	N/A	N/A	N/A	N/A	
Montebello	13	12	11	0	0	1
Monterey Park	19	0	0	0	18	1
Paramount	0					
Pasadena	39	1	0	0	37	1
Rosemead	0					
San Fernando	12	1	0	0	11	0

San Marino	0	N/A				
Sierra Madre	3	0	0	0	3	0
Signal Hills	13	3	0	0	10	0
South El Monte	15	0	0	0	15	0
South Gate	28	3	1	0	22	2
South Pasadena						
Temple City						
Vernon	10	0	0	0	9	0
Total	2271	278	29	5	1000	970

Table 10: Illicit Discharges 1999/00
San Gabriel River Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Artesia	10	4	0	0	4	2
Azusa	1				1	
Baldwin Park	27	5	0	0	20	2
Bellflower	8	8	0	0	0	0
Bradbury	0					
Cerritos	8	0	0	0	8	0
Claremont	4	1	0	0	3	
Covina	32	5	4	0	18	5
Diamond Bar	1					1
Duarte	3	3	0	0	0	3
Glendora	14	13	0	0	12	0
Hawaiian Garden	0					
City of Industry	None					
Irwindale	23	0	0	0	20	3
La Habra Heights	1			1		
La Mirada	16		3		13	
La Puente	1				1	
La Verne	1				1	
Lakewood	17	0	2	0	9	6
Norwalk	6	0	0	0	6	0
Pico Rivera	12	6	0	0	6	0
Pomona	78	18	8	10	16	26
San Gabriel	4	0	0	0	3	1
Santa Fe Spring	12	3	0	0	0	9
Walnut	2			1	1	0
West Covina	48	6	0	0	7	35
Whittier	32	12	18	15	17	3
Total	361	84	35	27	166	96

Reporting: As designed in the model program, Permittees have implemented procedures to receive reports of illicit discharge and disposal incidents, and to promptly respond and report such incidents. Most rely upon the countywide hotline system, which is maintained by the County. For hazardous substances, Permittees implement additional reporting procedures.

Proposed IC/ID Elimination Program

The Special Provisions Section of the proposed permit requires the Permittees to revise their IC/ID Elimination Program in the SQMP to meet the following proposed requirements in the draft permit:

- General requirements, among which include a development (if necessary) and updating of a list of permitted connections to the storm drain system, a tracking system for illicit connections and discharges, and compilation, coordination of this information by the Principal Permittee, as well as identification of priority areas for proactive screening.

- Illicit connection requirements: Proactive screening of the storm drain system over a 5-year period, including:

  - Filed screening of open channels and underground pipes (with a diameter of 36 inches or greater);[39] and

  - Permit screening, to ensure that all connections are effectively implementing the prohibition on non-storm water discharges.

  - Requirements to investigate and terminate illicit connections, including response times.

- Illicit discharge requirements, specifying response times for abatement and cleanup (within one business day), and investigation (as soon as practicable).

As Permittees have pointed out, and as staff acknowledges, residential land uses are less likely to have illicit connections. However, staff remains concerned that adequate controls have been in place at all times for proper connections to the storm drain system. Staff's concern is based upon the wide range of illicit connections reported by Permittees with no apparent relation to land use, the poor water quality of dry weather flows in inland receiving waters, and also incidents of illicit connections reported separately to the Regional Board.

[39] As set forth on page 3-3 and in Appendix I of the Permittees' model program, screening tools for the proactive program will include dye tests, smoke tests, and TV inspections.

E. Public Agency Activities Program

Legal Authority:

USEPA storm water regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5,and 6). Each Permittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities.

Background:

Many Permittees provide services that ultimately result in the enhancement of the lives of the residents. Some of these services include but are not limited to: sewage system operations; public construction activities; vehicle maintenance; material storage; street and road maintenance; landscaping; recreational facility management; parking facility management; public industrial activities; and many other activities.

Specific significant changes in the draft permit and justifications:

NEW REQUIREMENT: In sewage system operations, the proposed change is that each Permittee will be required to implement a response plan in case of an overflow of the sewage system to the storm drain system.

JUSTIFICATION: The response plan will have different requirements dependent upon whether the Permittee owns or operates the sewer system.

NEW REQUIREMENT: In public construction activity management, the proposed changes include generally, that the requirements in the construction section of the draft permit also apply to the Permittees public construction sites.

JUSTIFICATION: This is proposed to reduce the possibility of a public construction site from becoming a source of pollutants. A public construction site should be a model of what to do efficiently and effectively (preceding a discharge).

NEW REQUIREMENT: Each Permittee with a construction site that meets the size requirements for a GCASP shall obtain a permit from the State for the construction activity. Currently the size threshold is 5 acres but will change to 1 acre on March 10, 2003. However, a municipality of less than 100,000 people need not apply for the state permit for a construction activity until March 10, 2003.

JUSTIFICATION: This change is consistent with USEPA Phase II storm water regulations, and will assist in the tracking of construction sites operated by Permittees.

NEW REQUIREMENT: Each Permittee will be required to ensure that public facilities are designed and constructed using construction and post-construction BMPs consistent with the Standard Urban Storm Water Mitigation Plans (SUSMPs) required under the Construction Planning section of the draft permit.

JUSTIFICATION: This requirement ensures consistency with the planning, design, and construction requirements for public projects.

NEW REQUIREMENT: For Permittee owned or operated vehicle maintenance, material storage areas, and corporation yards the Permittees will implement site specific SWPPPs to minimize pollutant discharges in storm water discharges. Vehicle and equipment wash areas will be required to be self contained or covered, equipped with a clarifier, or other pretreatment device, and or properly connected to the sanitary sewer. This requirement will take effect when a new facility is constructed or when an existing site is remodeled or reconstructed.

JUSTIFICATION: This provision ensures that the planning of public projects is treated the same as that of private projects.

NEW REQUIREMENT: For storm drain operation and maintenance the changes proposed are the inspection and clean out of catch basin inlets during the wet season and the classification of priority catch basins.

JUSTIFICATION: This provision ensures consistency with the Ventura County MS4 Permit.

NEW REQUIREMENT: For storm drain maintenance each Permittee must visually monitor their open channels for debris and identify and prioritize areas of illicit discharge for regular inspection and at least annually remove trash and debris from the channels. Permittees will review existing maintenance activities. After clean out, the material will be properly disposed of.

NEW REQUIREMENT: For street and road maintenance each Permittee will conduct street sweeping on curbed public streets in their permitted area at a monthly average, not less than four times per month, in areas generating high volumes of trash, and at a monthly average not less than two times per month in areas generating moderate volumes of trash on traffic collector streets and residential areas (except that for any Permittee within an area subject to a trash TMDL, the Permittee may implement a program which maximizes trash removal by using an effective combination of street sweeping, catch basin clean outs, installation of treatment devices, and/or implementation of any other BMPs that achieve waste load allocations).

F. New Development And Significant Redevelopment Program

Impacts from New Development:

Treatment control BMP requirements on new development and redevelopment offer the most cost effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection

indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[40]

USEPA storm water regulations at 40 CFR 122.26 require that pollutants in storm water be reduced to MEP. The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis.[41] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that storm water BMPs be designed to manage both flows and water quality for best performance. [42] It is equally important that treatment BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[43] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of funds. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or making improvements to reduce runoff from the site.

Review of Design Standards:

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound.[44] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for eighty-five percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inches depending on the imperviousness of the watershed area and the mean rainfall.[45]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall

[40] *The Economics of Watershed Protection*, T. Schueler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provides positive economic benefits.
[41] *Storm Water Phase II Final Rule* – Pre-Federal Register Version, p 87 (USEPA 1999). See USEPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.
[42] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)
[43] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. USEPA-821-R-99-012, USEPA.. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.
[44] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87*. WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).
[45] *Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force*, November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee.

event equal to or less than a predetermined size; (iii) Percent reduction in runoff based on a rainfall event of standard size.[46] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO; Orlando, FL; Portland, OR; and Austin, TX.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency, and a peak discharge rate not to exceed 0.2 cubic feet per second.[47] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to remove 80 to 90 percent of the annual TSS load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[48]

Some States have established numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to 1 inch, and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[49] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982, including BMPs sized for 80 percent reduction (95 percent for impaired waters) in annual TSS loads derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[50] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development, which add 10,000 square feet of impervious surface or more for residential development, and 5,000 square feet of impervious surface or more for other types of development[51]. Other mitigation criteria options include the 90th percentile 24-hour rainfall event (used by the State of Maryland) and the six month 24 hour rainfall event (used by the State of Washington).

On a national level, the USEPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs, and will likely build from the experience of effective state and local programs to establish national criteria.[52]

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[46] *Sizing and Design Criteria for Storm water Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans*, August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.

[47] *City of Seattle Municipal Code, Chapter 22.802.015* – Storm water, drainage and erosion control requirements.

[48] *Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver*, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.

[49] *Maryland Storm Water Design Manual* - (Maryland Department of the Environment 2000).

[50] *Florida Development Manual: A Guide to Sound Land and Water Management* (Florida Department of Environmental Protection 19xx). The manual describes structural and non-structural construction and post construction BMPs design criteria.

[51] *Storm Water Management in Washington State Volumes 1 – 5.* Public Review Draft (Washington Department of Ecology 1999). The volumes 1,3 and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes will be adopted as statewide standards in early 2000 after completion of public hearings according to the agency.

[52] *Storm Water Phase II Final Rule* – 64 Fed. Reg. 68759. See USEPA's discussion on construction and post-construction BMP requirements for Phase II.

The USEPA, based on the NURP, supports the first half-inch of rainfall as generating first flush runoff.[53] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The USEPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

Background:

On April 22, 1999, the Regional Board approved a List of BMPs for MS4 Permittees to select from and required implementation of the most effective BMPs in their Development Planning and Development Construction programs.[54]

The Final SUSMP was issued on March 8, 2000. It established new development and significant redevelopment conditions for all projects in the following categories:

10 or more home subdivision;
100,000+ square-foot commercial development;
automotive repair facilities;
retail gasoline outlets;
restaurants;
parking lots more than 5,000 square feet or more than 25 parking spaces
hillside located single-family dwelling,
construction projects adjacent to, in, or discharging directly to environmentally sensitive areas

The SUSMP included numerical design criteria for structural and treatment control BMPs. These criteria are:

Mitigate (infiltrate or treat) storm water runoff from either:

a) the 85th percentile 24-hour runoff event, determined as the maximized capture storm water volume for the area from the formula recommended by the WEF and ASCE study[55];

b) the annual runoff volume, based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in the BMP Handbook[56];

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[53] *A Watershed Approach to Urban Runoff: Handbook for Decisionmakers*, Terene Institute and USEPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.
[54] (Board Resolution No. 99-03).

[55] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. (1998).
[56] *California Storm water Best Management Practices Handbook – Industrial/ Commercial.* (1993)

c) the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system; or

d) the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event; and/or

e) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

f) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

g) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

The State Board issued a precedential decision[57] on the matter in Order WQ 2000-11, largely sustaining the SUSMP as approved by the Regional Board. The State Board amended the SUSMP to limit its application to discretionary projects as defined by CEQA, eliminated the category for projects in environmentally sensitive areas, and set aside the requirement for retail gasoline outlets to treat storm water until a threshold is developed in the future. In addition the State Board articulated its support for regional solutions and the mitigation banking.

The draft permit amends the SUSMP requirements to clarify implementation, make it consistent with recent Regional Board actions, and where appropriate correct procedural and other deficiencies identified by the State Board in its SUSMP ruling. The proposed changes include:

- SUSMPs for hillside developments that are 1 acre or more. Hillside residential homes below the threshold would be required to incorporate BMPs to facilitate drainage and pollutant removal but would not be subject to the numerical mitigation criteria. Currently, all hillside developments regardless of size are subject to the numerical mitigation criteria. This change normalizes post-construction controls for home developments irrespective of location.

- Numerical design criteria retail gasoline stations, where they meet thresholds such as: (i) projected average daily traffic of 100 cars or more; and (ii) 5,000 square feet or more of surface area.

[57] *State Water Board Order WQ 2000-11*: SUSMP; Memorandum from Chief Counsel to Regional Board Executive Officers, (December 26, 2000) discusses statewide policy implications of the decision.

- Clarify that the 100,000 square feet commercial development includes heavy industrial development. The category is designated 'industrial/commercial'.

- Lower the industrial/commercial category threshold from 100,000 square feet to 1-acre (43,560 square feet) beginning March 9, 2003, to be consistent with the USEPA Phase 2 storm water regulations for small construction projects.

- SUSMP requirements apply to all developments, both ministerial and discretionary. As presently implemented the SUSMP requirements apply to only discretionary projects as defined under CEQA.

- SUSMP requirements apply to projects situated in, adjacent to, or discharging directly to environmentally sensitive areas where the development (a) creates 2,500 square feet or more of impervious area, and (b) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat.

- Redevelopment clarification.

The attached technical papers provide more detail.

VI. MONITORING PROGRAM

Background:

Using data collected from a monitoring program, storm water management efforts can be prioritized, helping limited resources be most effective in improving receiving water quality. For example, a monitoring program can provide data that can allow for specific receiving waters and watersheds to be targeted for urban runoff management and education efforts based on their need. Particular pollutants and their sources can also be identified and targeted using monitoring data. In addition, monitoring data can be useful in assessing the effectiveness of an urban runoff management program. Successful efforts that have resulted in receiving water quality improvements can be analyzed for use elsewhere, while areas that need follow-up efforts can also be identified. In general, a comprehensive monitoring program can supply a wealth of data that can be used in a wide range of applications for improving water quality.

Storm Water Monitoring History:

In the 1994-95 storm season, the Los Angeles County Department of Public Works began monitoring storm water quality in Los Angeles County. The first two years of monitoring were conducted pursuant to the 1990 permit. Over the past five years, the Los Angeles County storm water monitoring program consisted of four main components: mass emission monitoring, land use monitoring, critical source monitoring, and a Santa Monica Bay receiving water study. The results of each objective are summarized below.

- **Mass Emission Monitoring**

Mass emissions were monitored for four major watersheds: Ballona Creek, Malibu Creek, Los Angeles River, and San Gabriel River. The County also monitored mass emissions from Coyote Creek, although it was not a requirement of Order 96-045. The mass emission monitoring identified the Los Angeles River as consistently contributing the most zinc, copper, and suspended solids[58]. Sixteen chemical constituents of concern were identified from the comparison of mass emission annual concentrations to the objectives of the Ocean Plan, Basin Plan, and the CTR (several other constituents of concern were identified through research)[1]. The mass emission monitoring was also successful at identifying toxic levels of zinc and copper from Ballona Creek discharge, toxicity in the Los Angeles and San Gabriel Rivers, and the extent of severity of bacterial indicators in both dry and wet weather.

- **Land Use Monitoring**

  The County selected eight land use types to be monitored to identify sources of pollutants in storm water monitoring. These land uses include retail/commercial, vacant, high-density single family residential, transportation, light industrial, education, multifamily residential, and mixed residential. The land use monitoring identified light industrial, transportation, and retail/commercial land uses as producing the highest median concentrations for total and dissolved zinc[1]. Light industrial and transportation displayed the highest median concentrations for total and dissolved copper, and light industrial produced the highest concentrations of suspended solids. The majority of the Land Use monitoring requirement was completed, however, Event Mean Concentrations (EMCs) for several constituents (many due to the lowering of method detection limits) were not achieved. Pesticide, nutrient, and PAHs are among the constituents that do not have EMCs for most land uses.

- **Critical Source Monitoring**

  Five critical sources, including industrial and commercial facilities, were monitored to evaluate the effectiveness of voluntary good housekeeping and preventative BMPs. The critical sources included in the study were motor freight, auto dealers, chemical manufacturing, machinery manufacturing, and rubber/plastics. The critical source monitoring program identified fabricated metal businesses as producing the highest median concentrations for zinc, copper, and suspended solids[59]. The inability to require or control the implementation of BMPs made this study somewhat ineffective at evaluating BMP effectiveness. In most cases, there was no significant difference in pollutant levels from critical sources with and without BMPs. However, levels of total and dissolved copper at the fabricated metal industry were significantly reduced with the implementation of BMPs[1].

- **Receiving Water Study**

  A three-year study was conducted to assess the impacts of urban storm water runoff, specifically ecosystem health, on the receiving waters of the Santa Monica Bay. The study examined plume characteristics, water column and seafloor biology.

[58] Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report, Los Angeles County Department of Public Works

[59] Integrated Report

Ballona and Malibu Creek were compared to evaluate the effects of different watershed types. The study discerned the presence of well-developed plumes containing toxic materials, identified zinc and copper as contaminants in Ballona Creek, and concluded that sediments offshore of Ballona Creek generally had higher concentrations of urban contaminants. These findings demonstrate the need for further studies and for the identification of sources of toxic pollutants.

Proposed Storm Water Monitoring Program:

The objectives of this program include, but are not limited to: 1) assessing compliance with the MS4 permit; 2) measuring and improving the effectiveness of the SQMP; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality.

Mass Emissions Monitoring

Seven mass emissions stations will be monitored. Monitoring at the five existing stations will continue, and new stations were required in Dominguez Channel, and the Santa Clara River.

The Dominguez Channel watershed contains the highest percentage of impervious area. Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters.[60] Also, the Dominguez Channel Watershed is a highly industrialized area and the storm water runoff needs to be characterized to determine its contribution of pollutants in the San Pedro Bay.

A new mass emission station in the Santa Clara watershed is also required. The purpose of this station is to characterize mass emissions from Los Angeles County and to monitor the impacts from new development. Therefore, the station should be located as close to the Ventura County line as practicable. The Santa Clara is currently the most natural and least impacted watershed in the County. However, it is rapidly urbanizing and contains a significant amount of proposed development. Several factors, including the natural state of the river and the lack of accessibility, have made it difficult to select a location for a sampling station.

Method Detection Limits

The Minimum Levels (MLs) listed in Appendix 4 of the State Board Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed bays, and Estuaries of California, 2000 (SIP) represent the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.[61] These MLs must be incorporated into all water quality monitoring programs to detect priority toxic pollutants. The MLs are the only established criteria that take into consideration recent improvements in chemical analytical methods. If they are not used in the storm water program, concentrations of concern of priority toxic pollutants may not be detected, which has occurred throughout

[60] 64 Fed. Reg. 68725
[61] SIP

the history of the Los Angeles County storm water monitoring program. Detection and control of toxic pollutants in surface waters is necessary to achieve the CWA's goals and objectives.[62] Numeric criteria for toxic pollutants is necessary to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health.[63] Also, using MLs will provide quantifiable data that is necessary to better assess water quality and to develop Waste Load Allocations and Load Allocations for TMDLs. Furthermore, non-detects cannot be used to accurately determine mass loadings. The criteria established in the CTR are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.[64] Section 402(p)(3)(B)(iii) gives USEPA and states the authority to incorporate appropriate water quality-based effluent limitations in NPDES permits for discharges from MS4s.[65]

TSS Monitoring

Every storm greater than .25 inch shall be sampled and analyzed for TSS. The purpose of this requirement is to consider the high variability of storm water discharges and determine more accurate average mass emission values. The high variability of storm water makes it unlikely to characterize a storm season based on a few mass emission samples. Studies show that the median event mean concentration for storm water programs that do not sample every storm is consistently biased low, relative to the annual flow-weighted mean[66]. To adequately characterize a storm and capture central tendencies, many storms would need to be sampled. However, this is cost-prohibitive. Therefore, the correlation between TSS and trace metals should be used. Studies have indicated that runoff contaminants tend to be highly correlated with suspended solids in large rivers and creeks throughout southern California[67]. TSS measurements are one-tenth the cost of trace metal analyses. However, TSS concentrations accounted for up to 95% of the variability in some trace metal concentrations in a study of the Santa Ana River (urbanized watershed in Orange County) conducted by the Southern California Coastal Water Research Project (SCCWRP)[2].

Water Column Toxicity Monitoring

Storm water samples were found to be toxic in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay, demonstrating the need for this toxicity monitoring requirement.

Toxicity testing is used to assess the impact of storm water pollutants on the overall quality of aquatic systems[68]. It can be a very useful tool for storm water managers. The Center for Watershed Protection rated toxicity testing as a "very useful" indicator for assessing municipal storm water programs. Toxicity testing can also be used to evaluate the effectiveness of storm water BMPs and other storm water pollution reduction measures[69]. Managers can use the results of toxicity testing to identify areas

[62] 65 Fed. Reg. 31683
[63] *Id.*
[64] 65 Fed. Reg. 31682
[65] 65 Fed. Reg. 31703
[66] Temporal variability patterns of stormwater concentrations in urban stormwater runoff. Leisl L. Tiefenthaler, Kenneth C. Schiff, and Molly Leecaster, Southern California Coastal Water Research Project (SCCWRP) annual Report 2000.
[67] SCCWRP. 1992. Surface runoff to the Southern California Bight.
[68] Center for Watershed Protection, Environmental Indicators to Assess Stormwater Control Programs and Practices (1996).
[69] Ibid.

of high concern and to establish priority locations for BMPs. Furthermore, Toxicity Identification Evaluations (TIEs) can be used to identify specific pollutants and their sources so that management actions can be more specifically prioritized.

Previous toxicity testing was only conducted using the *Stronglyocentrotus purpuratus* (sea urchin) fertilization test, a marine species. Toxicity testing using multiple species is needed to provide a more complete assessment of the causes of toxicity in storm water[70]. The identification of zinc and copper as contaminants of concern in previous studies in the County were based primarily on studies with the sea urchin. Reliance on single species tests may not provide an accurate assessment of toxicity[71]. Because different species vary in their sensitivity to contaminants, tests with multiple species are needed to determine if other contaminants are present at toxic concentrations[72]. Specifically, an organism that is sensitive to pesticides, which have been found to be important factors in the toxicity of storm water from other watersheds, should be used[73]. USEPA recommends the use of the *Ceriodaphnia dubia* (water flea) reproduction and survival test for the measurement of receiving water toxicity. The water flea is one of the most sensitive aquatic species to diazinon, whereas the sea urchin fertilization test is insensitive to organophosphorus pesticides[74]. By contrast, sea urchin sperm are approximately 10 times more sensitive to trace metals than are water fleas.

Furthermore, the toxicity component of the Monitoring Program should include toxicity identification procedures so that potential constituents of concern can be confirmed and others can be discounted. TIEs are needed to prioritize management actions.

Two wet weather and two dry weather samples will be analyzed for toxicity from each mass emission station every year. When a sample is substantially toxic to either test species, a Phase I TIE will begin immediately. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, Ceriodaphnia TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[75] If enough toxicity is not present at the beginning of a TIE, it cannot be successfully completed. The City of Long Beach Storm Water Monitoring Program is being modified to include similar TIE procedures.

Based on the results from the Long Beach Monitoring Report, the Regional Board determined that using consecutive hits of toxicity in storm water as a trigger for a TIE does not yield adequate results. For example, every single storm event sampled at the Long Beach mass emission stations was toxic to some extent to at least one of the three species tested, but only one TIE was conducted on one species.[76] Also, due to the high variability of storm water, there is no guarantee that substantial toxicity will be present after the two consecutive hits. To increase the chances of a successful TIE and to better identify all causes of toxicity in storm water, TIEs should begin immediately when substantial toxicity is detected in a sample.

[70] Bay, Jones, Schiff. Study of the Impact of Stormwater Discharge on Santa Monica Bay (1999).
[71] Center for Watershed Protection
[72] Bay, et al.
[73] Bay, et al.
[74] Kinnetic Laboratories, inc., City of Long Beach Storm Water Monitoring Report (2000-2001).
[75] SCCWRP
[76] City of Long Beach Storm Water Monitoring Report, 2000-2001. Kinnetic Labs, Inc. and SCCWRP

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Furthermore, after a toxic pollutant is identified, Toxicity Reduction Evaluations (TRE) will be conducted. The purpose of this requirement is to evaluate the extent and causes of toxicity in inland and coastal receiving waters, and to eliminate or reduce the sources of toxicity in storm water. TRE development and implementation is directly tied to the SQMP, to ensure that management actions are taken when problems are identified. The Principal Permittee expressed concern to Regional Board staff that the TRE requirement could potentially be too involved and costly to be completed with the available funds and resources during the course of the Order. To address this concern, the Regional Board clarified the TRE language. It was decided that a third party should be involved in the source analysis and BMP recommendations, and that each Permittee shall be responsible for the implementation of BMPs in their areas of jurisdiction that are causing or contributing to toxicity. The Principal Permittee is responsible for retaining a neutral third party to evaluate possible sources of toxicity and recommend appropriate BMPs, based on available information. Regional Board staff agreed with the Principal Permittee's proposed funding limit for TRE development, to ensure that the majority of the monitoring budget is not used.

Overall, the toxicity monitoring program will assess the impact of storm water on the overall quality of aquatic systems and implement measures to ensure that those impacts are eliminated or reduced. Chemical monitoring does not necessarily reveal the impacts of storm water on aquatic life or beneficial uses of water bodies. Therefore, toxicity monitoring is a necessary component of a storm water monitoring program.

Tributary/Source Identification Monitoring

Based on the results of previous storm water quality monitoring and toxicity testing, there is a need to monitor subwatersheds to determine pollutant sources and prioritize management actions. Exceedances of various pollutants, including toxic levels of zinc and copper in the Ballona Watershed, have been occurring at the mass emission stations for many years, but there has not yet been an effort to monitor tributaries to determine where the pollutants are actually coming from.[77] Regional Board staff worked with Los Angeles County staff, and other interested stakeholders, to design a tributary monitoring program.

Shoreline Monitoring

The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline monitoring requirement be incorporated in this Order. Regional Board staff and the County of Los Angeles determined that the shoreline monitoring is an appropriate requirement for the storm water monitoring program, per the conditions listed in Section D of the draft Monitoring Program.

[77] Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report, July 31, 2000. LA County DPW, SCCWRP, Woodward Clyde.

Trash Monitoring

Trash is a pollutant that impacts storm water runoff, and a monitoring program should be developed. The language in the draft reflects the monitoring language in the trash TMDL for the Los Angeles River watershed[78]. The same trash monitoring program will be required through a CWC § 13267 Request for Trash Monitoring, related to the TMDL. The Regional Board does not intend to require two separate monitoring programs through the MS4 permit and the TMDL.

Regional Monitoring

Regional Monitoring efforts address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Los Angeles County is a major discharger in this region and should participate in regional programs. Also, participation in Regional Monitoring, such as the SCCWRP Bight-wide study in 2003, can accomplish several goals of the Monitoring Program.

Estuary Sampling

The main goal of the estuary sampling is to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. Previous studies indicate that contaminated sediments can be linked to suspended solids in storm water[79]. Form this information, a map of each estuary that depicts the impacted areas will be produced. Such a map will be used to direct future monitoring efforts. Once the impacted areas are identified, regular monitoring can be conducted to determine trends and accumulation of sediment from storm water. The specific sampling requirements are consistent with the Hyperion Waste Water Treatment Plant NPDES permit. This sampling program is also consistent with the objectives of the SCCWRP Bight-wide 2003 study. The results will be incorporated into a larger study of the entire coast of Southern California, from Santa Barbara to the boarder of Mexico. This will provide a comparison of the storm water impacts from Los Angeles County to other larger MS4s, as well as individual dischargers.

Bioassessment

Bioassessment data can be an important indicator of stream health and storm water impacts. It can detect impacts that chemical and physical monitoring cannot. In the Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, EPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of storm water problems. Therefore, this Regional Board and other Regional Boards commonly require bioassessment monitoring in storm water and point source NPDES permits.

However, the fact that a biological index does not yet exist for this region is an issue that Regional Board staff took into consideration for this requirement. Without a biological index, including reference conditions and knowledge of background variability, data cannot be fully analyzed to accurately indicate stream health or impacts. However, it can be used to determine trends in the biological community, and it is necessary for

[78] Trash Total Maximum Daily Loads for the Los Angeles River Watershed, June 18, 2001, Regional Board
[79] Los Angeles County 1994-2000 integrated Receiving Water Impacts Report, Los Angeles County Department of Public Works, Contaminated Sediments and Total Suspended Solids (Section 4.2.4)

index development. Also, bioassessment data can be analyzed in the future, after an index is developed.

Considering the importance of bioassessment and the need for an index, the Principal Permittee is required to develop a bioassessment program as part of a regional effort (Southern California Stormwater Research/Monitoring Program) and to coordinate with the Surface Water Ambient Monitoring Program (SWAMP), organized by the Regional Board. This is to ensure that the most useful data is collected for the purposes of detecting biological trends in receiving waters and for developing a biological index.

New Development Impact Study in the Santa Clara Watershed

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. For much of its length, it is a high quality natural resource[80]. There is also a great amount of current and future development in the watershed. Therefore, it is important to monitor this watershed to detect water quality impacts from new development and implement measures to prevent degradation from occurring. To accomplish this, a special study is appropriate.

The special study will consist of monitoring tributaries in the Santa Clara watershed to accomplish two goals. The first is to determine impacts from new development. The second is to assess the effectiveness of SUSMPs by comparing storm water quality between subwatersheds with and without post-construction storm water BMPs. Two tributary stations will be selected and monitored for this study. One will be chosen that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation. The second station will be representative of a subwatershed in which the majority of development has/will include SUSMP implementation.

Due to the similarities in sites to be monitored, it may be appropriate to combine this study with the Peak Discharge Impact Study.

The City of Santa Clarita will cooperate with the County to conduct the New Development Impact Study (as well as the Peak Discharge Study, if they are combined). The City has proposed to contribute a maximum of $100,000 over the course of the New Development Impact Study. The City also has 2 field staff that may be available for sampling and other field measurements during normal working hours. The City is also interested in participating in site selection and study design.

Peak Discharge Impact Study

The Development Planning section (Part 4.C.2) of the draft permit requires that the Principal Permittee determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization. The purpose of the Peak Discharge Impact Study is to help meet that requirement. The Ventura County MS4 permit contains a similar requirement. The Ventura County Flood Control District has designed a study that can be extended to a watershed in Los Angeles County.

BMP Effectiveness Study

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[80] Watershed Management Initiative Chapter, January 2000. California Regional Water Quality Control Board, Los Angeles Region

The BMP Effectiveness Study is an integral part of the storm water monitoring program. It is necessary to document the effectiveness of treatment control BMPs so that the storm water management agency can make informed decisions on the use of BMPs.

ATTACHMENTS TO FACT SHEET

RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

Technical Report

June 2001

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Introduction

On March 8, 2000, the California Regional Water Quality Control Board, Los Angeles Region (LA Regional Board) issued requirements for new development and significant redevelopment consolidated in a Standard Urban Storm Water Mitigation Plan (SUSMP). The SUSMP included requirements for retail gasoline outlets (RGOs), commonly referred to as "gas stations", among several other development categories. Several municipalities, the Building Industry of Southern California (BIA), and the Western States Petroleum Association (WSPA) appealed the action of the LA Regional Board to the State Water Resources Control Board (State Board) for review. The State Board issued its decision *In Re City of Bellflower et al.* (SUSMP Decision) in large part upholding the action of the LA Regional Board.

In its Order, the State Board set aside the numerical mitigation requirement for RGOs explaining that the decision did not preclude future inclusion of numerical mitigation standards for RGOs with proper justification.

On February 21, 2001, the California Regional Water Quality Control Board, San Diego Region (SD Regional Board) issued an MS4 permit for San Diego County and Cities which includes requirements for new development and significant redevelopment. The MS4 permit requires Permittees to develop a model SUSMP no later than February 21, 2002, that will establish new development controls for project categories including RGOs. The SD Regional Board did not propose a threshold for RGOs to apply numerical design standards, giving the MS4 permittees the first option to develop the threshold criterion for RGOs and the justification. On March 22, WSPA filed an appeal of the SD Regional Board action for review before the State Board contending that RGOs were being improperly subject to numerical design standards in the MS4 permit for San Diego County and cities.

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Urbanization and Storm Water Quality

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are entrained in storm water and urban runoff. These pollutants such as heavy metals and petroleum hydrocarbons result from the activities of dense human populations. The overall impact is an increase in storm water runoff volumes and pollutant loading in storm water discharged to receiving water-bodies.[1]

Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff.[2] In addition to impervious areas increase, urban development brings with it proportionately high levels of car emissions, car maintenance waste, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters.

Most organic compounds found in storm water are associated with various human-related activities, especially automobile use, or are associated with plastics.[3] Heavy metals found in storm water also mostly originate from automobile use activities, including gasoline combustion, brake lining, fluids, undercoatings, and tire wear.[4]

More recently, studies reveal a connection between urban development and contamination of local waterbodies. Studies found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion including fossil fuels combustion), in the reservoirs of urbanized watersheds.[5] Studies also established a clear

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[1] U.S. EPA (1992). *Environmental Impacts of Storm Water Discharges: A National Profile*. EPA 841-R-92-001. Office of Water. Washington, DC.

[2] U.S. EPA (1997). *Urbanization and Streams: Studies of Hydrological Impacts*. EPA 841-R-97-009. Office of Water. Washington, DC.

[3] Field, Richard, James P. Heaney and Robert Pitt. (2000). *Innovative Urban Wet-Weather Flow Management Systems*. Technomic Publishing Co., Inc. Lancaster.

[4] See. Durum, W.H. (1974), *Occurrence of some trace metals in surface waters and groundwaters*. In Proceeding of the Sixteenth Water Quality Conference. Am. Water Works Assoc., et al. Univ. of Illinois Bull. 71(108). Urbana, IL.; Koeppe, D.E. (1977). Comp. Vol. IV: *Soil-water-air-plant studies*. In: Environmental Contamination by Lead and Other Heavy Metals. G.L Rolfe and K.A. Peinbold, eds. Institute for Environmental Studies. Univ. of Illinois. Urbana-Champaign, IL. July.; Rubin, A.J., ed. (1976). *Aqueous-Environmental Chemistry of Metals*. Ann Arbor Science Publishers. Ann Arbor, MI; Shaheen, D.G. (1975). *Contributions of Urban Roadway Usage to Water Pollution*. 600/2-75-004. U.S. Environmental Protection Agency. Washington, DC.; Solomon, R.L. and D.F.S. Natusch. (1977). Vol. III: *Distribution and characterization of urban dists*. In: Environmental Contamination by Lead and Other heavy Metals. G.L. Rolfe and K.G. Reinbold, eds. Institute for Environmental Studies. Univ. Of Illinois. Urbana-Champaign, IL.; and Wilber, W.G. and J.V. Hunter. (1980). *The Influence of Urbanization on the Transport of Heavy Metals in New Jersey Streams*. Water Resources Research Institute. Rutgers University. New Brunswick, NJ.

[5] USGS (1998). *Research reveals link between development and contamination in urban watersheds*. USGS news release. USGS National Water-Quality Assessment Program.

relationship between the adverse impact of urbanization and impairment of aquatic communities in receiving waterbodies.[6]

Federal Storm Water Regulations

Federal regulations require that MS4 permittees implement a program to control storm water pollution from new developments during and post-construction. Because there is no express national standard for the control of storm water pollutants from new developments, the permitting authority must defer to statements of policy and intent made by the U.S.EPA.

The U.S.EPA under Phase I regulations did not fully describe the expectations for MS4 Permittees in controlling post construction storm water discharges from new development and significant redevelopment except that "a comprehensive master plan" was required [55 *Fed Reg.* 48054]. For a better understanding of the regulatory expectation, we look to the Final Rule for Phase II storm water regulations. Therein, the U.S.EPA notes that "prior planning and designing for the minimization of pollutants in storm water is the most cost-effective approach to storm water quality management" [64 *Fed Reg.* 68759], and identifies four essential elements to control storm water from new development and redevelopment. These are, (i) to develop and implement strategies that include a combination of structural and non-structural BMPs; (ii) adopt an ordinance to address post construction runoff; (iii) ensure long term operation and maintenance of the BMPs; and (iv) ensure that controls are in place that will *minimize* water quality impacts. [Emphasis added] EPA goes on to say:

> "The requirements .....[are] consistent with the permit application requirements for large MS4s for post-construction controls for new development and redevelopment."

The permitting authority in order to comply with federal regulations must thus require the implementation of an MS4 program that will achieve all four enumerated objectives for new development and redevelopment. In order for the program to be enforceable, the program for new development and significant redevelopment must include objective criteria such as water quality design standards for treatment-control BMPs, for significant categories of development such as RGOs.

Further, the Federal Court of Appeals has unequivocally stated that Congress intended for "the Administrator or a State to design [substantive] controls" for storm water discharges from MS4s but did not mandate a particular approach [*NRDC v. USEPA*, 966 F.2d 1292 (9th Cir. 1992)]. The court held that it is appropriate to defer to U.S.EPA [and the State] where the agency supplied a "reasoned explanation".

Also, the USEPA is currently in the process of developing effluent guidelines for the construction and development industry, which will include controls for new development and significant redevelopment.[7]

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[6] USGS (2000). *Water Quality in the Long Island-New Jersey Coastal Drainages, New York and New Jersey, 1996-98.* USGS Circular 1201.

[7] See, Fact Sheet: Effluent Guidelines for the Construction and Development Industry, USEPA, 1999, 3 pp.

Retail Gasoline Outlets

RGOs can range in size from about 3,000 square feet to more than 200,000 square feet. The median size of new RGOs in Los Angeles County is about 13,000 square feet.[8] There are about 2,133 RGOs in Los Angeles County servicing a population of 9.5 million, and nearly six million registered motor vehicles.[9] In San Diego County there are about 700 RGOs serving a population of 2.8 million, and nearly 2 million registered vehicles.

RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, and ancillary services such as tire air inflation and radiator fillup. The vehicular traffic patterns at RGOs are similar to those on parking lots and on highways. Researchers have identified RGOs as toxic pollutant hotspots.[10]

Storm Water Quality

RGOs are a well identified source of urban storm water pollutants that impair receiving waters. WSPA has acknowledged that storm water discharges from even "normally operated and maintained" RGOs are no worse than discharges from commercial parking lots and diffuse urban runoff.[11] The reason that "normally operated and maintained" RGOs do not demonstrate any improvement in storm water discharge quality is because existing BMPs do not address pollutants generated by motor-vehicle traffic.[12] Heavy metals, significant concentrations of which occur in storm water discharges from RGOs, have been demonstrated to be the main cause of toxicity in Santa Monica Bay during wet weather.[13] Oil and grease in the storm water discharges from RGOs are also of concern.[14]

In a study conducted in Maryland, RGOs were identified to generate significantly higher concentrations of hydrocarbon and heavy metals than parking lots, convenience store lots, and streets.[15] A study conducted in Sacramento County, California, identified heavy metals such

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[8] Data Base Summary Report, New Gas Station Permits issued between Jan 1, 1999 and Dec 31, 2000, City of Los Angeles, Department of Building and Safety (2001)

[9] California Energy Commission, Fuels Office, 1999.

[10] Schueler, T. and D. Shepp (1992). *The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD.* Metropolitan Washington Council of Governments.

[11] See, Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States Petroleum Association and American Petroleum Institute (1994) at p 13. The study concludes that pollutant concentrations in storm water discharges from RGOs are similar to concentrations from commercial parking lots and diffuse urban runoff. See also June 7 State Board Hearing Transcript at p 231; comment by WSPA witness, that "concentrations of metals, hydrocarbons, and solids were no higher than.... roads and parking lots".

[12] See June 8 State Board Hearing Transcript at p 136, Regional Board staff testimony that current BMPs at RGOs do not address pollution associated with vehicular traffic.

[13] See "Study of the Impact of Storm Water Discharge on Santa Monica Bay – Executive Summary", Los Angeles County Department of Public Works (1999), which identifies Zn and Cu as principal pollutants that cause storm water toxicity.

[14] Rouge River National Wet Weather Demonstration Project, MI, - Evaluation of On-line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), 36 pp.

[15] *Hydrocarbon Hotspots in the Urban Landscape, Shueler T., and Shepp, D., (1995), pp. 259-264, National Conference on Urban Runoff Management: Enhancing Urban Watershed Management at the Local, County and State Levels, Chicago, IL,* Report No. EPA/625/R-95/003. A survey of oil and grit separators in suburban Maryland indicated that RGOs and convenience stores had much higher levels of hydrocarbons and metals both in the water column and the sediments.

as lead, copper, and zinc, as significant in storm water from RGOs.[16] Volatile organic compounds (VOCs) such as benzene, toluene, ethylbenzene, and xylene are rarely detected in storm water because of their volatility. In contrast, gasoline and other solvents, because of their physical and chemical characteristics, may present a significant risk for groundwater contamination, if underground and aboveground storage tanks leak.

The sources of storm water pollutants at RGO are from tail-pipe exhaust particles, fluid losses, drips, spills, and mechanical, brakepad and tire wear products, which build up on impervious surfaces at RGOs.[17] The pollutants of most concern in storm water are heavy metals such as Pb, Cu, and Zn and petroleum hydrocarbons such as PAHs.[18] The concentration and loads of these pollutants in storm water runoff from RGOs depends on the surface deposition and removal rates, and permanent storage. The permanent storage on surfaces is a function of surface area texture and condition and is literally trapped in the texture or cracks of the surface area. Pollutants are deposited any where vehicles travel, park, or are serviced, including RGOs.[19]

Review of New Development Design Standards

WSPA represents petroleum industry members in the States of Arizona, Hawaii, Nevada, Oregon, in addition to California. WSPA in its Petitions before the State Board has contended that new development standards that include numerical design standards for BMPs are impracticable and unnecessary at RGOs, and so we focussed the review on development standards that new RGOs are subject to in Western U.S. States. We are aware that new RGO developments in other States such as Maryland, Virginia, Florida, Alabama, Tennessee, Georgia, Oklahoma and Texas, are also subject to numerical mitigation requirements for storm water pollutants, but we did not review their programs for this technical report.

In Washington, RGOs in the western region that create impervious surfaces of 5,000 square feet or more are required to mitigate the 6 month 24 hour storm (about 1.2 inches of rainfall). In addition to the standard treatment menu based on a water quality design storm, RGOs that are expected to generate ADT of 100 vehicles or more per 1,000 square feet of gross building area are required separately to treat to remove oil.[20] The City of Portland in Oregon under its MS4 program requires RGOs to mitigate storm water runoff from impervious areas equal to or greater than 500 square feet using any one of three different design

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[16] *Action Plan Demonstration Project (APDP) - Demonstration of Gasoline Fueling Station Best Management Practices, County of Sacramento, (1994)*, pp. 30 Submitted to US EPA Region IX, San Francisco Estuary Project.. This study funded by the USEPA and conducted by Sacramento County identified heavy metals such as lead, copper, and zinc in significant concentrations in storm water runoff from RGOs. Volatile Organic Compounds (VOCs) from fueling areas were rarely detected because of their volatility. Data on Polycyclic Aromatic Hydrocarbons (PAHs) was inconclusive because analytical detection limits used were higher than regulatory action levels.

[17] Shaheen, D.G. (1975). *Contributions of Urban Roadway Usage to Water Pollution*. 600/2-75-004. U.S. Environmental Protection Agency. Washington, DC.

[18] Field, Richard, James P. Heaney and Robert Pitt. (2000). *Innovative Urban Wet-Weather Flow Management Systems*. Technomic Publishing Co., Inc. Lancaster.

[19] County of Sacramento, (1994). *Action Plan Demonstration Project (APDP) - Demonstration of Gasoline Fueling Station Best Management Practices.* Submitted to US EPA Region IX, San Francisco Estuary Project.

[20] Such sites are considered "high use sites" because they typically generate high concentrations of oil from traffic turnover. See Stormwater Management Manual for Western Washington, Vol. V, Runoff Treatment BMPs, (2000), Washington Department of Ecology, p 145.

approaches.[21] One of the choices is the 24-hour rainfall event standard (0.83 inch of rainfall). In addition, RGOs that are expected to generate 100 vehicles or more ADT per 1000 square feet of gross building area are subject to separate treatment controls for oil using a water quality design standard of a two year 24 hour storm.[22] In both Washington and Oregon, storm water treatment is required in addition to the source control BMPs identified by WSPA for implementation at its facilities in California.[23]

Treatment Control BMPs

The U.S. EPA funded a demonstration project to evaluate the effectiveness of on-line media filter media to treat pollutants from storm discharges at RGOs.[24] Four on-line media filter systems were tested and the study concluded that the treatment systems had sufficient ability to remove pollutants without risk of flooding, were easy to operate and maintain, and reasonable in capital cost.

We also reviewed storm water quality data results evaluating the pollutant removal effectiveness of a proprietary on-line filter media device located at a large RGO in Washington.[25] The device was installed underground and thus occupied no surface area. The treatment device was effective in removing between 50 and 90 percent of pollutants of concern in storm water discharges from RGOs. We note with interest that in perusing the treatment devices installation list of this proprietary manufacturer between 1997 and 2001 in the Western U.S., California had not a single installation at an RGO but Oregon and Washington had a combined total of 13 RGO sites where the treatment devices were installed. Considering that RGOs in the State of Washington and Oregon have ADT that is much less than in California, the aberration can only be explained by the lack of rigorous storm water regulatory controls in California to control the discharge of pollutants in storm water discharges from RGOs.[26]

Our review indicates that effective treatment devices for RGOs include on-line media filter systems with a combination of media placed in series to remove the pollutants of concern. Sand filters are another option. There may be other treatment control BMPs that may be equally if not more effective.[27]

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[21] Stormwater Management Manual, City of Portland, OR, (2000), p 1-11.

[22] Ibid. at page 9-47. Sites that meet the threshold are considered "higher risk categories".

[23] Cf. BMP Guide for Retail Gasoline Outlets, CA Storm Water Quality Task Force, and WSPA (1997); Storm Water Manual for Western Washington Vol. IV and V, Washington Dept. Ecology (2000).

[24] See, Rouge River National Wet Weather Demonstration Project, MI, - Evaluation of On-line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), 36 pp.

[25] See, Stormwater Sampling – StormFilter Performance Results: Burwell-Straley's Union 76 Station, Bremerton, WA (2000). 7 pp.

[26] Report, Database Summary List of Treatment Devices installed between 1997 and 2001, Provided by StormFilter, OR.

[27] For a list of potential treatment options see, Storm Water Manual for Western Washington Vol. V, - Runoff Treatment BMPs, Washington Dept. Ecology (2000).

Economic Considerations

A review of costs of storm water treatment controls for RGOs indicates that the cost of storm water treatment is reasonable.[28] In addition, a demonstration project sponsored by the USEPA to evaluate the effectiveness and costs of on-line media filters placed the first year capital cost between $250 and $900 and an operations and maintenance cost of $240 annually.[29]

Justification

The State Board in its SUSMP Decision temporarily excluded RGOs from the numerical mitigation standard until Regional Boards provided proper justification and established appropriate thresholds. Issues to be considered included presumptions that RGOs were, (i) already heavily regulated; (ii) limited in their ability to construct infiltration BMPs; (iii) generally small in size; and (iv) storm water treatment may not be feasible or safe.

Over-regulation:[30] Under State law, the State Board and Regional Boards are the primary authorities for implementation of the federal Clean Water Act, and for matters related to water quality within the State.[31] There is no basis in federal or State statute that permits the State Board or Regional Boards to abdicate their water quality authority because discharges from facilities that impact water quality are already regulated for other purposes. Attainment and maintenance of receiving water objectives and the protection of beneficial uses are the paramount considerations.

Limitations of space or ability: Our review indicates that RGOs appear not to be limited by space or ability to treat storm water. The surface area of RGO developments is generally greater than 5000 square feet. The fabricated storm water treatment systems we reviewed generally do not exceed 128 square feet in surface area when installed and do not impede traffic flow because they are situated sub-surface. While opportunities for infiltration practices may be limited, it is but one type of option for mitigation of pollutants in storm water. The SUSMP does not mandate infiltration BMPs. Other treatment options exist such as fabricated treatment control BMPs to remove storm water runoff pollutants using physical, biological, or chemical processes. Also treatment control BMPs can be installed sub-surface without interfering with surface use. RGOs situated in other Western U.S. States, which have lower impervious surface area and higher water quality treatment volume criteria thresholds already implement storm water treatment controls at new facilities.

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[28] See "Cost and Benefits of Storm Water BMPs", Preliminary Data Summary of Urban Storm Water Best Management Practices, USEPA, (1999) Report No. EPA-821-R-99-0012, pp. 6-1 – 6-44.

[29] Rouge River National Wet Weather Demonstration Project, MI, - Evaluation of On-line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), at p 15-18.

[30] The Regional Board's review of regulations that affect RGOs identified, (i) business license for business operation, (ii) Fire Department for tank/ piping integrity and gasoline storage; (iii) County Public Works for underground storage of hazardous chemicals; (iv) Air Quality Management District for VOC emissions; (v) Sanitation District for any sanitary sewer discharges; (vi) County Weights and Measures for sale of gasoline; (vi) Department of Toxics Substance Control for waste motor oil disposal; (vii) County Health for food and beverage sale; and (viii) Regional Board for regulation of leaking tanks to protect groundwater.

[31] Cal. Wat. Code § 13160 states that, "the State Board is designated as the state water pollution control authority for all purposes.... in federal act." Cal. Pub. Res. Code § 30412 states that, "other State agencies shall not modify, adopt conditions, or take any action in conflict with any determination by the State Board in matters relating to water quality".

Feasibility of storm water treatment: Our review of implementation of storm water treatment control requirements in other Western U.S. States indicates that storm water treatment at RGOs is both feasible and safe. In California, sub-surface fabricated treatment systems have been commonly used at RGOs to separate waste-oil before discharge to the sanitary sewer system. Safety or feasibility has not been an issue when sanitation districts required RGOs to install treatment systems in order to obtain connection permits to the sanitary sewer system. As previously mentioned storm water treatment controls are installed as a matter of practice by RGOs in other Western U.S. States. There is no reason to suppose that storm water treatment in California introduces new and different safety and feasibility considerations, as when compared to wastewater treatment systems which RGOs have readily installed in California and storm water treatment systems installed in other Western U.S. States.

Suggested criteria

Storm water pollution at RGOs is primarily a function of the number of motor vehicles that are refueled or serviced. Ancillary services such as auto repair may additionally contribute significant pollutant loads. A WSPA study concluded that the storm water runoff quality from well-maintained RGOs is comparable in pollutant concentrations to runoff from commercial parking lots.[32]

The State Board recommended that the Regional Boards undertake further consideration of a threshold relative to size of RGOs for application of the numerical design standard for storm water. Our analysis indicated the following criteria for thresholds may be appropriate.

Land area: 5,000 square feet or more of impervious area. RGOs in Portland, Oregon and Western Washington that meet this land area threshold are currently subject to storm water treatment requirements based on the water quality design storm.[33]

Projected Average Daily Traffic (ADT): 100 or more vehicles fueled per day. The projection for the number of vehicle trips a RGO can expect may be estimated using information published by the Institute of Transportation Engineers. The vehicular traffic at an RGO is a good determinant for the quantity of storm water pollutants generated at the site. RGOs in Oregon and Washington are subject to two tiers of threshold for treatment of storm water, the first based on the impervious area threshold, and an additional tier storm water treatment requirement for sites that expect 100 vehicles or more ADT per 1,000 square feet of gross building area. [34]

Projected volume of gasoline sale: 25,000 gallons or more of gasoline sale per month. [35] The projected volume of gasoline sales is directly correlated with vehicular trips. 25,000 gallons of gasoline sale per month is equivalent to an average daily traffic of about 100 vehicles.[36]

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[32] See 'Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study (1994)', Western States Petroleum Association, and American Petroleum Institute, 49 p. Commercial parking lots 5,000 square feet or more are presently subject to the SUSMP numerical mitigation standard.

[33] WSPA represents companies that explore, produce, refine, transport and market petroleum in six western states including Oregon, Washington, and California. See www.wspa.org

[34] See, Storm Water Management Manual (August 2000), City of Portland, Oregon, (p 9-10) additional thresholds for fuel dispensing facilities. Also, Storm Water Management Manual for Western Washington, Vol. V, Runoff Treatment BMPs, Washington Department of Ecology, p 9-10, additional requirement thresholds for high-use sites.

[35] The average volume of gasoline sales at a RGO in California is approximately 100,000 gallons per month. Gasoline stations with outputs of 200,000 or more gallons a month are considered high output facilities by the industry.

Although other criteria such as the number of fueling dispensers ("nozzles"-4 or more) and the number of dispenser meters (12 or more assuming one meter per octane grade), were considered for thresholds, the relationship of such criteria to predict the potential for pollutant generation at RGOs is less direct.

It is recommended that numerical mitigation standards be made applicable, if the RGO development meets the following thresholds, (i) creates 5,000 square feet or more of impervious surface; and (ii) has a projected trip generation of 100 or more motor vehicles ADT.

Conclusion

RGOs have been well documented in the scientific literature as significant sources of storm water pollutants. These pollutants such as heavy metals and PAHs have been know to cause the impairment of beneficial uses in receiving waters. As a source of pollutants, storm water from RGOs is similar to runoff from driveways, roads, highways and parking lots.

In order to reduce the discharge of pollutants in storm water to the MS4, it is technically appropriate to require that new RGOs and significantly redeveloped RGOs be subject to the SUSMP numerical mitigation criteria. RGOs in other Western U.S. States already comply with higher numerical mitigation standards than those established by the LA Regional Board and the SD Regional Board. The treatment of storm water for RGOs is technically feasible, safe, and of reasonable cost.

[36] A typical "full" tank gas refueling is around 8 gallons delivered at a pump. Many RGOs use this benchmark for discount offerings or other type of incentives associated with refueling. 100 cars x 8 gallons per car x 30 days = 24,000 gallons of gasoline per month.

Table 1. Characterization of Pollutant Concentrations in the OGS Water Column: Effect of Land-Use Condition (Mean Values)[37]

Sampled Parameter	All-Day Parking (N = 8)	Convenience Commercial (N = 6)	Gas Stations (N = 7)	Streets (N = 6)	Townho Gard Apartments (N = 6)
OP (mg/L)	0.23	0.16	0.11	ND	0.11
TP (mg/L)	0.30	0.50	0.53	0.06	0.19
NH3-N (mg/L)	0.20	1.58	0.11	0.19	0.20
TKN (mg/L)	1.18	4.94	2.5	0.84	1.00
OX-N (mg/L)	0.65	0.01	0.21	0.92	0.17
TOC (mg/L)	20.60	26.80	**95.51**	9.91	15.75
Hydrocarbons (mg/L)	15.40	10.93	21.97	2.86	2.38
TSS (mg/L)	4.74	5.70	--	9.60	7.07
ECd (µg/L)	6.45	7.92[a]	**15.29**[a]	ND	ND
SCd (µg/L)	3.40[a]	ND	6.34[a]	ND	10.34[a]
ECr (µg/L)	5.37	13.85	**17.63**[a]	5.52[a]	ND
SCr (µg/L)	ND	ND	6.40[a]	ND	4.79[a]
ECu (µg/L)	11.61	22.11	**112.63**	9.50[a]	3.62
SCu (µg/L)	8.22[a]	ND	25.64	ND	2.40
EPb (µg/L)	13.42	28.87	**162.38**	8.23	ND
SPb (µg/L)	8.10[a]	ND	26.90[a]	ND	ND
EZn (µg/L)	190.00	201.00	**554.00**	92.00	NA
SZn (µg/L)	106.70	43.70	471.00	69.00	59.00

[a]Mean is for all observations in which the indicated parameter was actually detected.

ND = not detected; NA = not applicable.

Hydrocarbons = total hydrocarbons
TSS = total suspended solids
ECd = extractable cadmium

OP = ortho phosphate phosphorus
TP = total phosphorus
NH3-N = ammonia nitrogen
TKN = total Kjeldahl nitrogen
OX-N = oxidized nitrogen
TOC = total organic carbon

SCd = soluble cadmium
ECr = extractable chromium
SCr = soluble chromium
ECu = extractable copper
SCu = soluble copper
EPb = extractable lead
SPb = soluble lead
EZn = extractable zinc
SZn = soluble zinc

[37] *Hydrocarbon Hotspots in the Urban Landscape, Shueler T., and Shepp, D., (1995), pp. 259-264*, National Conference on Urban Runoff Management: Enhancing Urban Watershed Management at the Local, County and State Levels, Chicago, IL, Report No. EPA/625/R-95/003.

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Table 2. Data Comparison – RGO Studies

Constituent (ug/l)	Study 1[38]	Study 2[39]	Study 3[40]	Effluent Criteria[41,42] (ug/l)	
Aluminum	**829**	ND	ND	750	--
Cadmium	0.7	ND	**15.29**	15.9	4.3
Chromium	4.2	ND	**17.63**	--	16[43]
Copper	**25.2**	**200**	**112.63**	63.6	13
Lead	33.4	ND	**162.38**	81.6	65
Nickel	4.7	ND	ND	1417	470
Zinc	**379**	**200 to 600#**	**554**	117	120
Oil & Grease (mg/l)	4.6	1 to **34**	**95.5**[44]	15	--
TSS (mg/l)	59	10 to ?	ND	100	--

= range; ND = No Data;

[38] *Demonstration of Gasoline Fueling Station Best Management Practices* - Uribe & Associates, Larry Walker Associates - Final Report - October 1994

[39] *Retail Gasoline Outlet Storm Water Runoff Study* - Western States Petroleum Association (WSPA), Draft Report, prepared by Hart-Crowser 1993

[40] *Hydrocarbon Hotspots in the Urban Landscape* - Schueler T. and Shepp D., Metropolitan Washington Council of Governments - Washington DC in Seminar Publication National Conference on Urban Runoff Management: Enhancing Urban Watershed Management at the Local, County; and State Levels - Chicago 1993 [EPA/625/R-95/003]

[41] *Parameter Benchmark Values* - Final Reissuance of National Pollutant Discharge Elimination System Storm Water Multi-Sector General Permit for Industrial Activities; Notice - Federal Register/ Vol. 65, No 210/ October 30, 2000. 64767

[42] *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule* - 40 CFR Part 131 Federal Register/ Vol. 65, No 97/ May 18, 2000 pag. 31682 et. Seq.

[43] Chromium (VI)

[44] TOC

STORM WATER MITIGATION REQUIREMENTS FOR PRIORITY PLANNING PROJECTS FOR THE PROTECTION OF WATER QUALITY

Technical Report

October 2001

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Problem Statement

The municipalities covered by the Los Angeles County Municipal Separate Storm Sewer (MS4) permit and the Building Industry Association of Southern California (BIA-SC) argue that the implementation of the development planning provisions required by the MS4 permit should be limited to the definition of "discretionary projects", as understood in the California Environmental Quality Act (CEQA). Such an interpretation limits the application of storm water management programs and is not supported by the federal Clean Water Act (CWA), U.S. EPA storm water regulations, the California Water Code (CWC), or the California Public Resources Code (Cal. Pub. Res. Code).

Introduction

On July 15, 1996, the California Water Quality Control Board, Los Angeles Region (LA Regional Board) issued a revised MS4 permit (Order No. 96-054) for the County of Los Angeles and all incorporated cities. The permit contains provisions for the regulation of discharges from development planning and construction. The development planning section requires Permittees to develop a checklist for determining priority and exempt projects[1]. In the Order, priority projects are described as development and redevelopment projects requiring discretionary approval which may have a potential significant effect on storm water quality.[2] Although the permit refers to the term "discretionary" projects in a few places, the term was not defined in the permit, and there is no evidence of a "meeting of minds" or discussion about its meaning when the permit was adopted.[3]

[1] Permit, Part 2, III.A.1.a.

[2] *Ibid.*

[3] Regional Board Comment on Proposed SUSMP Order, September 26, 2000

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Under CEQA, a "discretionary project" is one which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular project, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.[4] This limitation was never contemplated in the Order and was never adopted by the LA Regional Board.[5] However, the use of the term "discretionary" resulted in unintentional and inappropriate limitations on the development planning requirements in this Order as understood by Permittees and interpreted by the State Board. Controversy regarding this issue arose during the development of Standard Urban Storm Water Mitigation Plans (SUSMPs), pursuant to the development planning provisions in the permit.[6]

The SUSMPs are plans that designate best management practices (BMPs) that must be used for specified categories of development projects. After LA County submitted the SUSMPs, the LA Regional Board made several revisions and issued the revised SUSMPs on March 8, 2000. The State Board received petitions for review of the SUSMP action from a coalition of municipalities and the BIA-SC. The Petitioners contended that the SUSMPs should only apply to projects that are considered "discretionary" within the meaning of CEQA. They argued that the inclusion of non-discretionary, or ministerial, projects is inconsistent with the terms of the permit.[7]

The State Board issued Order (WQ 2000-11) deciding the petition. The SUSMP decision included the State Board's determinations on the petitioners' issues and made certain revisions to the SUSMPs. Although the State Board realized that the limitation of SUSMPs to discretionary projects might not be sufficiently broad for an effective storm water control program, it found that it was inappropriate to include non-discretionary projects in the SUSMPs at that time because of a procedural defect.[8] The State Board upheld the 'CEQA discretionary' limitation only because the term was undefined in the permit and its intended meaning was unclear in the SUSMP...not because it was sufficiently protective of water quality standards.[9] The State Board authorized the LA Regional Board to consider expanding the new development planning controls beyond the CEQA definition when the LA County MS4 permit is reissued. On its part, the LA Regional Board has always held that the limiting interpretation of the term "discretionary" opened an "unintended loophole" in the development planning requirements.[10]

Presently, the LA Regional Board has removed all references to the term "discretionary" from the proposed permit. The proposed permit requires the application of new development requirements to all planning priority development and redevelopment projects, regardless of whether they are considered ministerial or

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[4] SUSMP Post-Hearing Brief, July 7, 2000

[5] Regional Board Comment on Proposed SUSMP Order, September 26, 2000

[6] Permit, Part 2, III.A.1.c.

[7] SB Order WQ 2000-11

[8] *Ibid.*

[9] The State Board's SUSMP decision states, "the provisions of the permit appear to link the development requirements for SUSMPs to developments that receive discretionary approval by local governments, as defined in CEQA."

[10] Regional Board Comment on Proposed Order, September 26, 2000

discretionary under CEQA. This approach is consistent with the development planning provisions in the Ventura County permit, issued on July 27, 2000. The LA County MS4 permittees contend that existing CEQA procedures must be used to implement the development planning provisions, and that reviewing all projects is inconsistent with their current procedures and is not feasible. However, local governments have several options for implementing the proposed requirements. These options are described later in this report in the section, "Options for Municipalities".

Urbanization and Storm Water Quality

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are entrained in storm water and urban runoff. These pollutants such as heavy metals and petroleum hydrocarbons result from the activities of dense human populations. The overall impact is an increase in storm water runoff volumes and pollutant loading in storm water discharged to receiving water-bodies.[11]

Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff.[12] In addition to impervious areas increase, urban development brings with it proportionately high levels of car emissions, car maintenance waste, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters.

Most organic compounds found in storm water are associated with various human-related activities, especially automobile use, or are associated with plastics.[13] Heavy metals found in storm water also mostly originate from automobile use activities, including gasoline combustion, brake lining, fluids, undercoatings, and tire wear.[14]

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[11] U.S. EPA (1992). *Environmental Impacts of Storm Water Discharges: A National Profile*. EPA 841-R-92-001. Office of Water. Washington, DC.

[12] U.S. EPA (1997). *Urbanization and Streams: Studies of Hydrological Impacts*. EPA 841-R-97-009. Office of Water. Washington, DC.

[13] Field, Richard, James P. Heaney and Robert Pitt. (2000). *Innovative Urban Wet-Weather Flow Management Systems*. Technomic Publishing Co., Inc. Lancaster.

[14] See, Durum, W.H. (1974), *Occurrence of some trace metals in surface waters and groundwaters*. In Proceeding of the Sixteenth Water Quality Conference. Am. Water Works Assoc., et al. Univ. of Illinois Bull. 71(108). Urbana, IL.; Koeppe, D.E. (1977). Comp. Vol. IV: *Soil-water-air-plant studies*. In: Environmental Contamination by Lead and Other Heavy Metals. G.L Rolfe and K.A. Peinbold, eds. Institute for Environmental Studies. Univ. of Illinois. Urbana-Champaign, IL. July.; Rubin, A.J., ed. (1976). *Aqueous-Environmental Chemistry of Metals*. Ann Arbor Science Publishers. Ann Arbor, MI; Shaheen, D.G. (1975). *Contributions of Urban Roadway Usage to Water Pollution*. 600/2-75-004. U.S. Environmental Protection Agency. Washington, DC.; Solomon, R.L. and D.F.S. Natusch. (1977). Vol. III: *Distribution and characterization of urban dists*. In: Environmental Contamination by Lead and Other heavy Metals. G.L. Rolfe and K.G. Reinbold, eds. Institute for Environmental Studies. Univ. Of Illinois. Urbana-Champaign, IL.; and Wilber, W.G. and J.V. Hunter. (1980). *The Influence of Urbanization on the Transport of Heavy Metals in New Jersey Streams*. Water Resources Research Institute. Rutgers University. New Brunswick, NJ.

More recently, studies reveal a connection between urban development and contamination of local waterbodies. Studies found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion including fossil fuels combustion), in the reservoirs of urbanized watersheds.[15] Studies also established a clear relationship between the adverse impact of urbanization and impairment of aquatic communities in receiving waterbodies.[16]

Federal Storm Water Regulations

Federal regulations require at a minimum that MS4 permittees develop, implement, and enforce storm water management programs designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.[17] The regulations state that storm water management programs must include certain minimum control measures to meet the compliance standard of reducing pollutants to the "MEP". These minimum control measures include the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb one or more acres of land, including projects less than one acre that are part of a larger common plan of development.[18] MS4 programs must include requirements to address storm water during and after construction. Because there is no express national standard for the control of storm water pollutants from new developments, the permitting authority must defer to statements of policy and intent made by the U.S.EPA.

The U.S.EPA under Phase I regulations did not fully describe the expectations for MS4 Permittees in controlling post construction storm water discharges from new development and significant redevelopment except that "a comprehensive master plan" was required [55 *Fed Reg.* 48054]. For a better understanding of the regulatory expectation, we look to the Final Rule for Phase II storm water regulations. Therein, the U.S.EPA notes that "prior planning and designing for the minimization of pollutants in storm water is the most cost-effective approach to storm water quality management" [64 *Fed Reg.* 68759]. It goes on to state, "If potential adverse water quality impacts are considered from the beginning stages of a project, new development and redevelopment provides more opportunities for water quality protection". The Final Rule identifies four essential elements to control storm water from new development and redevelopment. These are, (i) to develop and implement strategies that include a combination of structural and non-structural BMPs; (ii) adopt an ordinance to address post construction runoff; (iii) ensure long term operation and maintenance of the BMPs; and (iv) ensure that controls are in place that will *minimize* water quality impacts. [Emphasis added] EPA goes on to say:

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[15] USGS (1998). *Research reveals link between development and contamination in urban watersheds.* USGS news release. USGS National Water-Quality Assessment Program.

[16] USGS (2000). *Water Quality in the Long Island-New Jersey Coastal Drainages, New York and New Jersey, 1996-98.* USGS Circular 1201.

[17] 40 CFR Part 122.23(a)

[18] *Ibid.*

"The requirements .....[are] consistent with the permit application requirements for large MS4s for post-construction controls for new development and redevelopment."

The permitting authority in order to comply with federal regulations must thus require the implementation of an MS4 program that will achieve all four enumerated objectives for new development and redevelopment. To aid in the implementation of an adequate program, EPA recommends that MS4 operators adopt a planning process that identifies the municipality's program goals, implementation strategies, operation and maintenance policies and procedures, and enforcement procedures.[19] EPA also encourages MS4 operators to assess existing ordinances, policies, and programs while developing a post-construction storm water management program.[20]

Further, the U.S. Court of Appeals has unequivocally stated that Congress intended for "the Administrator or a State to design [substantive] controls" for storm water discharges from MS4s but did not mandate a particular approach [*NRDC v. U.S.EPA*, 966 F.2d 1292 (9th Cir. 1992)]. The court held that it is appropriate to defer to U.S.EPA [and the State] where the agency supplied a "reasoned explanation".

It should also be noted that the U.S.EPA is currently in the process of developing effluent guidelines for the construction and development industry, which will include controls for new development and significant redevelopment.[21]

Scope of California Environmental Quality Act

The California Environmental Quality Act, (Cal. Pub. Res. Code § 21000 *et seq.*) was enacted in 1970 as a system of checks and balances for land-use development and management decisions in California. CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible, and applies to projects that involve the exercise of discretionary powers by a public agency, which will result in a direct or reasonably foreseeable indirect physical change in the environment.[22]

"Discretionary project" means a project which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.[23] A project is called "ministerial" if the law requires an agency to act on it a set way without allowing the agency to use its own judgment. Ministerial projects involve no special discretion or judgment in reaching a decision and are not subject to CEQA. Each public agency should, in its implementing regulations or

[19] 40 CFR Part122.23(b)(5)(iii)

[20] *Ibid.*

[21] See, Fact Sheet: Effluent Guidelines for the Construction and Development Industry, U.S.EPA, 1999, 3 pp.

[22] CEQA Guidelines Section 15060

[23] CEQA Guidelines Section 15357

ordinance, provide a list of its projects and actions, which are deemed ministerial under the applicable laws and ordinances.[24] Projects that possess both ministerial and discretionary attributes are treated as discretionary.[25]

Whether an agency has discretionary or ministerial control over a project depends on the authority granted by the law providing the controls over the activity[26] (the law or ordinance authorizing the particular permit). CEQA is intended to be used in conjunction with discretionary powers granted to public agencies by other laws, it does not grant an agency new powers independent of the powers granted by other laws.[27] Because ordinances vary, similar projects may be subject to discretionary controls in one city or county and only ministerial controls in another. [28]

No presumptions regarding decision-making discretion exist in CEQA, "unless the public entity retains *no* discretion whatsoever in approving an application for a permit".[29] Therefore, no project or type of project is assumed to be ministerial unless related local ordinances limit public officials' review to determining whether (a) the zoning allows the structure to be built in the requested location, (b) the structure would meet the strength requirements of the Uniform Building Code, and (c) the applicant has paid his fee.[30]

Furthermore, CEQA includes many exemptions. Even if a public agency has discretionary control over a project, that project may still be exempt from CEQA. A project is exempt from CEQA if it meets one of the following conditions:[31]

1. The project is exempt by statute;
2. The project is exempt pursuant to a categorical exemption;
3. It can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment;
4. The project will be rejected or disapproved by a public agency (each agency should include a list of such projects in its implementation procedures).

Statutory exemptions are created by the Legislature. CEQA Guidelines §15282 summarizes existing statutory exemptions, but there is no exhaustive list. Some of these projects and activities are listed in the statute itself and some are included in many different sections of the Cal. Pub. Res. Code, while others are not even codified.[32] A few notable statutory exemptions include:

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[24] CEQA Guidelines Section 15268

[25] CEQA Guidelines Section 15268

[26] CEQA Guidelines Section 15002

[27] CEQA Guidelines Section 15040

[28] See discussion on p 10.

[29] Guide to CEQA, Part IV

[30] CEQA Guidelines Section 15369

[31] CEQA Guidelines Section 15061

[32] Guide to CEQA Part IV

1. Ministerial projects;
2. Any residential development project, including any subdivision, that is undertaken consistent with an existing plan for which an EIR has been certified after January 1, 1980;
3. Any development project consisting of the construction, conversion, or use of residential housing for agricultural employees;
4. Any development project consisting of the construction, conversion, or use of residential housing of not more than 100 units in an urbanized area that is affordable to lower income households;
5. The construction of housing or neighborhood facilities in an urbanized area pursuant to certain provisions.[33]

Categorical exemptions are classes of projects which the Secretary of Resources Agency has determined not to have a significant effect on the environment and which are exempt from CEQA. If an agency determines that a project is subject to a categorical exemption, then no further environmental evaluation is required.[34] There are 32 classes of categorical exemptions, which are described in the CEQA Guidelines. A few examples are listed below.

1. Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alterations of existing structures. This includes additions to existing structures that will not result in an increase of more then 50 percent of the floor area, or 2,500 square feet, or 10,000 square feet if the project meets certain conditions.[35]
2. Class 2 consists of replacement or reconstruction of existing structures where the new structure will be located on the same site and will have substantially the same purpose and capacity as the structure replaced.[36]
3. Class 11 consists of construction, or placement of minor structures accessory to existing commercial, industrial, or institutional facilities, including but not limited to small parking lots.[37]
4. Class 32 consists of projects characterized as in-fill development up to five acres that are consistent with all applicable zoning regulations, occur within city limits, and are substantially surrounded by urban uses.[38]

In cases where CEQA applies, a public agency must then determine whether the project may have a significant effect on the environment. In making this determination, an agency must use careful judgement based to the extent possible on scientific and factual data.[39] If an agency determines that a significant effect on the environment may occur, an Environmental Impact Report (EIR) must be prepared. The EIR records the

[33] CEQA Guidelines Section 15282

[34] *Ibid.*

[35] CEQA Guidelines Section 15301

[36] CEQA Guidelines Section 15302

[37] CEQA Guidelines Section 15311

[38] CEQA Guidelines Section 15332

[39] CEQA Guidelines Section 15064

scope of the applicant's proposal and analyzes all its known environmental effects. The CEQA Guidelines define "a significant effect on the environment" as a substantial adverse change in the physical conditions, which exist in the area, affected by the proposed project.[40]

CEQA encourages each public agency to develop and publish thresholds of significance that the agency uses in determining the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect.[41] Thresholds of significance for use as part of an agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and supported by substantial evidence.[42]

The CEQA Guidelines state that a public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment[43]. However, the Guidelines go on to say that "in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Califomian".[44] CEQA gives public agencies the flexibility to approve a project that will cause one or more significant effects on the environment, if they determine that other competing public objectives outweigh protection of the environment; or if there is no feasible way to lessen or avoid the significant effect.

"Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.[45]

Each public agency shall adopt objectives, criteria, and specific procedures consistent with CEQA and the CEQA Guidelines for administering its responsibilities under CEQA.[46] Agencies have flexibility in adopting procedures to implement CEQA. An agency may adopt a complete set of procedures in one document, or it may adopt specific procedures and tailor them to the specific operations of the agency. "Local agencies must integrate the CEQA review process into the other planning and environmental review procedures they are legally or otherwise obligated to conduct."[47]

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[40] CEQA Guidelines Section 15382

[41] CEQA Guidelines Section 15064.7

[42] *Ibid.*

[43] CEQA Guidelines Section 15021

[44] *Ibid.*

[45] CEQA Guidelines Section 15364

[46] CEQA Guidelines Section 15022

[47] Guide to CEQA, Chapter II. 1999

Review of Applicability of CEQA to MS4 Permit Objectives

As described in the sections above, many fundamental differences exist between the scope and intent of CEQA and the intent of state and federal storm water regulations.

The first fundamental difference lies in the main objectives of each regulation. The purpose of CEQA is to avoid or minimize environmental damage where feasible. Prior to requiring mitigation or changes to a project, an agency must determine whether a significant effect on the environment may result from a particular project. The CEQA Guidelines define a "significant effect" as a substantial adverse change in the physical conditions, which exist in the area affected by the proposed project. The goal of controlling pollutants and other impacts from storm water runoff is not specifically mentioned in the CEQA Guidelines.

On the other hand, the purpose of the MS4 permit is to effectively prohibit non-storm water discharges to the MS4 and to require the implementation of controls to reduce the discharge of pollutants in storm water to the MEP and to meet water quality standards.[48] The ultimate goal of the CWA is to restore and maintain the physical, chemical, and biological integrity of the Nation's waters. Wherever attainable, water quality control should provide for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water (i.e., fishable, swimmable). The criteria used to measure these goals are often chemical and biological in nature. Also, under the CWA, compliance with and effectiveness of MS4 permits are unequivocally based on meeting chemical and biological standards. In fact, exceedances of chemical water quality criteria and/or impacts to aquatic life and many other beneficial uses would not constitute a substantial change in the physical conditions under which exist in a project area. Under CEQA, causing or contributing to pollutants discharged in storm water would not meet the definition of "significant effect. It is a fair inference that CEQA was never intended to remedy impacts to surface water quality, but only that impacts be considered in public-decision making. For example, Cal. Pub. Res. Code § 21001 states that the policy of the State is to:

> "Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criteria in public decisions."

Justification that Review Must Not be Limited to "Discretionary" Projects

Another major discrepancy under CEQA is the project categories covered. Clearly the projects subject to CEQA and the CEQA review process do not encompass all development categories covered by the LA County MS4 permit. There is no question under U.S.EPA storm water regulations that minimum development planning control measures must be implemented for all projects one acre or greater in size. The CWA makes no distinction between projects that may be considered ministerial or discretionary under the local government project planning approval process.

[48] Clean Water Act, Section 402(p)

Consequently, there is no justifiable reason to limit storm water management requirements to "discretionary" projects when mitigating storm water impacts. The difference between a ministerial and a discretionary project varies between agencies, and it is based on their own specific ordinances that may not be related to the protection of water quality in any way. As discussed in the introduction, the LA Regional board never intended for the term "discretionary" to be defined as it is under CEQA. The examples described below are evidence that limiting the requirements in the permit to "discretionary" projects would allow many projects to escape storm water mitigation requirements, which are necessary to comply with federal regulations. Cities classify projects as discretionary based on other ordinances that are totally unrelated to water quality.

For example, the City of Santa Monica classifies proposals for restaurants as ministerial projects, so long as they do not serve alcohol. Therefore, all new restaurants not serving alcohol, which includes the majority of fast food chains, are only required to comply with zoning requirements and pay permit fees to begin construction. When the LA Regional Board issued the Final SUSMP, on March 8, 2000, restaurants were one of the categories that were made subject to development and significant redevelopment conditions in order to reduce pollutants in storm water runoff to the MEP. If a proposed restaurant in the City of Santa Monica plans to serve alcohol, it is considered "discretionary". The City can choose to deny these proposals, or approve them with conditions, such as storm water mitigation conditions. Whether or not a restaurant serves alcohol has no affect on the type or amount of pollutants generated at the site that may come in contact with storm water. The City's basis for classifying a proposed restaurant as discretionary or ministerial is clearly not related to the protection of water quality. A limiting interpretation based on alcohol sale would lead to noncompliance with the CWA and federal storm water regulations.[49]

As another example, a retail gasoline outlet (RGO) that is proposed to be located in a commercial zone is considered ministerial.[50] Whereas an RGO proposed in a non-commercial zone requires discretionary approvals. RGOs have been determined to be a significant category subject to storm water mitigation requirements. They are a well-identified source of urban storm water pollutants that impair receiving waters.[51] Yet under CEQA, municipalities may treat RGOs differently because of local government zoning criteria. Regardless of existing zoning practices, RGOs generate significant concentrations of hydrocarbons and heavy metals. This fact is further evidence that the municipal distinction between ministerial and discretionary is not related to water quality.

Municipal zoning plays a very significant role under CEQA as to the extent of environmental review that a development project undergoes. For example, if a commercial project, regardless of its size, is proposed for an area that is already zoned for commercial use, it does not require discretionary approval. Thus, if SUSMP requirements were only applied to the discretionary approval process as determined by CEQA, the result would be that large commercial developments that meet or exceed the thresholds in the SUSMP would not be required to implement storm water mitigation

[49] City of Santa Monica CEQA review procedures

[50] *Ibid.*

[51] RGO Technical Report, Radulescu *et al.* (June 2000)

measures because they were built in zones considered conforming use. For example, just between January 1, 2000 and December 31, 2000, the City of Los Angeles issued building permits to 133 commercial developments greater than 100,000 square feet that would be considered ministerial under this criterion.[52]

Similarly, the numerous statutory and categorical exemptions provided under CEQA clearly are not consistent with the statutory standard of reducing pollutants in storm water to the MEP. Many of the exemptions appear to have the intention of providing a decent home to Californians without considering possible impacts to water quality from storm water runoff. For example, all development projects consisting of the construction, conversion, or use of residential housing of not more than 100 units in an urbanized area that is affordable to lower income households are exempt by statute. Storm water monitoring and studies have documented that urban areas contribute significant pollutants to storm water, such as metals, hydrocarbons, and pesticides, irrespective of the affordability of the homes. The affordability of housing does not affect the generation of these pollutants from urban residential developments.

Furthermore, the Class 2 categorical exemption also allows for the replacement or reconstruction of existing structures where the new structure will be located on the same site and will have substantially the same purpose and capacity as the structure replaced. This exemption would negate the inclusion of many "redevelopment" projects in the development planning provisions of the permit. For the purposes of water quality protection, storm water mitigation requirements must be applied to all planning priority projects that undergo significant redevelopment in their respective categories.[53] As defined in the permit, significant redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site, or an increase of more than fifty percent of impervious surfaces of a previously existing development.[54] The U.S.EPA affirms this requirement in its Phase II Final Rule, where it states that considering potential adverse water quality impacts from redevelopment projects provides more opportunities for water quality protection.[55]

Options for Municipalities

The municipalities argue that their development planning programs and review procedures cannot be modified to include the review of ministerial projects. This statement is incorrect. The following options exist for municipalities to include all planning priority development and redevelopment projects in their environmental review processes.

The first option is for cities to make all planning priority project categories discretionary beyond statewide categories by adopting local ordinance provisions that

[52] City of Los Angeles, Department of Building and Safety, New Commercial Building Permits Issued Between 1/1/2000 and 12/31/2000.

[53] Permit, Part 4.D.8

[54] *Ibid.*

[55] 64 Fed. Reg. 68759

create decision-making discretion. CEQA gives an agency a blanket authority to conduct environmental reviews of projects when other laws allow them any type of decision-making powers. "CEQA is intended to be used in conjunction with discretionary powers granted to public agencies by other laws, it does not grant an agency new powers independent of the powers granted by other laws." Certainly, the MS4 permit can be viewed as one of these "other laws", which requires cities to modify their local ordinances to protect water quality and implement control measures consistent with federal storm water regulations. The SUSMP requires that cities amend their codes and promulgate ordinances to give legal effect to the SUSMP requirements.[56] These requirements then become the part of each local ordinance that gives the city discretionary powers over priority development projects, deeming them "discretionary projects".

The second option is for municipalities to administratively establish standards and objective criteria for storm water mitigation for ministerial projects and for planning priority development categories that are otherwise exempt from CEQA review. The City of Los Angeles currently uses this process and, in a letter dated July 25, 2001, did not oppose the LA Regional Board staff recommendation to retain the requirement to include all projects in the development planning program.[57] The County of Los Angeles utilizes a similar administrative process to ensure that priority-planning projects considered ministerial incorporate SUSMP requirements.[58] In the City of Santa Monica, all projects undergo urban runoff procedures regardless of whether they are discretionary or ministerial.[59]

Conclusion

There is no technical or legal basis to limit the application of new development and redevelopment requirements to projects defined for environmental review by the limitations of CEQA. Restricting the application of storm water mitigation requirements to CEQA discretionary projects is not consistent with federal storm water regulations for the protection of water quality. The determinative consideration for the application of development planning provisions should be whether a particular category of development has been determined to cause or contribute to significant pollution of storm water. A procedural classification defined by CEQA should not matter, let alone be determinative.

[56] Final SUSMP, March 8, 2000

[57] See City of Los Angeles Policy memo from Chief Legislative Analyst to City Council Environmental Committee Chair (July 25, 2001), p 4, which supports the extension of new development planning requirements to administrative projects.

[58] LA County Department of Public Works (DPW),' Announcement, NPDES-*Development Planning for Storm Water Management*,' where review of new development requirements is shared among Land Development Division, Building and Safety Division, and Environmental Programs Division. http://ladpw.org/wmd/ust/npdes_susmp1.pdf

[59] The City of Santa Monica Ordinance (Municipal Code Chapter 7.10.01) requires all new development or redevelopment projects to implement the appropriate storm water mitigation measures.

MITIGATION OF STORM WATER IMPACTS FROM NEW DEVELOPMENT IN ENVIRONMENTALLY SENSITIVE AREAS

Technical Report

October 2001

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INTRODUCTION

The California Regional Water Quality Control Board, Los Angeles Region (LA Regional Board) issued the final version of the Standard Urban Storm Water Mitigation Plan (SUSMP) for the County of Los Angeles and Cities in Los Angeles County on March 8, 2000. As adopted, the SUSMP included locations within or directly discharging to an environmentally sensitive area (EnvSA) as a development category to be subject to SUSMP requirements. The Building Industry Association, Western States Petroleum Association, and 32 cities filed an amended petition to the State Water Resources Control Board (State Board) to appeal certain aspects of the SUSMP. On October 5, 2000, the State Board issued its decision, *In Re: Bellflower et al.* ("SUSMP Decision").[1]

Although the SUSMP decision upheld much of the Regional Board's action, it removed EnvSAs as a development category from the SUSMP. The State Board surmised that EnvSAs were not a developmental category, but rather a locational designation. Further, the State Board expressed some concern that no threshold size had been specified that would trigger SUSMP requirements[2], and that development in EnvSAs may already be extensively regulated. Although the LA Regional Board had proposed a threshold for development within, adjacent to or directly discharging to an EnvSA in its response, the State Board determined that adequate opportunity for discussion of the threshold by interested parties had not been provided.[3] In setting aside the EnvSAs, the State Board explained the types of evidence and findings that

[1] SWRCB, 2000. State Board Order No. WQ 2000-11: In the matter of the petitions of the Cities of Bellflower, et al., the City of Arcadia, and Western States Petroleum Association,

[2] *Ibid.* at page 24.

[3] SWRCB, 2000. State Board Order No. WQ 2000-11: In the matter of the petitions of the Cities of Bellflower, et al., the City of Arcadia, and Western States Petroleum Association, page 25.

Regional Boards must make for future inclusion of the category.[4] The action to set aside EnvSAs was not to be interpreted as precedent setting.

The LA Regional Board intends to insure consistency among the requirements of the different municipal storm water permits it adopts. On July 27, 2000, the LA Regional Board adopted a renewed municipal storm water permit for Ventura County (Ventura County MS4 Permit) (Board Order No. 00-108). The Ventura County MS4 Permit included the Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan (SQUIMP), which is analogous to the SUSMP for Los Angeles County. The Ventura County MS4 Permit requires that that new development controls be implemented for several development categories, including projects sited within, adjacent to or directly discharging to an EnvSA. Like the SUSMP, the SQUIMP requires a suite of water quality-related best management practices (BMPs) intended to minimize impacts from development.

Following issuance of the SUSMP decision, the Ventura County Co-permittees requested to have the language of the Ventura Permit and SQUIMP revised to conform to the changes made to the Los Angeles County SUSMP. In response, the LA Regional Board Executive Officer issued a letter, which changed portions of the Ventura County MS4 Permit language. However these changes did not modify the Ventura County MS4 Permit with respect to the EnvSA language or SQUIMP requirements. Three Ventura County MS4 Permittees petitioned the State Board against the actions of the LA Regional Board Executive Officer in making these changes to the Ventura County MS4 Permit. The State Board and LA Regional Board have held the appeals in abeyance pending the resolution of related issues during the renewal of the LA County MS4 Permit. Until these appeals are resolved, the Ventura County MS4 Permit remains in effect as adopted, including the requirements for projects in EnvSAs.

The California Regional Water Quality Control Board, San Diego Region (SD Regional Board) adopted a Municipal Storm Water Permit for San Diego County and Cities (SD County MS4 Permit) on February 28, 2001. The SD County MS4 Permit designated EnvSAs as a development category to be subject to SUSMPs, and included threshold development size and/or alteration criteria that will trigger the requirements. The threshold criteria were either the creation of 2,500 square feet of impervious surface or increasing the imperviousness of a proposed project site by ten percent above its natural condition.[5]

URBAN STORM WATER RUNOFF AND WATER QUALITY IMPACTS

Urban storm water contains pollutants that degrade water quality and adversely impact aquatic habitat. Pollutants found in storm water include suspended solids, heavy metals and a broad suite of organic compounds including pesticides, nutrients, petroleum compounds, pathogen indicators and other by-products of urban activities.[6] [7] Urban storm water has also been shown to alter water quality parameters such as pH, oxygen demand, specific

[4] See Memorandum from Craig Wilson, Chief Counsel, State Board to Regional Board Executive Officers dated Dec. 26, 2000.

[5] California Regional Water Quality Control Board, San Diego Region, San Diego County Municipal Storm Water Permit, Order No. 2001-01, 52 pp.

[6] Makepeace, D.K., Smith, D.W. and Stanley, S.J., 1995. Urban stormwater quality: summary of contaminant data. *Critical Reviews in Environmental Science and Technology*, 25(2): 93-139.

[7] Ayers, M.A., Kennen, J.G. and Stackelberg, P.E., 2000. Water quality in the Long Island-New Jersey coastal drainages, New York and New Jersey, 1996-98. U.S. Geological Survey Circular 1201.

conductance, temperature and turbidity.[8] Finally, urbanization modifies the hydrologic properties of a site, generally leading to increased volumes of runoff from a given amount of precipitation, and a more rapidly developing runoff peak.[9]

These pollutants and hydromodifications can directly result in negative impacts to biota and degrade ecosystems. Metals, organic compounds and other pollutants can have acute and/or chronic toxic effects to aquatic flora and fauna[10], and flow modifications can directly degrade the physical conditions of a habitat through erosion and deposition of sediments.[11] [12] A growing body of research links urban storm water runoff to water quality impairments and habitat degradation.[13] [14] Rivers and tributary streams, lakes, wetlands, estuaries and near shore ocean waters are susceptible to storm water impacts.

Adjacent habitats may be indirectly impacted by the degradation of aquatic areas. Fauna in riparian habitats may be negatively impacted by water quality degradation through reduced aquatic food sources, alteration of reproductive environments and habitat alteration that fosters proliferation of non-native species.

FEDERAL STORM WATER REGULATIONS

Federal storm water regulations require MS4 permittees to control storm water pollution from new developments during and after construction. U.S.EPA guidance advocates preventative measures including development design, implementation and maintenance of structural and non-structural best management practices (BMPs), and adoption of post-construction runoff ordinances.[15]

In February 2001, the U.S.EPA issued a Memorandum of Agreement (MOA) between the U.S.EPA, U.S. Fish and Wildlife Service (USFW) and the National Marine Fisheries Service (NMFS). The MOA is designed to enhance coordination of protection of endangered and threatened species pursuant to the Endangered Species Act (ESA) and the Clean Water Act (CWA). EPA believes that a coordinated national approach will insure greater protection for listed species, enhance regulatory predictability, and increase the efficiency of ESA

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[8] Schueler, Tom, 1994. The importance of imperviousness. *Watershed Protection Techniques*, 1(3) 7 pages.

[9] Booth, D. and Jackson, C.R., 1997. Urbanization of aquatic systems: degradation thresholds, stormwater detention, and the limits of mitigation. *Journal of the American Water Resources Association*, 33(5):1077-1090.

[10] Field, R. and Pitt, R.E., 1990. Urban storm-induced discharge impacts: US Environmental Protection Agency research program review; *Water Science and Technology*, 22(10/11):1-7.

[11] Sovern, D.T. and P.M. Washington, 1996. Effects of urban growth on stream habitat. In Roesner, L., ed. Effects of watershed development and management on aquatic ecosystems. ASCE Conference, August 4-9, 1996, Snowbird, Utah.

[12] May, Christopher W.; Horner, Richard R.; Karr, James R.; Mar, Brian W.; Welch, Eugene B., 1997. Effects of urbanization on small streams in the Puget Sound Lowland ecoregion, *Watershed Protection Techniques* 2(4): 483-494.

[13] Bay, S., Greenstein, D., Jirik, A. and A. Zellers, 1996. Toxicity of Stormwater from Ballona and Malibu Creeks, Southern California Coastal Water Research Project, Annual Report 1996, p. 96-104.

[14] U.S. General Accounting Office, 2001. Water Quality: Better data and Evaluation of Urban Runoff Programs Needed to Assess Effectiveness, USGAO, June 2001.

[15] For a discussion see, Radulescu, D., Swamikannu, X. and P. Hammer, 2001. Retail gasoline outlets: New development design standards for mitigation of storm water impacts, Technical Report, June 2001, California Regional Water Quality Control Board, Los Angeles Region.

consultations.[16]

Under the CWA, the Regional Board is responsible for "restoring and maintaining the chemical, physical and biological integrity of the Nation's waters". Clearly, the MOA contemplates cooperation and coordination of the Regional Board's regulatory programs to enhance the relationship between the CWA and the ESA.

In issuing MS4 Permits, the Regional Boards are expected to ensure that all federal requirements are met. New developments that occur in EnvSAs should be required to incorporate into development design and long-term maintenance planning, storm water pollution prevention methods and appropriate BMPs.

ENVIRONMENTALLY SENSITIVE AREAS

California Public Resources Code defines EnvSAs as follows:

> "Environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and Development."[17]

In the proposed LA County MS4 Permit these include:

(i) Significant Ecological Areas (SEAs), designated by the County of Los Angeles;
(ii) Significant Natural Areas (SNAs) designated by the California Department of Fish and Game (CDFG);
(iii) Rare, Threatened, or Endangered Species (RARE) beneficial use areas listed in the Regional Board Basin Plan, designated by the LA Regional Board; and

For the Ventura County MS4 Permit, the SEA category is substituted with the following because the Ventura County Planning Agency has not performed an equivalent designation,

(iv) Other Areas identified by the Permittees as environmentally sensitive for water quality purposes.

EnvSAs in the LA County MS4 Permit have been designated through a public process by their designating agencies. SEAs provide a habitat for rare, endangered, or threatened plant and animal species; biotic communities, vegetative associations, and species that are either one of a kind, or are restricted in distribution. These habitats often serve as concentrated breeding, feeding, or resting, or migrating grounds, and is limited in availability. They contain biotic resources that are of scientific interest. Some of these areas are important as game species habitat or fisheries; provide for the preservation of examples of relatively undisturbed natural biotic communities; and areas that are special for other reasons.[18] SNAs are areas that may

[16] USEPA, 2001. Fact Sheet: Memorandum of Agreement between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service regarding enhanced coordination under the Clean Water Act and Endangered Species Act. EPA-823-F-01-003.

[17] See, Cal. Pub Res. Code 30107.5

[18] Los Angeles County Department of Regional Planning, 2000. Los Angeles County Significant Ecological Area update study 2000, Background Report. Prepared for Los Angeles County by PCR Services, Frank Hovore & Associates, and FORMA Systems.

support extremely rare species or habitats, support associations or concentrations of rare species or habitats, or exhibit the best examples of rare species and habitats in California.[19] The RARE beneficial use designation is assigned to "uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state of federal law as rare, threatened, or endangered.

Since most of the selection criteria for EnvSAs involve rare, endangered or threatened species and associated habitat, any negative impact to such areas acquires a higher degree of severity. In these areas, recovery from impacts is inhibited by inherently smaller populations, restricted habitat boundaries, habitat fragmentation, and boundary effects. So, for a given negative stimulus, EnvSAs will experience a potentially greater and less reversible negative response than areas with more abundant and less sensitive species or biotic assemblages. Due to this sensitivity these areas are more easily degraded, therefore they merit a higher standard of protection.

RELATED ENVIRONMENTAL PROTECTION

Selected areas in California already merit a higher standard of protection from development impacts because of location. The California Ocean Plan prohibits the discharge of "waste" to Areas of Special Biological Significance (ASBS), and requires discharges to be located far enough away to allow maintenance of natural water quality conditions in ASBS.[20] The State Board recently issued a decision regarding storm water discharges where it determined that discharges to ASBS are prohibited.[21]

In the late 1980s the Sierra Club brought a petition against the County of Los Angeles alleging a failure to conduct an environmental review of a proposed project in a protected habitat area prior to granting project approval, as specified by the Malibu Local Coastal Plan (LCP). The trial court ruling in this case resulted in the creation of an environmental review board (ERB) to regulate development in sensitive environmental resource areas.[22] The function of the ERB is to advise decision-makers of the County of Los Angeles to insure that development within sensitive environmental resource areas is consistent with the environmental protection policies of the Malibu LCP. The ERB evaluates proposed projects, makes recommendations, and suggests mitigation measures or conditions to minimize adverse environmental impacts[23]. Projects found not to be consistent with the Malibu LCP could presumably be denied a permit.

Relevant policies in the Malibu LCP include:

Policy 86:

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[19] Significant Natural Areas website: http://www.dfg.ca.gov/whdab/html/moresna.html.

[20] SWRCB, 1997. California Ocean Plan: water quality control plan – ocean waters of California. California Environmental Protection Agency, Sacramento, California.

[21] SWRCB, 2001. In the matter of the Petition of California Department of Transportation (Cease and Desist Order No. 00-87 for Crystal Cove), issued by California Regional Water Quality Control Board, Santa Ana Region. SWRCB file A-1350.

[22] Sierra Club, et al., F.P. Angel, Counsel,Vs. County of Los Angeles and Board of Supervisors, C. Moore, Counsel, September 26, 1991, Ronald M. Sohigian, Judge.

[23] Los Angeles County Board of Supervisors, 1986. Malibu Local Coastal Program Land Use Plan.

"A drainage control system, including on-site retention or detention where appropriate, shall be incorporated into the site design of new developments to minimize the effects of runoff and erosion. Runoff control systems shall be designed to prevent any increase in site runoff over pre-existing peak flows. Impacts on downstream sensitive riparian habitats must be mitigated."

Policy 96:

"Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste shall not be discharged into or alongside coastal streams or wetlands."

The California Coastal Act contains provisions for an increased level of protection for resources defined as Environmentally Sensitive Habitat Areas (ESHAs). Cal. Pub. Res. Code § 30240.a states that:

"Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas."

On September 28, 2000, the California Coastal Commission (CCC) sent a letter to the State Board supporting the LA Regional Board's action in extending SUSMP requirements to EnvSAs.[24] Recently in commenting on a draft of the LA County MS4 permit, the CCC reiterated its support for inclusion of EnvSAs.[25] The CCC explained that the inclusion of EnvSAs is an important action that would greatly assist the State's efforts to protect the ecological integrity of land and coastal environments.

THRESHOLDS/EXEMPTIONS

The State Board in the SUSMP decision explained that Regional Boards might extend new development requirements to EnvSAs in the future if thresholds are established after full public discussion.

From a review of exemption criteria for developments in the literature, we note that CEQA uses the criterion of 2,500 square feet of impervious surface area for projects in EnvSAs as the threshold below which there is no environmental review. CEQA categorically exempts from environmental review: single-family residences or second dwelling unit in a residential zone; up to three single-family residences in an urbanized area; a duplex or similar structure in a residential area; apartments or similar structures designed for not more than six dwelling units in an urbanized area; stores, motels, offices or similar structures not using significant amounts of hazardous materials, and not exceeding 2,500 square feet in floor area.[26] The CEQA categorical exemption for up to four commercial buildings not exceeding 10,000 square feet of floor area, and not using significant amounts of hazardous materials, applies only if the

[24] California Coastal Commission, 2000. Letter dated September 28, 2000, to Craig Wilson, Chief Counsel, SWRCB, from Jaime Kooser, Deputy Director, Energy, Ocean Resources, and Water Quality.

[25] See Comment Letter from Jamie Kooser, Deputy Director, California Coastal Commission to Dennis Dickerson, Executive Officer, LA Regional Board dated July25, 2001.

[26] Title 14. California Code of Regulations, Chapter 3. Guidelines for Implementation of the California Environmental Quality Act; Article 19. Categorical Exemptions.

surrounding area is not environmentally sensitive. Commercial facilities less than 10,000 square feet and surrounded by an area that is environmentally sensitive therefore are not exempt from CEQA requirements. The CCC exempts single family residences (subject to conditions for access, water supply, etc.) from requirements for a coastal development permit. [27] The SD Regional Board excludes the applicability of new development requirements for development in EnvSAs where the change in impervious surface area is less than ten percent from the natural condition.[28] States such as Maryland, Washington, Florida, and Virginia use a threshold of 4,000 square feet or 5,000 square feet of disturbed land area for new development requirements to apply, but do not have a separate threshold for projects in EnvSAs although they require a stricter performance standard.

Although, we were unable to find an express basis in the legislative record for the CEQA threshold of 2,500 square feet of impervious area, it is reasonable to assume that the threshold derives from the typical impervious surface footprint of a single-family residential home (less than 2,500 square feet). Similarly, the typical single family lot size (less than 5,000 square feet) may be the basis of the threshold for the application of new development controls in other States. The SD Regional Board's alternative criteria of ten percent change from the natural condition appears to be based on scientific studies in the Mid-West and Pacific-Northwest which demonstrated that a more than ten percent change in impervious cover of watershed resulted in visible change to the ecological health of streams. Highly urbanized watersheds such as those in Los Angeles County usually have more than 50 percent impervious cover.

From our review of the scientific and regulatory literature, it is clear that environmental law and policy on development controls have been often framed to avoid imposing regulatory obligations on the individual homebuilder and/ or homeowner. A threshold for development in EnvSAs based on a similar objective appears to be reasonable.

DESIGN STANDARDS

The SUSMP requires the implementation of a suite of BMPs for developments, to mitigate adverse environmental impacts due to storm water and urban runoff. The suggested BMPs are designed to reduce the pollutant load in runoff and impacts from increased runoff volume and flow rates. Examples of BMPs include design elements such as clustering development, preserving existing vegetated areas, covering exposed pollutant sources and minimizing impervious surfaces, and treatment devices including detention or retention basins, oil/water separators, and filter systems.

The SUSMP does not prescribe specific BMPs, but does provide flow-based and volume-based criteria for runoff treatment. The choice of BMP or combination of BMPs is left to local control as long as the Maximum Extent Practicable (MEP) standard is met.

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[27] California Public Resources Code, 30610.1. (a) Prior to certification of the applicable local coastal program, no coastal development permit shall be required for the construction of a single-family residence on any vacant lot meeting the criteria set forth in subdivision (c) and located in a specified area designated by the commission pursuant to subdivision (b).

[28] SD County MS4 Permit (Board Order No. 2001-01) at p. 16

ECONOMIC CONSIDERATION

BMPs required as part of the implementation of the SUSMP and SQUIMP will have economic impacts. Some BMPs would be implemented in most developments even if they were not explicitly required by regulation, including protection of slopes and channels and covered and contained trash and material storage areas. Other BMPs will be implemented only because they are required, and therefore potentially have a greater economic impact.

Economic impact will be case-specific and will depend on many factors. Studies about storm water BMP cost show that the size, type of development, existing environment, geology, and climate can affect the choice of BMP and its cost.[29] For example, an infiltration basin may be appropriate if the substrate is permeable, and groundwater contamination is not likely, whereas a biofiltration system that releases to the surface may be appropriate is the substrate is impermeable, or if sensitive groundwater resources are close to the surface. However, by imposing water quality requirements on the development at the design stage, cost savings can be maximized.

Clustered housing may save money on infrastructure, while minimizing the addition of impervious surface. Cost savings from alternative residential development designs have been estimated to be from 39–63% over conventional designs.[30] Commercial developments may demand certain parking space requirements, but water quality requirements can be met by pervious pavement, vegetative treatment swales, or water quality basins. Construction costs for storm water treatment BMPs for a five-acre commercial development have been estimated to range from $5,000 to $60,000 depending on the selected BMP. If water quality requirements are factored into the initial planning and design phase, total cost can be minimized and water quality benefits maximized.

JUSTIFICATION

The State Board excluded developments sited within, adjacent to, or directly discharging to EnvSAs from SUSMP requirements primarily because, it may have been mis-categorized as developmental rather than "locational", the absence of a threshold, the lack of adequate consideration by interested parties, and concerns of extensive regulation.

The LA Regional Board at this time, after nearly 12 months of public review for comment on three drafts, has provided ample opportunity for all interested parties to comment on the proposed criteria and its basis. By the nature of the designation of EnvSAs as a category to provide enhanced protection for, the basis is locational and identified as such under the Cal. Pub. Res. Code. § 30107.5. We propose a threshold of 2,500 square feet of impervious surface area or more as a threshold to trigger SUSMP requirements for projects in EnvSAs. On the issue of extensive regulation, we submit that most of the existing regulations regarding EnvSAs, are intended to exclude development entirely or limit allowed activities within the area but seldom for water quality protection. For developments that will be allowed, it is the responsibility of the State Board and Regional Boards to require effective mitigation of impacts from storm water and urban runoff and ensure at the same time that their actions do not harm

[29] Center for Watershed Protection, 1998. Cost and Benefits of Storm Water BMPs, Final Report 9/14/98, Prepared for Parsons Engineering Science, EPA Contract 68-C6-0001.

[30] *Ibid.*

the natural resources of California.

We recommend a threshold of 2,500 square feet or more to trigger the SUSMP requirements for developments in EnvSAs. Developments that create less than 2,500 square feet of impervious area will not require a SUSMP, developments that create 2,500 square feet of impervious surface or more will require a SUSMP. Staff also proposes that the redevelopment (i.e. creation, addition, and replacement) of single-family structures (including those in EnvSAs) be excluded from SUSMP requirements.[31] Permittees may consider the threshold of altering the imperviousness cover to ten or more percent over the natural condition as an alternative approach when they submit a watershed or a regional plan for consideration by the Regional Board as a substitute for site-by-site SUSMP requirements.

CONCLUSION

EnvSAs are inherently sensitive habitats containing unique, rare, threatened or endangered species and/or assemblages of species. Their unique and sensitive nature merits a higher standard of environmental protection than more common areas with common and abundant species. Storm water and urban runoff are known to contain a wide range of pollutants and have demonstrated toxicity to plants and animals. Therefore it is necessary to mitigate impacts from storm water and urban runoff to the MEP for developments within or directly discharging to EnvSAs. Applying SUSMP requirements to these developments is feasible and can be accomplished by a range of BMPs that can be tailored to the size and type of a particular development. The recommended threshold of 2,500 square feet of impervious area for application of SUSMP requirements in EnvSAs is reasonable and consistent with current principles of environmental law and policy. The most effective and economic way to accomplish the mitigation of storm water pollution from new development is to identify and implement water quality control techniques at the planning and design stage rather than require post-construction retrofits.

[31] State of Maryland exempts existing single family structures from new development/ re-development standards, Storm Water Design Manual 2000 at p 1.13

California Regional Water Quality Control Board, Los Angeles Region
Los Angeles County Municipal Storm Water Discharge Permit
Summary of Comments and Regional Board Staff Response
Second Draft [June 29, 2001]

Commentors	Comment	Staff Response
Burke Williams and Sorenson (BWS), [R Tahir, Baldwin Park, Carson, Claremont, Compton, Duarte, Lakewood, Montebello, San Gabriel, San Marino, Whittier (RT)], Coalition for Practical Regulation (CPR), Executive Advisory Committee (EAC)	1. Unfunded Mandate Support clean water but the permit requirements cost money to implement. It constitutes an unfunded mandate	Compliance with the Clean Water Act (CWA) is not predicated on the availability of funding. The requirements of the LA County MS4 permit are the same as that which would be expected under the CWA. There are no additional requirements that would constitute a supplementary requirement imposed separately and solely under the authority of the California Water Code (CWC). Thus the permit provisions are not subject to the California Constitutional bar on unfunded mandates. Proven successful financing programs nationwide include storm water utility fees and sewer fees. For more information on financing information please see, http://stormwaterfinance.urbancenter.iupui.edu/
Natural Resources Defense Council (NRDC), Santa Monica Bay Keeper (SMBK)	2. Completeness of Permit Application Permittees have not submitted necessary information to the Regional Board for permit issuance. Such information is important for the successful development and implementation of programs. The Regional Board cannot lawfully issue the permit if the necessary information has not been submitted	The first term LA County MS4 permit was issued in 1990 prior to the promulgation of USEPA Phase I storm water regulations. Some of the application requirements under 40 CFR 122.26 may not have been strictly met at that time. Prior to the permit being reissued in 1996, Regional Board staff reviewed the reapplication and determined that it was consistent with USEPA's Reapplication Policy (61 *Fed. Reg.* 41697) which was in draft form then. This Policy essentially states that the MS4 reapplication for reissuance for a subsequent five-year permit term should contain certain basic information, information for proposed changes, and proposed improvements to the storm water management program and monitoring program. Regional Board staff concur that information necessary for the successful development and implementation of programs should be obtained. However, such information can be developed during the permit term as well, without holding up permit reissuance (See, In Re City of Irving, Texas, NPDES Appeal No. 00-18, at 23 (EAB, July 16, 2001). Regional Board staff opine that the draft permit incorporates necessary provisions to obtain any information that is lacking for the implementation of a successful program.

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Commentors	Comment	Staff Response
Diamond Bar (DB), RT, [Arcadia, Culver City, Hawthorne, (AR)], Charles Abbott and Assoc. (CAA), Rutan and Tucker (R&T), CPR, Richards Watson and Gershon (RWG), BWS, Building Industry Assoc and Construction Industry Coalition on Water Quality (BIA)	3. Enforcement Retain the Notice to Meet and Confer provision that requires the Regional Board Executive Officer to meet with a Permittee prior to initiating a formal enforcement action.	The Regional Board is required to adhere to the State Board Enforcement Policy (Resolution No. 96-030) which established a progressive enforcement approach to ensure consistent, predictable, and fair enforcement of regulations. The Policy does not have a 'Notice to Meet and Confer' provision. The first level of enforcement is the issuance of a Notice of Violation (NOV). The NOV provides the Permittee the opportunity to demonstrate compliance, before the enforcement action is escalated to a penalty phase. The Regional Board Executive Officer has always been open to meeting with Permittees and interested parties to discuss permit issues irrespective of any other provision in the permit.
Heal the Bay (HtB), NRDC, SMBK	4. Comparison with the Ventura County and City of Long Beach MS4 Permits The draft permit appears weaker in several permit provisions than either the City of Long Beach MS4 permit or the Ventura County MS4 permit. These permits should set the baseline and no section of the proposed permit for LA County should be weaker. The specific areas are, (i) TDML Language, (ii) Criteria for applying SUSMPs to ESAs, (iii) Single Family Hillside Homes; (iv) monitoring reduction for non-detected pollutants; (v) toxicity testing requirements.	Corrected where true. The TMDL language has been revised to be identical to that in the Ventura County and LB MS4 permits. In the case of SUSMP criteria for ESAs, Regional Board staff has proposed thresholds to be responsive to the State Board decision in Order No. WQ 2000-11. In that decision, the State Board set forth types of evidence and criteria necessary for inclusion of ESAs in subsequent permits, including thresholds (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). The Ventura County MS4 permit precedes the State Board decision, as does the LB MS4 permit. A petition by several Ventura County MS4 Permittees on the ESA matter is being held in abeyance by the State Board, pending Regional Board consideration of the issue during reissuance of the LA County MS4 permit. For a complete discussion of the ESA matter see, Fact Sheet/ Staff Report – Attachment, Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'. The draft permit incorporates narrative SUSMP requirements for single family hillside homes and applies the numerical mitigation standard to single family hillside developments of one or

R0005322

Commentors	Comment	Staff Response
		more acres of surface area. It is correct that the State Board decision in Order No. WQ 2000-11 approved the hillside category without a threshold and that neither the Ventura County MS4 permit nor LB Ms4 permit contain one. However, Regional Board staff is persuaded that there is no technical basis to support different post-construction requirements for hillside development as compared to developments on flat land. The primary differences occur during construction and not post construction. Hillsides are more susceptible to erosion and sediment loss from exposed land than is flatland. This difference in potential risk is addressed through BMPs under the Development Construction provision. The proposed threshold will normalize the numerical mitigation standard for hillside development with general housing development. The monitoring reduction for non-detected parameters has been revised to be similar to that in the Ventura County MS4 permit. The toxicity-testing requirement has been revised to be similar to that in the LB MS4 permit.
Burbank (Brb), Calabasas (Cal), DB, AR, RT, R&T, RWG, BWS, BIA	5. Receiving Water Limits Language The statutory requirement for municipal storm water discharges is to reduce the discharge of pollutants to the maximum extent practicable (MEP standard) [CWA § 402(p)(3)(B)(iii)] The proposed language in the draft requires also that storm water discharges achieve water quality standards, thus nullifying the MEP standard. Which criteria will the Board use when determining compliance? CWC § 13263(a) requires the Regional Board to consider reasonableness and economics when prescribing waste discharge requirements. As written it invites third party lawsuits because Permittees will be out of compliance as soon as the permit is adopted. The language in the current permit, 'timely	The draft permit incorporates the RWL adopted by the State Board in its precedential decision in State Board Order No. WQ 99-05. The State Board Office of Chief Counsel has clarified that the U.S. Appellate Court decision in *Defenders of Wildlife v. Browner* 191 F.3d 1159 (9th Cir., 1999), did not contradict the RWL and that the State Board Order stands (Memorandum dated October 14, 1999, from Senior Counsel Elizabeth Jennings to Executive Director, Walt Petit). Also, the USEPA in prior comments to the State Board on the RWL in MS4 permits cites NPDES regulations at 40 CFR 122.44(d)(1)(i) as requiring effluent limitations where discharges, 'will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.....' and that the CWA § 301(b)(1)(C)does not provide the "not in violation" exception to compliance with water quality standards when exceedences occur (Letter of March 17, 1998 from Alexis Strauss, Water Division Director, USEPA Region IX, to Walt Petit, Executive Director, State Board). The State Board's interpretation of RWL can best be inferred from the Caltrans MS4 permit it issued in 2000 (Board Order No. DWQ), which includes language very similar to the RWL in this draft permit. The RWL provision in the draft permit requires Permittees to implement programs to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP). For those pollutants in storm water discharges that cause or contribute to the exceedences of water quality standards, Permittees will be required to implement additional controls to eliminate these exceedences. So long as Permittees continue to implement more and better controls to eliminate the exceedences, a citizen lawsuit brought under CWA (33 U.S.C. §1365) is unlikely

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Commentors	Comment	Staff Response
	and complete implementation of model programs....shall satisfy the requirements of this section' should be reinstated in the draft. Further, the language is inconsistent with State Board Order No. 99-05, which states that Permittees will not be in violation of water quality standards so long as they follow an implementation schedule. State Board Order No. 98-01 excised the 'cause or contribute' text from the compliance language. The U.S. Appellate Court decision in *Defenders of Wildlife v. Browner* 191 F.3d 1159 (9th Cir., 1999) defeats the interpretation in State Board Order No. 99-05 There is no justification for Permittees to have not upgraded the Storm Water Quality Management Plan to address water quality exceedences, especially in a third permit term. Water quality objectives in Table B of the California Ocean Plan apply to all discharges to the Ocean including non-point source and storm water.	to go forward. The Regional Board retains its discretionary authority to bring an enforcement action for exceedences of a water quality standard (*Sierra Club v. Whitman*, Case No. 00-16895, 9th Cir. (2001))
HtB	5.a. Numeric Effluent Limits The absence of numeric effluent limits for storm water in the permit may be reasons for the extensive impairment of receiving waters from municipal storm water discharges. The ambiguous MEP standard and the iterative approach to augmenting BMPs when water quality objectives	The draft permit incorporates SWMP requirements that serve as effluent limitations consistent with the State Board precedential decisions in Order No. WQ 91-03; Order No. WQ 91-04; and Order No. WQ. No numerical effluent limitations are included at this time. However, the draft permit contains language that makes any numerical allocation or effluent limitations for pollutants in MS4 discharges that are approved through the TDML process, immediately implementable and enforceable under this permit. In addition the RWL authorizes the Regional Board to make a determination, based on receiving water monitoring data, that water quality standards are being exceeded and then require Permittees to submit an implementation plan to eliminate exceedences.

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Commentors	Comment	Staff Response
	are exceeded are not enough based on the experience with implementation during the two past terms of the permit.	
EAC, NRDC, CPR, RT	6. Recognition of the EAC Eliminate the requirement that EAC Meetings be subject to the Brown Act (Cal. Gov. Code § 54950 *et seq.*) because the EAC is not a political decision making body. Eliminate any formal recognition of the EAC because such recognition would also require that other interested parties and coalitions be recognized similarly.	Reference to the EAC has now been deleted in the draft permit. Agree that the EAC is not a political decision making body but rather an informal executive group of permittee representatives. It would not be proper to recognize the EAC in the permit when it is does not subscribe to government rules for open meetings.
AR, RT, EAC, CPR	7. Open-ended Authority for Modification The draft permit grants the Regional Board Executive Officer unfettered authority to make modifications to certain requirements without public comment.	Incorrect. Modifications to the permit are governed by the 'Standard Provision. Reopener and Modifications' 40 CFR 122.41(f), which ensures that non-minor modifications to the permit are undertaken after public comment. Any party aggrieved by the action or inaction of the Regional Board Executive Officer may petition the full Regional Board for review (CWC). Similarly, any authority that the Regional Board delegates to the Regional Board Executive Officer under this permit, is reversible at the discretion of the Regional Board on petition (See State Board Order No. WQ 2000-11).
Covina (COV), LA County Fire, LA County (LAC), LA City (LA), [City of Los Angeles Department of Water and Power, California Water Service Company, Central Basin Water	8. Non-Storm Water Discharges Authorize potable water releases, which are intermittent and generally of short duration, conditionally as is the current practice. Authorize wash-down of trauma scene wastes to the storm drain system	The draft permit now includes potable water releases from drinking water distribution systems under authorized non-storm water discharges provided the release is done in accordance with American Water Works Association guidelines for dechlorination/ debromination and suspended solids removal. The discharge of trauma waste wash-down to the MS4 is not authorized. The Medical Waste Management Act requires that trauma scene waste be transported to a permitted medical waste transfer station or treatment facility (Cal. Health and Safety Code § 117600 *et seq.*). This Act preempts the Regional Board from authorizing the discharge of trauma scene waste to the MS4. Several municipalities already implement trauma waste management programs, which avoid

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Association, Southern California Water Company, South Montebello Irrigation District (Water)]		discharge to the storm drain system.
HtB, NRDC	9. Public Information and Participation Program The education program should be expanded to include measures and assessment of behavioral changes resulting from educational outreach.	The draft permit now includes provisions to evaluate change in behavior resulting from implementation of the public education program to determine effectiveness and help focus or redirect resources.
Brb, DB, AR, RT, R&T, RWG, BWS, LAC, LA, CPR, EAC	10. Industrial/ Commercial Inspections The municipality should not be held responsible for the compliance of industrial commercial facilities with storm water regulations. The site-education program alone should be sufficient. The municipality may carry out drive-by observations and report problem facilities to the Regional Board for follow-up. The industrial inspection program must require that municipalities inspect industrial facilities to verify compliance with local storm water ordinances. Municipalities must compel the implementation of additional controls at facilities when they are needed to assure compliance with local ordinances	The MS4 Permittee has a responsibility to make sure that industrial sites comply with local government storm water and urban runoff ordinances. The Regional Board has the responsibility to make sure that facilities 'discharging storm water associated with industrial activity' comply with the state's GIASP. USEPA storm water regulations require the MS4 permittee to obtain legal authority to monitor and controls pollutant discharges to the MS4 from industrial sites (40 CFR 122.26(d)(2)(iv)(C)). The legal authority includes the ability to carry out inspection, surveillance and monitoring procedures (Guidance Manual for the Preparation of Part 2 of the NPDES Applications for Discharges from Municipal Separate Storm Sewer Systems (USEPA1992)). Further, USEPA guidance states that MS4 Permittees shall, (i) identify priority industries discharging to the MS4; (ii) review and evaluate SWPPPs; (iii) require that industrial sites implement BMPs to reduce the discharge of pollutants in storm water; (iv) inspect and monitor compliance at industrial facilities discharging storm water. The USEPA clearly contemplates a dual and a cooperative oversight of facilities 'discharging storm water associated with industrial activity', between the permitting authority and the MS4 permittee (55 *Fed Reg.* 222, 48000; and Storm Water Phase II Compliance Assistance Guide (USEPA 2000), p 4-32 and 5-11). Further, LA County has conducted a prioritization of critical industrial/ commercial facilities that discharge storm water (Critical Source Selection and Monitoring Report, (LACDPW 1996). It has also conducted monitoring to document that the highest risk sites are indeed significant sources of storm water pollution, and that the implementation of source control BMPs (voluntary good housekeeping measures) at high risk critical source sites are not enough to

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		reduce the discharge of pollutants in storm water (Los Angeles County 1999-2000 Storm Water Monitoring Report (LACDPW 2000)). Given the information that is known, educational site visits and drive-by observations by themselves will not be enough to meet the statutory standard of MEP. At a minimum a MS4 Permittee must implement an inspection program for high-risk industrial/ commercial facilities to verify implementation of controls to reduce the discharge of pollutants. A review of USEPA issued MS4 permits nationwide indicates that an inspection program is incorporated as a basic requirement (Palm Beach County, FL; Tulsa, OK; Denver, CO). Similarly, Regional Board issued MS4 permits in California include an inspection expectation (San Diego County; Santa Clara County; Alameda County; Sacramento County)
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, Upper LA Water Master	11. Development Planning SUSMP provisions seek to regulate local land-use authority and local government decision making. CEQA preempts such development planning provisions	Incorrect. The draft permit recognizes that MS4 Permittees are obligated to consider potential storm water impacts when making planning decisions and approving development projects or building permits. The SUSMP provisions are not intended to restrict or control local land-use decision-making, only that the potential discharge of storm water pollutants be mitigated. On the other hand MS4 Permittees have to demonstrate that their programs for development planning meet the MEP standard. Failure to use the full authority granted to them on land-use planning matters under State law does not meet the MEP standard. CEQA is a procedural statute enacted to ensure that public agencies consider environmental impacts in development decisions they make. For water quality purposes, CWA and CWC are controlling, not CEQA. For a complete discussion of the CEQA matter see, Fact Sheet/ Staff Report - Attachment, Technical Report: Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality
Brb, Hib, SMBK, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, LA, Cal	11a. Peak Flow Control There appears to be no authority in the CWA for the permitting authority to regulate flow Develop consensus language on peak flow control. Provide the flexibility to conduct an assessment under the monitoring program and consider alternate solution to avoid accelerated downstream erosion and protect stream habitat	Clearly the CWA authorizes the control of activities, discharges, and pollutants when beneficial uses are adversely impacted (*Jefferson County PUD No. 1 v. Washington Dept. of Ecology*, 511 U.S. 700 (1994)). USEPA Phase II storm water regulations state that for post-development, "[the] consideration of the increased flow rate, velocity, and energy of storm water discharges must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards, and to prevent the degradation of receiving streams" 64 *Fed. Reg.* 68761). Several studies have demonstrated a definite nexus between pollutant discharges and increased flow from increases in impervious surface area.(*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*; Schueler, T. and R. Claytor, *Effects of Water Development and Management on Aquatic Ecosystems (1995). ASCE, New York*, Leopold, L. B., 1973. *River channel change with time: an example, Geological Society of America Bulletin*, v. 84, p. 1845-1860; Hammer, T. R., 1972. *Stream channel enlargement due to urbanization. Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., 1991. *Urbanization and the natural drainage system--impacts, solutions and prognoses: The Northwest Environmental*

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		Journal, v. 7, p. 93-118; Klein, R. D., 1979. *Urbanization and stream quality impairment. Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., 1997, *Effects of urbanization on small streams in the Puget Sound Lowland ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic geometry, stream equilibrium and urbanization*; Rhodes, Dallas P. and Williams, Garnet P. *Adjustments to the fluvial system*. 333-350. 1979; Dubuque, Iowa, Kendall/Hunt. *Tenth Annual Geomorphology Symposia Series*; and Schueler, Tom, 1994. *The importance of imperviousness. Watershed Protection Techniques*, 1(3). The Peak Flow Control provision in response to comments has been amended to include a time period for development of criteria after the completion of a Peak Discharge Impact Study. It has been clarified that the criteria apply to natural drainage systems, a term which is defined. In addition, the flexibility to develop a watershed strategy to control peak flow rather than through the use of site-by-site criteria is included.
Western States Petroleum Association (WSPA), Brb. Hth SMBK, DB. AR. RT. R&T. RWG. BWS. CPR. FAC. BIA	11.b SUSMP Applicability The draft permit extends numerical design criteria for all projects. (not just discretionary), to projects in ESAs, and to retail gasoline outlets. The State Board in its 'SUSMP' decision rejected these categories. Retain applicability of the numerical design criteria to just CEQA discretionary approvals. Revise the residential development category to projects with 100,000 square feet or more of directly connected impervious area (that is not low or moderate-income housing). Object to the change in thresholds for numerical mitigation criteria to apply from 10,000 square feet single-family hillside developments to one acre and ten or more of housing developments to 1 acre. The 1-acre threshold, which is obtained from USEPA Phase II	Incorrect. The State Board decision in Order No. WQ 2000-11 was precedential in upholding the requirement for new development and significant redevelopment to mitigate post-construction storm water based on a numerical design criteria for treatment control BMPs. The decision also set forth types of evidence and criteria necessary for extension of SUSMP requirements in future MS4 permits to all projects (not just discretionary), the application of the numerical mitigation criteria to retail gasoline outlets, and inclusion of ESAs. (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). For a complete discussion of the evidence for extension of the SUSMP requirements to these categories, see, Fact Sheet/ Staff Report – Attachment, (i) Technical Report: Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality; (ii) Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'; and (iii) Technical Report: Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts The State Board SUSMP decision upheld the application of SUSMP requirements to 10 or more unit home developments (about one acre) and not 100,000 square feet residential development (about 2.5 acres). To be consistent with USEPA Phase II storm water regulations the draft permit lowers the threshold for industrial/ commercial development from 100,000 square feet of impervious surface area to one acre of surface area (43,560 sq. ft) beginning 2003. This provision ensures that the SUSMP thresholds for industrial/ commercial development and residential development converge in 2003.

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	regulations, does not apply to Permittees because they are in Phase I. The City supports the extension of SUSMP requirements to all projects (including those receiving administrative review). Support the extension of numerical mitigation criteria to retail gasoline outlets and developments in environmentally sensitive areas.	The basis of the threshold for hillside residential developments has been previously discussed (See, Response in 'Comparison with the LA County and City of Long Beach MS4 Permits'). The 10,000 square feet threshold was a staff proposal considered in the first draft but has no precedent in the LB MS4 and Ventura County MS4 permits. The LA County MS4 Permittees are subject to USEPA Phase I storm water regulations for MS4 discharges. Additionally, Phase I storm water regulation included regulatory requirements for construction projects 5 acres or greater and facilities discharging storm water associated with industrial activity. USEPA Phase II requirements cover small MS4s and small construction projects (1-5 acres). The 1 acre threshold for construction projects is obtained from USEPA Phase II storm water regulations. It is incorrect to state that the one-acre is an inappropriate threshold for SUSMP requirements because LA County MS4 Permittees are in Phase I.
California Coastal Commission (CCC), Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA	11c. ESAs There is no reason to include ESAs under SUSMP requirements since they are heavily regulated by other agencies and are subject to many other environmental regulations. Support the extension of numerical mitigation criteria to ESAs. There is no justification to condition the applicability of SUSMP requirements to projects in ESAs, such as '2,500 square feet of impervious surface area' and 'likely to affect sensitive biological species or habitat'.	Regional Board staff has proposed thresholds for ESAs to be responsive to the State Board decision in Order No. WQ 2000-11. In that decision, the State Board set forth types of evidence and criteria necessary for inclusion of ESAs in subsequent permits, including thresholds (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). For a complete discussion of the ESA matter see, Fact Sheet/ Staff Report - Attachment, Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA, WSPA	11d. Definition of Redevelopment The State Board's SUSMP decision did not include the word, "replacement", in the definition of redevelopment	Correct. The addition of the word 'replacement' constitutes a clarification. The State Board's SUSMP decision did not clarify this issue. The USEPA describes Redevelopment as "alterations to a property that change the footprint of a site or a building ..." (Storm Water Phase II Compliance Assistance Guide, (USEPA 2000) p 4-34. USEPA's description encompasses replacement of an existing impervious surface in addition to creation and addition of impervious cover. The intent of the Regional Board in adopting SUSMP requirements was expressly to ensure that when highly developed communities, such as those in Los Angeles County, replace themselves through generations, the opportunity to mitigate the adverse impacts

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		of storm water pollution from urbanization is not lost (See Meeting Transcript, comment by Dennis Dickerson, Regional Board Executive Officer, at Regional Board Meeting on January 26, 2000). The redevelopment provision in the draft permit specifically excludes routine maintenance activity and single-family structures in response to comments submitted by Permittees.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC	11e. CEQA Guidelines Update The requirement is redundant because LA County already has similar guidelines. Compliance expectation is unclear because both construction and post-construction activities are included.	LA County MS4 Permittees include 85 entities and not all of them use LA County's CEQA guidelines. CEQA is a procedural statute enacted to ensure that public agencies consider environmental impacts in development decisions they make. The guidelines are intended to ensure that local government officials consider both the adverse environmental impacts of development during construction and post-construction during decision-making. The CEQA guideline provision is intended for LA County MS4 Permittees to demonstrate that they meet the MEP statutory standard under their development review and building approval powers.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC	11f. General Plan Update The Regional Board does not have a right to review or approve proposed updates or amendments to General Plans. State law requires that storm water quality be addressed only in the conservation element.	Under State Law, General Plan amendments and update are the privilege of the local government elected officials. The Regional Board has the right to provide comment on updates and amendments (Govt. Code § 65350 *et seq.*) and is requiring adequate notice to comment. The opportunity to make policy that promotes the consideration of adverse impacts of storm water discharges from new development and redevelopment exists in several other General Plan elements (not just Conservation). Failure to use the full authority granted to MS4 Permittees under State law to express policy direction through updates or amendments to the General Plan does not meet the MEP standard. Further, this provision is very similar to that in the current LA County MS4 permit but without the notification requirement.
BIA	12. Development Construction Adoption of the draft permit will effectively nullify coverage of construction projects under the GCASP (State Board Order No. 99-05-DWQ).	Incorrect. The GCASP regulates directly construction projects subject to USEPA Phase I storm water regulations. The LA County MS4 permit regulates directly municipal Permittees (not land developers or owners) and requires MS4 Permittees to implement a program to control storm water discharges associated with new development and redevelopment. Nullification of coverage under the GCASP for a construction project occurs only when the Regional Board adopts a separate general or individual permit for construction projects within the Regional Board jurisdiction and not when it adopts an MS4 permit.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA	12a. Construction Site Inspections The municipality should not be held responsible for the compliance of construction sites also regulated under the statewide construction storm water permit	The MS4 Permittee has a responsibility to implement an inspection program to make sure that construction sites irrespective of size comply with local government storm water and urban runoff ordinances (40 CFR 122.26(d)(2)(iv)(D)). The draft permit requires construction sites one acre or greater to demonstrate compliance through the implementation of a local SWPPP approved by the municipality. The Regional Board has the responsibility to make sure that construction sites five acres or greater comply with the state's GCASP. The local SWPPP may substitute for the State SWPPP if the local SWPPP is at least as stringent, but the compliance

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		obligation is dual and not mutually exclusive. The USEPA clearly contemplates a dual and a cooperative oversight of construction projects subject to state permitting between the permitting authority and the MS4 Permittee. (See comment on Industrial/commercial inspections)
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA	12b Small Construction Projects The municipality should not be required to obtain state permit coverage for construction projects between 1 and five acres beginning 2003 because the requirement does not currently exist. The State has not completed its rule making.	Incorrect. USEPA Phase II regulations are final (64 *Fed Reg.* 68722). The regulations require the state permitting authority to implement a permitting scheme to cover small construction projects (1-5 acres). The draft permit consistent with the regulations requires coverage for small construction projects beginning 2003.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC	13 Illicit Discharge/ Illicit Connection Elimination Make the requirement to map illicit connections and incidents of illicit discharges for priority action an optional task. Illicit discharges are best identified by drive-by ("off-site") inspections. The requirement to map is too costly because it would require a GIS	The provision has been modified to require the listing of all illicit connections and illicit discharges (in lieu of mapping). MS4 Permittees are required to conduct field screening of open channels and underground pipes according to a schedule. This change makes the program consistent with the LB MS4 Permit.
Cal	14 Standard Provision Delete the standard provision, 'Bypass' because it may result in an automatic violation during heavy storms if treatment control BMPs are installed	The USEPA requires that this Standard Provision be included in MS4 permits because it has been deemed applicable. The purpose of the provision is to provide clarification as to under what circumstances a " Bypass" can occur without it being a violation of the MS4 permit. A treatment control BMP that is designed for water quality purposes and to bypass non-water quality events would not be considered to violate this provision when a "Bypass" occurs under design conditions.
NRDC, R&T, Cal	15 Definition of Pollutant The definition of the term pollutant includes language that inverts the burden of proof to demonstrate that a discharge of pollutant did not occur. Delete phrases in the definition that do not comport with the definition in the CWA	Extraneous phrases have been deleted and the definition is now referenced to the CWA
LAC, HtB	16 Monitoring	The draft permit has been amended to require tributary monitoring to determine if water quality

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	Require use of State Board 'Policy for Implementation of Inland Waters and Bays and Estuary Plan Minimum Levels (MLs) for toxic pollutant parameters. Require tributary monitoring to verify land-use model. Require annual sediment toxicity testing and benthic community analysis in estuaries.	standards are being exceeded in inland surface waters. The existing steady state land-use model will require significant data collection and modification to improve its predictive ability on tributary loads. Regional Board staff consider that the effort would not be worthwhile because the Regional Board intends to rely on the predictive ability of a dynamic model currently being developed in partnership with the Southern California Coastal Research Project in order to establish TMDLs. The draft permit has been revised to ensure that monitoring protocols achieve Minimum Levels (MLs). This change is to ensure that the most current analytical methods are used to measure pollutants in storm water. Sediment testing, bioassesssment and benthic analysis in estuaries are best conducted as part of a regional study. The draft permit requires LA County to participate in the next Southern California Bight-wide Study in partnership with SCCWRP to generate this information.

List of Commentors on June 29, 2001 Draft

City of Arcadia (ARC)	City of Baldwin Park (BWP)	City of Burbank (BUR)	City of Calabasas (CAL)
City of Carson (CAR)	City of Cerritos (CER)	City of Claremont (CLA)	City of Compton (COP)
City of Covina (COV)	City of Culver City (CUV)	City of Diamond Bar (DIB)	City of Duarte (DUA)
City of Hawthorne (HAW)	City of Industry (IND)	City of Irwindale (IRW)	City of La Mirada (LAM)
City of Lakewood (LAK)	City of Los Angeles (LAC)	County of Los Angeles (LACO)	City of Monrovia (MON)
City of Montebello (MOL)	City of Norwalk (NOR)	City of Paramount (PAR)	City of Pico Rivera (PIR)
City of San Gabriel (SGA)	City of San Marino (SNM)	City of Santa Clarita (SNCL)	City of Santa Fe Springs (SFS)
City of South Pasadena (SPA)	City of Temple City (TPL)	City of Vernon (VRN)	City of Whittier (WHT)

Coalition for Practical Regulation (CPR)
Charles Abbott and Assoc (CAA)
California Coastal Commission (CCC)
Upper Los Angeles River Area Watermaster
California Water Service Company
South Montebello Irrigation District
So. Ca. Building Industry Assoc (BIA)
Bull Shot System, Inc. (BULSYS)
Natural Resources Defense Council
Rutan and Tucker (RT)
Executive Advisory Committee (EAC)
State of California Department of Health Services
Water Replenishment District (WRD)
Central Basin Water Association
Building Industry Association (BIA)
Construction Industry Coalition on Water Quality (CICWQ)
National Association of Industrial and Office Properties (NAIOP)
Santa Monica Baykeeper (SMBK)
Richards Watson and Gershon (RWG)
Burke, Williams & Sorensen, LLP (BWS)
County Sanitation Districts of Los Angeles County
City of Los Angeles Department of Water and Power
Southern California Water Company
Western States Petroleum Association (WSPA)
Heal the Bay (HTB)

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COUNTY OF LOS ANGELES
MUNICIPAL STORM WATER NPDES PERMIT
DISTRIBUTION LIST

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City of Avalon	Robert Clark	City Manager
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City of El Segundo	Bellur Davaraj	City Engineer
City of Gardena	Woody Natsuhara	City Engineer
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	Lou LeBlanc	City Engineer
	Carlos Santos	NPDES Storm Water Specialist
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City of Hawaiian Gardens	Dan Heil	City Engineer
City of Hawthorne	Charles Herbertson	City Engineer/Director of Public Works
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City of Hidden Hills	Bob Draper	City Engineer
City of Huntington Park	Pat Fu	City Engineer
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COUNTY OF LOS ANGELES
MUNICIPAL STORM WATER NPDES PERMIT
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	Aven Yam	Dept. of Public Works
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	Jerry Stock	City Engineer
City of Palos Verdes Estates	James Hendrickson	City Manager
City of Paramount	Bill Pagett	Asst. City Engineer
City of Pasadena	Dan Rix	City Engineer
	Jim Valentine	Principal Engineer, DPW
City of Pico Rivera	Enrique Acevedo	City Engineer
	Michael Moore	Administrative Analyst
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	Yvette Mullenaux	Dept. of Public Works
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	Les Evans	City Manager
	Marilyn Lyon	Mayor
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	Michael Shay	Civil Engineer
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	John Garcia	City Engineer/Director of Public Works
	Kym O'Leary	
City of San Fernando	Wilmas Miller	City Clerk
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	P. Michael Paules	City Manager
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	Larry Forester	Mayor
	Ed Schroder	Director of Public Works
City of South El Monte	Jim Harris	City Engineer/Director of Public Works
	Goerge Envall	Director of Public Works

City of South Gate	Ed Mino	City Engineer
City of South Pasadena	Jim Van Winkle	City Engineer/Director of Public Works
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City of West Hollywood	Sharon Peristein	City Engineer
City of Westlake Village	John Knipe	City Engineer
City of Whittier	Stephen Helvey	City Manager
	David Mochizuki	Director of Public Works

REGULATORY AND RESOURCE AGENCIES

US Coast Guard	Jake Holson
US Army Corps of Engineer	Dr. Richard J.Schubel
US EPA Region IX	Eugene Bromley, CWA Standards and Permits Off.
	Steve Fuller, CWA Standards and Permits Off.
	Laura Gentile, CWA Compliance
	Tom Huetteman, Chief of CWA Compliance
	Elizabeth Janes, Ground Water Office
	Terry Oda, Permitting
	Alexis Strauss, Director Water Division
US Fish and Wildlife Services	Louise Lampara, Dept. of Interior
	Kirk Wain, Dept. of Interior
USDA Forest Service	Terry C. Ellis, District Ranger
National Marine Fisheries Services (NOAA)	Mark Helvey, Dept. of Commerce
Cal/EPA	Nancy Sutley
State Water Resources Control Board	Jorge Leon, Office of the Chief of Counsel
	John Youngerman, Storm Water Section
	Bruce Fujimoto, Storm Water Section
California Coastal Commission	Pam Emerson
California Dept. of Fish and Game	Marvin Hee, Regional Patrol Chief
	Chris Long
	Bill Paznokas
	Jerry Spansiel
	Larry Stevens
South Coast Air Quality Management	Barry Wallerstein, Executive Director
	Bill Tippets
California Dept. of Health Services	Heather Collins
	Vera Melynk –Vecchio, Drinking Water Field Oper.
	Jeffrey Stone, Recycled Water Coordinator
	Gary Yamamoto, Drinking Water Field Operations
California Air Resources Board	Darrell Hawkins
California Dept. of Transportation	Paul Baranick
California Dept. of Water Resources	Charles White
County of Los Angeles, Dept. of Health Services	Jack Petralia
County of Los Angeles Fire Dept.	George Ghebranious
	James Holdrige, Asst. Fire Chief
	Gary Brougher, Health Hazmat Division

COUNTY OF LOS ANGELES
MUNICIPAL STORM WATER NPDES PERMIT
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To: "'wphillip@rb4.swrcb.ca.gov'" <wphillip@rb4.swrcb.ca.gov>
Date: 10/17/01 5:31PM
Subject: Reporting Format

Hi Wendy, I hope you are back. How's your vacation; where did you go this time?

Wendy If I may, I have attached here some examples how to develop the Individual Annual Report Form (Attachment U-5 of the Draft Permit). I commented on the need of this format to be included in the Monitoring and Reporting Program of the Permit on one of our EAC meeting where you Dennis, Xavier and Dan were present.

Well, I just feel that perhaps it will be much better if your questionnaire are arranged to be consistent with the permit format. This format should help us coordinate implementation of each permit requirement to our respective sections and divisions because they are being asked in the reporting form as well as it's being consistent with permit provisions.

Take care,

Carlos

<<10172001 Comment.doc>>

Individual Report Form
Municipal Stormwater and Urban Runoff Discharges Permit

Reporting Year 2001- 2002

Permittee Information

Permittee Name: _____

Permittee Program Supervisor: _____

Title _____
Address: _____
City: _____
Tel. No.: _____

Permittee Executive Officer (40 CFR 122.22(b)(2):

Title _____
Address: _____
City: _____
Tel. No.: _____

Primary responsible section(s) and Department(s) that coordinates and implements the Permit:

_____
_

_____
_

_____
_

_____

1. Discharge Prohibitions

A.A. Has your City implemented Section(s) of your Municipal Code prohibiting non-storm water discharges?

A.B. Have you developed brochures or BMP factsheets for conditionally exempted

discharges?

A.C. Has your City implemented BMPs for conditionally exempted disharges?

2. Receiving Water Limitation

B.A. I don't know what compliance question to ask here.

3. Stormwater Quality Management Program (SQMP) Implementation

C.A. *General Requirement*

1.1.1. Have you developed an SQMP? Or Have you coordinated in the development of the SQMP?

1.1.2. Have you implemented additional controls to reduce the discharges of pollutants in storm water to MEP?

1.1.3. What are these additional controls? Please briefly describe each control.

A.B. Best Management Practices Implementation

1.2.1. Have you determined a combination of BMPs for urban runoff pollution controls?

1.2.2. Have you implemented such BMP-combination?

A.C. Revision of the SQMP

1.3.1. Have you initially started revising your SQMP to fit your sub-watershed?

1.3.2. Have you submitted the revised SQMP to the Regional Board?

1.3.3. What are specific amendments or requirements included in your revised SQMP?

A.D. Designation and Responsibilities of the Principal Permittee

1.4.1. Question, if necessary

1.4.2. Question, if necessary

1.4.3. Etc., etc.

Individual Report Form
Municipal Stormwater and Urban Runoff Discharges Permit

A.E. Responsibilities of the Permittee

1.5.1. Question, if necessary

1.5.2. Question, if necessary

1.5.3. Etc., etc.

A.F. WMCs

A.G. Legal Authority

4. Special Provisions

D.A. General Requirements

4.1.1. Questions, questions

4.1.2. Questions, questions

4.1.3. Questions, questions

D.B. Public Information and Participation (PIPP)

4.2.1. Questions, questions

4.2.2. Questions, questions

4.2.3. Questions, questions

D.C. Industrial/Commercial Facilities Program

4.3.1. Inventory of Facilities

4.3.1.1. Question, questions, attached RWQCB prescribed tabulation or spreadsheet

4.3.1.2. Question, questions, attached RWQCB prescribed tabulation or spreadsheet

4.3.1.3. Question, questions, attached RWQCB prescribed tabulation or spreadsheet

4.3.2. Municipal Landfills, ...

4.3.2.1. Question, questions, attached RWQCB prescribed tabulation or spreadsheet

4.3.2.2. Questions

4.3.3. Etcetera

4.3.4. Etcetera

D.D. Development Planning Program

D.E.

METROPOLITAN WATER DISTRICT
of Southern California

Environmental Compliance Division
700 N. Alameda St., 7th Floor
Los Angeles, CA 90012

Joyce T. Clark

Telephone: (213) 217-5593
Facsimile: (213) 217-6700

FACSIMILE TRANSMISSION

Date: 10/30/01

To: Carlos Urrunaga

Fax: (213) 576-6660

From: Joyce Clark

Re: Debromination – Not Applicable to Drinking Water

Pages: (4)

Here is the AWWA information regarding bromine and bromination. Bromine is not recommended as a disinfectant for drinking water treatment. We will also include this information in our comment letter. Please call me if you have any questions. Thanks.

OCT. 30. 2001 4:11PM MET WATER DIST ECD NO. 1849 P. 2

keys, and cats has shown chlorite to be a slightly less potent oxidant of hemoglobin than is nitrite, and less specific in its oxidation of cellular constituents. Subchronic doses of about 10 mg/(kg · day) (100 mg/L in drinking water for rats) for 30 to 60 days caused definitive damage to erythrocytes. In addition to oxidizing hemoglobin, chlorite was found to disrupt the red cell membrane, deplete the red cell glutathione, and induce production of hydrogen peroxide. These injuries to the red blood cells can cause an overall reduction in cell numbers, leading to hemolytic anemia.

Recent mutagenicity testing of chlorite in mouse assays was negative. The one carcinogenicity test conducted produced negative results for direct carcinogenicity and equivocal results for chlorite as a tumor promoter. In a variety of reproductive effect testing, chlorite was associated with a decrease in the growth rate of rat pups between birth and weaning, when the dams were given 100 mg/L chlorite in the drinking water during pregnancy. Some sperm aberrations were noted in males given 100 mg/L or higher doses.

Chlorate. The human tests conducted with chlorine dioxide and chlorite (increasing dose over 16 days and a 5 mg/L dose for 12 weeks) were also conducted with chlorate. The increasing dose range was 0.01 to 2.4 mg/L. No clinically significant effects were noted.[41] Because of its use as a weed killer, cases of chlorate poisoning have been reported. Methemoglobinemia, hemolysis, and renal failure occurred in people consuming gram amounts. The lowest fatal dose reported was 15 g.[41]

Fewer animal tests have been conducted with chlorate than with chlorite. A study in which rats and roosters were given 10 or 100 mg/L chlorate for 4 months demonstrated decreased blood glutathione, osmotic fragility of red blood cells, and abnormalities in red blood cell morphology. No methemoglobin was detected. A subsequent study using African green monkeys given chlorate in drinking water at doses of 25 to 400 mg/L for 30 to 60 days did not result in any signs of red blood cell damage or oxidative stress. (These same doses of chlorite resulted in decreased methemoglobin.[41])

Testing of chlorate in the same mouse assays as chlorite was also negative. No carcinogenicity or reproductive effect tests have been conducted.[41]

R0005345

Bromine

Bromine has been used in swimming pools for disinfection and in cooling towers, but its use in drinking water has not been recommended. In the past, bromides have been used in drugs to control epilepsy, and they are still used in sedatives. Ethylene bromide is used as an antiknock additive in gasoline, and methyl bromide is a soil fumigant. In water at neutral pH values, bromine exists primarily as hypobromous acid (HOBr), while below pH 6, Br_2, Br_3^-, bromine chloride, and other halide complexes occur. In the presence of ammonia or organic amines, bromamines are formed.[42] Most health effects information is on bromide because of its pharmaceutical uses.

Elemental bromine is extremely reactive and corrosive, producing irritation and burning to exposed tissues. Bromide occurs normally in blood at a range of 1.5 to 50 mg/L. Sedation occurs at a plasma concentration of about 960 mg/L, corresponding to a maintenance dose of 17 mg/(kg · day). Psychotic symptoms and neurological effects, including loss of muscular coordination, occur above approximately 1600 mg/L. GI disturbances can also occur at high doses. These effects have all been duplicated in laboratory animals. In addition, high doses in dogs were found to cause hyperplasia of the thyroid.[27] No data have been developed on the mutagenicity, carcinogenicity, or teratogenicity of bromine.

Iodine

In water, iodine can occur as iodine (I_2), hypoiodous acid (HOI), iodate (IO_3^-), or iodide (I^-). Iodoamines do not form to any appreciable extent.[43] Iodine has been used to disinfect both drinking water and swimming pools. An iodine residual of about 1.0 mg/L is required for effective disinfection. Iodine is also used in pharmaceuticals, photographic materials, antiseptics, and catalysts. Iodine is an essential trace element, required for synthesis of the thyroid hormone. The estimated adult requirement is 80 to 150 μg/day. Deficiency results in goiter, a compensatory hyperplasia of the thyroid. Most intake of iodine is from food, especially seafood, and, in the United States, table salt that has been supplemented with potassium iodide.

Iodine is an irritant, with acute toxicity caused by irritation of the GI tract. A dose of 2 to 3 g may be fatal, although acute iodine poisoning is rare. Chronic adverse effects can resemble a sinus cold and can include skin lesions and GI tract irritation. These effects are reversible with cessation of iodine intake. Doses causing such effects may vary among populations and individuals.

Ozone

Ozone is a very powerful oxidant. It is moderately soluble in water and is typically used at a concentration of a few milligrams per liter for drinking water disinfection. Over a thousand systems in Europe

OCT. 30. 2001 4:12PM MET WATER DIST ECD NO. 1849 P. 3

R0005346

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American Water Works Association

Frederick W. Pontius, *Technical Editor*

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Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

TO: Interested Parties (see attached distribution list), including: Permittees–County of Los Angeles Municipal Storm Water Permit; Resource and Regulatory Agencies; Water Districts; Environmental Organizations; Consultants; Other Local Agencies; and Other Interested Parties

FROM: Xavier Swamikannu, D. Env.,
Acting Storm Water Section Chief

DATE: November 6, 2001

SUBJECT: **CHANGE OF LOCATION OF THE PUBLIC HEARING FOR THE TENTATIVE DRAFT COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT**

The Regional Water Quality Control Board (Regional Board) will conduct a public hearing to consider adoption of the attached tentative permit during a public meeting on:

NOTE CHANGE IN HEARING LOCATION:

DATE: **Thursday, November 29, 2001**
TIME: **9:00am (However, this item will not be heard before 10:00am)**
PLACE: **Metropolitan Water District, Board Meeting Room**
700 North Alameda Street (Next to Union Station)
Los Angeles, CA

An agenda and public comment protocol for this Board Meeting will be posted on our web site by November 19, 2001, at: www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html

The public will have an opportunity to provide oral testimony before the Regional Board on November 29, 2001. Written comments should either be hand delivered or mailed to our office with sufficient time to be received no later than the close of business on November 13, 2001. In order to consider and include the conclusions of the SWRCB in the San Diego MS4 Permit Petition scheduled to be issued on November 15, 2001, Regional Board will issue a response to comments no later than November 20, 2001.

Any comments received after November 13, 2001, will be provided to the Regional Board members ex agenda, and may not receive full consideration. Following the consideration of written comments and oral testimony, the Board may take action to adopt tentative Order No. 01-XXX during a public meeting on November 29, 2001. At its discretion, however, the Board may direct further investigation.

Please call Dr. Xavier Swamikannu at (213) 576-6654 should you have any questions. Thank you for your interest in and comments on this proposed regulatory action for the County of Los Angeles and the Cities of Los Angeles County.

R0005348

From: "Steve Bay" <steveb@SCCWRP.ORG>
To: Megan Fisher <Mfisher@rb4.swrcb.ca.gov>
Date: 11/6/01 7:10PM
Subject: Re: toxicity testing

Megan,
I have added my responses to your questions after each item. Please call me Thurs. or Fri. of this week if you want to discuss these issues. I will be out of town all next week.

Steve

Megan Fisher wrote:

> Hi Steve,
>
> Thanks for your input regarding toxicity testing of storm water in Long Beach. You should have received a copy of the modification letter, dated Oct.24. I think the new procedures are very logical and will help give us a better idea of the sources of toxicity. I also used similar requirements in the draft of the LA County MS4 permit. We're trying to achieve some more consistency between the monitoring programs in the region, which brings me to my questions for you. I'm looking for some advice on the Ventura monitoring requirements and if they should be modified to be consistent with the other programs.
>
> First and foremost, the toxicity testing procedures for the land use and receiving water monitoring in the Ventura County MS4 permit require a TIE to be performed when acute toxicity results are greater than 1 toxic unit. Based on your recommendation, and our meeting regarding the Long Beach program, we decided to define "substantial toxicity" as 2 toxic units, as necessary to succesfully complete a TIE. The concern was raised that using 2 TUs instead of 1 may not be adequate to catch toxicity that needs to be identified. According to Long Beach's results, when samples were toxic, they were usually well over 2 TUs, so it seems like that is a reasonable number but I wanted to confirm that with you. Here are my questions:
>
> 1. Should we be concerned that important toxicity identification will be missed by using 2 TUs instead of 1? A trigger of at least 1 TU is feasible. In retrospect, this could have been used for the Long Beach permit for the Ceriodaphnia and mysid tests. I think we went with 2 TUs because that is the limit of detection for the sea urchin test, which we test at a maximum concentration of 50% because of the salinity adjustment method used. The basic rule I would follow is to consider a TIE worth trying if there is at least a 50% effect at the maximum test concentration. It is possible that some TIE opportunities will be missed if 2 TU is used as a TIE trigger instead of 1 TU. How big of a difference it would make cannot
> be predicted without some historical toxicity data for the site.
>
> 2. Do you think the rate of successful TIEs would increase if we modified the Ventura requirement to 2 TUs? Probably. One of the big issues in doing a TIE as a follow up to a positive toxicity result is that there may be some loss of toxicity by the time that the TIE is started (about 5-10 days) after the first test. So, if you start out with higher toxicity in the first test, there is a greater chance that sufficient toxicity will be present for the TIE. The loss of toxicity with storage is also sample & contaminant specific so it is hard to predict; but other labs have reported significant storage losses for urban stormwater.
>
> Furthermore, the Ventura permit has different toxicity testing requirements for the mass emission stations (I'm not sure why). For these stations, chronic toxicity tests are required for 2 wet weather events and 1 dry weather event, and TIEs are required when 2 consecutive wet weather, or 1 dry weather sample are toxic. Toxicity is not defined for the chronic toxicity tests.
>
> We didn't specify chronic or acute testing in the Long Beach or LA permit. Should this be specified? Is one more appropriate than the other for storm water samples? Would "substantial toxicity" be different for acute and chronic tests? Toxicity tests using a short-term exposure (4 days or less) are more appropriate for stormwater because the exposure duration (length of the runoff event) is usually short.

The advantage of chronic tests (often >7 days duration) is that these tests usually have greater sensitivity to contaminants, so they are more protective of beneficial uses. True chronic tests (exposure for most of the life cycle of the organism) are rarely used in monitoring programs for cost/feasibility reasons.
> Short-term chronic tests are usually used instead, which have durations of up to 7 days and use a sublethal toxicity endpoint in a sensitive critical life stage (i.e., juvenile mysid). The short-term chronic tests are what we are doing in the Long Beach permit and they are the current standard for effluent monitoring in CA. I recommend specifying the short-term chronics for stormwater monitoring because they are more sensitive, which is important for determining the potential for beneficial use impairment. One of the next steps after determining an unacceptable level of toxicity should be to address the question as to whether the toxicity data are ecologically relevant, this is when issues such as exposure duration and the
> choice of the test method (e.g., species) should be evaluated.
>
> Please give me a call if my questions are confusing. I confused myself asking them, so they probably are! Our Ventura Unit will be working with the County to make improvements to their program, so any answers or suggestions you have will be greatly appreciated.
>
> Thank you!
>
> Megan Fisher
> Environmental Specialist III
> LA Coastal Storm Water Unit
> Los Angeles Regional Water Quality Control Board
> (213) 576-6790
>
>

> ***The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption***
> ***For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html ***
>

--
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Southern California Coastal Water Research Project
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steveb@sccwrp.org

Agenda
Mediated Discussion of Inspection/Enforcement Permit Language
L.A. MS-4 permit
November 9, 2001

I. Introduction -- 10:00-10:15
Introduction/expectations
Review agenda

II. Review ground rules -- 10:15-10: 20
Desired outcome: consensus on ground rules

III. Potential common interests -- 10: 20-10:30
Desired outcome-consensus on common interests

IV. Factual Background -- 10:30-11:30
Presentation-- Regional Board -- Fed/State requirements -- 10:30-10:45
-clarifying questions
-identify issues/concerns

Presentation -- Permitees -- What's been accomplished so far -- 11:00-11:15
-clarifying questions
-identify issues/concerns

Desired outcome: common understanding of permit requirements and permitee capabilities

V. Issues (working lunch) -- 11:15-2:30
Main Issue: how can we develop and implement an effective industrial source control program?

Facilitated dialogue: identify options and factors (possibly based on common interests)
Desired outcome: consensus on inspection provisions and/or next steps

BREAK (12:00-12:15)

V. Issues (continued)

VI. Other issues - as time permits -- 2:30-3:00
Facilitated dialogue: options and factors
Desired Outcome: consensus on next steps

VII. Wrap up -- 3:00-3:15
Consensus items
Action items

Next steps

Meeting Notes

Bold italics indicates concerns/issues where consensus was reached

I. Attendees

1. Laura Gentile, U.S. EPA
2. Dan Radulescu, LA-RWQCB
3. Wendy Phillips, LA-RWQCB
4. Dennis Dickerson, LA-RWQCB
5. Steven Fleischli, Bay Keeper
6. Neil Miller, Manhattan Beach
7. Howard Gest, Burhnn & Gest LLP (County of LA)
8. Adam Ariki, LA Co. DPW
9. Glenn Howe, LA Co. DPW
10. John Dorsey, City of Los Angeles
11. Tri Tran, City of Los Angeles
12. Ed Schroeder, City of Signal Hill
13. Richard Watson, Watson & Associates (Coalition)
14. Desi Alvarez, EAC/Downey
15. Richard Montevideo, Rutan & Tucker LLP (Coalition)
16. Ken Farfsing, City of Signal Hill
17. Mark Gold, Heal the Bay
18. Harry Seraydarian (mediator)

II. Ground Rules-*consensus reached on the following*

**Treat everyone with respect*

**Listen to understand, without interruption*

**Focus on issues, not personalities*

**Open and honest dialogue*

**Focus on the future, not on the past (leave baggage at the door)*

**Everyone contributes, no one dominates*

**Be constructive*

**Do not make assumptions*

**Use consensus approach*

III. Common Interests-*consensus reached on the following*

-protect/improve water quality
-efficient use of resources
-appropriate use of legal authorities
-comply with the law
-assure compliance of industrial/commercial facilities with storm water regulations

IV. Factual Background: the following concerns/issues were identified by permitees:

-do inspection requirements under federal regulations apply to commercial facilities (non Phase I)?

-partnership -- what has been done to foster a partnership?

-clarifications on "new tools" necessary to implement permit

-Phase I facilities -- role of permitee and Board

-demonstration of authority as part of permit application

-access if denied for inspections

-basis for requiring BMPs at existing facilities vs. prohibiting discharges

V-1. Common Issues-the following framework provided

- Main Issue
  -State/local government implementation
    -inspection language

- Broad Issues

    -receiving water limitation language
    -MEP

- Other implementation issues raised during interviews (mainly City of L.A)

    -construction site inspections
    -trauma scene exemption
    -frequency of catch basin cleaning

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-dry weather diversions
-illicit connection
-trash bin maintenance at transit stops

V-2. Options: Industrial/Commercial facilities inspection program

San Diego

B

A

?

C

V-3. Possible Solutions

*Clarifications

*Modifications

*New Options

*MOA?

*?

V-4. Factors

*protect/improve water quality
*efficient use of resources
*appropriate use of legal authorities
*comply with law
*assure compliance of industrial/commercial facilities with storm water regulation

V-5. Concepts

*Partnership
*Due Diligence
*Referrals

V-6. Elements

*Inspections
-sources
-level
-frequency

Follow-up (Assure Compliance)

V-7. Specific Issue: Industrial and Commercial Inspections

Sources:

Phase 1

Commercial

Dialogue focused on restaurants
Option-link to public right-of-way

Evidence of release vs. BMPs/compliance

Conclusion: When amending the Storm water quality Management Plan, if the permitees identify more efficient or more effective BMPs, they can propose alternatives to the Executive Officer. Written approval would be considered a BMP change

V-8. Specific Issue: Denial of access

Permitees: concerns raised regarding difficulty of follow-up enforcement for cities

Consensus reached on following:

Referrals to Board
-- under interagency coordination

-- if permitee identifies "uncooperative" facilities they will be put on a priority list and referred to the Board after at least 2 follow up inspections and progressive enforcement-education, Notice of Violation, and appropriate documentation.

-- consider use of strike force (inspectors from different agencies)

Permitee as agent of state? - Not addressed

V-9. Specific Issue: Inspection Alternative Language for Commercial Facilities
(proposed by Signal Hill)

-- education and inspect for BMPs
-- record findings
-- if evidence of release, schedule wet weather (i.e., during rain) inspection
-- if violation, refer to Board
-- where evidence of noncompliance with the 4 criteria (Tier I minimum BMPs - see permit, page 35-A, 3(c)(1)-(4)) a more thorough inspection will be scheduled to abate the problems

Consensus reached on following:

Clarify intent on Part IV-C of permit, page 35A, 3(c) (Tier I primary BMPs vs. Tier 2 BMPs) as follows:

(3)(c) will be revised to reflect the following language proposed at meeting:

> *Restaurants shall be inspected to verify that the following BMPs have been implemented*

The current permit condition described at 3 (d) will become 3 (e).

3 (d) will reflect additional language proposed at the meeting:

> *Municipalities, as they see fit, are free to develop additional BMPs for restaurants.*

See Action Items #1, 2 and 6.

VI. Other Issues - Water Quality Limitations language (Part 2 of permit)

Language in draft permit: Permit language includes 2 prohibitions: Items 1 & 2 (page 18 of draft permit) stemming from State board language SWRCB 99-05 (Caltrans permit) and iterative process (Items 3 - 4)

*Permitees: concerns raised

-Need bridge language between items 1 & 2 (see Action Items 3 & 4) and iterative process

-The current permit is more stringent than 99-05–therefore, will be in violation immediately and vulnerable to third party lawsuits

*Heal the Bay: concerns raised

-Iterative process should continue as long as water quality standards are not being met.

Draft decision on San Diego? (see Action Item #5)

Action Items:

1. Dan (Regional Board) will provide copies of inspection provisions in other permits to all parties within one week

2. Laura (EPA) will provide copies of MOUs used in Bay area cities to all parties within one week

3. Howard (County of L.A.) will propose "bridge" language on Water Quality language and provide to all parties within one week

4. Laura will ask Alexis Strauss if she wants to express an opinion on the alternative language provided by County of L.A.

5. Wendy (Regional Board) will consider any changes by the State Board in San Diego permit in deciding on final language for water quality limitations

6. Board will consider trial inspection approach for categories other than restaurants before finalizing the permit by November 21st

Agenda Items For Potential Future Meeting:

1. Inspection issues -- source categories, overlap of Phase I
2. Definition of Maximum Extent Practicable
3. SUSMPS
4. Land use authority
5. Funding

How did meeting go?

Positives-- great food, good discussions

Negatives -

-more time needed
-key players not present the whole time
- private caucuses should have been considered

-those arriving late should have reviewed ground rules

Industrial/Commercial Inspections Role of Municipal Operator

- Dual Coverage
- Partnership: Permitting Authority & MS4 Operator
- Congressional Intent
- U.S. EPA Guidance
- Focus on Problems using Existing Resources

Statutory Background

- Clean Water Act 1987
- Phase I of SW Regulations 1990
- Phase II - 2000

Specific Statutes & Regulations

40 CFR

- § 122.26(d)(2)(i) Adequate Legal Authority
- § 122.26(d)(2)(iv)(A)(5) Program for Specific Industries
- § 122.26(d)(2)(iv)(C) Program for Industrial Sites

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U.S. EPA Guidance

- Preamble & Fact Sheets of Regulations 1990 to 2000
- Guidance Manual for Part 2 Application
- Phase 2 Guide

Basic Components

- Water Quality Impacts
- Source Identification
- BMPs Development
- BMPs Implementation
- Adequate Legal Authority
- Inspection & Enforcement

National & California Experience

- MS4 Permits Include Inspection Requirement
- Nationally: Issued by U.S. EPA
- Regional Boards in California
- All: First or Second Generation Permits

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Options

- Option A
- Option B

Options

- Option C
  - Continue educational site visit program

Conclusion

- Municipal Operator Responsibility
- Inspections Mandatory
- Already In Place in MS4 Permits
- Based on Addressing Identified Problems
- Through Prioritization
- Use of Already Developed Tools

R0005362

EPA

Los Angeles
Regional Water
Quality Control
Board

01 Centre Plaza Drive
Monterey Park, CA
91754-2156
213) 266-7500
FAX (213) 266-7600

Pete Wilson
Governor

May 5, 1998

To: Los Angeles County Municipal Storm Water Permittees

REGIONAL BOARD APPROVAL OF RECOMMENDED BEST MANAGEMENT PRACTICES (NPDES Permit No. CAS614001)

Dear Permittees:

On March 31, 1998, we sent you a copy of the Tentative Board Resolution approving the recommended BMPs for Development Construction and Industrial/Commercial Education (Site Visits) Programs, and for Municipal Sidewalk and Street Washing Activities.

On April 13, 1998, after a public hearing, the Regional Board considered and approved (contained in the attached Resolution No. 98-08) the recommended BMPs for the Industrial/Commercial Education (Site Visits) Program and for the Municipal Sidewalk and Street Washing Activities. The BMPs for Development Construction will be resubmitted for the Board's consideration after the revised Development Construction Model Program has been approved by the Board's Executive Officer.

If you have any questions or need additional information, please call me at (213) 266-7593 or Dr. Xavier Swamikannu at (213) 266-7592.

Sincerely,

WINNIE D. JESENA, P.E.
Chief, Los Angeles Coastal
Watershed Unit

Attachments as stated

Recycled Paper

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

Resolution No. 98-08

APPROVING BEST MANAGEMENT PRACTICES
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS
IN
LOS ANGELES COUNTY

(NPDES NO. CAS614001)

WHEREAS, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION FINDS:

1. Pursuant to the requirements of Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles (Permit), the Principal Permittee, in consultation with Permittees, has developed a model program for Industrial/Commercial Education. This program must include Best Management Practices (BMPs) to control/minimize the discharge of pollutants to receiving waters.

2. The Permit required the City of Los Angeles to conduct a study on pollutants entering storm drains from street and sidewalk washing operation by: (i) characterizing municipal street washing and sidewalk washing; (ii) assessing the impacts of such activities; and (iii) recommending appropriate BMPs to control any adverse impact. Accordingly, the City of Los Angeles has completed and submitted a final report entitled *A Study of Pollutants Entering Storm Drains from Street and Sidewalk Washing Operations in Los Angeles, California* that includes recommended BMPs for said activities.

3. The Permit also requires that the BMPs be approved by the Regional Board before the Permittees incorporate them into their regulatory programs.

4. The BMPs have been evaluated and are considered appropriate for the respective program/activity.

THEREFORE BE IT RESOLVED THAT:

1. The Best Management Practices contained in the following Attachments are approved:

   a. Attachment 1 -- Industrial/Commercial Program (Site Visit); and

   b. Attachment 2 -- Sidewalk and Street Washing.

2. Permittees consider these BMPs in their regulatory programs in accordance with the provisions of Order No. 96-054.

I, Dennis Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on April 13, 1998.

DENNIS A. DICKERSON
Executive Officer

BMP List Index

Table 1 is an index to all BMP lists and their SIC codes

Table 1
Index of BMP Lists for Industrial/Commercial Facilities

Attachment 1

Page Section	*SIC Codes (exceptions in parentheses)*	*Industry Types*
A	24 (2434)	Timber Products Facilities
B	26	Paper and Allied Products Mfg Facilities
C	28 (283)	Chemicals and Allied Products Mfg Facilities
D	29	Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers
E	32	Glass, Clay, Concrete, and Gypsum Product Facilities
F	33	Primary Metals Facilities
G	10	Metal Mining Facilities
H	12	Coal Mines and Coal Mining-Related Facilities
I	13	Oil & Gas Extraction Facilities
J	14	Mineral Mining and Processing Facilities
K	4953	Hazardous Waste Treatment, Storage or Disposal Facilities
L	4953	Landfills and Land Application Sites
M	5015	Automobile Salvage Yards
N	5093	Scrap & Waste Recycling
O	4911	Steam Electric Power Generating Facilities
P	40 41 42 43 5171	Vehicle and Equipment Maintenance Areas at Land Transportation Facilities
Q	44	Vehicle and Equipment Maintenance Areas at Water Transportation Facilities
R	373	Ship & Boat Building or Repairing Yards
S	45	Vehicle and Equipment Maintenance and Deicing Areas at Air Transportation Facilities
T	4952	Treatment Works

Page Section Refers to the Best Management Practices List for the Industrial/Commercial Education Site Visit Program (January 5, 1998) 4/13/98

Table 1
Index of BMP Lists for Industrial/Commercial Facilities

Attachment 1

Page Section	*SIC Codes (exceptions in parentheses)*	*Industry Types*
U	20 21	Food and Kindred Products Facilities
V	22 23	Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities
W	2434 25	Wood and Metal Furniture and Fixture Manufacturing Facilities
X	27	Printing and Publishing Facilities
Y	30 39	Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries
Z	31	Leather Tanning and Finishing Facilities
AA	34	Fabricated Metal Products Industry
AB	35 (357) 37 (373)	Facilities that Manufacture Transportation Equip., Industrial, or Commercial Machinery
AC	357 38 36	Manufacturers of Electronic and Electrical Equipment

Attachment 2

Page Section	*SIC Codes (exceptions in parentheses)*	*Commercial Types*
AD	5013 5014 7532-7534 7536-7539	Vehicle Service Facilities
AE	5541	Gasoline Stations
AF	5812	Restaurants

Page Section Refers to the Best Management Practices List for the Industrial/Commercial Education Site Visit Program (January 5, 1998)

ATTACHMENT 2

Recommended Best Management Practices
for
Municipal Sidewalk and Street Washing Operations

TYPE OF DISCHARGE	RECOMMENDED BMPS
SIDEWALK WASH WATER	1. Remove trash, debris, and free standing oil/grease spills/leaks (use absorbent material, if necessary) from the area before washing; and 2. Use high-pressure, low volume spray washing using only potable water with no cleaning agents at an average usage of 0.006 gallon per square feet of sidewalk area.
STREET/ALLEY WASH WATER FROM AREAS WITH UNSANITARY CONDITIONS*	Collect and divert wash water to the sanitary sewer - publicly-owned treatment works (POTW) Note: POTW approval may be needed.

* This BMP is only to be applied in areas impacted by transient populations. Each Permittee is required to apply this BMP in areas where the congregation of transient populations can reasonably be expected to result in a significant threat to water quality.

4/13/98
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The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities

A Case for Inspection Activities in the Large and Medium Municipal Separate Storm Sewer System Permits

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California Regional Water Quality Control Board, Los Angeles Region
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Los Angeles, CA 90013

November 2001

INTRODUCTION

A question that has been frequently asked during the process to renew the Los Angeles NPDES Municipal Stormwater Permit was if the storm water regulations require municipalities to conduct inspections at industrial or commercial facilities. This requirement establishes municipalities' responsibility to verify the effective implementation of best management practices to control the contribution of pollutants to the municipal storm drain system from industrial or commercial sites.

A second issue raised was the extent of responsibility municipalities have to control the contribution of pollutants from industrial or commercial sites and what is the relationship with the responsibilities that the Regional Board has over the same type of facilities.

This document attempts to answer to those specific questions raised by the Permittees and other stakeholders. The author adds emphases in the text.

I. Federal Mandate

The Federal Water Pollution Control Act Amendments (FWPCA) of 1972 created the framework for addressing critical pollution problems in the Nation's waters. Section 101, "Congressional Declaration of Goals and Policy", concisely summarized the new act. Section 101(a) stated, "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." This way a strong emphasis was put on the ecological and environmental aspects of protecting water quality. Elaborating on that position, the same section set down two "national goals": (1) eliminating the discharge of pollutants into navigable waters by 1985, and (2) achieving an interim water quality level that would protect fish, shellfish, and wildlife while providing for recreation in and on the water wherever attainable. The 1972 Amendments focused their attention on point sources such as municipal discharges through publicly owned treatment works and direct industrial discharges. The Act also focused the efforts on two categories of pollutants: conventional (BOD, SS, and pH), and what was classified as toxic.

Much of the effort following the enactment of FWPCA was to establish the United States Environmental Protection Agency (U.S. EPA) and the framework of the National **Pollutant Discharge Elimination** System (NPDES) permit program. Many other efforts were initiated in areas of construction of treatment plants, basin planning, treatment technologies development, establishment of effluent standards for toxic pollutants and the creation of appropriate regulations to implement the intent of the Act.

Under the provisions of the Act, the U.S. EPA could delegate NPDES permitting authority to the States. California is a delegated State and has full authority to issue NPDES permits with U.S. EPA's concurrence.

Between 1972 and 1987, the law has been subject to mid-course corrections and a change of name to the Clean Water Act (CWA).

The 1987 amendments, known as the Water Quality Act (WQA) of 1987, were aimed at addressing a number of issues on which progress was deemed to have been unsatisfactory. These issues included toxics, nonpoint sources, storm water, coastal

pollution, and others. States were required to identify waters not meeting designated uses because of toxic pollutants even after the application of technology based controls and to develop strategies for controlling them.

New provisions to permit discharges of storm water from separate storm sewers were also added. Section 402 phases in storm water permits. Originally, the 1972 Act required U.S. EPA to issue a NPDES permit for all point sources of pollution. The Agency interpreted that requirement so that it could issue areawide permits for separate storm sewers, rather than each storm water outfall.

The first phase of the program, commonly referred to as "Phase I", was promulgated on November 16, 1990 (55 FR 47990, 40 CFR 122). Phase I requires NPDES permits for storm water discharge from a large number of priority sources including municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

The second phase of the storm water program, recently promulgated on December 8, 1999 (64 FR 68722) expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb between one and five acres of land. The new rule allows certain sources to be excluded from the national program based on a demonstrable lack of impact on water quality. The rule also allows other sources not automatically regulated on a national basis to be designated for inclusion based on increased likelihood for localized adverse impact on water quality.

II. Water Quality Concerns

After FWPCA was adopted in 1972, the implementation of end-of-pipe control methods from traditional point sources started to show improvement in the quality of the effluent discharged from Publicly Owned Treatment Works (POTW) and industrial wastewater treatment plants. However, it also become evident that receiving waters still did not attain designated uses, and water quality standards were frequently exceeded. That focused the attention to the other major component contributing to beneficial use impairments of the receiving water quality: pollution from diffuse sources, such as runoff from urban areas, construction sites, agricultural areas, land disposal and resource extraction. Early on, the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), along with U.S. EPA, conducted a comprehensive study of diffuse pollution sources that resulted in the 1985 report, "America's Clean Water – The States Nonpoint Source Assessment." This report indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, U.S. EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP)[1]. The NURP included 28 projects across the Nation. One focus of the NURP was to characterize the water quality of discharges from separate storm sewers that drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for

eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition the study indicated that the annual loading of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, (although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff), with the median for all sites being around 21,000/100 ml. This is generally consistent with studies that found that fecal coliform mean values range from 1,600 coliform fecal units (cfu)/100 ml to 250,000 cfu/100 ml[2]. Makepeace, et al., summarized ranges of contaminants from storm water, including physical contaminants such as total solids (76--36,200 mg/L) and copper (up to 1.41 mg/L); organic chemicals; organic compounds, such as oil and grease (up to 110 mg/L); and microorganisms.

Although NURP did not evaluate oil and grease other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/l. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges, from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. The NURP data also showed a significant number of these samples exceeded various U.S. EPA freshwater water quality criteria. The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, **industrial site runoff** and illegal dumping. Other studies showed that storm water from industrial facilities might contain toxics and conventional pollutants when material management practices allow exposure to storm water.

Since the NURP study many other studies and programmatic assessments confirmed the magnitude of the diffuse pollution problem. Data from the NURP study were analyzed further in the U.S. Geological Survey (USGS) Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States survey[3]. The USGS report summarized additional monitoring data compiled during the mid-1980s, covering 717 storm events at 99 sites in 22 metropolitan areas and documented problems associated with metals and sediment concentrations in urban storm water runoff. More recent reports have confirmed the pollutant concentration data collected in the NURP study[4].

Other recent studies have not found significantly different pollutant concentrations in urban runoff when compared to the original NURP data[5].

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables[6]. After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in "first flush" discharges, which occur during the first major storm after an extended dry period[7]. Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction. Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans.

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loadings in storm water discharged to receiving waterbodies[8]. Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff[9].

Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters. For example, a study in the Puget Sound lowland ecoregion found that when the level of basin development exceeded 5 percent of the total impervious area, the biological integrity and physical habitat conditions that are necessary to support natural biological diversity and complexity declined precipitously[10]. Research conducted in numerous geographical areas, concentrating on various variables and employing widely different methods, has revealed a similar conclusion: stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent according to the findings of the Washington study referenced above)[11]. Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking[12].

In addition to impervious areas, urban development creates new pollution sources as population density increases, and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household

hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges from municipal separate storm sewer systems. A modeling system developed for the Chesapeake Bay indicated that contamination of the Bay and its tributaries from runoff is comparable to, if not greater than, contamination from industrial and sewage sources[13].

In addition, the 1996 305(b) Report, provides a national assessment of water quality based on biennial reports submitted by the States as required under CWA section 305(b)[14]. In the CWA 305(b) reports, States, Tribes, and Territories assess their individual water quality control programs by examining the attainment or nonattainment of the designated uses assigned to their rivers, lakes, estuaries, wetlands, and ocean shores. A designated use is the legally applicable use specified in a water quality standard for a watershed, waterbody, or segment of a waterbody. The designated use is the desirable use that the water quality should support. Examples of designated uses include drinking water supply, primary contact recreation (swimming), and aquatic life support. Each CWA 305(b) report indicates the assessed fraction of a State's waters that are fully supporting, partially supporting, or not supporting designated beneficial uses. In their reports, States, Tribes, and Territories first identified and then assigned the sources of water quality impairment for each impaired waterbody using the following categories: industrial, municipal sewage, combined sewer overflows, urban runoff/storm sewers, agricultural, silvicultural, construction, resource extraction, land disposal, hydrologic modification, and habitat modification.

The 1996 Inventory, based on a compilation of 60 individual 305(b) reports submitted by States, Tribes, and Territories, assessed the following percentages of total waters nationwide: 19 percent of river and stream miles; 40 percent of lake, pond, and reservoir acres; 72 percent of estuary square miles; and 6 percent of ocean shoreline waters. The 1996 Inventory indicated that approximately 40 percent of the Nation's assessed rivers, lakes, and estuaries are impaired. Waterbodies deemed as "impaired" are either partially supporting designated uses or not supporting designated uses. The 1996 Inventory also found urban runoff/discharges from storm sewers to be a major source of water quality impairment nationwide. Urban runoff/storm sewers were found to be a source of pollution in 13 percent of impaired rivers; 21 percent of impaired lakes, ponds, and reservoirs; and 45 percent of impaired estuaries (second only to industrial discharges). Additionally, urban runoff was found to be the leading cause of ocean impairment for those ocean miles surveyed.

In addition, a recent USGS study of urban watersheds across the United States has revealed a link between urban development and contamination of local waterbodies. The study found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion of wood, grass, and fossil fuels), in the reservoirs of urbanized watersheds[15].

In addition to the large-scale nationwide studies and assessments, a number of local and watershed-based studies from across the country have documented the detrimental effects of urban storm water runoff on water quality. A study of urban streams in Milwaukee County, Wisconsin found local streams to be highly degraded due primarily to urban runoff, while three studies in the Atlanta, Georgia region were characterized as being, "the first documentation in the Southeast of the strong negative relationship

between urbanization and stream quality that has been observed in other ecoregions"[16]. Several other studies, including those performed in Arizona (*Maricopa County*), California (*San Jose's Coyote Creek*), Massachusetts (*Green River*), Virginia (*Tuckahoe Creek*), and Washington (*Puget Sound lowland ecoregion*), all had the same finding: runoff from urban areas greatly impair stream ecology and the health of aquatic life; the more heavily developed the area, the more detrimental the effects[17]. Pitt and others also described the receiving water effects on aquatic organisms associated with urban runoff[18]. In Wisconsin runoff samples were collected from streets, parking lots, roofs, driveways, and lawns. Source areas were broken up into residential, commercial, and industrial. Geometric mean concentration data for residential areas included total solids of about 500-800 mg/L from streets and 600 mg/L from lawns. Fecal coliform data from residential areas ranged from 34,000 to 92,000 cfu/100 mL for streets and driveways. Contaminant concentration data from commercial and industrial source areas were lower for total solids and fecal coliform, but higher for total zinc[19,20]. A number of other studies have indicated that urban roadways often contain significant quantities of metal elements and solids[21].

Automotive service stations have been characterized as potential "hot spots" for hydrocarbon pollutants and heavy metals in urban storm water discharges[22]. In an urban area, **industrial and commercial activities** can also be considered hot spots as sources of pollutants[23]. Urban storm water also can contribute significant amounts of toxicants to receiving waters. Pitt et. al., found heavy metal concentrations in the majority of samples analyzed. Industrial or commercial areas were likely to be the most significant pollutant source areas[24].

Wet weather flows have been recognized as the primary sources of estuarine pollution in coastal communities. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows have become the largest causes of beach closings in the United States in the past years. Storm water discharges from urban areas not only pose a threat to the ecological environment, they also can substantially affect human health. A survey of coastal and Great Lakes communities reports that in 1998, more than 1,500 beach closings and advisories were associated with storm water runoff[25]. Other reports also document public health, shellfish bed, and habitat impacts from storm water runoff, including more than 823 beach closings/advisories issued in 1995 and more than 407 beach closing/advisories issued in 1996 due to urban runoff[26].

The studies and research performed in the Southern California area, including Los Angeles County, show the similar impacts of polluted urban runoff on the local receiving waters, with significant impacts on the health of the environment and local economy. The "Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay", concluded that there is a 57 percent higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains[27]. This and other studies document a relationship between gastrointestinal illness in swimmers and water quality, the latter of which can be heavily compromised by polluted storm water discharges. Other impacts on the Santa Monica Bay from the discharge of polluted storm water runoff have been documented[28].

In addition, the situation analysis of the "Los Angeles County Five-Year Public Education Overview" concluded:

Even after a generation of fighting water pollution, studies show the danger of illness to people swimming in waters near urban storm drain outfalls. The urban runoff that drains into the County's storm channels first litters and contaminates neighborhood streets and walks. Litter, fertilizers, pesticides, automobile soot and oil drippings, pet waste, and deteriorating leaves and plant debris not only make our communities unattractive, but also are swept untreated down the storm drains into our waterways...In total, the impacts of stormwater/urban runoff pollution encompass:

- losses to the County's $2 billion a year tourism economy
- health risks associated with swimming in areas near storm drain outfalls
- loss of recreational resources
- dramatic cost increases for cleaning up contaminated sediments
- impaired function and vitality of our natural resources
- losses to Southern California's commercial and sportfishing industry
- contamination to marine life[29].

III. Responsibility of Municipal Operators of Large and Medium Municipal Separate Storm Sewer Systems

The water quality impacts of urban runoff are well documented and identified as a leading cause of receiving water beneficial uses impairments. Many States and Municipalities in cooperation with U.S. EPA moved aggressively to control the sources of pollution within the framework of the NPDES permitting system and through other non-point source programs.

A. Role of Municipal Operator

As early as the promulgation of the 1990 Phase I storm water regulations, U.S. EPA clearly defined the roles and identified the responsibilities of all parties involved in the permitting process. Early on, the agency envisioned a partnership, a cooperative approach between U.S. EPA, States and Municipalities, recognizing that only through a coordinated effort will the difficult and complex issues of diffuse pollution be addressed appropriately. In the preamble to the 1990 Phase I storm water regulations, the agency stated that the:

> ...EPA still believes that municipal operators of large and medium municipal systems have an important role in **source identification** and the **development of pollutant controls for industries** that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because **storm water from industrial facilities may be a major contributor of pollutants** to municipal separate storm sewer systems, **municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program**... EPA believes that the permitting of municipal storm sewer systems and the industrial discharges through them will act in a complimentary manner to

fully control the pollutants in those sewer systems. This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible.

U.S. EPA continued to clarify its intent for:

> "...[t]he permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, **address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity**. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system... In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system... Controls developed in management plans for municipal permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop **measures to reduce pollutants or halt** storm water discharges with high level of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designated to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water."

U.S. EPA reconfirmed its position in regard to the role of municipal operators of large and medium MS4s when it issued, in 1993 (58 FR 61146), the notice for the proposed multi-sector stormwater general permit for discharges of storm water associated with industrial activity (multi-sector permit).

In the Fact Sheet for the proposed multi-sector permit, U.S. EPA reiterated its position regarding the complimentary permit approach envisioned to address storm water discharges associated with industrial activity:

> "A second permit issued to the operator of the large or medium municipal storm sewer, establishes the **responsibilities** of the municipal operators in controlling pollutants from storm water associated with industrial activity which discharge through their system... The municipal storm water management programs that will be incorporated into NPDES permits for discharges from MS4s will generally address (in addition to other possible requirements) the following three major components:
>
> - Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers.
> - Reducing pollutants in construction site runoff through municipal separate storm sewers.
> - Identifying and controlling non-storm water discharges to municipal separate storm sewers...

> Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through MS4s **specifically will address municipal responsibilities in controlling pollutants from industrial facilities**."

Recently, in its Storm Water Phase II Compliance Assistance Guide (Guide)[30], U.S. EPA restated and further clarified its intention regarding the integration of NPDES programs for storm water discharges: "...[t]he Phase I permits for MS4s mostly cover larger cities, and require them to develop a storm water management program, **track and oversee industrial facilities** regulated under the NPDES storm water program, conduct some monitoring, and submit periodic reports."

Furthermore, when referring to integration of NPDES program for construction (which is one of the eleven industrial categories addressed by the storm water program) with NPDES program for MS4s, the Guide specifies:

- "These are two **separate** and **distinct** construction programs.
- A construction operator is subject to requirements under **BOTH** programs if it is located in an NPDES-regulated MS4's jurisdiction."

In addition, the No Exposure Certification Form for Exclusion from NPDES Storm Water Permitting[31], includes in the certification section the following statements:

> "I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that **I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections** to confirm the condition of no exposure and to make such inspection reports publicly available upon request."

Once more, U.S. EPA clearly states its standpoint that NPDES permitting authority responsibilities are intertwined with those of the local agency.

It can be reasonably inferred from the regulatory record and actions that U.S. EPA clearly envisioned a dual coverage and a strong role and clear responsibilities for the municipal operator in controlling pollutants from industrial sites as distinct from the activities required by the NPDES permitting agency. However, activities required by both entities should be coordinated and integrated as much as possible to achieve to common goal of effectively controlling and reducing the discharge of pollutants into the storm water runoff.

B. Legal Authority

40 CFR §122.26(d)(2)(i) ***Adequate legal authority***. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:
(A) Control through ordinance, permit, contract, order or similar means, the **contribution of pollutants to the municipal storm sewer by storm water discharges associated**

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with industrial activity and the quality of storm water discharged from sites of industrial activity;
(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;
(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;
(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;
(E) Require compliance with conditions in ordinances, permits, contracts or orders; and
(F) **Carry out all inspection, surveillance** and monitoring procedures necessary to determine compliance and noncompliance with permit conditions **including** the prohibition on illicit discharges to the municipal separate storm sewer.

40 CFR §122.26(d)(2)(iv)(A)(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for **inspections** and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section);

40 CFR §122.26(d)(2)(iv)(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), **and industrial facilities** that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:
(1) **Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges**;...

In its Guidance Manual[32] U.S. EPA explicitly states on what the municipalities must achieve: "The municipality, as a permittee, is responsible for compliance with its permit and must have the authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to **hold dischargers accountable for their contributions** to separate storm sewers."

The Guidance Manual provides more clarification in regard to the extent of facilities that must be addressed and the link that must be made with the potential sources of pollutants: "However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**... [t]he Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization

components), but ***are identified as a high priority*** under the proposed management program." It can be concluded that the scheme envisioned by the regulations do not only address industrial sites covered under the definition of storm water discharge associated with industrial activity, but depending on the identified significant sources contributing pollutants to the storm water runoff, other types of industrial facilities, such as commercial, must be addressed in the municipal program to inspect facilities contributing pollutants to the municipal separate storm drain system.

Many existing permits issued by U.S. EPA or authorized States, nationwide, already include these kind of requirements and municipalities are actively implementing them.[33] Regional Boards in California also issued MS4 permits requiring a program for inspections at industrial or commercial facilities.[34] Municipalities used a large spectrum of methods and innovative ways to implement the inspection program, and many local jurisdictions have the adequate required legal authority or have adopted ordinances giving them the necessary legal authority. Even smaller cities, to be covered under Phase II, not required to obtain the legal authorities for inspections as yet, decided to pass ordinances giving them the necessary authority for the implementation of the storm water program, including the authority to inspect industrial or commercial facilities and adopt and impose BMPs.[35]

As early as 1993, U.S. EPA Region 9, clarified the role of municipalities in addressing industrial sources.[36] More recently the same position was restated.[37] Regional Board's position, starting with the 1990 MS4 Permit was that an inspection program was required in the municipal storm water permit and was supported by the legal analysis provided by the State Board's Office of Chief Counsel[38].

C. Source Identification

40 CFR §122.26(d)(2)(ii). Source Identification... *Provide an inventory, organized by watershed of the name and address, and a description (such as SIC Codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.*

A very careful consideration was given to the issue of the pollutant sources in storm water discharges through MS4s and the control of those pollutant sources. The Agency continued to discuss and describe its intent of the elements needed to be addressed by a municipality through the application process in regards to the sources that contribute pollutants to the municipal storm sewers. Under the source identification heading in the preamble to the 1990 Phase I storm water regulations, U.S. EPA stated that, "...**the identification of sources which contribute pollutants** to municipal separate storm sewers is a **critical step** in characterizing **the nature and extent of pollutants in discharges** and in **developing appropriate control measures**." The agency expands the scope of the source identification concept leaving it general instead of focusing on any particular area, such as industrial, commercial, residential, roadways, etc., but linking it to the existing water quality problems. It is clear that the intent of the agency was to draw the attention of applicants to addressing, in a flexible way, the real issues and focus their limited resources on controlling the most problematic sources:

> "...**source identification** can be useful for providing **an analysis of pollutant source contribution** and for **identifying the relationship between pollutant**

sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm sewer system to support **a targeted approach to control pollutant sources**."

The agency continues to comment and clarify the provisions under the application requirements of the regulations:

> "...Part 1 of the application will also include: [...]**the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities** which discharge storm water to the municipal storm sewer system;...Part 2 of the application will supplement the information reported in part 1 of the application so that,[...]municipal or public entities responsible for and obtaining an NPDES permit will be required to **identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water with industrial activity into a large or medium municipal separate storm sewer system**. Requiring **these source identification measures is supported by the legislative history of section 405 of the WQA**, which instructs that '[i]n writing **any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge.'[39]"**

In answering some of the comments regarding the value of source identification information, the agency responded:

> [..]the **source identification** information serves several purposes. It is the first step for **identifying potential sources of pollutants** from which more in depth analysis can be accomplished...The **source identification component** of the municipal application also requires that **municipal applicants identify the industrial activity within the drainage area associated with each major outfall**...[A]pplicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility.

D. Los Angeles MS4 Permittees Compliance Efforts

The Permittees covered under the Los Angeles MS4 permit addressed the element of source identification and prioritization through compliance with the requirements of the 1996 permit (Board Order No. 96-054). The Critical Source Selection and Monitoring Report (Critical Source Report), identified 30 categories of industrial and commercial activities that may impact the quality of the stormwater runoff discharged to the MS4[40]. The study also ranked the critical sources on the basis of potential impact and proposed a Critical Source/BMP Monitoring program at the five highest ranked facility types: (i)

wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products.

At the same time, the Permittees, under the coordination of the Los Angeles County Department of Public Works, compiled, in 1997, a facilities database for the MS4 program identifying approximately 58,000 facilities that could have been potentially addressed by the public education site visit program. Out of the total universe of 58,000 facilities identified by their SIC Code, 21,000 were food or food related establishments. The 36,000 remaining facilities were in industrial/commercial sectors. An updated review of the potential number of facilities within the LA MS4 area, identified in the 30 industrial/commercial sectors Critical Source Report (not including food establishments), revealed that the number of facilities can be as high as 26,300 sites as of 2001. The survey was performed with the help of the Los Angeles City Stormwater Management Division staff. A significant portion of the total number of facilities, up to 60%, may be located within the City of Los Angeles boundaries. The SIC Code system proved to be inadequate in identifying the correct type of activity performed on-site, and also a significant number of facilities may not have activities or materials exposed to stormwater, which will make the actual number of sites potentially addressed through the municipal stormwater program much smaller than predicted.

The results of the Critical Source/BMP Monitoring program confirmed that the five highest ranking activities indeed contribute significant quantities of pollutants and source control BMPs alone were not effective in reducing the amount of pollutants into the stormwater runoff. The majority of the sampling results were in excess of the Criteria for Priority Toxic Pollutants for the State of California.[41] However, since the implementation of the source control BMPs was voluntary, the study could not determine with certainty that the apparent failure was due to the inefficacy of the BMPs or the lack of proper implementation.[42]

Furthermore, the Research Report on Issues, Pollutants and Materials[43](Research Report) accomplishes a comprehensive analysis of sources of pollutants, generation and receiving water impacts. The Research Report puts in a concise form and creates the link between typical pollutant sources, pollutants found in the County's waterbodies, pollutant of concerns for each Watershed Management Area and pollutants of concerns detected through previous monitoring. The Research Report clearly identifies the targeted pollutants: (i) heavy metals, (ii) oil and grease/PAHs, (iii) sediments, (iv) oxygen demanding substances, (v) litter/trash/debris, (vi) nutrients, (vii) other toxic materials, such as pesticides.[43] The Research Report confirms once again that the urban environment in the Los Angeles area is similar to the other urban areas in the nation when it comes to stormwater runoff characterization and receiving water impacts. The Los Angeles area is probably unique due to the highly industrialized and vast area served by an interconnected storm sewer system unlike any other in the nation. But that makes it even more imperative that significant efforts must be allocated in order to control the discharge of pollutants in the urban runoff.

CONCLUSION

From the record and all the studies referenced in this report it is evident that an inspection program at industrial and commercial facilities is not only required under the storm water

regulations but it is an essential component to control the contribution of pollutants from industrial or commercial facilities into storm water discharges through the municipal storm drain system. This inspection program is separate and in addition to the program administered by the Regional Board, and the municipalities have a clear responsibility to perform them.

The dual coverage is intended in the regulations, in order to maximize the use of limited resources at the State and local level, and assure through active coordination that significant sources of pollutants are not overlooked or missed due to lack of legal authority.

The Permittees under the Los Angeles MS4 Permit have made great strides in preparing the ground work for next phase of implementation: they performed a comprehensive source identification study confirmed by the monitoring results, the Regional Board approved the minimum menu of BMPs presented by the Permittees and they already put facilities on notice and performed the educational part through the site visits effort.

The introduction of the inspection program in the new MS4 permit is not capricious or arbitrary but based on facts. It utilizes tools already developed by Permittees and follows a widespread precedent in MS4 permits nationwide and in California.

Selected References

Requirement	Reference
"Today's rule also requires the municipal storm sewer permittee to describe **a program to address industrial discharges** that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges..., provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal storm sewer system, **identify priorities and procedures for inspections**, and **establish and implement control measures for such discharges**."	Final Rule (Federal Register, Vol. 55, p. 48056)
Part 2 application requirement: [The applicant must demonstrate that it can control through] Adequate Legal Authority which authorizes or enables at a minimum to: **Control** through **ordinance, permit, contract, order or similar means**, the **contribution of pollutants** to the municipal storm sewer by **storm water discharges associated with industrial activity** and the quality of **storm water discharged from sites of industrial activity**;	40 CFR 122.26(d)(2)(i)(A)
Carry out all inspection, surveillance and **monitoring** procedures necessary to **determine compliance and noncompliance** with **permit conditions *including*** the prohibition on illicit discharges to the municipal separate storm sewer.	40 CFR 122.26(d)(2)(i)(F)
In part 2 of the application, municipal applicants **must demonstrate** that **they now possess adequate legal authority** to: • **Control** construction site and **other industrial discharges** to the MS4;... • **Control potential sources of pollutants from discharges to or from** coapplicants' MS4s, or MS4s that are interconnected or shared with other entities;... • **Carry out inspection, surveillance, and monitoring** procedures.	Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (Guidance Manual) USEPA 1992 Pag. 3-1
"Control"[...] means not only to require disclosure of information, but **also** to **limit, discourage, or terminate** a storm water discharge to the MS4.	Guidance Manual pag. 3-1
However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**.	Guidance Manual pag. 3-1
In their part 2 applications, municipalities must propose programs to **control** the contributions of pollutants from industrial facilities **and prohibit** illicit discharges. For **both** of these activities, municipalities **must have the legal authority** to **carry out inspection, surveillance, and monitoring** procedures necessary to **determine compliance**.	Guidance Manual pag. 3-3
In their part 2 applications, municipalities should provide documentation of **their authority to enter, sample, inspect, review, and copy records,** etc. as well as demonstrate their authority to require regular reports.	Guidance Manual pag. 3-3
A description of **a program** to **monitor and control pollutants** in storm water discharges to municipal systems from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the**	40 CFR 122.26(d)(2)(iv)(C)

Requirement	Reference
Superfund Amendments and Reauthorization Act of 1986 (SARA), and ***industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading*** to the municipal storm sewer system. The program **shall**: (1) **Identify priorities and procedures for inspections** and **establishing and implementing control measures** for such discharges;	
NPDES permits for MS4s will establish *responsibilities* for municipal system operators to control pollutants from industrial storm water discharged through their system.	Guidance Manual pag. 6-16
Proposed storm water management programs must address the reduction of pollutants in storm water discharges from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, facilities subject to SARA Title III;** and ***other priority industrial facilities***, as determined by the applicant. **Municipalities should consider** the information gathered for [..] the part 2 application (**particularly the Source Identification and Characterization Data** components) when prioritizing storm water discharges from these sites.	Guidance Manual pag. 6-16
In part 2 application, the Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization components), but ***are identified as a high priority*** under the proposed management program.	Guidance Manual pag. 6-16 [Commercial Sites]
The municipality is **ultimately responsible** for discharges from their MS4. Consequently, the proposed storm water management program should describe how **the municipality will help** EPA and authorized NPDES States: • **Identify priority industries** discharging to their systems; • **Review. and evaluate storm water pollution prevention plans and other procedures that industrial facilities must develop under general or individual permits;** • **Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them);** and • ***Inspect*** **and monitor industrial facilities *to verify* that the industries discharging storm water to the municipal systems *are in compliance with their NPDES storm water permit***, if required.	Guidance Manual pag. 6-17
At a minimum, priority facilities include: • Operating and closed municipal landfills; • Hazardous waste treatment, disposal or recovery facilities; and • Facilities subject to SARA Title III.	Guidance Manual pag. 6-17

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Requirement	Reference
Municipalities must identify these **and *other priority industrial facilities* and describe the criteria used to identify them**. For example, information from the Toxics Release Inventory is one source a municipality could use to identify industrial facilities subject to SARA Title III. **Other sources** may include CWA Section 205 or 208 use-attainability studies, other studies that **indicate a site-specific beneficial use impairment immediately downstream of a storm water outfall**, or **records of industrial pretreatment programs or other permit programs that identify facilities that may be the source of a use impairment or a major contribution of pollutants**. The program should also describe procedures for modifying the inventory of priority industries based on **additional evaluation** that occurs throughout the permit term.	
During the term of the permit, as additional information becomes available, **the municipality should target and set priorities for other program elements** that emerge.	Guidance Manual pag. 6-18
As noted above, when identifying priority sites, applicants must consider all the facilities listed in 122.26(d)(2)(iv)(C)(1). When municipalities develop criteria for **identifying additional priority industrial facilities**, they are advised to consider, **at a minimum:** • The **type of industrial activity** (SIC codes can help characterize the type of industrial activity); • The **use and management of chemicals or raw products** at the facility and **the likelihood** that storm water discharge from the site **will be contaminated**; and • The **size and location of the facility in relation to sensitive watersheds.**	Guidance Manual pag. 6-18
The proposed management program **must include procedures for inspecting priority industrial sites**. The results of inspection may be used as a basis for **requiring storm water management controls and enhanced pollution prevention measures**. It should also establish an **inspection schedule** for each priority facility at the time it is identified.	Guidance Manual pag. 6-18
Applicants also should describe a procedure for **conducting follow-up inspections**, where necessary, as part of this program component. For example, follow-up inspections **might be needed to verify the installation of a specific control or implementation of a practice specified** in a negotiated agreement between the municipality and the industrial site. A system-wide approach to establishing priorities for inspection procedures is recommended. The system-wide approach should begin with the evaluation of existing information, followed by the identification and evaluation of new information during the permit term. Therefore, applicants **should link** these procedures with information from the Source Identification and Discharge Characterization components.	Guidance Manual pag. 6-19
A municipality **must consider** if it **should place more stringent controls on discharges associated with industrial activity than are required in an industrial facility's existing NPDES storm water**	Guidance Manual pag. 6-19

Requirement	Reference
permit.	
Priority industrial facilities should focus on controlling activities such as the use, storage, and handling of toxic chemicals. Standard methods for implementing control measures at different types of facilities should be described. To facilitate this, municipalities **should obtain copies of the pollution prevention plans developed by industrial permittees. Control measures** that the municipality **may suggest include preventing exposure of pollutant sources to precipitation, on-site pretreatment, and oil/water separators.**	Guidance Manual pag. 6-19
The proposed management program **should describe the inspection procedures that will be followed. Storm water inspections can be coupled with inspections for other purposes** (e.g., pretreatment programs, fire and safety). Proposed management **programs should address minimum frequency for routine inspections**. For example, **how often, how much of the site, and how long an inspection may take** are appropriate to explain in this proposed management program component. Applicants should also describe **procedures for conducting inspections and provide an inspector's checklist**. In addition, these inspection procedures should identify the **minimum number of inspectors** that will be employed and **describe the programs to train them**.	Guidance Manual pag. 6-19
Municipalities are **urged to *evaluate* pollution prevention plans and discharge monitoring data collected by the industrial facility to *ensure* that the facility is *in compliance with its NPDES storm water permit. Site inspections* should include (1) *an evaluation of the pollution prevention plan*** and any other pertinent documents**, and (2) an *on-site visual inspection of the facility*** to ***evaluate the potential*** for ***discharges of contaminated storm water*** from the site and ***to assess the effectiveness of the pollution prevention plan.***	Guidance Manual pag. 6-20
On November 16, 1990 (55 FR 47990), EPA promulgated a permitting scheme where controls for storm water discharges associated with industrial activity through large and medium municipal separate storm sewer systems may be addressed by two permits issued in a coordinated manner. This complementary permit approach envisions cooperative efforts by the permit issuing agency and municipal operators of large and medium municipal separate storm sewer systems to develop programs that will result in controls on pollutants in storm water discharges associated with industrial activity which discharge through municipal systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Under the complementary permit approach, storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems are required to obtain permit coverage. Permits for these discharges will establish requirements (such as controls or monitoring) for industrial operators of the discharge into the municipal system. In addition, these permits provide a basis for enforcement actions directly against the owner or operator of storm water discharges associated with industrial activity.	Federal Register, Vol. 58, No. 222 pag. 61158
A second permit, issued to the operator of the large or medium municipal separate storm sewer, establishes the responsibilities of the	Federal Register, Vol. 58, No. 222 pag. 61158

Requirement	Reference
municipal operators in controlling pollutants from storm water associated with industrial activity which discharges through their system. The framework for permits for discharges from large and medium municipal separate storm sewer systems has been developed to establish the responsibilities of the municipals systems.	
At the heart of the permit program for discharges from municipal separate storm sewer systems serving a population of 100,000 or more are requirements that municipal applicants develop and implement municipal storm water management programs.	Federal Register, Vol. 58, No. 222 pag. 61158
The municipal storm water management programs that will be incorporated into NPDES permits for discharges from municipal separate storm sewer systems will generally address (in addition to other possible requirements) the following three major components: • Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage, and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers. • Reducing pollutants in construction site runoff through municipal separate storm sewers. • Identifying and controlling non-storm water discharges to municipal separate storm sewer systems. These components of a municipal program can initiate the role of the municipality in assisting EPA and authorized NPDES States in implementing controls to reduce pollutants in storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through municipal separate storm sewer systems specifically will address municipal responsibilities in controlling pollutants from industrial facilities.	Federal Register, Vol. 58, No. 222 pag. 61158
EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system.	Federal Register, Vol. 55, No. 222 pag. 47997-98
Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The	Federal Register, Vol. 55, No. 222 pag. 47998

Requirement	Reference
notification procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water, the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.	
EPA also expressed its belief, based upon an analysis of ordinance controlling construction site runoff in places in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule.	Federal Register, Vol. 55, No. 222 pag. 47998
Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers.	Federal Register, Vol. 55, No. 222 pag. 47998
In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits.	Federal Register, Vol. 55, No. 222 pag. 48000
Although today's rule will require industrial discharges through municipal storm sewers to be covered by a separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate.	Federal Register, Vol. 55, No. 222 pag. 48000
Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program.	Federal Register, Vol. 55, No. 222 pag. 48000
The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal.	Federal Register, Vol. 55, No. 222 pag. 48000
As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.	Federal Register, Vol. 55, No. 222 pag. 48000
Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal	Federal Register, Vol. 55, No. 222 pag. 48000

Requirement	Reference
systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.	
EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems.	Federal Register, Vol. 55, No. 222 pag. 48000
This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.	Federal Register, Vol. 55, No. 222 pag. 48000-01
In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system.	Federal Register, Vol. 55, No. 222 pag. 48001

Endnotes:

[1] *Results of the Nationwide Urban Runoff Program, Volume 1--Final Report.* Office of Water. U.S. EPA. 1983.

[2] *"Urban Storm Water Quality: Summary of Contaminant Data." Critical Reviews in Environmental Science and Technology 25(2):93-139.* Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995.

[3] *U.S. Geological Survey Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States. Report No. 85- 337 USGS.* Driver, N.E., M.H. Mustard, R.B. Rhinesmith, and R.F. Middleburg. *Lakewood, CO.* 1985.

[4] *Evaluation of Pollutant Loads from Urban Nonpoint Sources. Wat. Sci. Tech. 22(10/ 11):23-30* Marsalek, J. 1990.; Makepeace, et al., 1995 (see endnote 2).

[5] See Makepeace, et al., 1995 (endnote 2); Marsalek, 1990(see endnote 4); and Pitt, et al., 1995

[6] *Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001.* Office of Water. Washington, DC. U.S. EPA. 1992.

[7] *First Flush of Stormwater Pollutants Investigated in Texas." Note 28. Watershed Protection Techniques 1(2).* Schueler, T.R. 1994.

[8] U.S. EPA, 1992 (See endnote 6).

[9] *Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97- 009.* Office of Water. Washington, DC. U.S. EPA, 1997.

[10] *Quality Indices for Urbanization Effects in Puget Sound Lowland Streams, Technical Report No. 154. University of Washington Water Resources Series.* May, C.W., E.B. Welch, R.R. Horner, J.R. Karr, and B.W. May. 1997.

[11] *The Importance of Imperviousness. Watershed Protection Techniques 1(3).* Schueler, T.R. 1994.; *Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion. Watershed Protection Techniques 2(4).* May, C., R.R. Horner, J.R. Karr, B.W. Mar, and E.B. Welch. 1997.; *Assessing the Status of Aquatic Life Designated Uses in Urban and Suburban Watersheds. In*

Proceedings: National Conference on Retrofits Opportunities in Urban Environments. EPA 625-R-99-002, Washington, DC. Yoder, C.O., R.J. Miltner, and D. White. 1999.;
Assessing Biological Quality and Limitations to Biological Potential in Urban and Suburban Watersheds in Ohio. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers, Auckland, New Zealand. Yoder, C.O and R.J. Miltner. 1999.

[12] Schueler, T.R. 1994 (See endnote 11).

[13] *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation. The Environmental Professional, Vol. 14.* Cohn-Lee, R. and D. Cameron. 1992.

[14] *The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R- 97-008. Office of Water. Washington, DC.* U.S. EPA. 1998.

[15] *Research Reveals Link Between Development and Contamination in Urban Watersheds. USGS news release. USGS National Water-Quality Assessment Program.* U.S. Geological Survey 1998.

[16] *Impacts of Storm Water Runoff on Urban Streams in Milwaukee County, Wisconsin. Paper presented at National Symposium on Water Quality: American Water Resources Association.* Masterson, J. and R. Bannerman. 1994.;
Fish Dynamics in Urban Streams Near Atlanta, Georgia. Technical Note 94. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.

[17] *Selected Chemical Characteristics and Acute Toxicity of Urban Stormwater, Streamflow, and Bed Material, Maricopa County, Arizona. Water Resources Investigations Report 95-4074.* USGS Lopes, T. and K. Fossum. 1995.;
Effects of Urban Runoff on Aquatic Biota." In Handbook of Ecotoxicology. Pitt, R. 1995.;
Ecological Effects of Urban Stormwater Runoff on Benthic Macroinvertebrates Inhabiting the Green River, Massachusetts. Completion Report Project No. A-094. Water Resources Research Center. University of Massachusetts at Amherst. Pratt, J. and R. Coler. 1979.;
Historical Change in a Warmwater Fish Community in an Urbanizing Watershed. Technical Note 93. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.;
May, C., et.al. 1997 (See endnote 11).

[18] *Biological Effects of Urban Runoff Discharges.* Pitt, R.E. 1995. *In Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment,* ed. E.E Herricks, Lewis Publishers; Crunkilton, R., J. Kleist, D. Bierman, J. Ramcheck, and W. DeVita. 1999.;
Importance of Toxicity as a Factor Controlling the Distribution of Aquatic Organisms in an Urban Stream. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers. Auckland, New Zealand.

[19] *Sources of Pollutants in Wisconsin Stormwater. Wat. Sci. Tech. 28(3-5):241-59.* Bannerman, R.T., D.W. Owens, R.B. Dods, and N.J. Hornewer. 1993.

[20] *Basic Data on Urban Storm-Water Quality, Portland, Oregon* – USGS Open File Report 76-594 -1976

[21] *Partitioning and First Flush of Metals in Urban Roadway Storm Water. ASCE Journal of Environmental Engineering 123(2).* Sansalone, J.J. and S.G. Buchberger. 1997;
Physical Characteristics of Urban Roadway Solids Transported During Rain Events. ASCE Journal of Environmental Engineering 124(5). Sansalone, J.J., J.M. Koran, J.A. Smithson, and S.G. Buchberger. 1998.;
Sources of Metals in New York City Wastewater. J. Water Pollution Control Federation 46(12):2653-62. Klein, L.A., M. Lang, N. Nash, and S.L. Kirschner. 1974.;
A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction. Research Report 1943-1. Center for Transportation Research, University of Texas, Austin. Barrett, M.E, R.D. Zuber, E.R. Collins, J.F. Malina, R.J. Charbeneau, and G.H Ward., 1993.

[22] *Cars Are Leading Source of Metal Loads in California. Technical Note 13. Watershed Protection Techniques 1(1):28;*
Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program – Report to Congress. EPA 833-K-94-002;
Innovative Urban Wet-Weather Flow Management Systems. Technomic Publishing Co. Inc. Richard Field et. al. 2000.

[23] *Practical Pollution Prevention Emphasized for Industrial Stormwater. Technical Note 36. Watershed Protection Techniques 1(3):131-132.* L. Donald Duke.;

Santa Clara Valley Nonpoint Source Control Program. Source Identification and Control Report. 1992. Woodward Clyde Consultants;
Critical Source Selection and Monitoring Report prepared for Los Angeles County Department of Public Works. 1996. Woodward Clyde Consultants;
Water Quality of First Flush Runoff from 20 Industrial Sites. Water Environment Research 69 (3):305-310. D.E. Line et. al.;
Comparison of NPDES Program Findings for Selected Cities in United States. USGS Fact Sheet 192-97 January 1998;
Stormwater Runoff for Selected Watersheds in the Edwards Aquifer Recharge Zone, Bexar County USGS Fact Sheet 172-98 March 1999;
Quantity and Quality of Urban Stormwater Runoff from Selected Drainage Basins – Water-Resources Investigations Report 98-4168. 1998 USGS;
Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use. Fourth Biennial Stormwater Research Conference, Florida. Rabanal et al. 1995;
Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses. in Watershed '96 Proceedings – Baltimore. David L. Shepp, 1996;
Water Quality Of Storm Runoff And Comparison Of Procedures For Estimating Storm-Runoff Loads, Volume, Event-Mean Concentrations And The Mean Load For A Storm For Selected Properties And Constituents For Colorado Springs, Southeastern Colorado, 1992 – USGS Water-Resources Investigations Report 94-4194, 1995

[24] *Urban stormwater toxic pollutants: assessment, sources, and treatability. Water Environment Research, 67(3):260-75.* Pitt, R., R. Field, M. Lalor, M. Brown 1993.

[25] *A Guide to Water Quality at Vacation Beaches. New York, NY.* Natural Resources Defense Council. 1999.

[26] *Testing the Waters Volume VI: Who Knows What You're Getting Into. New York, NY.* Natural Resources Defense Council. 1996.;
Testing the Waters Volume VII: How Does Your Vacation Beach Rate. New York, NY. NRDC. 1997.;
Draining to the Ocean: The Effects of Stormwater Pollution on Coastal Waters. American Oceans Campaign, Santa Monica, CA. Morton, T. 1997.

[27] *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Final Report prepared for the Santa Monica Bay Restoration Project.* Haile, R.W., et. al. 1996.

[28] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994

[29] *County of Los Angeles Five-Year Stormwater Public Education Plan* 1996

[30] *EPA 833-R-00-002,* March 2000

[31] *NPDES Form 3510-11*

[32] *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* U.S. EPA 1992

[33] Broward County MS4, Palm Beach County MS4, Sarasota County MS4, issued by U.S. EPA Region 4, City of Tulsa MS4, Oklahoma City MS4, City of Corpus Christi MS4, City of Forth Worth MS4 issued by U.S. EPA Region 6, City of Seattle MS4 issued by Washington State Department of Ecology, City of Portland MS4 issued by the Oregon Department of Environmental Quality

[34] County of Santa Clara and co-permittees MS4 (issued 2001), San Diego County and co-permittees MS4 (issued 2001)

[35] *City of Monterey Stormwater Ordinance* 1997

[36] Letter from Eugene Bromley, Stormwater Coordinator U.S. EPA Region 9, to Maryann Jones Storm Water Section, California State Water Resources Control Board December 1993

[37] Letter from Alexis Strauss, Director Water Division, US EPA Region 9 to Dennis A. Dickerson in support of a municipal enforcement program for industrial sites included in the renewed MS4 Permit for LA County - December 2000;
Letter to James DeStefano, Interim City Manager – Diamond Bar, from Alexis Strauss, EPA Region 9 Water Division Director, regarding comments on the letter concerning inspection requirements – May 2001;
Letter from Christine Todd Whitman, U.S. EPA Administrator to The Honorable David Dreier, U.S. House of Representatives - July 2001

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[38] Response To Comments Received On The December 18, 1995 Draft NPDES Permit For Municipal Storm Water And Urban Runoff Discharges Within The County Of Los Angeles - March 1996; Memorandum from Jorge A. Leon, Senior Staff Counsel, State Water Resources Control Board to Catheryne Tyrrell, Assistant Executive Officer Regional Board Los Angeles – April 1996

[39] Vol. 133 Cong.Rec. S733-02 (daily ed. Jan. 14, 1987).

[40] *The Critical Source Selection and Monitoring Report.* Woodward-Clyde Consultants prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997.

[41] *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (CTR),* 40 CFR 131.38.

[42] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.*

[43] *Research Report on Issues, Pollutants and Materials for the Stormwater/Urban Runoff Public Education Program.* Prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997

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PERMIT NO. FLS000004
Major MS4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

Sarasota County - Municipal Separate Storm Sewer System Permittees:

Sarasota County
Engineering Department
Sarasota, Florida

Town of Longboat Key
Department of Public Works
Longboat Key, Florida

City of North Port
Roads and Drainage Department
North Port, Florida

City of Sarasota
Department of Public Works
Sarasota, Florida

City of Venice
Department of Public Works
Venice, Florida

Florida Department of Transportion
District One
Bartow, Florida

are authorized to discharge, in accordance with the approved Storm Water Management Program(s), effluent limitations, monitoring requirements, and other provisions as set forth in Parts I, II, III, IV, V, VI, VII, and VIII herein, from all portions of the

Municipal Separate Storm Sewer System owned or operated by any Permittee listed above,

to waters of the United States and all tributaries thereto.

This permit shall become effective on January 1, 1995.

This permit and the authorization to discharge under the National Pollutant Discharge Elimination System shall expire at midnight, on December 31, 1999.

DEC 0 1 1994
Date Issued

Robert F. McGhee, Acting Director
Water Management Division

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g. *Limitation of Sanitary Sewer Seepage:* The permittees shall prevent (or require the operator of the sanitary sewer to eliminate) unpermitted discharges of dry and wet weather overflows from sanitary sewers into the MS4. Each permittee shall eliminate the infiltration of seepage from sanitary sewers into the MS4.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.7.g. on page 36 of this permit.

8. *Industrial and High Risk Runoff:* The permittees shall develop and implement a program to identify and control pollutants, to the MEP and shall not cause or contribute to violations of State water quality standards of the receiving stream, in storm water discharges to the MS4 from the municipal landfill(s); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge in which the permittees determine is contributing a substantial pollutant loading to the MS4.

To satisfy the two (2) requirements of this section, the permittees shall:

a. *Identify priorities and procedures for inspections:* Identify all targeted facilities and determine priority sites in accordance with the schedule provided in Part III.A.8.a. on pages 37 and 38 of this permit. [redacted] Also, the permittees shall provide a listing in each ANNUAL REPORT of additionally identified industrial facilities which discharge storm water into the MS4 which have not been previously reported. The industrial storm water discharges that must be included in this inventory fall into the eleven (11) classes of industrial activities as defined in the November 1990 regulations under 40 CFR 122.26(b)(14).

b. *Monitoring for High Risk Industries:* Develop and implement a monitoring (or self monitoring) program for facilities identified under this section in accordance with the schedule provided in Part III.A.8.b. on page 38 of this permit. The monitoring program shall include the collection of quantitative data on the following constituents:

- any pollutants limited in an existing NPDES permit for an identified facility;
- oil and grease;
- chemical oxygen demand (COD);
- pH;
- biochemical oxygen demand, five-day (BOD_5);
- total suspended solids (TSS);
- total phosphorous;
- total Kjeldahl nitrogen (TKN);
- nitrate plus nitrite nitrogen; and
- any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

Data collected by the industrial facility to satisfy the monitoring requirements of an NPDES or State discharge permit may be used to satisfy this requirement. Permittees may require the industrial facility to conduct self-monitoring to satisfy this requirement.

9. *Construction Site Runoff:* The permittees shall develop and implement a program to reduce the discharge of pollutants from construction sites to the MEP, and to shall not cause or contribute to violations of State water quality standards of the receiving stream.

a. *Site Planning and Non-structural & Structural Best Management Practices:* The permittees shall require the use and maintenance of appropriate structural and non-structural best management practices to reduce pollutants discharged to the MS4 during the time of construction.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.9.a. on page 39 of this permit.

b. *Inspection and Enforcement:* The permittees shall develop and implement a program for inspecting construction sites and for enforcing the requirement for control measures.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.9.b. on pages 40 and 41 of this permit.

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E. **Legal Authority.** To the extent allowed by law, each permittee shall ensure legal authority to control discharges to and from those portions the MS4 over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority to accomplish Items 1 - 6 below. This legal authority for FDOT may be a combination of State statutes administered and enforced by sister agencies within the State of Florida government system which have adequate existing legal authority to accomplish Items 1 - 6 below.

1. Control the contribution of pollutants to the MS4 by Storm Water Discharges Associated with Industrial Activity and the quality of storm water discharged from sites of industrial activity;

2. Prohibit illicit discharges to the MS4;

3. Control the discharge of spills and the dumping or disposal of materials other than storm water (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;

4. Control through interagency or inter-jurisdictional agreements among permittees the contribution of pollutants from one portion of the MS4 to another;

5. Require compliance with conditions in ordinances, permits, contracts or orders; and

6. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

F. **Storm Water Management Program Resources.** Each permittee shall provide adequate finances to implement their activities under the Storm Water Management Program. Each permittee shall also have a source of funding for implementing all other requirements included within this NPDES storm water permit.

3. Provide a Summary Table of Storm Water Management Program Elements.

a. A Summary Table of appropriate SWMP annual activities for each permittee shall be provided. The purpose of the Summary Table is to document in a concise form the program activities and permittees' compliance status with quantifiable permit requirements. Program elements that are administrative (e.g.: planning procedures, program development and pilot studies) are inappropriate for the summary table and shall be discussed in the narrative section of the ANNUAL REPORT. The following are examples of SWMP activities to be included in the Summary Table:

(1) Structural Controls - maintenance and/or inspection activities of existing structural controls

(2) Roadway Maintenance - street sweeping, litter control activities, and maintenance on storm water structures & roadside ditches

(3) Municipal Waste TSD Facilities - inspections, monitoring, and implementation of control measures

(4) Pesticide, Herbicide, and Fertilizer Application - certification training and public education

(5) Illicits - facility inspections, investigations, enforcement actions, illicit (dry weather) screening, illicit public reporting, oil/household hazardous waste collection, and storm sewer inlet stencilling

(6) High Risk Industrial Facilities - inspection activities and monitoring

(7) Construction - training of inspectors, certification of construction site operators, inspections, and enforcement actions

(8) Storm Water Treatment Projects - description of municipal storm water treatment projects that have been completed, including a brief description of the affected drainage basin

b. The Summary Table shall indicate each permittee's SWMP activities and accomplishments. The format for this information shall adhere to the example shown in Table V.C.1. on page 55. Items to be reported include:

(1) Activity description;

(2) Number of activities (with frequency) that were scheduled for implementation and/or accomplishment in program element discussion (i.e., once/6 months, 100%/5 years, 6 sites monitored once/year, all sites inspected/permit term). Enter "Not Applicable" (N/A) if no specific schedule was specified;

(3) Status of schedule for year ("yes" for schedule was adhered to, or "no" for schedule was not adhered to);

(4) Number of activities which were accomplished; and

(5) The availability of documentation (i.e., inspection reports) for those activities which were accomplished and comments describing the reason(s) for any non-compliance.

4. The ANNUAL REPORT shall contain a Narrative Report to succinctly discuss the SWMP Elements which were not included within the SWMP Summary Table. Those SWMP Elements required to be developed under Parts II and III of the permit shall be discussed within this section of the ANNUAL REPORT following development.

a. The permittees shall include a brief discussion of the following applicable SWMP Elements:

(1) Structural Controls Maintenance
(2) Development Planning Procedures
(3) Roadway Maintenance
(4) Flood Management
(5) Municipal Facilities
(6) Pesticides, Herbicides, and Fertilizers
(7) Illicits Inspection/Investigation/Enforcement
(8) Field Screening
(9) Spill Response

(10) Public Reporting of Illicit Discharges
(11) Oil and Household Hazardous Waste
(12) Sanitary Sewer Seepage
(13) High Risk Industrial Facility Inspection
(14) Construction Planing Procedures
(15) Construction Inspections
(14) Education Activities
(15) Monitoring Activities
(16) Any additional elements of Storm Water Management Program

b. The format for the Narrative Report section of the ANNUAL REPORT shall be a brief discussion of the SWMP Element. The aspects of each permittee's activities concerning a SWMP Element shall be succinctly discussed in the section of the Narrative Report dedicated to that Element. The discussion shall include the following:

(1) Objective of SWMP Element,

(2) SWMP Element activities completed and those in progress,

(3) General discussion of Element. Explanation of all Element activity deficiencies (e.g.: activities described in the program that have not been fully implemented or completed). Results of activities shall be summarized and discussed (e.g.: maintenance caused by inspection, pollutants detected by monitoring, investigations as a result of dry and wet weather screening, number and nature of enforcement items, education activities participation),

(4) Status of SWMP Element with compliance, implementation, and augmentation schedules in Part III of the permit,

(5) SWMP Element strengths and weaknesses,

(6) Assessment of controls, and

(7) Discussion of Element revisions that are summarized elsewhere in the ANNUAL REPORT.

STORM WATER MANAGEMENT PROGRAM	PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
8. *Industrial and High Risk Runoff*			
a.) Identification of Priorities and Procedures for Inspections	ALL	Develop an inventory of all existing high risk facilities discharging into the MS4. This inventory shall identify the outfall and surface waterbody into which each high risk facility drains.	Within 24 Months of the Effective Date of the Permit
		Based upon historical information and available monitoring & screening data, prioritize the identified high risk facilities.	Within 24 Months of the Effective Date of the Permit
	ALL **except for** FDOT	Develop procedures for inspecting high risk facilities and establish an inspection schedule. After development, include a summary of the procedures & inspection schedule in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	FDOT	Develop procedures for the inspection of high risk facilities which hold FDOT drainage connection permits to ensure compliance with permit requirements. In cases where another regulatory agency requires a periodic certification of compliance, the program developed may allow FDOT to accept this certification of compliance in lieu of further inspections by FDOT. After development, include a summary of the procedures & inspection schedule in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	ALL	Begin inspections of identified high risk facilities. Maintain an internal log documenting the results of the inspections performed.	Within 36 Months of the Effective Date of the Permit

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STORM WATER MANAGEMENT PROGRAM	PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
8. *Industrial and High Risk Runoff* (continued)			
a.) *Identification of Priorities and Procedures for Inspections* (continued)	ALL	Maintain a list of all industrial storm water sources discharging to MS4 & update in ANNUAL REPORTS.	Effective Date of the Permit
b.) *Monitoring for High Risk Industries*	ALL **except for** FDOT	Develop a monitoring (or self monitoring) program for high risk industrial facilities. Include a description of the specific enforcement steps to be taken to require compliance with local storm water ordinances if violations are identified. After development, include a summary of the monitoring program in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	FDOT	Develop a monitoring (or self monitoring) program for high risk industrial facilities which hold FDOT drainage connection permits. Include a description of the specific enforcement steps to be taken to require compliance with permit conditions if violations are identified. After development, include a summary of the monitoring program in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	ALL	Implement the monitoring program for high risk industrial facilities.	Within 36 Months of the Effective Date of the Permit

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NPDES Permit No. OKS000201

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

City of Tulsa
Department of Public Works
200 Civic Center
Tulsa, Oklahoma 74103

is(are) authorized to discharge, in accordance with the Storm Water Management Program(s), effluent limitations, monitoring requirements, and other provisions set forth in Parts I, II, III, IV, V, VI, VII, and VIII herein,

from all portions of the City of Tulsa Municipal Separate Storm Sewer System (MS4) owned or operated by any permittee listed above, to waters of the United States.

This permit will become effective October 1, 1994

This permit and the authorization to discharge under the National Pollutant Discharge Elimination System shall expire at midnight, on September 30, 1999

Signed this 26 day of August, 1994

Monica L. Burrell
Environmental Engineer
Municipal Section (6W-PM)

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

R0005403

weather screening activities to locate portions of the Municipal Separate Storm Sewer System with suspected illicit discharges and improper disposal. Follow-up activities to eliminate illicit discharges and improper disposal may be prioritized on the basis of magnitude and nature of the suspected discharge; sensitivity of the receiving water; and/or other relevant factors. This program shall establish priorities and schedules for screening the entire Municipal Separate Storm Sewer System at least once per five years. The permittee(s) shall utilize a consistent method (e.g. by land area, by outfall, etc.) for determining the percentage of the municipal separate storm sewer system that has been screened. Facility inspections may be carried out in conjunction with other municipal programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the municipality.

f. Each permittee shall require the elimination of illicit discharges and improper disposal practices as expeditiously as reasonably possible. Where elimination of an illicit discharge within thirty (30) days is not possible, the permittee shall require an expeditious schedule for removal of the discharge. In the interim, the permittee shall require the operator of the illicit discharge to take all reasonable and prudent measures to minimize the discharge of pollutants to the Municipal Separate Storm Sewer System.

g. The permittee(s) shall maintain, and update as necessary, a list of discharges to municipal separate storm sewers that has been issued a NPDES permit. The list shall include the name, location and NPDES permit number of the discharger.

7. *Spill Prevention and Response:* A program to prevent, contain, and respond to spills that may discharge into the Municipal Separate Storm Sewer System shall be implemented. The spill response program may include a combination of spill response actions by the permittee(s) (and/or another public or private entity), and legal requirements for private entities within the permittee's municipal jurisdiction.

8. *Industrial & High Risk Runoff:* A program to identify and control pollutants in storm water discharges to the Municipal Separate Storm Sewer System from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines is contributing a substantial pollutant loading to the Municipal Separate Storm Sewer System shall be implemented. The program shall include:

a. priorities and procedures for inspections and establishing and implementing control measures for such discharges;

b. a monitoring program (Part II.A.11.c.); and

c. a list of industrial storm water sources discharging to the Municipal Separate Storm Sewer System shall be maintained and update as necessary.

b. *Wet Weather Screening Program:* The permittee(s) shall identify, investigate, and address areas within their jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System. The wet weather screening program:

(1) shall screen the Municipal Separate Storm Sewer System, in accordance with the procedures specified in the Storm Water Management Program.

(2) shall specify the sampling and non-sampling techniques to be used for initial screening and follow-up purposes. Sample collection and analysis need not conform to the requirements of 40 CFR Part 136. However, samples taken to confirm (e.g. in support of possible legal action) a particular discharger is a source of significant quantities of pollutants should conform to the requirements of 40 CFR Part 136.

c. The *Industrial and High Risk Runoff Monitoring Program* shall include monitoring for pollutants in storm water discharges to the Municipal Separate Storm Sewer System from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines are contributing a substantial pollutant loading to the Municipal Separate Storm Sewer System.

(1) Except as provided in (2) below, the monitoring program shall including the collection of quantitative data on the following constituents:

(a) any pollutants limited in an existing NPDES permit for a subject facility;
(b) oil and grease;
(c) chemical oxygen demand (COD);
(d) pH;
(e) biochemical oxygen demand, five-day (BOD_5);
(f) total suspended solids (TSS);
(g) total phosphorous;
(h) total Kjeldahl nitrogen (TKN);
(i) nitrate plus nitrite nitrogen; and
(j) any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

Data collected by the industrial facility to satisfy the monitoring requirements of an NPDES or State discharge permit may be used to satisfy this requirement. Permittee(s) may require the industrial facility to conduct self-monitoring to satisfy this requirement.

(2) Alternative Certification: In lieu of monitoring, the permittee may accept a certification from a facility that raw and waste materials, final and intermediate products, by-products, material handling equipment or activities, industrial machinery or operations, or significant materials from past industrial activity are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Where the permittee(s)

accept a "no exposure" certification, the permittee(s) shall conduct at least one site inspection of the facility every five years to verify the "no exposure" exemption.

B. Area-specific Storm Water Management Program Requirements. Reserved.

C. Deadlines for Program Implementation. Except as provided in Part III., full implementation of the Storm Water Management Program shall begin within 90 days from the effective date of the permit.

D. Roles and Responsibilities of Permittee(s). The Storm Water Management Program, together with any attached interagency agreements, shall clearly identify the roles and responsibilities of each permittee.

E. Legal Authority. Each permittee shall ensure legal authority to control discharges to and from those portions the Municipal Separate Storm Sewer System over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements with permittees with existing legal authority to:

1. Control the contribution of pollutants to the Municipal Separate Storm Sewer System by Storm Water Discharges Associated with Industrial Activity and the quality of storm water discharged from sites of industrial activity;

2. Prohibit illicit discharges to the Municipal Separate Storm Sewer System;

3. Control the discharge of spills and the dumping or disposal of materials other than storm water (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the Municipal Separate Storm Sewer System;

4. Control through interagency or interjurisdictional agreements among permittees the contribution of pollutants from one portion of the Municipal Separate Storm Sewer System to another;

5. Require compliance with conditions in ordinances, permits, contracts or orders; and

6. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

F. Storm Water Management Program Resources. Each permittee shall provide adequate finances, staff, equipment, and support capabilities to implement their activities under the Storm Water Management Program.

G. Storm Water Management Program Review and Update.

1. *Storm Water Management Program Review:* Each permittee shall participate in an annual review of the current Storm Water Management Program in conjunction with preparation of the annual report required under Part V.C.

2. *Storm Water Management Program Update:* The permittee(s) may change the Storm Water Management Program during the life of the permit in accordance with the following procedures:

a. The approved Storm Water Management Program shall not be changed by the permittee(s) without the approval of the Director, unless in accordance with Parts II.G.2.b. and 2.c.

STORM WATER MANAGEMENT PROGRAM COMPONENT	ACTIVITY	DATE DUE/FREQUENCY
7. Flood Control Projects	a. Complete evaluation of existing flood control structures for feasible water quality retrofit projects.	October 1, 1998
	b. Complete schedule for proposed water quality retrofits to existing flood control structures.	November 1, 1998
8. Industrial and High Risk	a. Develop program to identify, monitor, and control pollutants from targeted facilities	July 1, 1995
	b. Implement program	July 1, 1996
9. Pesticide, Herbicide, and Fertilizer Application	a. Implement annual training/education on pesticide and fertilizer management techniques.	January 1, 1995
	b. Establish requirement for commercial pesticide applicators to be licensed under the Oklahoma Pesticide Applicators Law.	April 1, 1995

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CITY OF FORT WORTH, TEXAS
STORM DRAIN MONITORING PROGRAM



Fort Worth's Industrial Inspection Program

The City's Industrial Inspection Program was created as a requirement of the City's NPDES Storm Water Permit with the EPA. For the purposes of compliance with the permit, the City must inspect (1) SARA Title III Section 313 industrial facilities, (2) hazardous waste treatment, disposal or recovery facilities, (3) municipal facilities under NPDES regulations and (4) industries that discharge, or have the potential to discharge, substantial pollutant loadings to the storm drain system. Each of these facilities must be inspected once every five years, at a minimum. These inspections are based upon EPA criteria and primarily include a review of the facility's Storm Water Pollution Prevention Plan (SWPPP) and a physical inspection of the facility to identify any potential sources of storm water pollution.

The City of Fort Worth Department of Environmental Management (DEM) has taken a unique approach in performing these inspections. As a regulatory agency, the City has the authority to impose fines and initiate state and federal investigations upon non-compliant industries. However, the federal storm water regulations are not only complicated, they are new to many industries.

DEM is cognizant of this and has taken an approach of education and cooperation with the industries, as opposed to enforcement. When our inspectors visit an industry for the first time, they will perform a comprehensive review of the industry's SWPPP. Any deficiencies in the SWPPP are noted and the industry is given 30 days to make appropriate corrections. During this initial phase, the inspector is willing to assist the industry gain compliance with its permit. This assistance may be in the form of supplying EPA paperwork, answering questions, performing plan reviews, interpreting data, or anything else needed by the industry.

At the end of the 30 day period, the inspector reviews the SW3P again and notes whether the facility is in compliance. In some cases, the industry may not be in compliance at the end of the 30 day period. DEM recognizes that in some special cases, 30 days may not be enough time to make major changes. In such cases, DEM will continue to work with the industry until the industry is in compliance. Industries that do not obtain permits or make reasonable efforts to implement SWPPPs are referred to the EPA for possible federal enforcement action.

For additional information on the inspection process, please call 817-871-5451 and ask for an Industrial Inspector.

Return to Storm Water Discharges Associated With Industrial Activity

FORT WORTH

This page was last modified on February 22, 2001.

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[redacted]

- **Areas of New Development and Significant Redevelopment**

  - Tulsa has until February 1, 1995, to adopt and implement the Draft Storm Water Management Criteria Manual (Criteria Manual).

- **Illicit Connections/Improper Disposal including Household Hazardous Waste/Used Motor Vehicle Fluids**

  - Operation and maintenance programs on both the storm sewers and sanitary sewers.

  - Tulsa has until May 1, 1995, to install two floatable monitoring locations for removal of floatable material in discharges to or from the Municipal separate storm sewer system. The City will also have to complete the study for targeting structural controls and develop schedule for implementation.

  - Currently have eight (8) locations for collection of used motor vehicle fluids which are open 24 hours a day, 7 days a week. They also have plans to open more recycling centers in the future.

  - Will have semi-annual collection events located within 5 miles of most folks in City.

  - Ongoing program to detect and eliminate illicit discharges and improper disposal.

- **Industrial & High Risk Runoff**

  - [redacted] operating and closed municipal landfills, all treatment, storage, and disposal facilities for municipal wastes, Hazardous waste treatment, storage and disposal facilities, and industrial facilities regulated under SARA Title III, Section 313 once per permit term.

- **Construction Runoff**

  - The city of Tulsa Stormwater Management Criteria Manual, Chapter 1500, addresses erosion and sedimentation control for construction related activities.

- **Public Education**

The permit will expire on 12/01/01

BROWARD COUNTY PERMITTEES
NPDES PERMIT FOR
MUNICIPAL SEPARATE STORM SEWER SYSTEMS

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BROWARD COUNTY PERMITTEES
NPDES PERMIT FOR
MUNICIPAL SEPARATE STORM SEWER SYSTEMS

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PART I.

DISCHARGES AUTHORIZED UNDER THIS PERMIT

A. Permit Area. This permit covers all areas located within the political boundary of Broward County, excluding all areas within the City of Hollywood and the City of Fort Lauderdale, served by municipal separate storm sewer systems owned or operated by the permittees identified in Part I.C.

B. Authorized Discharges. Except for discharges prohibited under Part I.D., this permit authorizes all existing or new storm water point source discharges to waters of the United States from those portions of the Municipal Separate Storm Sewer System (MS4) owned or operated by the permittees.

C. Permittees.
The following entities are permittees subject to the conditions of this permit:

- Unincorporated Broward County
- City of Coconut Creek
- City of Cooper City
- City of Coral Springs
- City of Dania
- Town of Davie
- City of Deerfield Beach
- City of Hallandale
- Town of Lauderdale by the Sea
- City of Lauderdale Lakes
- City of Lauderhill
- City of Lighthouse Point
- City of Margate
- FDOT (District Four and Turnpike District)
- City of Miramar
- City of North Lauderdale
- City of Oakland Park
- City of Parkland
- Town of Pembroke Park
- City of Pembroke Pines
- City of Plantation
- City of Pompano Beach
- Village of Sea Ranch Lakes
- City of Sunrise
- City of Tamarac
- City of Wilton Manors

References to "permittee" in this permit include each of the entities above.

1. Each permittee is individually responsible for:

   a. Compliance with permit conditions relating to discharges from portions of the MS4 where they are the operator;

   b. Storm water management program implementation on portions of the MS4 where they are the operator;

   c. Where permit conditions are established for specific portions of the MS4, the permittee need only comply with the permit conditions relating to those portions of the MS4 for which they are the operator; and

   d. A plan of action to assume responsibility for implementation of storm water management and monitoring programs on their portions of the

into the MS4.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.7.g. on page 35 of this permit.

8. *Industrial and High Risk Runoff:* The permittees shall implement the SWMP to identify and control pollutants in storm water discharges to the MS4 from the municipal landfill(s); hazardous waste treatment, storage, disposal and recovery facilities; facilities that have reported under the requirements of EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittees determine is contributing a substantial pollutant loading to the MS4. The program implemented shall be consistent with State Water Policy.

To satisfy the two (2) requirements of this section, the permittees shall:

a. *Identification of priorities and procedures for inspections:* In accordance with the schedule provided in Part III.A.8.a. on page 36 of this permit, the permittee(s) shall identify all targeted facilities and determine priority sites. Inspection schedules and procedures for the identified facilities shall be implemented regularly. Also, the permittees shall provide a listing in each ANNUAL REPORT of additionally identified industrial facilities which discharge storm water into the MS4 which have not been previously reported. At a minimum, the industrial storm water discharges that shall be included in this inventory fall into the eleven (11) classes of industrial activities as defined in the November 1990 regulations under 40 CFR 122.26(b)(14).

b. *Monitoring for High Risk Industries:* Implement the monitoring program for facilities identified under this section in accordance with the schedule provided in Part III.A.8.b. on page 37 of this permit. The monitoring program shall include the collection of quantitative data on the following constituents:

- any pollutants limited in an existing NPDES permit for an identified facility;
- oil and grease;
- chemical oxygen demand (COD);
- pH;
- biochemical oxygen demand, five-day (BOD_5);
- total suspended solids (TSS);
- total phosphorous;
- total Kjeldahl nitrogen (TKN);

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Management Program(s) identified in Part III.A.9.c. on page 40 of this permit.

B. Area-specific Storm Water Management Program Requirements.

NONE

C. Deadlines for Program Compliance. Except as provided in Part III, compliance with the storm water management program shall be required 90 days from the effective date of the permit.

D. Roles and Responsibilities of Permittees. The Storm Water Management Program, together with any attached interagency agreements or interagency agreements developed subsequent to the effective date of the permit, shall clearly identify the roles and responsibilities of each permittee. Following the effective date of the permit, interagency agreements developed and implemented must be included in the ANNUAL REPORT covering the permit year in which the agreement became effective.

E. Legal Authority. To the extent allowed by law, each permittee shall ensure legal authority to control discharges to and from those portions of the Municipal Separate Storm Sewer System (MS4) over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements among permittees with adequate existing legal authority to accomplish items 1 - 6 below. This legal authority for FDOT may be a combination of State statutes administered and enforced by sister agencies within the State of Florida government system which have adequate existing legal authority to accomplish the following items 1 - 6:

1. **Control the contribution of pollutants to the MS4 by Storm Water Discharges Associated with Industrial Activity and the quality of storm water discharged from sites of industrial activity;**

2. Prohibit illicit discharges to the MS4;

3. Control the discharge of spills and the dumping or disposal of materials other than storm water (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;

4. Control through interagency or inter-jurisdictional agreements among permittees the contribution of pollutants from one portion of the MS4 to another;

5. **Require compliance with conditions in ordinances, permits, contracts or orders; and**

6. **Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.**

F. Storm Water Management Program Resources.

Each permittee shall provide adequate finances to implement their activities under the Storm Water Management Program. Each permittee shall also have a source of funding for implementing all other requirements included within this NPDES storm water permit.

G. Storm Water Management Program Review and Modification.

1. *Program Review:* Each permittee shall participate in an annual review of the current Storm Water Management Program (SWMP) in conjunction with preparation of the ANNUAL REPORT required under Part V.C. of the permit.

2. *Program Modification:* The permittee(s) may modify the SWMP during the life of the permit in accordance with the following procedures:

   a. Modifications adding (but not subtracting nor replacing) components, controls, or requirements to the approved SWMP may be made by the permittee(s) at any time. A description of the modification shall be included within the subsequent ANNUAL REPORT.

   b. Modifications replacing an ineffective or unfeasible BMP specifically identified in the SWMP with an alternate BMP may be made by the permittee(s) at any time. A description of the replacement BMP shall be included in the subsequent ANNUAL REPORT along with the following information:

      (1) an analysis of why the former BMP was ineffective or infeasible (including cost prohibitive);

      (2) expectations on the effectiveness of the replacement BMP; and

STORM WATER MANAGEMENT PROGRAM:

8. a.) Industrial and High Risk Runoff - Identification of priorities and procedures for inspections.

PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
ALL except FDOT	Inventory and prioritize all existing high risk facilities discharging into the MS4 within each permittee's jurisdictional area. High risk facilities shall include municipal landfills, hazardous waste treatment, storage, disposal and recovery facilities, facilities that have reported under the requirements of EPCRA Title III, Section 313, private and municipal waste handling facilities and any other industrial or commercial discharge which the permittee determines is contributing a substantial pollutant loading to the MS4. This inventory shall identify the outfall and surface water body into which each high risk facility drains.	Within 24 Months of the Effective Date of the Permit
	Implement procedures, within each permittee's jurisdictional area, to determine if the identified high risk facilities are in compliance with all appropriate aspects of the storm water program (e.g. no illicit connections; compliance with local storm water regulation requirements; and if the facility is required to have NPDES permit coverage, a copy of the NPDES storm water pollution prevention plan on site). Maintain a list of all industrial storm water sources discharging to the MS4 and include an update in each ANNUAL REPORT of any additionally identified industrial facilities not previously listed. Maintain a log documenting the results of the inspections performed.	Effective Date of the Permit
FDOT	Develop procedures for the inspection of high risk facilities which hold FDOT drainage connection permits to verify compliance with FDOT Drainage permit requirements. In cases where another regulatory agency requires a periodic certification of compliance, the program developed may allow FDOT to accept this certification of compliance in lieu of further inspections by FDOT.	Within 24 Months of the Effective Date of the Permit

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STORM WATER MANAGEMENT PROGRAM:

8. a.) Industrial and High Risk Runoff - Identification of priorities and procedures for inspections.

PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
	After development, include a summary of the procedures & inspection schedule for incorporation into the permit.	**Provide in the subsequent ANNUAL REPORT**

STORM WATER MANAGEMENT PROGRAM:

8. b.) Industrial and High Risk Runoff - Monitoring for High Risk Industries.

PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
Broward County	Begin implementing Broward County's DNRP monitoring program for identified high risk industrial facilities.	Effective Date of the Permit
	Initiate enforcement action on those facilities having storm water discharges to the MS4 which violate water quality standards. Send to EPA a copy of each Notice of Violation at the address shown in Part V.E.2., page 55 of the permit.	Within 12 Months of the Effective Date of the Permit
FDOT	Develop a monitoring program which addresses the water quality criteria included in the FDOT permitting process for those high risk industrial facilities which hold FDOT drainage connection permits. Include a description of the specific enforcement steps to be taken to require compliance with permit conditions if violations are identified. After development, include a summary of the monitoring program in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit

R0005417

PUBLIC WORKS

City of Monterey

Behind the City scene ...

Storm Drain Pollution & You.

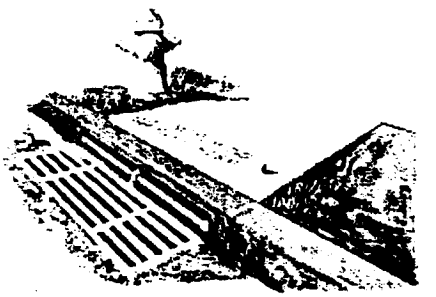
Education Materials

Management Program

Ordinance

Model Urban Runoff Program: A How-to-Guide NEW!!

Stormwater Information



Stormwater pollution is one of the top five polluters of lakes, rivers, creeks, and estuaries in the United States. We can all help to clean up our water environments by following a few simple tips. To find out more about what you can do to help reverse this trend, see Storm Drain Pollution & You.

One of the most effective tools for preventing storm drain pollution is education. We have developed educational materials for the community. Specific practices for preventing stormwater pollution have been published for the auto repair industry, the food and restaurant industry, the construction industry, and for homeowners and do-it-yourselfers. General materials have also been developed.

The City's "water quality ethic" has led to the development of a Stormwater Management Program which is continually changing and expanding. This program is the result of a commitment to protecting our resources on the Central Coast, especially to our receiving water, the Monterey Bay National Marine Sanctuary.

In an effort to regulate what is allowed to flow down the storm drain, a Stormwater Ordinance was developed and passed in 1997. This ordinance limits stormwater flows to clean rain water and non-polluted incidental flows such as lawn irrigation runoff and groundwater infiltration. This ordinance borrows elements from many other cities who have existing ordinances.

Engineering & Surveying Services | Parks, Forestry & Cemetery
Traffic Engineering Services | Construction Management | Maintenance Div.
Contract Services/Recycling | FAQs | Stormwater Information | Contact Us
Public Works *Home Page*

City of Monterey

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Rev 11/01/01 - E.A. West - http://www.monterey.org/publicworks/storminfo.html

R0005418

City of Monterey Stormwater Ordinance

ORDINANCE NO. _____ C.S.

ORDINANCE ADDING NEW ARTICLE 2 TO CHAPTER 31.5

OF THE MONTEREY CITY CODE REGARDING

URBAN STORM WATER QUALITY MANAGEMENT AND DISCHARGE CONTROL

- - - - -

THE COUNCIL OF THE CITY OF MONTEREY DOES ORDAIN AS FOLLOWS:

SECTION 1. A new Article 2 is hereby added to Chapter 31.5 of the Monterey City Code regarding Urban Storm Water Quality Management and Discharge Control, which shall read in its entirety as follows:

"ARTICLE 2.

URBAN STORM WATER QUALITY MANAGEMENT AND DISCHARGE CONTROL.

Division I.

Title, Purpose and General Provisions.

Section 31.5-4. Title.

This Article shall be known as the "Urban Storm Water Quality Management and Discharge Control Ordinance" of the City of Monterey and may be so cited.

Section 31.5-5. Purpose and Intent.

The purpose and intent of this Article is to ensure the health, safety, and general welfare of citizens, and protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. '1251 et seq.) by reducing pollutants in storm water discharges to the maximum extent practicable and by prohibiting non-storm water discharges to the storm drain system.

Section 31.5-6. Definitions.

The terms used in this Article shall have the following meanings:

(a) Best Management Practices. Activities, practices, and procedures to prevent or reduce the discharge of pollutants directly or indirectly to the municipal storm drain system and waters of the United States. Best Management Practices include but are not limited to: treatment facilities to remove pollutants from storm water; operating and maintenance procedures; facility management practices to control runoff, spillage or leaks of non-storm water, waste disposal, and drainage from materials storage; erosion and sediment

control practices; and the prohibition of specific activities, practices, and procedures and such other provisions as the City determines appropriate for the control of pollutants. Please refer to the City of Monterey's *BMP Guidance Series*, as discussed further un Section 31.5-16(c) herein. for specific requirements.

(b) City. The City of Monterey.

(c) Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. ' 1251 et seq.), and any subsequent amendments thereto.

(d) Construction Activity. Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of 5 acres or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

(e) Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (California Health and Safety Code '25117).

(f) Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Division II, Section 31.5-12 of this chapter.

(g) Illicit Connections. An illicit connection is defined as either of the following:

1. Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by a government agency; or

2. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City.

(h) Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

(i) National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permits. General, group, and individual storm water discharge permits which regulate facilities defined in federal NPDES regulations pursuant to the Clean Water Act. The California Regional Water Quality Control Board, Central Coast Region (hereinafter, Regional Board) and the State Water Resources Control Board have adopted general storm water discharge permits, including but not limited to the General Construction Activity and General Industrial Activity permits.

(j) Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.

(k) Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and

fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure (including but not limited to sediments, slurries, and concrete rinsates); and noxious or offensive matter of any kind.

(l) Pollution. The human-made or human-induced alteration of the quality of waters by waste to a degree which unreasonably affects, or has the potential to unreasonably affect, either the waters for beneficial uses or the facilities which serve these beneficial uses (California Water Code '13050).

(m) Porter-Cologne Act. The Porter-Cologne Water Quality Control Act and as amended (California Water Code '13000 et seq.).

(n) Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

(o) Storm Drain System. Publicly-owned facilities operated by the City by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures which are within the City and are not part of a publicly owned treatment works as defined at 40 CFR Section 122.2.

(p) Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from rain storm events.

(q) Waters of the United States. Surface watercourses and water bodies as defined at 40 CFR ' 122.2. including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry storm water at and during all times and seasons.

Section 31.5-7. Applicability.

This Article shall apply to all water entering the storm drain system generated on any developed and undeveloped lands lying within the City of Monterey including any amendments or revisions thereto.

Section 31.5-8. Responsibility for Administration.

The Public Works Director of the City shall administer, implement, and enforce the provisions of this Article. Any powers granted or duties imposed upon the Public Works Director may be delegated in writing by the Public Works Director to persons or entities acting in the beneficial interest of or in the employ of the City.

Section 31.5-9. Severability.

The provisions of this Article are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Article or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Article.

Section 31.5-10. Regulatory Consistency.

This Article shall be construed to assure consistency with the requirements of the Clean Water Act and Porter-Cologne Act and acts amendatory thereof or supplementary thereto, or any applicable implementing

regulations.

Section 31.5-11. Ultimate Responsibility of Discharger.

The standards set forth herein and promulgated pursuant to this Article are minimum standards; therefore this Article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into waters of the U.S. caused by said person. This Article shall not create liability on the part of the City of Monterey, or any agent or employee thereof for any damages that result from any discharger's reliance on this Article or any administrative decision lawfully made thereunder.

Division II.

Discharge Prohibitions.

Section 31.5-12. Prohibition of Illegal Discharges.

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(a) Discharges from the following activities will not be considered a source of pollutants to the storm drain system and to waters of the U.S. when properly managed to ensure that no potential pollutants are present, and therefore they shall not be considered illegal discharges unless determined to cause a violation of the provisions of the Porter-Cologne Act, Clean Water Act, or this ordinance: potable water line flushing; uncontaminated pumped groundwater and other discharges from potable water sources; landscape irrigation and lawn watering; diverted stream flows; rising groundwater; groundwater infiltration to the storm drain system; uncontaminated foundation and footing drains; uncontaminated water from crawl space pumps; air conditioning condensation; uncontaminated non-industrial roof drains; springs; individual residential and occasional non-commercial car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; and flows from fire fighting.

(b) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered by the State of California under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted by the City of Monterey for any discharge to the storm drain system.

(c) With written concurrence of the Regional Board, the City of Monterey may exempt in writing other non-storm water discharges which are not a source of pollutants to the storm drain system nor waters of the U.S.

Section 31.5-13. Prohibition of Illicit Connections.

(a) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

Section 31.5-14. Waste Disposal Prohibitions.

No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, left, or maintained, in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the storm drain system, or water of the U.S., any refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that the same may cause or contribute to pollution. Wastes deposited in streets in proper waste receptacles for the purposes of collection are exempted from this prohibition.

Section 31.5-15. Discharges in Violation of Industrial or Construction Activity NPDES Storm Water Discharge Permit.

Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Public Works Director prior to or as a condition of a subdivision map, site plan, building permit, or development or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause.

Division III.

Regulations and Requirements.

Section 31.5-16. Requirement to Prevent, Control, and Reduce Storm Water Pollutants.

(a) Authorization to Adopt and Impose Best Management Practices. The City will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the U.S. as a separate *BMP Guidance Series*. Where Best Management Practices requirements are promulgated by the City or any federal, State of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or water of the U.S., every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

The Public Works Director will report to the City Council annually on the status of implementation of BMP's, the pollutants of concern to be addressed the next year, and any new BMPs to be developed. BMP's developed under this program will be included in the City of Monterey's *BMP Guidance Series*.

(b) New Development and Redevelopment. The City may adopt requirements identifying appropriate Best Management Practices to control the volume, rate, and potential pollutant load of storm water runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The City shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this Article and the City Storm Water Utility Ordinance, Chapter 31.5, Article 1.

(c) Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections (a) and (b), any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering storm water, the storm drain system, or waters of the U.S. shall implement Best Management Practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

Best Management Practices required by the City can be obtained from the Public Works Department by requesting the BMP manual appropriate to a commercial or industrial activity from the *BMP Guidance Series*. BMP's are broken into three categories: "high priority" which are required to be implemented, "medium priority" which are desirable to implement, and "low priority."

Section 31.5-17. Requirement to Eliminate Illegal Discharges.

Notwithstanding the requirements of Division IV, Section 31.5-23 herein, the Public Works Director may require by written notice that a person responsible for an illegal discharge immediately, or by a specified date, discontinue the discharge and, if necessary, take measures to eliminate the source of the discharge to prevent the occurrence of future illegal discharges.

Section 31.5-18. Requirement to Eliminate or Secure Approval for Illicit Connections.

(a) The Public Works Director may require by written notice that a person responsible for an illicit connection to the storm drain system comply with the requirements of this Article to eliminate or secure approval for the connection by a specified date, regardless of whether or not the connection or discharges to it had been established or approved prior to the effective date of this Article.

(b) If, subsequent to eliminating a connection found to be in violation of this Article, the responsible person can demonstrate that an illegal discharge will no longer occur, said person may request City approval to reconnect. The reconnection or reinstallation of the connection shall be at the responsible person's expense.

Section 31.5-19. Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property reasonably free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse. The owner or lessee shall not remove healthy bank vegetation beyond

that actually necessary for maintenance, nor remove said vegetation in such a manner as to increase the vulnerability of the watercourse to erosion. The property owner shall be responsible for maintaining and stabilizing that portion of the watercourse that is within their property lines in order to protect against erosion and degradation of the watercourse originating or contributed from their property.

Section 31.5-20. Requirement to Remediate.

Whenever the Public Works Director finds that a discharge of pollutants is taking place or has occurred which will result in or has resulted in pollution of storm water, the storm drain system, or water of the U.S., the Public Works Director may require by written notice to the owner of the property and/or the responsible person that the pollution be remediated and the affected property restored within a specified time pursuant to the provisions of sections 31.5-25 through 31.5-28 below.

Section 31.5-21. Requirement to Monitor and Analyze.

The Public Works Director may require by written notice of requirement that any person engaged in any activity and/or owning or operating any facility which may cause or contribute to storm water pollution, illegal discharges, and/or non-storm water discharges to the storm drain system or waters of the U.S., to undertake at said person's expense such monitoring and analyses and furnish such reports to the City of Monterey as deemed necessary to determine compliance with this Article.

Section 31.5-22. Notification of Spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. from said facility, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of a hazardous material said person shall immediately notify emergency response officials of the occurrence via emergency dispatch services (911). In the event of a release of non-hazardous materials, said person shall notify the City's Public Works Department in person or by phone or facsimile no later than 5:00 p.m. of the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the City's Public Works Department within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

Division IV.

Inspection and Monitoring.

Section 31.5-23. Authority to Inspect.

Whenever necessary to make an inspection to enforce any provision of this Article, or whenever the Public Works Director has cause to believe that there exists, or potentially exists, in or upon any premises any

condition which constitutes a violation of this Article, the Director may enter such premises at all reasonable times to inspect the same and to inspect and copy records related to storm water compliance. In the event the owner or occupant refuses entry after a request to enter and inspect has been made, the City is hereby empowered to seek assistance from any court of competent jurisdiction in obtaining such entry.

Section 31.5-24. Authority to Sample, Establish Sampling Devices, and Test.

During any inspection as provided herein, the Public Works Director may take any samples and perform any testing deemed necessary to aid in the pursuit of the inquiry or to record site activities.

Division V.

Enforcement.

Section 31.5-25. Notice of Violation.

Whenever the Public Works Director finds that a person has violated a prohibition or failed to meet a requirement of this Article, the Director may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

(a) The performance of monitoring, analyses, and reporting;

(b) The elimination of illicit connections or discharges;

(c) That violating discharges, practices, or operations shall cease and desist;

(d) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and

(e) Payment of a fine to cover administrative and remediation costs; and

(f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by the City or a contractor designated by the Public Works Director and the expense thereof shall be charged to the violator pursuant to Section 31.5-27 below.

Section 31.5-26 Appeal.

Notwithstanding the provisions of Section 31.5-29 below, any person receiving a Notice of Violation under Section 31.5-25 above may appeal the determination of the Public Works Director to the City Manager. The notice of appeal must be received by the City Manager within 5 days from the date of the Notice of Violation. Hearing on the appeal before the City Manager or his/her designee shall take place within 15

days from the date of City's receipt of the notice of appeal. The decision of the City Manager or designee shall be final.

Section 31.5-27 Abatement by City.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or , in the event of an appeal under section 31.5-26, within 10 days of the decision of the City Manager upholding the decision of the Public Works Director, then the City or a contractor designated by the Public Works Director shall enter upon the subject private property and is authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the City or designated contractor to enter upon the premises for the purposes set forth above.

Section 31.5-28 Charging Cost of Abatement/Liens.

Within 30 days after abatement of the nuisance by City, the Public Works Director shall notify the property owner of the property of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment with the City Clerk within 15 days. The City Clerk shall set the matter for public hearing by the City Council. The decision of the City Council shall be set forth by resolution and shall be final.

If the amount due is not paid within 10 days of the decision of the City Council or the expiration of the time in which to file an appeal under this Section, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. A copy of the resolution shall be turned over to the County Auditor so that the auditor may enter the amounts of the assessment against the parcel as it appears on the current assessment roll, and the tax collector shall include the amount of the assessment on the bill for taxes levied against the parcel of land.

Section 31.5-29 Urgency Abatement.

The Public Works Director is authorized to require immediate abatement of any violation of this Article that constitutes an immediate threat to the health, safety or well-being of the public. If any such violation is not abated immediately as directed by the Public Works Director, the City of Monterey is authorized to enter onto private property and to take any and all measures required to remediate the violation. Any expense related to such remediation undertaken by the City of Monterey shall be fully reimbursed by the property owner and/or responsible party. Any relief obtained under this section shall not prevent City from seeking other and further relief authorized under this Article.

Section 31.5-30. Violations.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Article. A violation of or failure to comply with any of the requirements of this Article shall constitute a misdemeanor and shall be punished as set forth in City Code Section 1.7.

Section 31.5-31. Compensatory Action.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Article, the Public Works Director may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

Section 31.5-32. Violations Deemed a Public Nuisance

In addition to the enforcement processes and penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this Article is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored by the City at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken by the City.

Section 31.5-33. Acts Potentially Resulting in a Violation of the Federal Clean Water Act and/or California Porter-Cologne Act.

Any person who violates any provision of this Article or any provision of any requirement issued pursuant to this chapter, may also be in violation of the Clean Water Act and/or the Porter-Cologne Act and may be subject to the sanctions of those acts including civil and criminal penalties. Any enforcement action authorized under this Article shall also include written notice to the violator of such potential liability."

SECTION 2. All ordinances and parts of ordinances in conflict herewith are hereby repealed.

SECTION 3. This ordinance shall be in full force and effect 30 days after its final passage and adoption.

PASSED AND ADOPTED BY THE COUNCIL OF THE CITY OF MONTEREY this ____ day of _____, 19__, by the following vote:

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Handled out by the cities, dw

City Code Enforcement Process

Code violations are misdemeanors – subject to municipal court actions

Code enforcement is taken seriously – follow-up is very important – sometimes resulting in a major prosecution of cases that are resource intensive – including the filing of court cases. However, it can be a very cumbersome and slow process – with uncertain results. Local court system can also be inconsistent in application of the codes, verdicts and penalties. Luckily code enforcement works on a "bell curve". Over 95% of the violators fix the problems with minimum efforts by the city. Of the remaining violators – 3% fix the problems after meeting with the City Prosecutor and 2% require court action.

Example – WH Tank Lines – Tank line operator illegally dumps toxic substances on property and leaves full tank trailers on city streets. Residents alert city to leaking tanks. Case resulted in both misdemeanor and criminal charges filed against tank line operator. Multi-agency action – including Long Beach Fire Department, County District Attorney and City of Signal Hill. Warrants issued for the operators arrest. Operator arrested at his home by a team of Signal Hill detectives. Judge refused bail – City and County prevailed in Court – however operator declared bankruptcy – to date none of the court ordered fines have been paid.

Example -Nate Jones Automotive - Municipal code violation for illegal auto storage and outdoor repair facility. Charges filed. City wins original case. Operator hires new attorney – appeal filed. Case moved around Long Beach court system, since operator and his attorney are well known in the Long Beach area. Original charges filed over three years ago.

Code Enforcement Process

Involves observation of violation,
Inspection of the property – if access is granted
Obtaining an inspection warrant if inspection is not granted
Warning letter – with time to correct
Sometimes a second warning letter – with a shorter time to correct
Office conference with City Prosecutor and violator
Short time to correct
Follow up inspection – case dismissed
Follow up inspection – case filed in municipal court
Court process is cumbersome and outcome uncertain
Violator has choice of trial by judge or jury
Defense attorney can use tactics to stall the case

97% compli... up to her...

Permit and Inspection Process

Construction manual

The property owner generally initiates permits when they add improvements to their property or change the use of their property.

Permit and plans are filed with the City
Plans are checked, corrected and permits are issued
Property owner calls for inspections
Permits are only valid for a specific period of time – they expire if inspections are not completed in a timely manner
Inspector leaves correction notices if plans are not followed
If correction notices are not completed – inspector can shut down the job
Meeting with City Prosecutor
Court case filed

Alternative Inspection Proposal

Goal – Effective enforcement of storm water regulations, in a timely and consistent manner, including effective follow-up.

"Ramp up" educational site visits to inspection program
Inspector would perform educational visit and inspect for BMP's
Inspector would keep records of site visit
If evidence of non-storm water discharges is found – inspection would be performed during the next rain event – to monitor for discharges into the storm water system
If problems exist, code enforcement action would be taken

Alternative – violators could be referred to Board for more expedient action, instead of relying on the local court system.

Board should make legal findings on health and safety problems created by certain uses – with factual information and studies that the Board has – that these uses are contributing to storm water pollution -- in order to give the cities the "legal under pinning" to perform inspections and take code enforcement actions.

Cities need to have the legal authority to collect permit and inspection fees or have the ability to collect fees already authorized in the State law.

BALDWIN
P · A · R · K

October 30, 2001

01 NOV -1 P 3:07

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Re: Third Draft Comments, Los Angeles County Municipal NPDES Permit

Dear Mr. Dickerson:

The City of Baldwin Park is pleased to submit to you its comments in connection with the third draft of the proposed Los Angeles County Municipal NPDES Permit, dated October 10, 2001. This version is a substantial improvement over the second draft. Still, the City has several concerns about some of the proposed requirements.

The City hopes that you will find these comments helpful in structuring a final permit that balances the need to protect water quality against the need for municipalities to maintain an adequate level of public services for its citizens.

If you have any questions, please feel free to call me.

Sincerely,

Shafiq Nayer

Shafique Naiyer, P.E.
Director of Public Works

SN:an

R0005431

Comments In Re: Third Los Angeles County Municipal NPDES Draft

1. EAC Not Recognized In Municipal NPDES Permit

Issue:

Regional Board staff has, unilaterally, eliminated the Executive Advisory Committee (EAC) from the draft municipal NPDES permit.

The EAC is a creation of the 1996 municipal NPDES permit that was requested by the permittees in the Report of Waste Discharge Application ("ROWD"). The purpose of th EAC is to "... to facilitate programs within each watershed and to enhance consistency among all of the programs." The EAC has also served as an important source of information for the several watershed management committees (WMCs), each of which elects 1 to 2 representatives to the EAC.

According to the regional board, the EAC does not need to be recognized in the municipal NPDES permit because it is not a political body and "that it would not be proper to recognize the EAC in the permit when it does not subscribe to government rules for open meetings." It should be noted, however, that the watershed management committees (WMCs) -- which are also advisorial in nature and are not political bodies – are nevertheless sanctioned in the permit. As a result, this argument is without merit.

Municipal permittees depend on the EAC for leadership and guidance and see no harm in having it recognized in the permit. The regional board's attempt here at removing the EAC from the permit seems to be because of the EAC's opposition to several regional board actions, including the SUSMP and the zero trash TMDL. This strongly reinforces the belief among many permittees that this regional board is unfair in its treatment of municipalities.

Action Sought:

Restore EAC recognition to the NPDES permit as stated in the second draft.

2. Meet and Confer Provision Eliminated

Issue:

The regional board, unilaterally, has removed the "meet and confer" provision from the proposed permit. The existing permit contains this provision to allow permittees to resolve conflict arising from different interpretations of permit language and, therewith, to prevent unnecessary

R0005432

and unwarranted enforcement action. To cite example, last March, the regional board issued notices of violations (NOVs) to several municipalities for failing to implement requirements that actually turned-out to be based on an incorrect interpretation of the permit.

The regional board's desire to remove this provision reinforces the belief among many municipal permittees that the regional board is not objective in its treatment of municipalities. This is because without a safe harbor clause, taking enforcement action against a municipality for misinterpreting a permit requirement can easily lead to enforcement action and, possibly, third party litigation.

Action Sought:

As stated in the second draft permit comments, restore the meet and confer provision or allow permittees some other "safe harbor" clause to prevent unwarranted enforcement action.

3. Industrial/Commercial Inspections

Issue:

The regional board still clings to the belief that municipalities are required to conduct inspections of sites of industrial activity and commercial facilities. It requires permittees to inspect certain categories of industrial facilities (1) (scrap, auto dismantling, fabricated metal products, motor freight, chemical/allied products, primary metal products facilities); (2) "lower priority" industrial facilities that require SWPPPs pursuant to the state's GCASWP requirements); and (3) automotive facilities for compliance with BMPs. It also requires cities to inspect for restaurants and other categories of commercial businesses.

Contrary to what the regional board asserts, the regulations do not specifically require permittees to do on-site inspections of facilities associated with industrial activity or commercial facilities. The responsibility for inspecting industrial facilities lies with the regional board. Nevertheless, the regional board contends that municipalities should inspect such facilities for compliance with BMPs that it requires in the permit. Essentially, this defers inspections to municipal permittees. However, nothing in the regulations require municipalities to inspect for BMPs. Although the term "inspection" mentioned, it is clear this pertains only to off-site inspections (e.g., for illicit discharges through off-site monitoring and surveillance). As to commercial facilities such as automotive repair facilities and restaurants, municipal permittees do not

have the authority to do on-site inspections of such facilities – unless permitted by the municipality.

Action Sought:

Allow municipalities to meet this requirement through educational site visit programs and by enforcing BMP requirements for industrial and commercial BMPs by way of off-site visual inspections, unless the violation is noted on-site during the visit. In such an instance, the site visitor should inform the facility of the violation and advise of it of the need for correction within a certain period of time.

4. BMPs for Industrial Facilities

The proposed permit calls for municipalities to impose more stringent controls on facilities that are subject to GIASWP requirements if existing controls are determined by the municipal permittee to be inadequate. This should not be the responsibility of municipal permittees, but the responsibility of the regional board, since it is ultimately responsible for enforcing the GIASWP and has the required expertise.

Action Sought:

Eliminate this requirement, along with the general requirement of making municipal permittees inspect industrial facilities.

5. Standard Urban Storm Water Mitigation Plan

Issue:

The regional board is still insistent upon requiring all categorical development/new development projects to comply with mandatory infiltration/treatment control requirements in accordance with numeric design standards. This requirement is excessive. Regional board staff justifies this requirement on the grounds that other municipalities in and outside of California have similar requirements for new developments. However, such controls (e.g., oil/water separators, catch basin inserts, etc.) are only required when there is a need to protect a water quality standard. For example, if oil and grease – which are really the only pollutants that the required controls mitigate -- is listed on the 303(d) list, then such controls would be required (in addition to soft controls such as canopies over gas stations). This would be a rational approach.

Action Sought:

R0005434

Maintain existing SUSMP, based on discretionary approval, but require mandatory infiltration treatment controls only when the pollutant of concern for the project is listed on the 303(d) list (e.g., oil grease, metals, etc.). Also require project specific BMPs requirements (e.g., canopies over gas stations, proper trash controls, etc.) on a mandatory basis.

6. General Plan Update

Issue:

Requires permittees to include storm water considerations in their general plans when conservation, land use, or housing elements are updated. Given that the existing and proposed permit contains stringent development planning requirements, why is there a need for any updating of the general plan at all? It seems superfluous. Further, to what extent are conservation, housing, and land use elements supposed to be updated?

Action Sought:

Provide general guidance as to what "considerations" should be included in the general plan (relative to conservation, housing, and land use elements) without interfering with municipal land use decision-making.

7. Inspection of Construction Sites

Issue:

Requires permittees to inspect construction sites greater than 1 acre or more for compliance with General Construction Activity Storm Water Permit (GCASWP) requirements, starting in 2003. Once this requirement takes effect in March of 2003, municipal permittees should not be responsible for inspecting them. This duty lies exclusively with regional board since such facilities require a state issued GCASWP. Again, the regional board is better able to enforce this permit than municipalities.

Action Sought:

Eliminate the requirement.

8. Definition of Control

Issue:

The proposed permit defines "control" to mean the following: "minimize, reduce, eliminate, or prohibit by technological, legal, contractual, or other means, the discharge of pollutants from an activity or activities." This definition is inconsistent with the definition of control found in storm water guidelines. Control, therein means to "... limit, discourage, or terminate a storm water discharge to the MS4." Nothing in the federal regulations or in Porter Cologne requires controlling discharge of pollutants from an activity or activities."

Action Sought:

Eliminate this definition of control.

9. Receiving Water Limitations Language

Issue:

The permit still contains language that enables permittees to be in violation of the permit in the event of a receiving water limitation exceedance, even if the municipal permittee is implementing the permit and its programs. As it proposed in the new permit, an exceedance, would require the regional board to impose additional, and presumably more costly requirements, including the installation of treatment controls.

Action Sought:

Re-write this requirement in accordance with language suggested by the Coalition for Practical Regulation and Burke, Williams, and Sorensen.

10. Unfunded Mandate

Issue:

The proposed permit contains several "new" significant costs for municipal permittees, raising, once again, the complaint of it being an unfunded mandate. According to regional board staff, "compliance with the Clean Water Act (CWA) is not predicated on the availability of funding." Municipal permittees do not disagree.

Municipal permittees understand that they must allocate a portion of their budgets to fund storm water management programs. The question, however, is to what extent? Congress never intended NPDES permitting costs to over-burden municipalities because of the obvious fact that they are not in the business of environmental regulation. Thus, at some point, the regional board needs to recognize that there are limits on municipal

resources. Certainly, conducting inspections for the regional board is neither a fair nor reasonable cost to impose on municipalities.

It should also be noted, the cost of terrorism on local economies – retail sales tax declines in particular – together with higher public safety costs – will make it even more difficult to comply with unreasonable and unjustifiably stringent program tasks. It has been suggested that the municipalities can fund these programs through utility and sewer fees. The fact of the matter is that they are not a sure thing. Proposition 218 makes it almost impossible to impose such fees.

11. Definition of Redevelopment

Issue

The proposed permit defines redevelopment in a manner that is different from USEPA's definition. According to the proposed permit, significant redevelopment is defined as the addition or creation of 5,000 square feet or more of impervious surface. This threshold would trigger an SUSMP for such a redevelopment project. However, according to the USEPA definition of redevelopment under Phase II, redevelopment is based on 1 acre or more of soil disturbance.

Action Sought:

Change definition of redevelopment to comply with USEPA's Phase II definition.

CITY OF
BELLFLOWER

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Bellflower, California 90706-5494
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http://www.bellflower.org

2001 NOV 13 P 2:15

November 9, 2001

Xavier Swamikannu
Chief, LA/Long Beach Storm Water Unit
Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA. 90013

RE: 3rd Version of NPDES Draft Permit

Dear Mr. Swamikannu:

The City of Bellflower (City) has reviewed the latest draft of the NPDES Permit (Permit) due to be considered by the Los Angeles Regional Board (Regional Board) on November 29, 2001. The City is appreciative that the Regional Board staff continues to discuss this issue with the impacted local governments. We are discouraged, however, that many of our earlier issues have not been addressed and this latest version has raised new issues.

The City of Bellflower and the other members of the Coalition for Practical Regulations have stated many times the numerous concerns local agencies have with this permit, its process of adoption, the authority of the Regional Board to adopt certain elements within the draft permit and local government's legal authority to execute said elements. I will not spend our time here enumerating those issues again.

However, two previously discussed concepts of the proposed permit provide the opportunity for devastating economic consequences to local government. So grave are these that they must be addressed again and every time the Permit is discussed. First, all of the drafts have removed the "safe harbor" language that existed in the previous permit. Without such language, co-permittees will violate the terms of the Permit immediately upon adoption and will be subject to the penalties therein. While the Regional Board has included a phase-in approach on some issues and its staff is verbally stating the Regional Board will not enforce its terms immediately, this does not provide adequate protection to co-permittees. Further, it immediately makes each co-permittee vulnerable to third party litigation. This point is unacceptable.

The second element that requires your keenest attention is the ability of co-permittees to pay for these many and varied aspects of the draft permit. We consider these unfunded State mandates that, without additional and sufficient funding mechanisms,

R0005438

RAY SMITH, Mayor
JOHN PRATT, Mayor Pro Tem
RANDY BOMGAARS, Council Member
DOROTHY R. KING, Council Member
SCOTT A. LARSEN, Council Member

cannot reasonably be borne by local agencies. While we share the single most important goal of this discussion, to provide for cleaner storm water reaching receiving waters, we must be pragmatic regarding the fiscal capacity of local agencies.

The latest version of the draft permit has raised new issues, thus new concerns. The first is that urban runoff has now been described as "waste". We feel this could have dramatic unforeseen ramifications. This needs additional thought and explanation of the Regional Board's intent.

Next, the co-permittees will be required to complete studies within 180 days of permit adoption. Let's not lose sight here of who the regulatory agency is and who has been empowered by this State's Legislature to care for the receiving waters of the State. It appears to the co-permittees that the burden of defining the problem and its scope is the State Board's as is its enforcement. Practically speaking, what's occurring is the Regional Board is saying 'it thinks there is a problem, yet it cannot define it. Therefore, Co-permitees, go fund and conduct studies to confirm our premise'. Then, the Regional Board will require the co-permittees to solve the problem and penalize them if not successful or timely, and incidentally leave them open to third party lawsuits along the way. Not much logic here.

Also, and again, the mandate to conduct studies, as other mandates do, immediately and directly create a fiscal burden upon co-permittees. From a practical standpoint, cities have already developed their fiscal year budgets. Further, most co-permittees do not have the expertise or human resources to accomplish these studies. Therefore, most will outsource. This cannot be accomplished until the next fiscal year. There is a legal process local agencies must follow to acquire such services. To earmark funding for these studies in next year's budget, legally acquire those services and then complete the studies physically cannot be done by 180 days from November 29, 2001.

The issue of restaurant inspection has returned. Again, another unfounded mandate requiring co-permittees to do something for which they have no prior training, expertise or funding.

The Regional Board's staff is preparing various inspection programs for the Regional Board to *'pick from'* during the November adoption meeting. This approach is simply bad form and bad government. Concerned parties should work together to create a viable program that can be recommended to the Board for approval by its staff. To have any elected or appointed body develop programs on the fly is an environment for bad decision-making! Yet the burden of cost and execution falls upon the co-permittees- again – not on the Regional Board or its staff.

Now trash receptacles will be required at all bus stops! On one hand, the Regional Board chooses to delegate its regulatory authority (the legality of which, by the way, is still under debate) by forcing inspection and enforcement programs upon co-permittees of its businesses and industries, yet on the other hand, it chooses to micro-manage how co-permittees will implement their BMP's. Another Regional Board contradiction is that

in a specific draft TMDL (Trash) the Board allows co-permittees the broad flexibility to design their own reduction programs. Yet, on the macro issue of the NPDES Permit, the Regional Board chooses to micro-manage specific requirements like trash can locations and periodic street sweeping and catch basin cleaning.

Finally, the co-permittees are very disheartened that the Regional Board will consider closing local agencies' forum for discussion, input and conflict resolution with the Regional Board through the elimination of the Executive Advisory Committee. We hope that the Regional Board is more willing to be accessible and to participate in open dialogue to achieve the region's goals. We are sorry to see that that may not be the case.

Please consider these, and our earlier, comments before the Regional Board adopts the next NPDES Permit. The goals are quite honorable and the stakes quite high. The tasks at hand are so immense that only the cooperative efforts of all the stakeholders melded together as one common effort will achieve their mutual goals.

Sincerely,

BR Smith

Brian R. Smith
Assistant Community Development Director

CITY OF BELL GARDENS

7100 So. Garfield Avenue • Bell Gardens, California 90201
(562) 806-7700

LOS ANGELES REGION

November 13, 2001

California Regional Water Quality
Control Board – Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Via Facsimile – (213) 576-6640
original via U.S. Mail

Attention: Dr. Xavier Swamikannu

Subject: County of Los Angeles Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit

Dear Dr. Swamikannu:

Thank you for this opportunity to comment on the tentative draft County of Los Angeles Municipal Storm Water NPDES Permit (the Permit). After a careful review of the draft and discussions with city staff, the City of Bell Gardens must object to the Permit in its current form. Our comments are specifically detailed below.

The permittees have objected to Parts 2.1 and 2.2, RECEIVING WATER LIMITATIONS (p. 18), from the beginning. As it is drafted, the Permit will result in all permittees being in violation of the Permit's provisions during any rain event during the term of the Permit. This is not fair to either the permittees or to the residents the permittees serve. The provision prohibiting any discharge from the municipal separate storm sewer system (MS4) that causes or contributes to the violation of water quality standards or water quality objectives, is unacceptable. Without full treatment of discharges from the MS4, there will be constituents that contribute to the violation of water quality standards or objectives. Thus, attorneys representing the Regional Board or any member of the environmental community could easily document violations and put the permittees in an unacceptable position. The permittees are pursuing Best Management Practices (BMPs) to comply with permit requirements and are complying with the Maximum Extent Practicable (MEP) standard established by the Clean Water Act (CWA). Subjecting the permittees to claims of permit violations based on the overly broad requirements contained in Parts 2.1 and 2.2 is unreasonable and violates the good faith relationship that should exist between the Regional Board and the permittees. These requirements must be made more reasonable to give permittees a chance to attain them.

The last phrase in Part 2.4 (p. 19) is ambiguous and places the permittees in the position of complying with Regional Board directives and then being informed that their

compliance is not enough because the Board wants additional, possibly expensive, changes to the Storm Water Quality Management Plan. Part 2.3 contains a defined and reasonable process for correcting oversights and inadequate provisions of the Permit. The permittees do not object to Part 2.3. However, the last phrase of Part 2.4 ignores this process and allows the Regional Board to order additional programs to correct problems without input from any interested party to the Permit. This veto power is unreasonable and ignores the cooperative process established in Part 2.3. The permittees request that this last phrase of Part 2.4 be eliminated in its entirety.

Part 3.A.3 (p. 20) again attempts to impose requirements beyond those negotiated through the permit process. It mandates that permittees implement "additional controls, where necessary to reduce the discharges of pollutants in storm water." This blank check approach is not acceptable to permittees and should not be acceptable to the Regional Board. Who determines when additional controls are needed? Under the CWA, any interested party can challenge the adequacy of the effort permittees are using to comply with permit requirements. Does this mean that a petition from the Natural Resources Defense Council (NRDC) to the Regional Board would be sufficient to cause this provision to be triggered? The permittees, through their good faith comments, are attempting to arrive at an acceptable Permit that permittees can reasonably fund through their limited budgets. This provision eliminates any limits on potential costs for permittees. Therefore this provision is unacceptable, and it is also unnecessary considering the provisions of Part 2.3.

Part 3.D.2 (p. 20) requires clarification. What does it mean for the principal permittee, the Los Angeles County Flood Control District, to "act as liaison between permittees and the Regional Board on permitting issues"? If it means that the Regional Board will communicate only with the County on permitting issues, the provision is unacceptable. While we believe the County has done a fine job of keeping the permittees involved and aware of Board concerns, to make the County the sole contact to the exclusion of the rest of the permittees is unacceptable. If, however, this means that the Board will use the County as a conduit to distribute information to permittees and to open a dialogue with all permittees, then the provision is acceptable. As all permittees are responsible for compliance with the Permit, all permittees should be given the opportunity to comment on and discuss issues with the Board.

The elimination of Part 3.G, the Executive Advisory Committee (EAC) (p. 23), is generally unacceptable. While the EAC does not represent a specific watershed, it is comprised of permittees and acts as a coordinating council. The Board does not want to convene a meeting with 85 permittees every time an issue needs to be discussed. In response to two totally different comments to the second draft of the Permit, the Board has reached a bad decision. The first comment deals with the issue of the Brown Act, and it would seem that an opinion from the Attorneys General could resolve the issue of whether the EAC needs to comply with the Brown Act. There is no material difference between the EAC and the Watershed Management Committee (WMC); they both are made up of permittee representatives. The Board needs the EAC as the formal organization that coordinates the efforts of the watershed management committees.

The provisions of Part 3.G.2.c, Legal Authority (p. 25), are probably illegal in our democracy. Individuals are presumed innocent until proven guilty, and businesses in our communities generally have the same protection as natural persons under the law. Permittees have the ability to inspect, survey, and monitor businesses within their boundaries. This legal authority will allow permittees to check on compliance with permit conditions and, when found, to prohibit illicit discharges to the MS4. The problem arises with the provision that requires permittees to enter, sample, review and copy records, and require regular reports from industrial facilities discharging or potentially discharging pollutants to the MS4. The United States Courts have ruled against illegal search and seizure by municipalities. We must first convince a judge that a crime has been committed, and only then will we be given a warrant, the right to enter onto a property without the property owner's prior permission. The warrant must specify what information is being sought and cannot be overly broad to allow for random seizure of information. It is therefore unlikely that a judge would issue a warrant to enter a business based on a permittee's assertion that a potential violation exists. This over-reaching provision must be toned down.

In addition, this provision will place an unacceptable burden upon the permittees by requiring that every business, regardless of size, obtain on operational permit from the permittees. This is an administrative nightmare and would be totally unmanageable. A small city can have hundreds of businesses and a large city can have millions of businesses, with new businesses being formed and other businesses closing every day. Gathering the required data and obtaining the required reports would impact all aspects of city government and would be viewed by business as an unnecessary intrusion on their rights. As currently written, this section is unacceptable and must be deleted.

Part 4.C, versions A, B, and C (p. 34), appears to require that the permittees undertake and report to the Regional Board on businesses that are covered by the State General Industrial Permit. The transfer of this inspection responsibility is unacceptable without full reimbursement for costs incurred by permittees. Businesses such as municipal landfills, hazardous waste treatment, disposal, and recovery facilities, and facilities subject to SARA Title III, are clearly covered by the State permit. The permittees do not object to visiting sites to confirm that a business has the needed coverage and has the Storm Water Pollution Prevention Plan (SWPPP) on-site, or to reporting those findings to the Regional Board. However, requiring that inspectors possess sufficient knowledge to determine whether BMPs are effectively implemented is beyond the scope of the permittees' responsibility. The provisions in Part 4.C requiring permittees to inspect State Permitted Businesses must be deleted.

Part 4.G.1.b Illicit Connection and Illicit Discharge Elimination Program, Tracking (p. 60), imposes an impossible task on permittees. The Clean Water Act and the State Water Code define the "Storm Drain System" to include the curb in front of properties. Thus, every curb drain must be identified and incorporated into the required database within one year of the date of Permit issuance. By itself, this would be an onerous task,

but when added to the numerous other tasks required by the Permit, it becomes impossible.

For the reasons listed above, the Permit is unacceptable and should be continued for further revision by the Regional Board Staff.

In addition to the problems detailed above, the following changes should be made to clarify or correct technical or editorial errors in the Permit.

Part 3.D (p. 20) lists the Los Angeles County Flood Control District as the Principal Permittee. While the Flood Control District is the taxing agency, all work is being performed by the Department of Public Works; therefore, perhaps the Department of Public Works be designated the Principal Permittee.

Part 3.E.4 (p. 21) requires the permittees to "participate in intra-agency coordination necessary to successfully implement the provisions of this Order...." This seems to duplicate the requirement of Part 3.E.2. If so, one of the duplicate provisions should be deleted.

Part 3.F.3.g (p. 23) requires the Watershed Management Committees to "conduct joint WMC meetings four times per year and as necessary." It is not clear how this is to be interpreted. Must the watershed committees meet quarterly, or does a joint watershed committee meeting of all permittees have to be held quarterly? The WMCs are currently meeting monthly, and although reducing this frequency to quarterly might be tempting, with the mandates of this new order it will likely be necessary to continue to meet monthly. If the quarterly meeting is a new meeting of all permittees at one time, it could be scheduled as a substitute for one of the regular meetings. The language in the Permit should clarify this issue.

Part 3.G.1.i (p. should be changed to say "Prohibit the discharge of concrete or <u>cement</u> ~~(concrete)~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4." Concrete is a combination of cement, rock, and sand that is set into a rock-like material. Cement is the fine alkaline material that is likely to separate from the rock and sand and be washed away from a concrete truck or pump.

The provisions of Part 4.A.2, Customized SQMP (p. 27), are not clear. First, why must a permittee amend the County approved Storm Water Quality Management Plan (SQMP)? Unless a permittee is unique and does not have – and will never have – certain activities or businesses within its boundaries, the SQMP will provide for all contingencies. If a City does wish to amend the SQMP, how long does it have to comply? The section does not set a time limit; either a time limit should be set, or the issue is moot.

Part 4.B.1.c.6 (p. 30) requires clarification. The Principal Permittee is not an insurance company; it is a Public Agency. While it would be comforting to think that the County could "ensure," it is more likely that it will "endeavor to make" 35 million impressions per

year. In addition, the term "impressions" should be defined so that everyone understands the intent of the provision. Is it intended to be a "lasting impression" or is a listener of a radio station assumed to have heard the spot and counted? Do listeners who hear the message have to live in Los Angeles County, or would a resident of Riverside County driving to work in San Bernardino County who hears the message qualify as an impression? The Los Angeles Radio Market extends from Malibu and Ventura, and in some cases Santa Barbara, on the west, to Banning Beaumont on the east, and south into Orange County and Northern San Diego County. The permittees need to understand how the Regional Board interprets this requirement.

There is no indication regarding which of the three programs provided is the preferred version of Part 4.C Industrial/Commercial Facilities Program (p. 33). Version C most nearly resembles the program currently being run by the permittees. Except for the objectionable provisions related to State Permit inspections, noted above, either version A or B would be acceptable.

Part 4.F.3.c (p. 54) has a provision that makes no sense. This section requires permittees to incorporate clarifiers and pretreatment wherever vehicle washing is proposed. It then exempts fire-fighting vehicles from the requirement. Why would the washing of a fire truck at the fire station be any less hazardous than the washing of a fleet vehicle? Washing oil and grease from fire trucks is just as damaging as washing those products from city fleet vehicles. The only differences would be that a fire-fighting vehicle might be washed more frequently than a fleet vehicle, and the fleet vehicle would be run through a car wash. This exception makes little or no sense and should be eliminated.

Each sub-section of Part 4.F.4.c, d, & e (p. 55) starts with the word "ensure." But since permittees are not insurance companies, their actions are limited to directing that fertilizers and pesticides be applied only by licensed applicators; directing that no banned substances be stored or used by the permittee; and directing that fertilizers and pesticides not be applied immediately prior to storms. The word "ensure" should be replaced with a less onerous word.

Part 4.G.2.a.1.ii (p. 61) contains a term that is not defined. The section requires that underground pipes in "priority areas" be inspected within three years of the Board approval, but there is no definition of "priority area" or any explanation of where these priority areas are located. The Permit establishes several priority areas and defines how they are to be established. This section is the one exception to this practice.

Again, the City of Bell Gardens thanks you for this opportunity to review the tentative NPDES Permit for Los Angeles County. For the reasons noted above, we cannot support the adoption of the Permit as currently constructed. We are prepared to discuss these points in greater detail if the Regional Board so desires.

Very truly yours,

CITY OF BELL GARDENS

William C. Pagett, P.E.
City Engineer

JF:lss (06-130)
12459/3001/L03

CITY OF BURBANK
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2001 NOV 13 P 2:15

November 6, 2001

Mr. Dennis Dickerson, Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th St., Suite 200
Los Angeles, CA 90013

RE: Comments on the Third Draft, Los Angeles County Municipal Storm Water NPDES Permit (October 11, 2001 Draft Order, NPDES No. CAS004001)

Dear Mr. Dickerson:

Thank you for the opportunity to comment on the subject draft order. In addition to the comments we made on the earlier two versions, we offer the following comments on this latest draft:

- We request again that the permit include language similar to that contained in the second paragraph of Part 1, Section II of the existing permit: "timely and complete implementation by a Permittee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations." The Regional Water Quality Control Board's (RWQCB's) October 11, 2001, Response to Comments on the June 29, 2001 draft states that "so long as Permittees continue to implement more and better controls to eliminate the exceedences, a citizen lawsuit brought under CWA (33 U.S.C.section 1365) is unlikely to go forward." This is hardly reassuring to municipalities since the RWQCB has no control over a citizen's decision to sue.

- In *Findings, Section D.2*, (page 6), the statement that "Permittees will not be held responsible for such facilities and/or discharges" should be left in.

- In Part 4 (Special Provisions), A (General Requirements), 2 (Customized SQMP), a customized SQMP should only be required if a Permittee finds that it is necessary to change the countywide SQMP in order to address a city-specific issue.

- In Part 4, C (Industrial/Commercial Facilities Program), we recommend the RWQCB select Version C. No data have been presented by the RWQCB to indicate that the site educational visits are not effective, and the State is responsible for enforcing the industrial and construction permits that it issues.

- In Part 4, D (Development Planning Program), 1, only discretionary projects should be included as priority projects subject to SUSMP requirements.

- In Part 4, D, 3, each Permittee is required to submit an ESA delineation map. Since the RWQCB's definition in Section B.6 seems to be based on only State and County designations, it is only necessary for the RWQCB to obtain such maps from its own State Board, its sister State agencies, and from the Principal Permittee. The cities should not be required to duplicate these maps.

- In Part 4, F (Public Agency Activities Program), 1, the language that eliminated duplication between the municipal stormwater permit activities and the proposed CMOM regulations has been eliminated in this draft. This language should be reinstated.

- In Part 4,G (Illicit Connections and Illicit Discharges Elimination Program), 1, the requirement of the Permittees to map all illicit connections and discharges is excessive and expensive. If illicit connections are sealed and illicit discharges halted, the map serves no purpose. Furthermore, it is unlikely that such maps could be prepared within 365 days from the effective date of the Order. Funding would need to be acquired, proposals requested and evaluated, consultants selected, and the work conducted and checked. If this work is truly necessary, it should be conducted over a several-year period to allow cities to properly fund, plan, and execute it.

- The proposed monitoring and reporting program (attachment T-1) is significantly different from the current permit, yet the RWQCB is presenting it the first time in this draft. The report format should be similar to that used in previous years, and the Permittees should be allowed a minimum of 180 days to develop a revised reporting format for submittal to the Board's Executive Officer for approval instead of using the form in attachment T-1. Some of the requirements, such as requesting municipalities to "rate your municipality's level of compliance" on a scale of 1 to 10 should be eliminated.

Thank you again for this opportunity to comment. We look forward to working with you toward a reasonable permit.

Please call me at (818) 238-3921 if you have questions.

Sincerely,

Bonnie Teaford
City Engineer

CITY OF CARSON

November 13, 2001

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board – Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

RE: Third Draft Comments, Los Angeles County Municipal NPDES Permit

Dear Mr. Dickerson:

The City of Carson is pleased to submit to you its comments in connection with the third draft of the proposed Los Angeles County Municipal NPDES Permit, dated October 10, 2001. This version is a substantial improvement over the second draft. Still, the City has several concerns about some of the proposed requirements.

The City hopes that you will find these comments helpful in structuring a final permit that balances the need to protect water quality against the need for municipalities to maintain an adequate level of public services for its citizens.

If you have any questions, please feel free to call me at (310) 830-7600 ext. 1742.

Sincerely,

Ken Boyce

Ken Boyce
Public Works Director

CC: Ann Marie Gallant, General Manager
Victor Rollinger, City Engineer
Travis Hopkins, Civil Engineer Associate

Comments In Re: Third Los Angeles County Municipal NPDES Draft

1. EAC Not Recognized In Municipal NPDES Permit

Issue:

Regional Board staff has, eliminated the Executive Advisory Committee (EAC) from the draft municipal NPDES permit.

The EAC is a creation of the 1996 municipal NPDES permit that was requested by the permittees in the Report of Waste Discharge Application ("ROWD"). The purpose of the EAC is to "... to facilitate programs within each watershed and to enhance consistency among all of the programs." The EAC has also served as an important source of information for the several watershed management committees (WMCs), each of which elects 1 to 2 representatives to the EAC.

According to the Regional Board, the EAC does not need to be recognized in the municipal NPDES permit because it is not a political body and "that it would not be proper to recognize the EAC in the permit when it does not subscribe to government rules for open meetings." It should be noted, however, that the watershed management committees (WMCs) -- which are also advisorial in nature and are not political bodies – are nevertheless sanctioned in the permit. As a result, this argument is without merit.

Municipal permittees depend on the EAC for leadership and guidance and see no harm in having it recognized in the permit. The Regional Board's attempt at removing the EAC from the permit seems to be because of the EAC's opposition to several Regional Board actions, including the SUSMP and the zero trash TMDL.

Action Sought:

Restore EAC recognition to the NPDES permit as stated in the second draft.

2. Meet and Confer Provision Eliminated

Issue:

The Regional Board, unilaterally, has removed the "meet and confer" provision from the proposed permit. The existing permit contains this provision to allow permittees to resolve conflict arising from different interpretations of permit language and, therewith, to prevent unnecessary and unwarranted enforcement action. To cite an example, last March, the Regional Board issued notices of violations (NOVs) to several

and unwarranted enforcement action. To cite an example, last March, the Regional Board issued notices of violations (NOVs) to several municipalities for failing to implement requirements that actually turned-out to be based on an incorrect interpretation of the permit.

Eliminating a safe harbor clause can lead to enforcement action against a municipality for misinterpreting a permit requirement and, possibly, third party litigation.

Action Sought:

As stated in the second draft permit comments, restore the meet and confer provision or allow permittees some other "safe harbor" clause to prevent unwarranted enforcement action.

3. Industrial/Commercial Inspections

Issue:

The Regional Board still presumes to believe that municipalities are required to conduct inspections of sites of industrial activity and commercial facilities. It requires permittees to inspect certain categories of industrial facilities (1) scrap, auto dismantling, fabricated metal products, motor freight, chemical/allied products, primary metal products facilities; (2) "lower priority" industrial facilities that require SWPPPs pursuant to the state's GCASWP requirements; and (3) automotive facilities for compliance with BMPs. It also requires cities to inspect for restaurants and other categories of commercial businesses.

Contrary to what the Regional Board asserts, the regulations do not specifically require permittees to do on-site inspections of facilities associated with industrial activity or commercial facilities. The responsibility for inspecting industrial facilities lies with the Regional Board. Nevertheless, the Regional Board contends that municipalities should inspect such facilities for compliance with BMPs that it requires in the permit. Essentially, this defers inspections to municipal permittees. However, nothing in the regulations requires municipalities to inspect for BMPs. Although the term "inspection" is mentioned, it is clear this pertains only to off-site inspections (e.g., for illicit discharges through off-site monitoring and surveillance). As to commercial facilities such as automotive repair facilities and restaurants, municipal permittees do not have the authority to do on-site inspections of such facilities – unless permitted by the municipality.

Action Sought:

Allow municipalities to meet this requirement through educational site visit programs and by enforcing BMP requirements for industrial and commercial BMPs by way of off-site visual inspections, unless the violation is noted on-site during the visit. In such an instance, the site visitor should inform the facility of the violation and advise of it of the need for correction within a certain period of time.

4. BMPs for Industrial Facilities

The proposed permit calls for municipalities to impose more stringent controls on facilities that are subject to GIASWP requirements if existing controls are determined by the municipal permittee to be inadequate. This should not be the responsibility of municipal permittees, but the responsibility of the Regional Board, since it is ultimately responsible for enforcing the GIASWP and has the required expertise.

Action Sought:

Eliminate this requirement, along with the general requirement of making municipal permittees inspect industrial facilities.

5. Standard Urban Storm Water Mitigation Plan

Issue:

The Regional Board is still insistent upon requiring all categorical development/new development projects to comply with mandatory infiltration/treatment control requirements in accordance with numeric design standards. This requirement is excessive. Regional Board staff justifies this requirement on the grounds that other municipalities in and outside of California have similar requirements for new developments. However, such controls (e.g., oil/water separators, catch basin inserts, etc.) are only required when there is a need to protect a water quality standard. For example, if oil and grease – which are really the only pollutants that the required controls mitigate – is listed on the 303(d) list, then such controls would be required (in addition to soft controls such as canopies over gas stations). This would be a recommended approach.

Action Sought:

Maintain existing SUSMP, based on discretionary approval, but require mandatory infiltration treatment controls only when the pollutant of concern for the project is listed on the 303(d) list (e.g., oil grease, metals, etc.). Also require project specific BMPs requirements (e.g., canopies over gas stations, proper trash controls, etc.) on a mandatory basis.

6. General Plan Update

Issue:

Requires permittees to include storm water considerations in their general plans when conservation, land use, or housing elements are updated. Given that the existing and proposed permit contains stringent development planning requirements, why is there a need for any updating of the general plan at all? It seems duplicative, very time consuming, and costly. Further, to what extent are conservation, housing, and land use elements supposed to be updated?

Action Sought:

Provide general guidance as to what "considerations" should be included in the general plan (relative to conservation, housing, and land use elements) without interfering with municipal land use decision-making.

7. Inspection of Construction Sites

Issue:

Requires permittees to inspect construction sites greater than 1 acre or more for compliance with General Construction Activity Storm Water Permit (GCASWP) requirements, starting in 2003. Once this requirement takes effect in March of 2003, municipal permittees should not be responsible for inspecting them. This duty lies exclusively with Regional Board since such facilities require a state issued GCASWP. Again, the Regional Board is better able to enforce this permit than municipalities.

Action Sought:

Eliminate this requirement.

8. Definition of Control

Issue:

The proposed permit defines "control" to mean the following: "minimize, reduce, eliminate, or prohibit by technological, legal, contractual, or other means, the discharge of pollutants from an activity or activities." This definition is inconsistent with the definition of control found in storm water guidelines. Control, therein means to "... limit, discourage, or terminate a

storm water discharge to the MS4." Nothing in the federal regulations or in "Porter Cologne Water Quality Control Act", requires controlling discharge of pollutants from an activity or activities."

Action Sought:

Eliminate this definition of control.

9. Receiving Water Limitations Language

Issue:

The permit still contains language that enables permittees to be in violation of the permit in the event of a receiving water limitation exceedance, even if the municipal permittee is implementing the permit and its programs. As is proposed in the new permit, an exceedance, would require the Regional Board to impose additional, and presumably more costly requirements, including the installation of treatment controls.

Action Sought:

Re-write this requirement in accordance with language suggested by Richards, Watson & Gershon.

10. Unfunded Mandate

Issue:

The proposed permit contains several "new" significant costs for municipal permittees, raising, once again, the complaint of it being an unfunded mandate. According to Regional Board staff, "compliance with the Clean Water Act (CWA) is not predicated on the availability of funding." Municipal permittees do not disagree.

Municipal permittees understand that they must allocate a portion of their budgets to fund storm water management programs. The question, however, is to what extent? Congress never intended NPDES permitting costs to over-burden municipalities because of the obvious fact that they are not in the business of environmental regulation. Thus, at some point, the Regional Board needs to recognize that there are limits on municipal resources. Certainly, conducting inspections for the Regional Board is neither a fair nor reasonable cost to impose on municipalities.

It should also be noted, the cost of terrorism on local economies – retail sales tax declines in particular – together with higher public safety costs –

will make it even more difficult to comply with unfunded mandates. It has been suggested that the municipalities can fund these programs through utility and sewer fees. The fact of the matter is that they are not a sure thing. Proposition 218 makes it almost impossible to impose such fees.

11. Definition of Redevelopment

Issue

The proposed permit defines redevelopment in a manner that is different from USEPA's definition. According to the proposed permit, significant redevelopment is defined as the addition or creation of 5,000 square feet or more of impervious surface. This threshold would trigger an SUSMP for such a redevelopment project. However, according to the USEPA definition of redevelopment under Phase II, redevelopment is based on 1 acre or more of soil disturbance.

Action Sought:

Change definition of redevelopment to comply with USEPA's Phase II definition.

CITY OF CLAREMONT

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

City Council • (909) 399-5444
Sandy Baldonado
Paul Held
Algird Leiga
Llewellyn Miller
Karen Rosenthal

November 12, 2001

Via Facsimile and Mail

Dennis A. Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Dickerson:

Third Draft Comments, Los Angeles County NPDES Permit

The City of Claremont **opposes** the third draft of the NPDES permit, dated October 10, 2001, as prepared by California Regional Water Quality Control Board, Los Angeles Region.

The City is particularly concerned about any regulation that will add costs to our budget, particularly at a time when the state may take revenues away from local governments. Additional GIASWP inspection and review responsibilities, GCASWP inspections, comprehensive mapping of illicit connections, mandatory requirements for infiltration/treatment controls, and placement and maintenance of trash receptacles at all transit stops within our jurisdiction will significantly increase our costs.

Additional items of concern include the loss of both the recognition of the EAC and the meet and confer process, requirements for general plan changes, and changes to redevelopment definitions.

Once again, the City **opposes** the third draft of the permit and considers it an unfunded mandate that will burden municipal resources. If you have any questions, please call our city engineer, Craig Bradshaw, at (909) 399-5465. Thank you for your consideration.

Sincerely,

Paul D. Held
Mayor

c: Coalition for Practical Regulation
Xavier Swamikannu, Los Angeles Region Water Quality Control Board
Craig Bradshaw, City Engineer
Andrea Harrington, Associate Civil Engineer

R0005456

CITY OF COVINA

125 East College Street ● Covina, California 91723-2199

Public Works Department
Environmental Services Division
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November 7, 2001

Dr. Xavier Swamikannu
Chief, LA/Long Beach Storm Water Unit
Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Dr. Swamikannu:

We have reviewed the Tentative Draft – Los Angeles County Municipal Storm Water NPDES Permit. Considering the number of significant additions/changes you have included in this latest draft and the fact that there has never been an opportunity for their discussion, I ask that the Regional Board's public hearing on the permit scheduled for November 29 be postponed. A workshop with the Board staff and the Permittees should be held in its place to resolve these new issues and prepare a final, clean, agreed-upon draft for the Regional Board's consideration. This would be in line with the Public Process section of the permit.

The following are our comments on the draft permit (underline/strike-out version):

1. Table of Contents: This needs to be double-checked against the basic document. The titles for the following sections do not match with the titles of the sections in the permit: Findings A; Part 3; Part 3 C; Part 6 H, I, R, S, and T.
2. Page 2, paragraph 4: There is no "ii" in the paragraph. Also, this paragraph does not belong in the "B. Nature of Discharges and Sources of Pollutant" section. It should be in Section C, Permit Background.
3. Page 2, paragraph 5: In line 4, delete the "[" before "Surface".
4. Page 5, paragraph 5: This paragraph belongs in Section B, Nature of Discharges and Sources of Pollutant.
5. Page 6, paragraph 1: The "Attachment B" referenced in line 8 is not a map. It is a listing of categories.
6. Page 7, paragraph 5: Change "control" to "reduce" in line 1 and line 3 as was done in line 3 of paragraph 4, the preceding paragraph.
7. Page 11, paragraphs 20 and 21: These paragraphs do not reference regulations. They should be moved to Section F, Implementation.
8. Page 13, deleted paragraph 1: Reference to the Executive Advisory Committee (EAC) has been deleted. Some party made the recommendation to the second draft that the requirement that EAC meetings be subject to the Brown Act be deleted because the EAC is not a political decision-making body. The Regional Board staff concurred, but went too far and said, "It would not be proper to recognize the EAC in the permit when it does not subscribe to government rules for open meetings." The EAC was an effective group to pass Permittee and watershed concerns to the Regional Board. Without the EAC, either an

individual city must confront the Board, or the Principal Permittee (the County) must go to the Board. Unfortunately, the County often does not have the same point of view or interests as the cities. The EAC should be reinstated.

9. Page 13, paragraph 2: This paragraph should be in Section E, Federal, State, and Regional Regulations.
10. Page 17, paragraph c)(2): Delete "(consistent with American Water Works Association guidelines for dechlorination/debromination and suspended solids reduction practices)". We have not been able to determine what these guidelines are, and there is very little chance that a leak could comply with this requirement if the guidelines specify some sort of treatment of the discharge. A potable water discharge is not a pollutant and should be allowed unconditionally.
11. Page 23, deleted section G: See comment 8, above.
12. Page 27, paragraph 2: This paragraph should be deleted. It requires each permittee to develop and have available a customized local SQMP. Developing this formalized document will waste time and resources when all that is necessary is for the permittee to adopt and implement the applicable sections of the Countywide SQMP.
13. Page 30, paragraph (8): Delete the second sentence. It does not take a cooperative effort with other agencies to provide a Permittee's contact information to the Principal Permittee.
14. Page 33-A, B, and C: The City of Covina supports Version C, the Industrial/Commercial Educational Program. The City does not have the assets or the authority to conduct an inspection program that is the responsibility of the Regional Water Quality Control Board.
15. Page 34-A, paragraph (10): Change "Automotive Dealers/Gas Stations" to "Retail Gasoline Outlets". Automotive Dealers themselves are not an identified source of pollution. Their service facilities may be possible sources of pollution, but they are addressed in the preceding paragraph (6).
16. Page 35-A, paragraph 4.a): Delete "and Automotive Service facility". This is covered in the following section 5.
17. Page 36-A, paragraph (5): Change "Inspection and cleans up" to "Inspection and clean up" in the first line.
18. Page 34-B, paragraph (10): Change "Automotive Dealers/Gas Stations" to "Retail Gasoline Outlets". Automotive Dealers themselves are not an identified source of pollution. Their service facilities may be possible sources of pollution, but they are addressed in the preceding paragraph (6).
19. Page 35-B, paragraph 4.a): Delete "and Automotive Service facility". This is covered in the following section 6.
20. Page 36-B, paragraph 4.c) (5): Change "Inspection and cleans up" to "Inspection and clean up" in the first line.
21. Page 34-C, paragraph 2: Delete the comma after "Permittees" in the first line and add "visits" after "educational site" in line 3.
22. Page 34-C, paragraph 3.a: Change Table "7" to Table "2".
23. Page 35-C: Change Table "7" to Table "2". Below the table, change "* See Glossary of Terms for definition" to "* See Definitions for definition".
24. Page 41, paragraph a): Change "Each Permittee shall require that a single-family hillside home development:" to "Each Permittee shall require that development of one or more single-family hillside homes:". As written in the draft, it is unclear if the requirement pertains to one house or a development of houses.
25. Page 41, paragraph b): In the third line, after "Resolution No. R 00-02", add "and amended by State Board Order No. WQ 2000-11". The State Board Order made changes to the SUSMP that must be acknowledged and this reference is necessary for that acknowledgement.
26. Pages 43 and 44, paragraph 5: In subparagraphs a), e), f), and g), add "impervious" before "surface area". The impervious area is the area associated with polluted runoff and is the area subject to treatment and controls.
27. Page 45, paragraph a): In line 1, replace "developers" with "developer's".

28. Page 47, paragraph 14: In line 3, change "requirements of the development planning" to "development planning requirements".
29. Page 48, paragraph 15.b): The technical manual is due to be issued around September 2002 (ten months from the effective date of this Order), however, the BMP Handbook from which the manual is to be adapted is also scheduled for publication in September 2002. Recommend the manual be issued no later than eighteen months from the effective date of this Order.
30. Page 52, paragraph b): In line 1, replace 3.a.1, 3.a.2, and 3.a.3 with 1.a.1, 1.a.2, and 1.a.3.
31. Page 54, paragraph d): In line 1, replace "no later than March 9, 2003" with "effective March 10, 2003". This change makes it clear that the State requirement begins on March 10, not that it is a deadline for compliance by March 9.
32. Page 54, paragraph c)(2): The paragraph says "Each Permittee shall require: For new facilities or during redevelopment of existing sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4." This is awkward and needs to be rephrased to be understandable.
33. Page 55, paragraph 5.a): Quantify "highest", "moderate", and "low" or provide some guidance as to how a Permittee is to make these designations. A catch basin in Covina that is designated Priority A because it has the highest volume of trash may have much less trash than a Priority C in another jurisdiction. But because of the designation, the Covina catch basin must be cleaned once per month during the wet season, while the other jurisdiction's catch basin is cleaned only once per year.
34. Page 56, paragraph d): Delete this requirement to place trash receptacles at all transit stops and maintain them. The requirement for a receptacle should be based on the litter problem at a transit stop. Covina has over 90 bus stops and to put receptacles at each one and service them would be unnecessary and a waste of scarce resources.
35. Page 57, paragraph 6.a): Quantify "highest", "moderate", and "low" or provide some guidance as to how a Permittee is to make these designations. A street in Covina that is designated Priority A because it has the highest volume of trash may have much less trash than a Priority C in another jurisdiction. But because of the designation, the Covina street must be swept twice per month, while the other jurisdiction's street is swept only once per year.
36. Page 58, paragraph (3): In the third line, put "basins" back in the text after "catch".
37. Page 59, paragraph 10: The Principal Permittee or the County Sanitation Districts should have the lead on this study rather than the Permittees. Permittees do not have the knowledge of the storm drain system necessary to be able to make dry weather flow diversion recommendations. The second sentence needs to be rewritten as it discusses prioritized lists of drains: the drain prioritization task was deleted in the first sentence of this paragraph.
38. Page 60, paragraph b): The second sentence requires mapping of all illicit connections and discharges. Delete this requirement. Permittees do not have the resources (personnel, funds) to develop and maintain the baseline map of the storm drain system.
39. Page 61, paragraph a)(1): This new requirement to field screen the storm drain system for illicit connections should be deleted—it is an expensive task with an unproven payoff that cannot be afforded by Permittees. Likewise, the requirement to report the location and length of open channels or underground pipes that have been screened vis a vis the entire storm drain network should be deleted. This information can only be obtained by an extensive, expensive survey of the storm drain system. Finally, the last sentence requires Permittees to maintain a list of all permitted connections. This requirement should be deleted as Permittees do not have this information. The Regional Board or the State controls the permits.
40. Page 61, paragraph (2): Delete this paragraph. Reviewing of permitted connections to the storm drain system is neither appropriate nor possible for Permittees. The permits are

issued and controlled by the Regional Board or the State and they are the agencies that should be responsible to confirm compliance with their regulations.

41. Page 64, "Discharge of a Pollutant": The second sentence states that discharge includes "discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works." If the discharge is going into treatment works, how can it be adding pollutants into waters of the United States? This part of the definition should be deleted.
42. Page 65, deleted "Executive Advisory Committee": See comment 8, above.
43. Page 66, "Maximum Extent Practicable (MEP)": Reinstate the second sentence that was deleted after the second draft permit. It gives the criteria to be weighed when deciding on what controls will be implemented to reduce the discharge of pollutants.
44. Page 67, "Parking Lot": Add "impervious" before "surface area" in the third line.
45. Page 68, "Planning Priority Projects", paragraph vi: Add "impervious" before "surface area".
46. Page 68, "Planning Priority Projects", paragraph viii: Delete "Additionally for all" at the beginning of the paragraph.
47. Page 73, "Vehicle Maintenance/Material Storage Facilities/Corporation Yards", paragraph ii: Add "service" after "Performs fleet vehicle".
48. Page 75, paragraph 4: Change the phrase in parentheses to read "Regional Board Resolution No. R 00-02 as amended by State Board Order No. WQ 2000-11". The State Board Order made changes to the SUSMP that must be acknowledged and this reference is necessary for that acknowledgement.
49. Page 76, paragraph G: In line 6, change "system" to "systems".
50. Page 77, paragraph 1: Delete "only" in the first line. This paragraph does not present the only ways to modify the Order because paragraph 2 discusses how it may be modified for cause.
51. Page 77, paragraph 3: Delete this paragraph as it is redundant to the preceding paragraph 2.
52. Page 77, paragraph 4: This paragraph implies that the Order may be modified upon the filing of a request by the Principal Permittee or Permittees. If that is true, the paragraph needs to be expanded to discuss that procedure. If that is not true, the paragraph should be deleted.
53. Page 77, paragraph 5: This paragraph states that the Order may be modified to make changes in the permitted activity if processed as a minor modification, but then it continues that the minor modification may only correct typographical errors or require more frequent monitoring or reporting. This second portion seems to contradict the first statement. How can a correction of a typo change a permitted activity? Please clarify this paragraph.
54. Page 81, paragraph 2: In the last line, place "of" between "combination" and "violations".
55. Page T-10, paragraph E: The last sentence of this paragraph states "All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA Section 303(d) list for impairment for trash no later than October 15, 2003." If there is no trash impairment, there is absolutely no need for this very expensive monitoring program. For Permittees in impaired watersheds other than Los Angeles or Ballona Creek, there is no schedule given for this monitoring program. The monitoring program involves either using full capture devices to capture and quantify trash from an area no less than 10% of a city's area or using 50 catch basin inserts per each city land use being monitored. In either case, the sampling devices must be emptied within 72 hours of every rain event of 0.25 inch or greater. This will be a huge cost for any city and will provide questionable benefits. The whole section on trash monitoring should be deleted.
56. Page T-13, first line: Add "by" after "developed".
57. Page T-13, paragraph 4: In the last line, change "Boar" to "Board".
58. Page T-17, paragraph 5: The last phrase of this paragraph says "punishment is a fine of not more than $20,000 per day of violation, or by both." Has a punishment of imprisonment been left out of this phrase?
59. Attachment U-5: Throughout this attachment, change "Storm Water Quality Management Plan" to "Storm Water Quality Management Program".

60. Attachment U-5, page 4: The last box says "List any activities that have been contracted out to consultants/other agencies:" What about contracts to contractors, such as for street sweeping?
61. Attachment U-5, page 5, paragraph G.1: Change the first two lines to read "Have you implemented the SQMP and identified . . ." Part 3 of the Order does not require development of a local SQMP, just implementation.
62. Attachment U-5, page 5, paragraph G.3: The paragraph says to "List the BMPs that your city has implemented to reduce pollutants in storm water to the maximum extent practicable." This list will be many pages long and its value will not be close to the value of the time spent assembling it. Delete this paragraph.
63. Attachment U-5, page 9, paragraphs c) and d): Add "(Principal Permittee only)" to the end of each of these paragraphs. The Principal Permittee, not the individual Permittees, does these tasks.
64. Attachment U-5, pages 11-13: Paragraphs 6 through 12 should be included under paragraph 3, Outreach and Education.
65. Attachment U-5, page 23, paragraph 2.a): Delete this paragraph, the Order does not require that the Sewage System Response Plan be submitted to the Regional Board.
66. Attachment U-5, page 24, paragraph 3.a): This is not a yes/no question.
67. Attachment U-5, page 24, paragraph 4.b): Delete this paragraph, the Order does not require that the contact person list be submitted to the Regional Board.
68. Attachment U-5, page 25, paragraph 4.e): This is not a yes/no question.
69. Attachment U-5, page 27, paragraph f): Delete this paragraph, the requirement in the Order to keep and report this information was deleted in the last draft.
70. Attachment U-5, page 27, paragraph h): Delete this paragraph, the Order does not require this assessment.
71. Attachment U-5, page 28, paragraph o): Delete this paragraph, the requirement in the Order to record this information was deleted in the last draft.
72. Attachment U-5, page 32, paragraph 8: Delete this paragraph, the requirement in the Order for proactive storm drain screening was deleted in the last draft.
73. Attachment U-5, page 35, paragraph G: Which figure represents the higher level of compliance, 1 or 10?

If there are any questions, please call Charles Redden at (626) 858-7204.

Sincerely,

Vince Mastrosimone
Public Works Director

cc: Mr. Mustafa Ariki, Los Angeles County Department of Public Works
File

Cudahy
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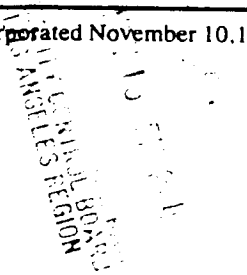
Incorporated November 10,1960

November 13, 2001



California Regional Water Quality
Control Board – Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Via Facsimile – (213) 576-6640
original via U.S. Mail

Attention: Dr. Xavier Swamikannu

Subject: County of Los Angeles Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit

Dear Dr. Swamikannu:

Thank you for this opportunity to comment on the tentative draft County of Los Angeles Municipal Storm Water NPDES Permit (the Permit). After a careful review of the draft and discussions with city staff, the City of Cudahy must object to the Permit in its current form. Our comments are specifically detailed below.

The permittees have objected to Parts 2.1 and 2.2, RECEIVING WATER LIMITATIONS (p. 18), from the beginning. As it is drafted, the Permit will result in all permittees being in violation of the Permit's provisions during any rain event during the term of the Permit. This is not fair to either the permittees or to the residents the permittees serve. The provision prohibiting any discharge from the municipal separate storm sewer system (MS4) that causes or contributes to the violation of water quality standards or water quality objectives, is unacceptable. Without full treatment of discharges from the MS4, there will be constituents that contribute to the violation of water quality standards or objectives. Thus, attorneys representing the Regional Board or any member of the environmental community could easily document violations and put the permittees in an unacceptable position. The permittees are pursuing Best Management Practices (BMPs) to comply with permit requirements and are complying with the Maximum Extent Practicable (MEP) standard established by the Clean Water Act (CWA). Subjecting the permittees to claims of permit violations based on the overly broad requirements contained in Parts 2.1 and 2.2 is unreasonable and violates the good faith relationship that should exist between the Regional Board and the permittees. These requirements must be made more reasonable to give permittees a chance to attain them.

The last phrase in Part 2.4 (p. 19) is ambiguous and places the permittees in the position of complying with Regional Board directives and then being informed that their

compliance is not enough because the Board wants additional, possibly expensive, changes to the Storm Water Quality Management Plan. Part 2.3 contains a defined and reasonable process for correcting oversights and inadequate provisions of the Permit. The permittees do not object to Part 2.3. However, the last phrase of Part 2.4 ignores this process and allows the Regional Board to order additional programs to correct problems without input from any interested party to the Permit. This veto power is unreasonable and ignores the cooperative process established in Part 2.3. The permittees request that this last phrase of Part 2.4 be eliminated in its entirety.

Part 3.A.3 (p. 20) again attempts to impose requirements beyond those negotiated through the permit process. It mandates that permittees implement "additional controls, where necessary to reduce the discharges of pollutants in storm water." This blank check approach is not acceptable to permittees and should not be acceptable to the Regional Board. Who determines when additional controls are needed? Under the CWA, any interested party can challenge the adequacy of the effort permittees are using to comply with permit requirements. Does this mean that a petition from the Natural Resources Defense Council (NRDC) to the Regional Board would be sufficient to cause this provision to be triggered? The permittees, through their good faith comments, are attempting to arrive at an acceptable Permit that permittees can reasonably fund through their limited budgets. This provision eliminates any limits on potential costs for permittees. Therefore this provision is unacceptable, and it is also unnecessary considering the provisions of Part 2.3.

Part 3.D.2 (p. 20) requires clarification. What does it mean for the principal permittee, the Los Angeles County Flood Control District, to "act as liaison between permittees and the Regional Board on permitting issues"? If it means that the Regional Board will communicate only with the County on permitting issues, the provision is unacceptable. While we believe the County has done a fine job of keeping the permittees involved and aware of Board concerns, to make the County the sole contact to the exclusion of the rest of the permittees is unacceptable. If, however, this means that the Board will use the County as a conduit to distribute information to permittees and to open a dialogue with all permittees, then the provision is acceptable. As all permittees are responsible for compliance with the Permit, all permittees should be given the opportunity to comment on and discuss issues with the Board.

The elimination of Part 3.G, the Executive Advisory Committee (EAC) (p. 23), is generally unacceptable. While the EAC does not represent a specific watershed, it is comprised of permittees and acts as a coordinating council. The Board does not want to convene a meeting with 85 permittees every time an issue needs to be discussed. In response to two totally different comments to the second draft of the Permit, the Board has reached a bad decision. The first comment deals with the issue of the Brown Act, and it would seem that an opinion from the Attorneys General could resolve the issue of whether the EAC needs to comply with the Brown Act. There is no material difference between the EAC and the Watershed Management Committee (WMC); they both are made up of permittee representatives. The Board needs the EAC as the formal organization that coordinates the efforts of the watershed management committees.

The provisions of Part 3.G.2.c, Legal Authority (p. 25), are probably illegal in our democracy. Individuals are presumed innocent until proven guilty, and businesses in our communities generally have the same protection as natural persons under the law. Permittees have the ability to inspect, survey, and monitor businesses within their boundaries. This legal authority will allow permittees to check on compliance with permit conditions and, when found, to prohibit illicit discharges to the MS4. The problem arises with the provision that requires permittees to enter, sample, review and copy records, and require regular reports from industrial facilities discharging or potentially discharging pollutants to the MS4. The United States Courts have ruled against illegal search and seizure by municipalities. We must first convince a judge that a crime has been committed, and only then will we be given a warrant, the right to enter onto a property without the property owner's prior permission. The warrant must specify what information is being sought and cannot be overly broad to allow for random seizure of information. It is therefore unlikely that a judge would issue a warrant to enter a business based on a permittee's assertion that a potential violation exists. This over-reaching provision must be toned down.

In addition, this provision will place an unacceptable burden upon the permittees by requiring that every business, regardless of size, obtain on operational permit from the permittees. This is an administrative nightmare and would be totally unmanageable. A small city can have hundreds of businesses and a large city can have millions of businesses, with new businesses being formed and other businesses closing every day. Gathering the required data and obtaining the required reports would impact all aspects of city government and would be viewed by business as an unnecessary intrusion on their rights. As currently written, this section is unacceptable and must be deleted.

Part 4.C, versions A, B, and C (p. 34), appears to require that the permittees undertake and report to the Regional Board on businesses that are covered by the State General Industrial Permit. The transfer of this inspection responsibility is unacceptable without full reimbursement for costs incurred by permittees. Businesses such as municipal landfills, hazardous waste treatment, disposal, and recovery facilities, and facilities subject to SARA Title III, are clearly covered by the State permit. The permittees do not object to visiting sites to confirm that a business has the needed coverage and has the Storm Water Pollution Prevention Plan (SWPPP) on-site, or to reporting those findings to the Regional Board. However, requiring that inspectors possess sufficient knowledge to determine whether BMPs are effectively implemented is beyond the scope of the permittees' responsibility. The provisions in Part 4.C requiring permittees to inspect State Permitted Businesses must be deleted.

Part 4.G.1.b Illicit Connection and Illicit Discharge Elimination Program, Tracking (p. 60), imposes an impossible task on permittees. The Clean Water Act and the State Water Code define the "Storm Drain System" to include the curb in front of properties. Thus, every curb drain must be identified and incorporated into the required database within one year of the date of Permit issuance. By itself, this would be an onerous task,

but when added to the numerous other tasks required by the Permit, it becomes impossible.

For the reasons listed above, the Permit is unacceptable and should be continued for further revision by the Regional Board Staff.

In addition to the problems detailed above, the following changes should be made to clarify or correct technical or editorial errors in the Permit.

Part 3.D (p. 20) lists the Los Angeles County Flood Control District as the Principal Permittee. While the Flood Control District is the taxing agency, all work is being performed by the Department of Public Works; therefore, perhaps the Department of Public Works be designated the Principal Permittee.

Part 3.E.4 (p. 21) requires the permittees to "participate in intra-agency coordination necessary to successfully implement the provisions of this Order...." This seems to duplicate the requirement of Part 3.E.2. If so, one of the duplicate provisions should be deleted.

Part 3.F.3.g (p. 23) requires the Watershed Management Committees to "conduct joint WMC meetings four times per year and as necessary." It is not clear how this is to be interpreted. Must the watershed committees meet quarterly, or does a joint watershed committee meeting of all permittees have to be held quarterly? The WMCs are currently meeting monthly, and although reducing this frequency to quarterly might be tempting, with the mandates of this new order it will likely be necessary to continue to meet monthly. If the quarterly meeting is a new meeting of all permittees at one time, it could be scheduled as a substitute for one of the regular meetings. The language in the Permit should clarify this issue.

Part 3.G.1.i (p. should be changed to say "Prohibit the discharge of concrete or <u>cement</u> ~~(concrete)~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4." Concrete is a combination of cement, rock, and sand that is set into a rock-like material. Cement is the fine alkaline material that is likely to separate from the rock and sand and be washed away from a concrete truck or pump.

The provisions of Part 4.A.2, Customized SQMP (p. 27), are not clear. First, why must a permittee amend the County approved Storm Water Quality Management Plan (SQMP)? Unless a permittee is unique and does not have – and will never have – certain activities or businesses within its boundaries, the SQMP will provide for all contingencies. If a City does wish to amend the SQMP, how long does it have to comply? The section does not set a time limit; either a time limit should be set, or the issue is moot.

Part 4.B.1.c.6 (p. 30) requires clarification. The Principal Permittee is not an insurance company; it is a Public Agency. While it would be comforting to think that the County could "ensure," it is more likely that it will "endeavor to make" 35 million impressions per

year. In addition, the term "impressions" should be defined so that everyone understands the intent of the provision. Is it intended to be a "lasting impression" or is a listener of a radio station assumed to have heard the spot and counted? Do listeners who hear the message have to live in Los Angeles County, or would a resident of Riverside County driving to work in San Bernardino County who hears the message qualify as an impression? The Los Angeles Radio Market extends from Malibu and Ventura, and in some cases Santa Barbara, on the west, to Banning Beaumont on the east, and south into Orange County and Northern San Diego County. The permittees need to understand how the Regional Board interprets this requirement.

There is no indication regarding which of the three programs provided is the preferred version of Part 4.C Industrial/Commercial Facilities Program (p. 33). Version C most nearly resembles the program currently being run by the permittees. Except for the objectionable provisions related to State Permit inspections, noted above, either version A or B would be acceptable.

Part 4.F.3.c (p. 54) has a provision that makes no sense. This section requires permittees to incorporate clarifiers and pretreatment wherever vehicle washing is proposed. It then exempts fire-fighting vehicles from the requirement. Why would the washing of a fire truck at the fire station be any less hazardous than the washing of a fleet vehicle? Washing oil and grease from fire trucks is just as damaging as washing those products from city fleet vehicles. The only differences would be that a fire-fighting vehicle might be washed more frequently than a fleet vehicle, and the fleet vehicle would be run through a car wash. This exception makes little or no sense and should be eliminated.

Each sub-section of Part 4.F.4.c, d, & e (p. 55) starts with the word "ensure." But since permittees are not insurance companies, their actions are limited to directing that fertilizers and pesticides be applied only by licensed applicators; directing that no banned substances be stored or used by the permittee; and directing that fertilizers and pesticides not be applied immediately prior to storms. The word "ensure" should be replaced with a less onerous word.

Part 4.G.2.a.1.ii (p. 61) contains a term that is not defined. The section requires that underground pipes in "priority areas" be inspected within three years of the Board approval, but there is no definition of "priority area" or any explanation of where these priority areas are located. The Permit establishes several priority areas and defines how they are to be established. This section is the one exception to this practice.

Again, the City of Cudahy thanks you for this opportunity to review the tentative NPDES Permit for Los Angeles County. For the reasons noted above, we cannot support the adoption of the Permit as currently constructed. We are prepared to discuss these points in greater detail if the Regional Board so desires.

Very truly yours,

CITY OF CUDAHY

William C. Pagett, P.E.
City Engineer

JF:lss (06-130)
12446/3001/L21

PUBLIC WORKS ADMINISTRATION

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JAMES S. DAVIS
Director of Public Works
and City Engineer

2001 NOV 13 P 2:15

November 9, 2001

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

COMMENTS ON THE TENTATIVE DRAFT MUNICIPAL STORMWATER PERMIT

Dear Mr. Dickerson;

We appreciate the opportunity to review and comment on the draft permit for "Municipal Storm Water and Urban Runoff", dated October 11, 2001. Our specific comments are:

Section B.6 *Environmentally Sensitive Areas*	The text (Sec 4.D.3) allows cities to submit designations for environmentally sensitive areas. This section (B.6) should be consistent. Recommended wording: "These environmentally sensitive areas designated by the State and/or the County of Los Angeles <u>and/or municipalities</u>..."
Section C.2 *SQMP*	The proposed Order adopts the model programs developed under the previous (current) permit subject to the revisions of the new permit. The Permittees invested a considerable effort in developing the existing model programs. It should be the permittees responsibility to review and revise the model programs.
Section D.2 *Responsibility Over Federal and State Institutions*	The wording "...Permittees will not be held responsible for such facilities and/or discharges." should be left in.
Section D.4 *Maximum Extent Practicable*	Add this sentence to the end of the paragraph: "Timely and thorough implementation of this order constitutes compliance with the Maximum Extent Practicable criteria."

R0005468

Sections E.8; E.10
TMDLs

This section incorporates the TMDL process into the SQMP. TMDLs should only be added after appropriate public comment and review.

Section E.22
GIASP and GCASP

The permit identifies the Regional Board as the "enforcing authority" for the two statewide general permits. If the State is the regulating authority for these sites, then municipalities (similarly to the exclusion of section D.2) should not be responsible for discharges from these sites, either under this permit or the TMDL process.

Part 1
Exempt Discharges

The permit lists several "exempt" discharges with the provision that the Board's executive officer may remove any of these categories if determined to be a source of pollutants.

The Regional Board has obviously invested a considerable amount of time in developing this list, and the permittees are likely to permit these discharges. In the event that a discharge is subsequently determined to be a source of pollutants, the permittees should not be held responsible for any excceedances caused by these discharges without first being given adequate time to develop and implement additional BMPs.

Part 1.1
Exempt Discharges

All general NPDES permits (dewatering, hydrostatic testing, etc.) should be incorporated into this permit as an attachment so that permittees can know which discharges are covered. The Regional Board should also notify all applicable permittees of any subsequent general NPDES permits.

Part 2
Receiving Water Limitations

The language "Thorough and timely implementation of this order shall constitute compliance with the standard for Maximum Extent Practical," should be added.

Part 2.4

Add wording "So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, a Notice of Violation will not be issued by the Regional Board and the Permittee does not have to repeat the same procedure..."

Part 3.A.3
General Requirements

"Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in stormwater to the maximum extent practicable." This statement should be eliminated. Controls are being implemented to the MEP. Any "additional" controls would be above and beyond the requirements of the CWA and the Permit. If this is to be kept in, remove the language, "implement additional controls, where necessary, to...".

Part 3.B
Best Management Practices

The paragraph: "The permittees shall implement or require the implementation of the most effective combination of BMPs . . ." is too open ended. Who will the permittees require implementation by? What is the criterion for "most effective combination"? And doesn't implementation of this Order constitute meeting the standard of MEP?

Part 3.G deleted
Executive Advisory Committee

The proposed permit eliminates the EAC as a recognized entity. How will the Permittees coordinate their efforts on a countywide basis?

Part 3.G
Legal Authority

Permittees have on several occasions, certified that their ordinances comply with the NPDES stormwater requirements. The continuous amending of municipal ordinances each time there is a change in the permit constitutes a substantial burden on city staff. The existing ordinances are adequate to provide a framework for implementing this Order. The proposed changes in this section should be relocated into the "Special Provisions" section so that ordinances do not need to be modified again.

Municipalities will decide if their ordinances need to be modified for specific areas of the Order.

"Permittees shall possess the necessary legal authority to prohibit non-stormwater discharges, to the maximum extent practicable,..."

Part 3.G.2.c
Adequate Legal Authority

The word "control" is not adequately defined.

Part 3.G.2.d
Inspection Authority

Municipalities can authorize their inspectors to make inspections of a facility with permission of the owner, but cannot make it mandatory without probable cause or a prior agreement with the business or property owner. This section should reflect this and permittees should not be held responsible for a discharge from a site that the municipality was not able to inspect.

Part 4.A.2
Customized SQMP

What are the standards and what is the timeline for developing the customized SQMP? More appropriate wording would be that Permittees shall evaluate the need for a customized SQMP and if necessary, shall develop standards and then develop the SQMP.

Also, a municipality should be able to review the existing SQMP, and if found adequate, adopt it as the customized SQMP.

Part 4.B and Findings C.2
PIPP

There have been very substantial changes to this program and it appears that the 5-year implementation strategy will no longer be in force. The reference to the existing "Public Information and Participation" as being continued with revisions, as contained in

Findings part C-2, should be removed.

Part 4.C
Site Inspections

No documentation has been provided that the existing site educational visit program is not working. The site visit program should continue as is.

The State is collecting $250 from industrial and construction facilities under the State's general Construction and Industrial activities permits. The State should provide municipalities with demonstrable site visit and inspection programs a substantial portion of this fee to conduct an inspection program(s). Municipalities should be exempted from any exceedances caused by sites under State inspection.

If the State (or State's agent) is also conducting site inspections, what is the mechanism for informing municipalities of the State's inspection schedule so that overlaps and duplication can be avoided?

The inspection criterion requires inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. For example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years (and in many cases, once every 5 years starting in 2004)? The word "effectively" should be removed from all inspection criteria.

Also, Section C.2 et. al. requires inspectors to confirm that BMPs are being implemented in compliance with County and Municipal ordinances. The wording could lead to confusion, implying that County ordinances are to be implemented in Municipal areas. Wording to the effect of "appropriate jurisdictions" should be added.

Part 4.D.2
Peak Flow Control

The wording of this section requires that permittees implement peak flow controls for essentially all streams in hillside areas. This should not be a requirement unless a stream has been specifically identified as susceptible to accelerated erosion.

Table 2.1 as referred to includes many hard-bottomed channels that represent no erosion threat.

Part 4.D.3
SUSMPs

This section marks a substantial departure from the SUMSP program as previously developed and implemented. Only discretionary Projects should be included as priority projects.

Also, as the State's General Activity Permits will be reviewed by the State and contain post construction BMPs, how will any inconsistencies and duplications with plans submitted to the municipalities for review under the SUSMP program, which also show post-construction BMPs, be avoided?

Part 4.D.3.b
ESAs

The Staff Report (pg. 7 of attachment) indicates that they (the Board's Staff) were unable to find a legislative basis for the 2,500 square foot threshold of triggering an SUSMP in an ESA. This level was chosen based upon standard residential lot sizes. A better standard is the federal project size threshold of 1 acre, which would be consistent with the construction thresholds and therefore reduce confusion of when stormwater management plans are required.

Part 4.E.2
Construction Sites

"For construction sites between one and five acres,..."

Part 4.E.2.b
Construction Site

As stated in Section E.22 of the permit, the Regional Board is the enforcement authority for sites under the General Construction Activities permit. Municipalities should not be required to inspect these sites. By mutual agreement with the Board, municipalities could be authorized to do so, but the State should then reimburse the municipality for the cost of the inspection from the fees the State has collected.

Part 4.F.3.c.2
Public Agency

This statement could be construed, as requiring pre-treatment facilities for any facility whether there is wastewater or not (for example, a senior citizens center or library). Add the wording "vehicle or equipment washing".

Also, fire-fighting vehicles are excluded from this requirement. Does this mean that washwater from fire fighting vehicles is now considered an exempt discharge?

Part 4.F.5
Trash Receptacles

Permittees, where trash has been designated as a pollutant, are already addressing this through the TMDL process. All reference to trash and litter under this section is redundant and will lead to confusion and should therefore be eliminated.

Suggestion: Permittees evaluate the need for addition anti-trash BMPs and take appropriate action based upon their findings.

Part 4.F.6
Street Sweeping

Similarly, if the discharge of trash is being adequately addressed through other means, why require revisions to the street sweeping program?

Part 4.G.1.b
Illicit Connections

The requirement of Permittees to map all illicit connections and discharges is excessive and not cost effective. If these illicit connections are sealed and illicit discharges stopped, what is the purpose of a map? Mapping is a very labor intensive and costly endeavor and should only be used when necessary.

Part 4.G.2.a *Field Screening*	There is no definition within the Order of what "Field Screening" is. The Staff Report (pg. 37) calls for visual monitoring. Wording should be added to the Order's language for clarification that field screening is: visual monitoring during infrastructure maintenance.
Part 4.G.3a *Illicit Discharges*	Corrective actions are typically performed by the responsible party (the discharger). It should be clear that "activities to abate" include ordering the responsible party to initiate mitigation activities.
Annual Report	Under the previous (current) permit, permittees invested a considerable amount of resources in developing an annual reporting form. This process should be continued under the new permit. Permittees should be allowed a minimum of 180 days to develop a revised report format for submittal to the Board's executive officer for approval instead of using the form attached in the permit package. The Annual Report asks municipalities to grade themselves on a scale of 1 to 10. Is 10 best or worst? Also, what criterion is used for grading and what is the minimum allowable score to assure compliance with this Order and the Clean Water Act?

We appreciate the opportunity to offer our comments regarding the proposed NPDES Municipal Permit. Please feel free to contact me at 310.253.5630 if you have any questions.

Sincerely,

James S. Davis
Public Works Director/City Engineer

City of Diamond Bar

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November 9, 2001

Dr. Xavier Swamikannu
LA/Long Beach Storm Water Unit
Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Comments on the Tentative October 11th Draft, County of Los Angeles Municipal Storm Water NPDES Permit

Dear Dr. Swamikanna:

The City of Diamond Bar (City) thanks you for the opportunity to review the recent draft of the subject NPDES permit for the County of Los Angeles and its co-permittees, of which our City is one. There are many improvements in the document and we appreciate the efforts of the Board to balance the interests of those favoring much more stringent regulation with the interests of the many for jobs and progress, and health and environmental protection.

We provide the following comments to help the LA Region craft a final version that is both fair and capable of being implemented by the permittees.

- **Page 2, Item no. 4**: There appears to be a subsection missing (ii) from no. 4 regarding Grand Jury recommendations.

- **Page 8, Item no. 5**: USEPA regulations are quoted as requiring permittees establish inspections "of industrial facilities and priority commercial establishments." The regulations do not specify priority commercial establishments as the LA Region has stated in the Fact Sheet/Staff Report, but is rather its interpretation of what "industries" means. Further, industrial facilities are identified by USEPA as those "[permittee] determines are contributing a substantial pollutant loading to the [MS4]". This is interpreted to **exclude** those industries who have a potential to contribute or who may contribute, or even contribute in insignificant loadings. Nowhere is there any provision that industrial facilities are defined to include parking lots, restaurants, retailers, etc. We suggest a complete rewording of this item, and a subsequent reworking of the inspection program envisioned by the LA Region.

- **Page 19, Receiving Water Limitation**: We encourage the insertion of a "safe harbor" provision in the permit to relieve permittees of the potential for liability

Robert S. Huff
Mayor

Carol Herrera
Mayor Pro Tem

Eileen R. Ansari
Council Member

Wen Chang
Council Member

Deborah H. O'Connor
Council Member

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under the permit if "pollutants" exist in storm water through no fault of the permittees and the population of dischargers. In other words, some pollutants may be present due to mechanisms beyond the control of permittees. These include, but are not limited to, naturally occurring biological sources (e.g., vegetation, algae, non-pet animals), airborne deposition (e.g., legally allowed air pollutants), natural presence (e.g., rainfall containing potentially polluting constituents), or anthropogenic-derived contaminants emanating from sources originating outside a permittee's jurisdictional boundaries (e.g., litter from passing vehicles on state and federal highways). Our suggested language is, *"Timely and complete implementation by a Permittee(s) of the storm water management programs and controls prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations."*

- **Page 25, G. Legal Authority, 2.d)**: Clearly, USEPA authority, and its delegation to permittees as identified by the LA Region in the Fact Sheet/Staff Report, extends to industrial facilities determined by permittees to be discharging substantial loadings of pollutants to the MS4. This does not extend to those industrial facilities, nor commercial businesses, which simply have the ***potential*** to discharge, since ***virtually all premises have the potential to discharge polluted storm water runoff to the MS4***. Please rescind this language from the provision for legal authority since it far surpasses what USEPA and the Clean Water Act intended.

- **Page 29-30, Countywide Hotline and Outreach and Education**: The two items, b) and c), may contain conflicting requirements. Item b) requires that the permittees inform the Principal Permittee within 30 days with the name of their reporting contact. Item c), requires that permittees inform the Principal Permittee within 60 days with the name of their reporting contact. While there appears to be some difference between public reporting contact and storm water staff reporting contact, most if not all of the co-permittees have only one person designated to do both.

- **Page 33-A, B, and C, Versions A, B, and C of the Industrial/Commercial Facilities Program**: The usage of three versions in the draft document is confusing and misleading. There is no corresponding discussion in the Fact Sheet/Staff Report for this aberration, nor the intent and method of the LA Region to select one as the preferred option. Obviously, the City desires Option C, although our practice is to identify and regulate offenders who are discharging substantial pollutant loadings to the MS4 either through illicit discharges and/or connections or simply releasing pollutants to the surface or subsurface through inappropriate management practices. In fact, through our site visit program, several businesses have been brought into compliance through enforcement or regulatory action. As a result, we do not see the need to require focused inspections as proposed in Options A and B. Please delete Options A and B from the document.

- **Page 25 and 40, treatment control BMPs and vectors:** There appears to be a conflict between provisions on page 25 and page 40 regarding BMPs and vector breeding. On page 25, the wording on item f) strikes out "Ensure" and substitutes

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"Require," while on page 40, "Ensure" is used. We believe that the LA Region intended for "Ensure" to be replaced by "Require" to maintain consistency among provisions.

- **Page 42, provision to submit an ESA map**: Third line of the underlined provision requiring submittal of ESA maps contains useless parentheses around the phrase "...120 days from permit effective date..." There are other locations throughout the document that likewise contain useless parentheses. These should be deleted. With regards the provision that 2,500 square feet of impervious surface area triggers SUSMP requirements, we object to the threshold as inconsistent with the area extent accorded parking lots since a 50 square foot drive way on a single family home of greater than 1 acre adjacent to a ESA could trigger SUSMP.

- **Page 44, Item no. 6, requiring SUSMP for "projects" that disturb one acre or more**: As defined by the draft document, disturbance includes clearing of brush and vegetation; activities that occur infrequently for fire prevention. Potentially, these activities could trigger SUSMP requirements based on the provision. Please insert language that can exempt certain health and safety activities such as fire suppression and control from being subject to SUSMP requirements.

- **Page 46, Item 10.d), Regional Storm Water Mitigation Program**: One of the criteria for approval of an alternative storm water mitigation program is financial sustainability and secure funding. We find it somewhat interesting that this criterion is applicable to an alternative but not to the SUSMP requirement itself. At this point, as a permittee, we have concerns regarding the origin of funding and program sustainability for the mandated SUSMP program. This criterion should likewise be incorporated into the mandated SUSMP provisions in this draft; not just to the alternative, since this can act as a barrier to alternative development and implementation.

- **Page 46, CEQA document update**: The LA Region proposes that permittees incorporate procedures for considering potential storm water quality impacts and appropriate mitigation when preparing and reviewing CEQA documents. The City already considers such issues and impacts. This provision is redundant and unnecessary. We suggest that the LA Region publish guidelines and background documentation for permittees to use when considering CEQA impacts and their mitigation rather than add unnecessary regulation.

- **Page 48, issuing a technical manual for LA County developers**: The way that the provision is worded gives, we believe, the mistaken impression that this guidance manual would only be given to developers located in LA County. We suggest that this manual would be much more effective and worthy if published by the LA Region for all of its affected counties and permittees. In fact, such a document could have statewide significance.

- **Page 48, Section E, Item no. e)**: There is no subsection e). What is the purpose of this deleted provision?

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- **Page 57, Streets and Roads Maintenance**: Our City as well as many others sweeps its roads on a frequent basis regardless of generating designation as proposed by the LA Region. Can there be a provision that alleviates the permittee of designating streets, and therefore having to report such to the LA Region, if it meets the Priority A designation for all of its streets?

- **Page T-10, Monitoring Plan, Trash Monitoring section**: Either of the two alternatives for monitoring trash represents significant capital outlays for the purpose of monitoring the suspected introduction of trash to the storm water system, especially when most watersheds are not currently listed under the CWA 303(d) list for impairment for trash. We request that the LA Region allow permittees to develop an alternative monitoring scheme that is less capital intensive if their watersheds are not listed for trash impairment under the 303(d) listing.

- **Page 56, the provision that trash receptacles be placed at all transit stops**: The requirement that trash receptacles be placed at all transit stops is unreasonable and does not take into account the significant costs associated with this provision. Transit stop could be defined by third parties to include locations where school buses stop, where taxis and other transit related vehicles stop (e.g., loading and unloading green painted curbing and zones), as well as the traditional bus stop. Further, some stops are located on residential streets, and no facilities are provided for their maintenance other than signage, since the stop might infringe upon private land. The potential for litter and debris is already adequately controlled by street sweeping, and monitoring should identify any areas that contribute to trash. This provision should be identified as an alternative to be implemented by a permittee in the event that full capture devices, CB inserts, and BMPs fail for any given location. It should not be a required option to be implemented jurisdiction-wide for all permittees.

In addition, we want to bring to your attention the following general comments:

1) Many programs will cost permittees significantly, and will create the unintended consequence of depressing development and economic well-being. We believe that it is not the intent of the LA Region to unduly negatively impact the economic welfare of the region and to cause the loss of jobs for our citizens.

2) We regret the action of the LA Region to shift responsibility to cities for inspection and control of runoff from state permitted industrial facilities. Without exception, many of the permittees are too small and under funded to staff and maintain trained and degreed personnel for the purpose of detecting potential run off and contribution to loadings in the MS4.

3) The prevailing criterion to justify government action especially enforcement, is that there must be adequate and reasonable justification that a "crime", i.e., illegal action, is being committed or taking place. Simply determining that a potential exists is insufficient to justify entering a premises, conducting inspecting and sampling

activities, and confiscating facility records. There must be a reasonable cause such as evidence of contaminated storm water or other discharge that adversely impacts the waters of the United States to allow an agency to undertake this extraordinary action.

We are ready and willing to work with you to help craft an acceptable product that will truly ensure that the waters of the United States are protected and enhanced. Please contact our Environmental Coordinator, Mr. J. Michael Huls, at (213) 840-9279, or me at (909) 396-5671 if you have any questions or comments.

Sincerely,

David G. Liu, P.E.
Director of Public Works

Cc: Linda C. Lowry, City Manager
James DeStefano, Deputy City Manager
Mike Jenkins, City Attorney
J. Michael Huls, Integrated Environmental Services Coordinator

R0005478

CITY of GARDENA

1700 WEST 162nd STREET GARDENA, CALIFORNIA 90247-3778

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LORENZO F. YBARRA, *City Treasurer*
MITCHELL G. LANSDELL, *City Manager*
LISA E. KRANITZ, *City Attorney*

CONTROL BOARD
LOS ANGELES REGION

November 13, 2001

California Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 8913

Attn: Dennis Dickerson

Subject: County of Los Angeles
Municipal Storm Water NPDES Permit 2001

Dear Mr. Dickerson:

The City of Gardena fully supports the comments and objections to the proposed permit submitted by the County of Los Angeles. The City especially requests modification of the permit to mitigate the following impacts:

1. Establishment by the Board of a "zero level" of contaminant in the Total Maximum Daily Load (TMDL) Program. Reduction to zero is unrealistic. A safe and attainable level of contaminants should set by analysis of the particular TMDL.

2. Transfer of the responsibility for inspection of industrial/commercial sites to the cities is unreasonable. The Board and Permittees must identify funding sources to pay for the staffing and inspection services that will be required.

3. The issue of funding is the major obstacle to implementing the NPDES permit. The City of Gardena recommends a joint effort of the Board and the Permittees to seek and obtain adequate funding from the State of California and the Federal Government. A concerted effort through our State and Federal representatives is critical to the success of the new permit. A special subcommittee to pursue this funding should be a first step to attaining this goal.

The City of Gardena affirms its commitment to the goals of the permit but joins with the County of Los Angeles and other permittees to request modification of the permit to ensure equitable and affordable enforcement. If you have any questions, please contact me at (310) 217-9529, or fax (310) 217-9676.

Yours truly,

Sherwood Natsuhara
City Engineer

cc: Bernie Paine, Public Works Director

"Our Youth - Our Future"

CITY OF HAWAIIAN GARDENS

November 13, 2001

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

California Regional Water Quality
Control Board – Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Via Facsimile – (213) 576-6640
original via U.S. Mail

Attention: Dr. Xavier Swamikannu

Subject: County of Los Angeles Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit

Dear Dr. Swamikannu:

Thank you for this opportunity to comment on the tentative draft County of Los Angeles Municipal Storm Water NPDES Permit (the Permit). After a careful review of the draft and discussions with city staff, the City of Hawaiian Gardens must object to the Permit in its current form. Our comments are specifically detailed below.

The permittees have objected to Parts 2.1 and 2.2, RECEIVING WATER LIMITATIONS (p. 18), from the beginning. As it is drafted, the Permit will result in all permittees being in violation of the Permit's provisions during any rain event during the term of the Permit. This is not fair to either the permittees or to the residents the permittees serve. The provision prohibiting any discharge from the municipal separate storm sewer system (MS4) that causes or contributes to the violation of water quality standards or water quality objectives, is unacceptable. Without full treatment of discharges from the MS4, there will be constituents that contribute to the violation of water quality standards or objectives. Thus, attorneys representing the Regional Board or any member of the environmental community could easily document violations and put the permittees in an unacceptable position. The permittees are pursuing Best Management Practices (BMPs) to comply with permit requirements and are complying with the Maximum Extent Practicable (MEP) standard established by the Clean Water Act (CWA). Subjecting the permittees to claims of permit violations based on the overly broad requirements contained in Parts 2.1 and 2.2 is unreasonable and violates the good faith relationship that should exist between the Regional Board and the permittees. These requirements must be made more reasonable to give permittees a chance to attain them.

The last phrase in Part 2.4 (p. 19) is ambiguous and places the permittees in the position of complying with Regional Board directives and then being informed that their

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compliance is not enough because the Board wants additional, possibly expensive, changes to the Storm Water Quality Management Plan. Part 2.3 contains a defined and reasonable process for correcting oversights and inadequate provisions of the Permit. The permittees do not object to Part 2.3. However, the last phrase of Part 2.4 ignores this process and allows the Regional Board to order additional programs to correct problems without input from any interested party to the Permit. This veto power is unreasonable and ignores the cooperative process established in Part 2.3. The permittees request that this last phrase of Part 2.4 be eliminated in its entirety.

Part 3.A.3 (p. 20) again attempts to impose requirements beyond those negotiated through the permit process. It mandates that permittees implement "additional controls, where necessary to reduce the discharges of pollutants in storm water." This blank check approach is not acceptable to permittees and should not be acceptable to the Regional Board. Who determines when additional controls are needed? Under the CWA, any interested party can challenge the adequacy of the effort permittees are using to comply with permit requirements. Does this mean that a petition from the Natural Resources Defense Council (NRDC) to the Regional Board would be sufficient to cause this provision to be triggered? The permittees, through their good faith comments, are attempting to arrive at an acceptable Permit that permittees can reasonably fund through their limited budgets. This provision eliminates any limits on potential costs for permittees. Therefore this provision is unacceptable, and it is also unnecessary considering the provisions of Part 2.3.

Part 3.D.2 (p. 20) requires clarification. What does it mean for the principal permittee, the Los Angeles County Flood Control District, to "act as liaison between permittees and the Regional Board on permitting issues"? If it means that the Regional Board will communicate only with the County on permitting issues, the provision is unacceptable. While we believe the County has done a fine job of keeping the permittees involved and aware of Board concerns, to make the County the sole contact to the exclusion of the rest of the permittees is unacceptable. If, however, this means that the Board will use the County as a conduit to distribute information to permittees and to open a dialogue with all permittees, then the provision is acceptable. As all permittees are responsible for compliance with the Permit, all permittees should be given the opportunity to comment on and discuss issues with the Board.

The elimination of Part 3.G, the Executive Advisory Committee (EAC) (p. 23), is generally unacceptable. While the EAC does not represent a specific watershed, it is comprised of permittees and acts as a coordinating council. The Board does not want to convene a meeting with 85 permittees every time an issue needs to be discussed. In response to two totally different comments to the second draft of the Permit, the Board has reached a bad decision. The first comment deals with the issue of the Brown Act, and it would seem that an opinion from the Attorneys General could resolve the issue of whether the EAC needs to comply with the Brown Act. There is no material difference between the EAC and the Watershed Management Committee (WMC); they both are made up of permittee representatives. The Board needs the EAC as the formal organization that coordinates the efforts of the watershed management committees.

The provisions of Part 3.G.2.c, Legal Authority (p. 25), are probably illegal in our democracy. Individuals are presumed innocent until proven guilty, and businesses in our communities generally have the same protection as natural persons under the law. Permittees have the ability to inspect, survey, and monitor businesses within their boundaries. This legal authority will allow permittees to check on compliance with permit conditions and, when found, to prohibit illicit discharges to the MS4. The problem arises with the provision that requires permittees to enter, sample, review and copy records, and require regular reports from industrial facilities discharging or potentially discharging pollutants to the MS4. The United States Courts have ruled against illegal search and seizure by municipalities. We must first convince a judge that a crime has been committed, and only then will we be given a warrant, the right to enter onto a property without the property owner's prior permission. The warrant must specify what information is being sought and cannot be overly broad to allow for random seizure of information. It is therefore unlikely that a judge would issue a warrant to enter a business based on a permittee's assertion that a potential violation exists. This over-reaching provision must be toned down.

In addition, this provision will place an unacceptable burden upon the permittees by requiring that every business, regardless of size, obtain on operational permit from the permittees. This is an administrative nightmare and would be totally unmanageable. A small city can have hundreds of businesses and a large city can have millions of businesses, with new businesses being formed and other businesses closing every day. Gathering the required data and obtaining the required reports would impact all aspects of city government and would be viewed by business as an unnecessary intrusion on their rights. As currently written, this section is unacceptable and must be deleted.

Part 4.C, versions A, B, and C (p. 34), appears to require that the permittees undertake and report to the Regional Board on businesses that are covered by the State General Industrial Permit. The transfer of this inspection responsibility is unacceptable without full reimbursement for costs incurred by permittees. Businesses such as municipal landfills, hazardous waste treatment, disposal, and recovery facilities, and facilities subject to SARA Title III, are clearly covered by the State permit. The permittees do not object to visiting sites to confirm that a business has the needed coverage and has the Storm Water Pollution Prevention Plan (SWPPP) on-site, or to reporting those findings to the Regional Board. However, requiring that inspectors possess sufficient knowledge to determine whether BMPs are effectively implemented is beyond the scope of the permittees' responsibility. The provisions in Part 4.C requiring permittees to inspect State Permitted Businesses must be deleted.

Part 4.G.1.b Illicit Connection and Illicit Discharge Elimination Program, Tracking (p. 60), imposes an impossible task on permittees. The Clean Water Act and the State Water Code define the "Storm Drain System" to include the curb in front of properties. Thus, every curb drain must be identified and incorporated into the required database within one year of the date of Permit issuance. By itself, this would be an onerous task,

but when added to the numerous other tasks required by the Permit, it becomes impossible.

For the reasons listed above, the Permit is unacceptable and should be continued for further revision by the Regional Board Staff.

In addition to the problems detailed above, the following changes should be made to clarify or correct technical or editorial errors in the Permit.

Part 3.D (p. 20) lists the Los Angeles County Flood Control District as the Principal Permittee. While the Flood Control District is the taxing agency, all work is being performed by the Department of Public Works; therefore, perhaps the Department of Public Works be designated the Principal Permittee.

Part 3.E.4 (p. 21) requires the permittees to "participate in intra-agency coordination necessary to successfully implement the provisions of this Order...." This seems to duplicate the requirement of Part 3.E.2. If so, one of the duplicate provisions should be deleted.

Part 3.F.3.g (p. 23) requires the Watershed Management Committees to "conduct joint WMC meetings four times per year and as necessary." It is not clear how this is to be interpreted. Must the watershed committees meet quarterly, or does a joint watershed committee meeting of all permittees have to be held quarterly? The WMCs are currently meeting monthly, and although reducing this frequency to quarterly might be tempting, with the mandates of this new order it will likely be necessary to continue to meet monthly. If the quarterly meeting is a new meeting of all permittees at one time, it could be scheduled as a substitute for one of the regular meetings. The language in the Permit should clarify this issue.

Part 3.G.1.i (p. should be changed to say "Prohibit the discharge of concrete or <u>cement</u> ~~(concrete)~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4." Concrete is a combination of cement, rock, and sand that is set into a rock-like material. Cement is the fine alkaline material that is likely to separate from the rock and sand and be washed away from a concrete truck or pump.

The provisions of Part 4.A.2, Customized SQMP (p. 27), are not clear. First, why must a permittee amend the County approved Storm Water Quality Management Plan (SQMP)? Unless a permittee is unique and does not have – and will never have – certain activities or businesses within its boundaries, the SQMP will provide for all contingencies. If a City does wish to amend the SQMP, how long does it have to comply? The section does not set a time limit; either a time limit should be set, or the issue is moot.

Part 4.B.1.c.6 (p. 30) requires clarification. The Principal Permittee is not an insurance company; it is a Public Agency. While it would be comforting to think that the County could "ensure," it is more likely that it will "endeavor to make" 35 million impressions per

year. In addition, the term "impressions" should be defined so that everyone understands the intent of the provision. Is it intended to be a "lasting impression" or is a listener of a radio station assumed to have heard the spot and counted? Do listeners who hear the message have to live in Los Angeles County, or would a resident of Riverside County driving to work in San Bernardino County who hears the message qualify as an impression? The Los Angeles Radio Market extends from Malibu and Ventura, and in some cases Santa Barbara, on the west, to Banning Beaumont on the east, and south into Orange County and Northern San Diego County. The permittees need to understand how the Regional Board interprets this requirement.

There is no indication regarding which of the three programs provided is the preferred version of Part 4.C Industrial/Commercial Facilities Program (p. 33). Version C most nearly resembles the program currently being run by the permittees. Except for the objectionable provisions related to State Permit inspections, noted above, either version A or B would be acceptable.

Part 4.F.3.c (p. 54) has a provision that makes no sense. This section requires permittees to incorporate clarifiers and pretreatment wherever vehicle washing is proposed. It then exempts fire-fighting vehicles from the requirement. Why would the washing of a fire truck at the fire station be any less hazardous than the washing of a fleet vehicle? Washing oil and grease from fire trucks is just as damaging as washing those products from city fleet vehicles. The only differences would be that a fire-fighting vehicle might be washed more frequently than a fleet vehicle, and the fleet vehicle would be run through a car wash. This exception makes little or no sense and should be eliminated.

Each sub-section of Part 4.F.4.c, d, & e (p. 55) starts with the word "ensure." But since permittees are not insurance companies, their actions are limited to directing that fertilizers and pesticides be applied only by licensed applicators; directing that no banned substances be stored or used by the permittee; and directing that fertilizers and pesticides not be applied immediately prior to storms. The word "ensure" should be replaced with a less onerous word.

Part 4.G.2.a.1.ii (p. 61) contains a term that is not defined. The section requires that underground pipes in "priority areas" be inspected within three years of the Board approval, but there is no definition of "priority area" or any explanation of where these priority areas are located. The Permit establishes several priority areas and defines how they are to be established. This section is the one exception to this practice.

Again, the City of Hawaiian Gardens thanks you for this opportunity to review the tentative NPDES Permit for Los Angeles County. For the reasons noted above, we cannot support the adoption of the Permit as currently constructed. We are prepared to discuss these points in greater detail if the Regional Board so desires.

Very truly yours,

CITY OF HAWAIIAN GARDENS

William C. Pagett, P.E.
City Engineer

JF:lss
11855/3000/L18

LA CANADA FLINTRIDGE

2001 NOV 15 P 2:17

Mayor
Anthony J. Portantino
Mayor Pro Tem
David A. Spence
City Council
Stephen A. Del Guercio
Jerry G. Martin
Deborah K. Orth

November 13, 2001 Faxed – Original Mailed

Dr. Xavier Swamikannu
California Regional Water Quality
Control Board – Los Angeles
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

COMMENTS ON TENTATIVE DRAFT – COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT

Dear Mr. Dickerson:

Thank you for this opportunity to comment on the tentative draft County of Los Angeles Municipal Storm Water NPDES Permit. At this point in the proceedings I must object to the permit in its current form, because I believe that it will cause all permittee's to violate the permit during all rain events during the term of the permit. Any permit that causes the permittee's to be in violation is not fair to the permittee nor to the residents that they serve. The following comments illustrate this point.

RECEIVING WATER LIMITATIONS

The permittee's have objected to Parts 2.1 and 2.2 from the beginning. The provision that prohibits any discharge from the MS4 that causes or contributes to the violation of water quality standards or water quality objectives is unacceptable. Without full treatment of discharges from the MS4 there will be constituents that contribute to the violation of water quality standards or objectives. Thus, Lawyers representing the Regional Board or any member of the Environmental Community can easily document the violations and put the permittee's in an unacceptable position. The permittee's are pursuing BMP's to comply with permit requirements and are complying with the Maximum Extent Practicable standard established by the Clean water Act. To subject the permittee's to claims of permit violations based on the overly broad verbiage contained in Part 2.1 and 2.2 is unreasonable and violates the good faith relationship that should exist between the Regional Board and the permittee's.

The last phrase in Part 2.4 is ambiguous and places the permittee's in the position of complying with Regional Board directives and then being told that your compliance is not enough and the Board wants additional, likely expensive, changes to the Storm Water

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Quality Management Plan. Part 2.3 contains a defined and reasonable process for correcting oversights and inadequate provisions of the permit. The permittee's do not object to part 2.3. However, the last phrase of Part 2.4 ignores the process and allows the Regional Board to order additional programs to correct problems without input from any interested party to the permit. This veto power is unreasonable and ignores the cooperative process established in Part 2.3. The permittees request that this last phrase be eliminated in its entirety.

Part 3.A.3 again attempts to impose requirements beyond those negotiated through the permit process. It mandates that permittee's implement **additional controls, where necessary to reduce the discharges of pollutants in storm water.** This blank check approach in not acceptable to permittee's and should not be acceptable to the Regional Board. Who determines when additional controls are needed? Under the CWA any interested party can challenge the adequacy of the effort permittee's are using to comply with permit requirements. Does this mean that a petition from the NRDC to the Regional Board would be sufficient to cause this provision to be triggered? The Permittee's have commented on the permit and attempted to arrive at an acceptable permit that permittee's can reasonable fund through their limited budgets. This provision eliminates any limits on potential costs for permittee's. Therefore this provision is unacceptable and is unnecessary considering the provisions of Part 2.3.

Part 3.D.2 requires clarification. In the Boards understanding what does it mean for the principal permittee, the County Flood Control District, to "act as liaison between permittee's and the Regional Board on permitting issues." If this means that the Regional Board will communicate only with the County on permitting issues, the provision is unacceptable. While I believe that the County has done a good job of keeping the permittee's involved and aware of Board concerns, to make them the sole contact to the exclusion of the rest of the permittee's is unacceptable. If, however, this means that the Board will use the County as a conduit to distribute information to permittee's and to open a dialogue with all permittee's then the provision is acceptable. As all permittee's are responsible for compliance with the permit, all permittee's should be given the opportunity to comment on and discuss issues with the Board.

The elimination of Part 3.G, the Executive Advisory committee (EAC), is generally unacceptable. While the EAC does not represent a specific watershed it is made up of permittee's and acts as a coordinating council. The Board does not want to convene a meeting with 85 permittee's every time an issue needs to be discuss. In response to two totally different comments to the second draft of the permit the board has reached a bad decision. The first comment deals with the issue of the Brown Act. While I am not a lawyer it seems that an opinion from the Attorneys General could resolve the issue of whether the EAC needs to comply with the Brown Act. I do not see any difference between the EAC and the WMC. They both are made up of permittee representatives. The Board needs the EAC as the formal organization that coordinates the efforts of the watershed management committees.

The provisions of Part 3.G.2.c, Legal Authority, are probably illegal in our democracy. As an individual, I am presumed innocent until proved guilty. Businesses in our communities have the same protection under the law. Permittee's have the ability to inspect, survey and monitor businesses within its boundaries. This legal authority will allow the permittee's to check on compliance with permit conditions and when found to prohibit illicit discharges to the MS4. **The problem arises with the provision that requires permittee's to enter, sample, review and copy records, and require regular reports from industrial facilities discharging or potentially discharging pollutants to the MS4**. The United States Courts have ruled against illegal search and seizure by municipalities. In the United States we must first convince a judge that a crime has been committed then we will be given the right to enter onto a property without the property owners permission. The warrant must specify what information that the municipality is seeking and cannot be overly broad to allow for random seizure of information. I do not believe that if a permittee went to a judge and asked for a warrant to enter a business on the belief that a potential violation exists that the warrant would be issued. This provision also will place an unacceptable burden upon the permittee's by requiring that every business, regardless of size, be required to obtain on operational permit from the permittee's. This is an administrative nightmare and would be totally unmanageable. A small city can have hundreds of businesses and a large city can have millions of businesses, with new businesses being formed every day and businesses closing every day. Gather the required data and obtaining the required reports would impact all aspects of City Government and would be viewed by business as an unnecessary intrusion on their rights. **As currently written this section in unacceptable and must be deleted.**

Part 4.C, versions A, B, and C, appears to require that the permittee's undertake and report to the Regional Board on businesses that are covered by the State General Industrial Permit. The transfer of this inspection responsibility is unacceptable without full reimbursement for cost incurred by the permittee's. Businesses such as Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities and Facilities subject to the SARA Title III are clearly covered by the State permit. The permittee's do not object to visiting sites to confirm that a business has the needed coverage, has the SWPPP on site and report those findings to the Regional Board. However, to ask that inspectors with sufficient knowledge to determine that BMP's are effectively implemented is beyond the scope of the Permittee's responsibility. The permittee's must demand that those provisions in Part 4.C requiring permittee's to inspect State Permitted Businesses be deleted.

Part 4.G.1.b Illicit Connection and Illicit Discharge Elimination Program, Tracking as written imposes an impossible task on permittee's. The Clean Water Act and the State Water Code define the "Storm Drain system" as the curb in front of properties. Thus, every curb drain must be identified and incorporated into the required database within one year of the date of this permit issuance. By itself this would be a significant task, but included with other tasks required by this permit it becomes an impossible task.

For the reasons listed above the permit is unacceptable and should be continued for further revision by the Regional Board Staff.

In addition to the problems detailed above the following changes should be made to clarify or correct technical errors in the permit. There are several purely editorial changes listed as well.

Part 3.D lists the Los Angeles County Flood Control District as the Principal Permittee. While I believe that the Flood Control District is the taxing agency, all work is being performed by the Department of Public Works. Should the Department of Public Works be designated as the Principal Permittee?

Part 3.E.4 requires the permittee's to "participate in intra-agency coordination necessary to successfully implement the provisions of this order." This seems to duplicate the requirement of Part 3.E.2. If so, can we save some ink and delete one of the duplicate provisions.

Part 3.F.3.g requires the Watershed Management Committees to "conduct joint WMC meetings four times per year and as necessary." It is not clear to this reviewer how this is to be interpreted. Do the Watershed committees have to meet quarterly or does a joint watershed committee meeting of **all permittee's** have to be held quarterly? The WMC are currently meeting monthly. While reducing this frequency to quarterly would be nice, with the mandates of this new order we will likely be continuing to meet monthly. If the quarterly meeting is a new meeting of all permittee's at one time it is likely that it will be substituted for one of the regular meeting and will be fine. The language in the permit should clarify this question.

Part 3.G.1.h should be amended editorially to say "Prohibit the discharge of concrete or cement ~~(concrete)~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4." Concrete is a combination of cement, rock and sand that set into a rock like material. Cement is the fine alkaline material that is likely to separate from the rock and sand and be washed away from a concrete truck or pump.

Part 4.A.2 The provisions of this section, Customize SQMP, are not clear. First, why must a permittee amend the County approved SQMP? Unless a permittee is unique and does not have and will never have certain activities or businesses within its boundaries the SQMP will provide for all contingencies. If a City does wish to amend the SQMP how long do they have to comply? The section does not set a time limit, so either one should be set or the issue is moot.

Part 4.B.1.c.6 requires clarification. The last time I checked the Principal Permittee is not an insurance company, they are a Public Agency. While it may be nice to think that the County can ensure it is more likely that they will "endeavor to make" 35 million impressions per year. The term impressions should be defined so that everyone

understands the intent of this provision. Is an impression intended to be a "lasting impression" or does a listener to the radio station just have to hear the spot to be counted? Do the listeners that hear the message have to live in Los Angeles County or does a resident of Riverside County driving to work in San Bernardino County that hears the message qualify as an impression? The Los Angeles Radio Market extends from Malibu and Thousand Oaks on the west to Banning Beaumont on the east and south into Orange County. The permittee's should be clear how the Regional Board would interpret this requirement.

Part 4.C Industrial/Commercial Facilities Program. I wish to thank the Board for the three versions of the program, but, I cannot find any indication which program is the preferred version. Version C most nearly resembles the program currently being run by the permittee's. Except for the objectionable provisions related to State Permit inspections, as noted above, either version A or B would be acceptable.

Part 4.F.3.c has a provision that makes no sense. This section requires permittee's to incorporate clarifiers and pretreatment where ever vehicle washing is proposed. It then excepts fire-fighting vehicles. Why would the washing of a fire vehicle at the fire station be any less hazardous than the washing of a fleet vehicle? Washing oil and grease from fire trucks is just a damaging as washing those products from city fleet vehicles. The only difference I see is that the fire vehicle is likely to be washed more frequently that the fleet vehicles and the fleet vehicle will be run through a car wash. This exception makes little or no sense.

Part 4.F.4.c, d, &e Each section starts with the word ensure. Since permittee's are not insurance companies we can only take those actions to direct that fertilizers and pesticides are applied by licensed applicators, that no banned substances are stored or used by the permittee and that fertilizers and pesticides are not applied just prior to storms. I encourage the use of a word that is less onerous than ensure.

Part 4.G.2.a.ii contains a term that is not defined. The section requires that underground pipes in priority areas be inspected within three years of the Board approval. There is nothing that I can find that defines where these priority areas are located. The permit establishes several priority areas and defines how they are to be established. This section is the one exception to this practice.

Again I wish to thank you for this opportunity to review the tentative permit for Los Angeles County. For the reasons noted above I cannot support the adoption of this permit, because it will cause the permittee's to violate the permit each and every time it rains. This situation is not acceptable and poses a liability threat for the permittee's that must be addressed. We are ready to discuss these points in greater detail if the Regional Board staff is ready to listen.

Sincerely

LA CANADA FLINTRIDGE

Steve Castellanos
Director of Public Works

November 12, 2001

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street
Los Angeles, California 90013

Subject: Comments on final draft of municipal NPDES permit dated October 11, 2001

Dear Mr. Dickerson:

The City of Lakewood opposes several of the terms proposed in the final draft permit issued by your office on October 13, 2001. These concerns are attached and reflect similar concerns raised to you and your staff through the Coalition for Practical Regulation (CPR), the Executive Advisory Committee, and the Los Angeles County Department of Public Works.

In addition to our comments, the City of Lakewood supports the issues raised by CPR, the EAC, and LACDPW. Lakewood wants to commend your staff for taking the time to consider our concerns, however, Lakewood staff is disappointed that several areas remain unresolved even with the hard work both sides have put into settling these disagreements.

In conclusion, Lakewood does not support the current draft permit. Based on what we feel are fundamental flaws in the proposed permit and the speed in which regional board staff proposes to recommend adoption of the permit to the Board, Lakewood will be forced into choosing between accepting unreasonable requirements or challenging them either administratively and/or legally.

Should regional board staff have any questions, please feel free to call Scott Pomrehn, Senior Management Analyst, at 562-0866-9771, extension 2500.

Sincerely,

Lisa Ann Rapp

Lisa Ann Rapp
Director of Public Works

Attachment

City of Lakewood
Comments:
Final Draft County of Los Angeles Municipal Storm Water NPDES Permit

1. EAC Not Recognized In Municipal NPDES Permit

Issue:

Regional Board staff has, unilaterally, eliminated the Executive Advisory Committee (EAC) from the draft municipal NPDES permit.

The EAC is a creation of the 1996 municipal NPDES permit that was requested by the permittees in the Report of Waste Discharge Application ("ROWD"). The purpose of the EAC is to "... to facilitate programs within each watershed and to enhance consistency among all of the programs." The EAC has also served as an important source of information for the several watershed management committees (WMCs), each of which elects 1 to 2 representatives to the EAC.

According to the regional board, the EAC does not need to be recognized in the municipal NPDES permit because it is not a political body and "that it would not be proper to recognize the EAC in the permit when it does not subscribe to government rules for open meetings." It should be noted, however, that the watershed management committees (WMCs) – which are also advisorial in nature and are not political bodies – are nevertheless sanctioned in the permit. As a result, this argument is without merit.

Municipal permittees depend on the EAC for leadership and guidance and see no harm in having it recognized in the permit. The regional board's attempt here at removing the EAC from the permit seems to be because of the EAC's opposition to several regional board actions, including the SUSMP and the zero trash TMDL. This strongly reinforces the belief among many permittees that this regional board is unfair in its treatment of municipalities.

Action Sought:

Restore EAC recognition to the NPDES permit as stated in the second draft.

2. Meet and Confer Provision Eliminated

Issue:

The regional board, unilaterally, has removed the "meet and confer" provision from the proposed permit. The existing permit contains this provision to allow permittees to resolve conflict arising from different interpretations of permit language and, therewith, to prevent unnecessary and unwarranted enforcement action. To cite example, last March, the regional board issued notices of

violations (NOVs) to several municipalities for failing to implement requirements that actually turned-out to be based on an incorrect interpretation of the permit.

The regional board's desire to remove this provision reinforces the belief among many municipal permittees that the regional board is not objective in its treatment of municipalities. This is because without a safe harbor clause, taking enforcement action against a municipality for misinterpreting a permit requirement can easily lead to enforcement action and, possibly, third party litigation.

Action Sought:

As stated in the second draft permit comments, restore the meet and confer provision or allow permittees some other "safe harbor" clause to prevent unwarranted enforcement action.

3. Industrial/Commercial Inspections

Issue:

The regional board still clings to the belief that municipalities are required to conduct inspections of sites of industrial activity and commercial facilities. It requires permittees to inspect certain categories of industrial facilities (1) (scrap, auto dismantling, fabricated metal products, motor freight, chemical/allied products, primary metal products facilities); (2) "lower priority" industrial facilities that require SWPPPs pursuant to the state's GCASWP requirements); and (3) automotive facilities for compliance with BMPs. It also requires cities to inspect for restaurants and other categories of commercial businesses.

Contrary to what the regional board asserts, the regulations do not specifically require permittees to do on-site inspections of facilities associated with industrial activity or commercial facilities. The responsibility for inspecting industrial facilities lies with the regional board. Nevertheless, the regional board contends that municipalities should inspect such facilities for compliance with BMPs that it requires in the permit. Essentially, this defers inspections to municipal permittees. However, nothing in the regulations requires municipalities to inspect for BMPs. Although the term "inspection" mentioned, it is clear this pertains only to off-site inspections (e.g., for illicit discharges through off-site monitoring and surveillance). As to commercial facilities such as automotive repair facilities and restaurants, municipal permittees do not have the authority to do on-site inspections of such facilities – unless permitted by the municipality.

Action Sought:

Allow municipalities to meet this requirement through educational site visit programs and by enforcing BMP requirements for industrial and commercial BMPs by way of off-site visual inspections, unless the violation is noted on-site during the

visit. In such an instance, the site visitor should inform the facility of the violation and advise of it of the need for correction within a certain period of time.

4. BMPs for Industrial Facilities

Issue:

The proposed permit calls for municipalities to impose more stringent controls on facilities that are subject to GIASWP requirements if existing controls are determined by the municipal permittee to be inadequate. This should not be the responsibility of municipal permittees, but the responsibility of the regional board, since it is ultimately responsible for enforcing the GIASWP and has the required expertise.

Action Sought:

Eliminate this requirement, along with the general requirement of making municipal permittees inspect industrial facilities.

5. Standard Urban Storm Water Mitigation Plan

Issue:

The regional board is still insistent upon requiring all categorical development/new development projects to comply with mandatory infiltration/treatment control requirements in accordance with numeric design standards. This requirement is excessive. Regional board staff justifies this requirement on the grounds that other municipalities in and outside of California have similar requirements for new developments. However, such controls (e.g., oil/water separators, catch basin inserts, etc.) are only required when there is a need to protect a water quality standard. For example, if oil and grease – which are really the only pollutants that the required controls mitigate – is listed on the 303(d) list, then such controls would be required (In addition to soft controls such as canopies over gas stations). This would be a rational approach.

Action Sought:

Maintain existing SUSMP, based on discretionary approval, but require mandatory infiltration treatment controls only when the pollutant of concern for the project is listed on the 303(d) list (e.g., oil grease, metals, etc.). Also require project specific BMPs requirements (e.g., canopies over gas stations, proper trash controls, etc.) on a mandatory basis.

6. General Plan Update

Issue:
Requires permittees to include storm water considerations in their general plans when conservation, land use, or housing elements are updated. Given that the existing and proposed permit contains stringent development planning requirements, why is there a need for any updating of the general plan at all? It seems superfluous. Further, to what extent are conservation, housing, and land use elements supposed to be updated?

Action Sought:
Provide general guidance as to what "considerations" should be included in the general plan (relative to conservation, housing, and land use elements) without interfering with municipal land use decision-making.

7. Inspection of Construction Sites

Issue:
Requires permittees to inspect construction sites greater than 1 acre or more for compliance with General Construction Activity Storm Water Permit (GCASWP) requirements, starting in 2003. Once this requirement takes effect in March of 2003, municipal permittees should not be responsible for inspecting them. This duty lies exclusively with regional board since such facilities require a state issued GCASWP. Again, the regional board is better able to enforce this permit than municipalities.

Action Sought:
Eliminate the requirement.

8. Definition of Control

Issue:
The proposed permit defines "control" to mean the following: "minimize, reduce, eliminate, or prohibit by technological, legal, contractual, or other means, the discharge of pollutants from an activity or activities." This definition is inconsistent with the definition of control found in storm water guidelines. Control, therein means to "... limit, discourage, or terminate a storm water discharge to the MS4." Nothing in the federal regulations or in Porter Cologne requires controlling discharge of pollutants from an activity or activities."

Action Sought:
Eliminate this definition of control.

9. Receiving Water Limitations Language

Issue:

The permit still contains language that enables permittees to be in violation of the permit in the event of a receiving water limitation exceedance, even if the municipal permittee is implementing the permit and its programs. As it proposed in the new permit, an exceedance would require the regional board to impose additional, and presumably more costly requirements, including the installation of treatment controls.

Action Sought:

Re-write this requirement in accordance with language suggested by the Coalition for Practical Regulation and Burke, Williams, and Sorensen.

10. Unfunded Mandate

Issue:

The proposed permit contains several "new" significant costs for municipal permittees, raising, once again, the complaint of it being an unfunded mandate. According to regional board staff, "compliance with the Clean Water Act (CWA) is not predicated on the availability of funding." Municipal permittees do not disagree.

Municipal permittees understand that they must allocate a portion of their budgets to fund storm water management programs. The question, however, is to what extent? Congress never intended NPDES permitting costs to over-burden municipalities because of the obvious fact that they are not in the business of environmental regulation. Thus, at some point, the regional board needs to recognize that there are limits on municipal resources. Certainly, conducting inspections for the regional board is neither a fair nor reasonable cost to impose on municipalities.

11. Definition of Redevelopment

Issue:

The proposed permit defines redevelopment in a manner that is different from USEPA's definition. According to the proposed permit, significant redevelopment is defined as the addition or creation of 5,000 square feet or more of impervious surface. This threshold would trigger an SUSMP for such a redevelopment project. However, according to the USEPA definition of redevelopment under Phase II, redevelopment is based on 1 acre or more of soil disturbance.

Action Sought:

Change definition of redevelopment to comply with USEPA's Phase II definition.

City of Lakewood

Department of Public Works

Fax Transmission

TO	**Xavier Swamikannu, D. Env.**
WITH	California Regional Water Quality Control Board, Los Angeles Region
FAX #	213-576-~~6640~~
DATE	Tuesday, November 13, 2001
FROM	Scott K. Pomrehn, Senior Management Analyst
WITH	City of Lakewood, Public Works Department
VOICE #	562.866.9771 ext 3507
E-MAIL	spomrehn@lakewoodcity.org
TOTAL PAGES	7 including this cover
SUBJECT	**Comment letter – Municipal NPDES Permit**

5050 N. Clark Avenue • Lakewood, California 90712 • (562) 866-9771, ext. 2507

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LOS ANGELES, CA 90013
TEL: (213) 473-7999
FAX: (213) 473-8100
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November 9, 2001

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

CITY OF LOS ANGELES REVIEW COMMENTS ON THE THIRD DRAFT OF THE 2001 LOS ANGELES COUNTY MUNICIPAL STORM WATER NPDES PERMIT

Thank you for the opportunity to comment on the third draft of the 2001 Los Angeles County Municipal Storm Water National Pollutant Discharge Elimination System Permit (Permit) issued by the Regional Water Quality Control Board (Regional Board) on October 12, 2001.

Attached are the City's comments, which consist of the following:

- Overview report on City policy issues related to the 3rd draft Permit;
- Attachment A - detailed analysis of policy issues related to the 3rd draft Permit;
- Attachment B - City's comments on the 2nd draft Permit (originally transmitted to the Regional Board on August 6, 2001);
- Attachment C - detailed summary of comments on the 3rd draft Permit; and
- Attachment D – summary of estimated increased costs associated with the new requirements of the 3rd draft permit

In particular, please refer to the overview report and Attachments A, C, and D described above for the City's comments on the 3rd draft Permit. The City's comments were approved by the City Council on November 7, 2001 and by the Mayor on November 9, 2001.

R0005499

Once again, the City appreciates that the Regional Board will give due consideration to incorporating the City's comments into the final permit. If you have any questions, please contact me at (213) 473-7999 or Shahram Kharaghani of my staff at (213) 847-6346.

Sincerely,

James F. Langley for

Judith A. Wilson, Director
Bureau of Sanitation

JAW/SK/MFS/SHN/lm
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Attachments (5)

cc: Xavier Swamikannu, Los Angeles Regional Water Quality Control Board
Chris Westhoff, City Attorney's Office
Maria Souza-Rountree, City Legislative Analyst's Office
Rafael Prieto, City Legislative Analyst's Office
Bee Campbell, City Administrative Officer
Ana Mae Yutan, City Administrative Officer
Detrich D. Allen, Environmental Affairs Department
James F. Langley, Bureau of Sanitation
Shahram Kharaghani, Watershed Protection Division
Traci Minamide, Regulatory Affairs Division

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

DATE: November 1, 2001

TO: Councilmember Nate Holden, Chair
Environmental Quality and Waste Management Committee

FROM: Ronald F. Deaton
Chief Legislative Analyst

William T. Fujioka, Director
City Administrative Office

SUBJECT: POLICY ISSUES RELATED TO THE THIRD DRAFT 2001 NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) MUNICIPAL STORMWATER PERMIT

BACKGROUND: On April 13, 2001, the Los Angeles Regional Water Quality Control Board (Regional Board) issued the first draft of the 2001 NPDES Municipal Stormwater Permit for review and comment. The NPDES permit is reissued every five years. The existing permit expired on July 31, 2001 but is still operating under an administrative continuance until the new permit is adopted. This permit identifies the waste discharge requirements for municipal storm water and urban runoff discharges within the County of Los Angeles and the incorporated cities (except Long Beach). The County of Los Angeles is the principal permittee and the City of Los Angeles and 83 other jurisdictions are co-permittees.

On May 18, 2001, the Council adopted a motion (CF#01-1020), which directed the CLA and CAO to prepare a report for the Environmental Quality and Waste Management Committee on the policy implications of the draft 2001 NPDES permit. The report was prepared and staff identified eight policy recommendations to forward to the Regional Board. These recommendations were endorsed by the City Council/Mayor and sent to the Regional Board on June 29, 2001.

On June 29, 2001, the Regional Board issued the second draft of the draft NPDES permit. Several of the original policy issues remained in the second draft permit and four new policy issues were identified. The recommendations on comments for these issues were endorsed by the City Council/Mayor and sent to the Regional Board on August 6, 2001.

On October 12, 2001, the Regional Board issued the third and final draft of the NPDES permit. It is critical to note that the third draft permit will be adopted by the Regional Board and the City of Los Angeles will be required to adhere to the requirements contained therein. Again, although the draft permit has been substantially revised, several policy issues remain and new policy issues have been identified. Most importantly, the final draft permit contains language that would subject the City to harsh prohibitions without adequate protection for compliance with the remainder of the permit's requirements. The City Attorney has stated that these prohibitions provide a great deal of enforcement exposure, particularly to third party enforcement actions.

This exposure and loss of local control, as well as the other concerns over the prescriptive and costly requirements may be significant enough to warrant appeal of the final permit. The City has a proactive stormwater pollution abatement program and is addressing many of the same issues that the proposed NPDES permit addresses, however, the City seeks to implement actions where the money spent will have the most impact. The primary concern throughout the proposed permit is that global nature of the permit requirements would require the expenditure of a great deal of money for very little return in stormwater improvements.

The executive summary section of this report provides an overview of all the policy issues and a statement regarding staff's recommendation. The following section provides a detailed analysis on the new and unresolved policy issues (Attachment A). A detailed summary of the resolved policy issues from the earlier draft permits can be found in the July 25, 2001 joint CLA-CAO report (Attachment B).

EXECUTIVE SUMMARY

1. *Public Agency Activities (street sweeping requirement)* – the second draft of the permit addressed the City's original concern and the final draft of the permit does not make any changes. Therefore, no further comment is necessary.

2. *Industrial/commercial inspections* – the final draft of the permit continues to require that the City conduct inspections for which the Regional Board receives fees. Therefore, continue to urge that the Regional Board accept their responsibility for the inspection of these sites.

3. *Standard Urban Storm Water Mitigation Plans (SUSMPs)* – the second draft of the permit addressed the City's original concern and the final draft of the permit does not make any changes. Therefore, no further comment is necessary.

4. *New peak flow control requirements* – the final draft of the permit addresses the City's original concern. Therefore, no further comment is necessary.

5. *Small construction site requirements* – the second draft of the permit addressed the City's original concern and the final draft of the permit does not make any changes. Therefore, no further comment is necessary.

6. *Larger construction site requirements* – the final draft of the permit requires that the City conduct inspection and enforcement of construction sites that are under the jurisdiction of the Regional Board. Therefore, support performing the inspections and the referral of any follow-up enforcement actions to the Regional Board.

7. *Responsibilities of the principal permittee* – the second draft of the permit addressed the City's original concern and the final draft of the permit does not make any changes. Therefore, no further comment is necessary.

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8. *Exemption for residual blood wash down* – No changes have been made in the final draft permit. Therefore, continue to request exemption language.

9. *Receiving water limitations* – The final draft permit language has not been modified as requested by the City in the second draft comments. The city's comment recommended that the Regional Board adopt language mirroring language used by the State Water Resources Control Board in its most recent general permit for aquatic pesticide application. Without the requested modifications, staff remains very concerned that the final draft permit language will result in an immediate and continual violation of the permit prohibitions contained in this section. Therefore, continue to request permit language modification.

10. *Wet weather catch basin cleanings* – The City requested that the permit retain the existing maintenance schedules and conform the permit to the proposed Trash TMDL. The final draft permit has more than doubled the number of required catch basin cleanings. Therefore, continue to request that the permit retain the existing cleaning schedules.

11. *Prioritization for the diversion of storm drains* – the final draft permit has clarified this proposed requirement, however, this change does not alleviate the City's original concern. Therefore, continue to request deletion of this requirement.

12. *Special event catch basin cleanings* – the final draft permit language remains unchanged. Therefore, continue to recommend the deletion of this new requirement, in light of the City Council's direction to recommend changes, if necessary, to further tighten the clean-up requirements relating to trash and debris generated from special events.

13. *Illicit sewer connection requirement* – The final draft permit contains a new requirement that would require the City to field screen storm drain lines, in order to identify illicit connections. This is an ineffective, as well as extremely expensive, approach to locating illicit connections. Therefore, replace this requirement with the City's proposal.

14. *Installation and maintenance of trash receptacles at all transit stops* – The final draft permit contains this new requirement. This proposal is premature in light of the upcoming trash TMDL. Therefore, this requirement should be deleted from the final permit.

15. *Definition of maximum extent practicable* – the final draft permit has changed this definition, which is inconsistent with state and federal law. Therefore, this revised definition should be deleted and replaced with the earlier proposed definition.

SUMMARY OF POLICY ISSUES CONTAINED IN THE FINAL DRAFT PERMIT

A full compilation of the remaining City's technical and policy comments is contained in Attachment C. The following analysis focuses on the new and remaining policy issues that staff believes are critical for the City of Los Angeles. Generally, these individual policy issues fall under the following four broad topics of concern:

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- Implicit open-ended nature of many of the commitments required of the City. The receiving water limitations language removes protection for the City when it is in the process of implementing control measures, which could lead to an immediate finding of non-compliance with the new permit. Also, the Executive Director of the Regional Board will have broad powers to set standards for various compliance measures and develop new requirements for the City to follow, with little opportunity to appeal.

- Violations of federal and state laws by several of the proposed permit changes. The elimination of considerations of costs, environmental benefits and available technology from decisions to require various programs and standards is a critical issue for the City. This is clearly inconsistent with existing state and federal law, including the requirement that regulation be reasonable under Water Code §13000.

- Exceedingly expensive requirements that will have dubious or minimal environmental and human health benefits. There are numerous examples of this issue throughout the proposed permit: cleaning catch basins numerous times a year, regardless of the amount of trash in the structure; mandating trash containers at all transit stops, regardless of the pedestrian traffic at the site; cleaning catch basins after special events, regardless of the last time the structure was cleaned; and mandating inspections of all storm drains for illicit connections, regardless of the surrounding land use or potential for such connections.

- Incorporation of trash requirements that commit the City to specific approaches to reducing litter and debris on city streets that enter the storm system and are channeled to the ocean. These explicit requirements are premature in light of the upcoming trash TMDL proposals for the Los Angeles River and Ballona Creek. The impending trash TMDL will address the necessity of additional measures for catch basin clean up, additional trash containers at transit stops and special event catch basin cleaning.

RECOMMENDATIONS:

That the Council:

1. Forward the complete technical and policy comment matrix (Attachment C) to the Regional Board, which details the City's recommended changes for the final draft 2001 NPDES Municipal Stormwater Permit, as follows:

    - Support the Regional Board's responsibility for inspections of industrial/commercial sites that are under the General Industrial Activities Stormwater Permit;

    - Request that until March 2003, the existing permit requirements for construction activities be maintained. Beginning in March 2003, follow-up enforcement actions are the responsibilities of the Regional Board;

    - Request an exemption for the washing down of blood at trauma scenes;

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- Modify receiving water limitations text to be consistent with the SWRCB Order 2001-12-WQ and state that Permittees will not be in violation, as long as they have implemented the control measures and other actions to reduce pollutants in the discharges in accordance with the Stormwater Quality Management Plan and its revisions;

- Revise the maintenance schedules for wet weather catch basin cleaning;

- Delete requirement for the prioritization for the diversion of storm drains;

- Delete requirement for temporary catch basin screens and catch basin cleanings after special events.

- Revise the illicit storm drain connection requirement to incorporate the City's three-pronged approach focusing on "hot spots."

- Delete the requirement to install and maintain trash receptacles at every transit stop.

- Delete the revised maximum extent practicable definition and use the previously proposed definition.

2. Direct the Bureau of Sanitation to report back to the City Council in January 2002 on the policy aspects of the Final Permit and the programs and potential costs required, itemized for the 2002-03 fiscal year and projected future year requirements.

FISCAL IMPACT STATEMENT:

The total cost of the proposed final draft NPDES permit would cost the City just under $73 million over the five-year life of the permit (see Attachment D). If this were to be funded from the Stormwater fee, it would result in an increase of approximately $70 per year on the average residential Stormwater Pollution Abatement Charge (now $23 per year, collected on the property tax bill) for a new average charge of $93.

The staff recommendations for the proposed 2001 NPDES Municipal Stormwater Permit will cost a total of $629,433 annually or $3.2 million over the 5-year life of the permit (see Attachment D). Any increase in attorney costs have not been calculated at this time, however, it is not expected to be significant the first year of the permit and may be revisited in future years if costs escalate substantially.

The 2001-02 Stormwater Pollution Abatement Fund included $530,000 for expected new NPDES permit requirements.

ATTACHMENT A

1. Receiving Water Limitations

Final Draft Permit – The permit has added a section that would state that all discharges from the City's stormwater system cannot "...cause or contribute to the violation of water quality standards or water quality objectives..." This requirement is not consistent with the State Water Resources Control Board's Order 2001-12-WQ, which states that permittees will not be in violation as long as they are complying with the requirements and timetable of the NPDES permit. This recent SWRCB Order provides the most timely guidance on the proper language to be used in Receiving Water Limitations. This language will not subject the Permittees to legal jeopardy.

Current Practice - The NPDES permit is the mechanism to require the implementation of controls to prevent pollutants from being washed by stormwater runoff into local water bodies. The City is committed to implementing water quality standards through compliance with the requirements of the NPDES permit.

Impact on City – The City Attorney has previously stated that the permit language would place the City in a potential non-compliance status from the day the permit is adopted and expose the City to potential enforcement actions. Irrespective of compliance with all of the permit requirements, the language can be interpreted that the City would be out of compliance because we would be discharging storm water into receiving waters. The only mechanism to meet this requirement is for the City to provide full treatment of stormwater. It is virtually impossible to project the cost of constructing additional treatment facilities to fully treat all storm water in the City.

Recommended City Position – Modify the text to be consistent with SWRCB Order 2001-12-WQ. Further, it is recommended that the section of the permit be revised to state that permitees will not be in violation, as long as they have implemented the control measures and other actions to reduce pollutants in the discharges in accordance with the Stormwater Quality Management Plan and its revisions.

2. Illicit Connections and Illicit Discharges Elimination Program Requirement

Final Draft Permit – New language has been added that would require the City to field screen all storm drain lines measuring 36" in diameter or greater for illegal connections. Approximately 70% of the City's storm drain lines are 36" or greater, which translates to over 840 miles of pipeline.

Inspecting storm drain lines this size can be difficult and potentially dangerous. A 36" diameter pipeline will force the inspector to crawl through the pipe while conducting the inspection. This poses an extremely dangerous condition, especially if immediate evacuation is necessary. Conversely, closed-circuit televisions (CCTV) are more effective in smaller diameter pipelines, such as 18" or less. Using CCTV for larger diameter pipes such as 36" can result in inconclusive observations. Furthermore, given the effectiveness of current practices, the

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percentage of additional illicit storm drain connections potentially cited through field screening is minimal, thereby making this process economically infeasible.

Current Practice – The City investigates potential illicit storm drain connections based on information given by City inspectors and from calls made to the City's Storm Water Hotline. Additionally, staff recently completed a comprehensive study of all the City's permitted storm drain connections in order to verify that discharge from these connections are legal.

Impact on City – If the City were to conduct a combination of visual observation and CCTV on all of the storm drain lines 36" and greater, it would cost about $8 million and yield negligible results.

Recommended City Position – Recently, several smaller cities performed field screening of their storm drain systems that resulted in identifying a minimal number of illicit connections. Given these results, the requirement for field screening does not seem to be cost effective. The most effective approach to addressing illicit connections is to develop a program that incorporates a variety of diagnostic measures. The Bureau of Sanitation proposes the following program which focuses on "hot spots": first, use information and reports from the City's storm drain maintenance crews and the Stormwater Hotline to conduct a literary investigation for potential illicit connections; second, review existing connection permits to ensure that discharges are, in fact, legal; and lastly, if potential illicit connections are discovered, conduct inspections using techniques such as closed-circuit television, dye-testing and other methods to confirm actual illicit connections. Resources will be better spent on these areas rather than being diluted over the entire City with potentially poor results.

3. Definition of maximum extent practicable

Final Draft Permit – the definition of maximum extent practicable (MEP), which applies to standards for implementation of storm water management programs to reduce pollutants in storm water, has been changed to remove all references to equitable considerations and competing facts. This is inconsistent with existing state and federal law, including the requirement that regulation be reasonable under Water Code §13000.

Current Practice – The existing MEP definition is widely used in stormwater management programs and is identical to that used by state and federal laws.

Impact to the City – If the final draft permit language is used, the City would be subjected to requirements that only focus on environmental benefits, without consideration of other factors, such as cost and feasibility.

Recommended City Position – The deleted portion of the MEP definition should be maintained as it provides a good definition of the factors to be considered in determining whether a proposed implementation measure is to the maximum extent practicable.

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4. Programs for industrial/commercial inspections

Final Draft Permit – Three major changes relative to the current permit remain in the final permit. The City has agreed to move from educational visits to site inspections. This will allow the City to thoroughly review industrial/commercial storm water impacts and begin enforcement actions on violators. The permit has also included additional categories of industrial and commercial businesses within the City, almost doubling the list from 13,000 to 23,000 businesses. City staff agreed with this and it was estimated that two additional new inspectors would be necessary to fulfill the new NPDES requirements to inspect industrial/commercial sites under the City's jurisdiction, at a cost of $175,081 per year. Additional attorney costs for anticipated legal actions, which are difficult to estimate, may also be necessary. Lastly, the final draft permit would require the City to inspect industrial/commercial sites having a GLASP, which are now the responsibility of the Regional Board.

In the second draft permit, the total number of industrial and commercial businesses to be inspected by the City, under both the City's jurisdiction and primarily the Regional Board's jurisdiction, was reduced to about 15,000 because the Principal Permittee was held responsible for doing all inspections of Restaurants and Retail Gasoline Outlets. The final draft permit, however, has re-assigned restaurant inspections to co-permitees. The new inspectors for the recently adopted Fats, Oil and Grease Program, however, can include the new NPDES requirements when conducting inspections.

Impact on City - Two additional Industrial Waste Inspectors at an annual cost of $175,081 would be required to perform the additional inspections. Staff strongly opposes the requirements of the draft permit that pass responsibilities to the City when they clearly belong to and should remain with the Regional Board. Approximately 1,098 facilities within the City have permits issued by the Regional Board. More will be added each year. Because the facilities are under the Regional Board's permitting program, the Regional Board should perform the inspections and any follow-up enforcement actions. If the City is required to conduct these inspections, then the City should be reimbursed.

Recommended City Position – Staff continues to believe that it is the Regional Board's responsibility to inspect industrial/commercial sites under their General Industrial Activities Stormwater Permit.

5. Larger Construction Site Requirements.

Final Draft Permit – The proposed permit requires the City to review, inspect, and enforce best management practices (BMP) implementation plans and Storm Water Pollution Prevention Plans (SWPPPs) for construction sites one acre and greater.

Current Practice – Currently, the City is required to inspect construction sites of two acres and greater for compliance with a SWPPP. If violations are observed during inspections on sites between two and five acres, the City provides follow-up enforcement actions. If violations are observed during inspections of sites five acres and greater, the City notifies the Regional

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Board for follow-up enforcement actions. The Regional Board is responsible for issuing State General Construction Permits for constructions sites of five acres or greater.

Impact on the City – It is estimated that this new requirement would force the City to hire three additional staff to review, inspect, and enforce BMP implementation plans and SWPPPs for construction sites one acre and greater at a cost of approximately $272,838.

Recommended City Position – Continue to support that the current permit requirements be maintained, whereby the City conducts inspection for sites two acres and greater, but only provide follow-up enforcement actions for site between two and five acres. The Regional Board is responsible for follow-up enforcement actions for sites five acres and greater. Commencing in March of 2003, Federal regulations will require the Regional Board to issue State General Construction Permits for construction sites one acre and greater. The City is willing to provide inspections for sites one acre and greater. However, if violations are observed, follow-up enforcement actions should be the responsibility of the Regional Board, since the City has no enforcement authority over those sites that are subject to the State General Construction Permit. This approach would have a cost impact of $188,339 to hire two additional staff for construction site inspection activities.

6. Prioritization for the Diversion of Storm Drains (Treatment Feasibility Study)

Final Draft Permit – Each permittee is to participate in a study to investigate the possibility for the diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows from their jurisdiction that may impact public health and safety or the environment. The permittees are to collectively review their individual prioritized lists and develop a watershed based priority list of drains for potential diversion or treatment by July 1, 2002.

Current Practice – Presently there are no requirements for permittees to prioritize drains and construct dry-weather diversion structures. The City has voluntarily implemented its Low Flow Diversion program to prioritize 19 drains along the Santa Monica Bay shoreline. Of these drains, seven have, or will be, diverted to the Hyperion Treatment Plant for treatment by 2002. The total cost of this program, including monitoring and assessment, design and construction, is approximately $4.2 million.

Impact on City –The prioritization of storm drains for dry weather diversion is not a permit issue. The City supports the use of Dry Weather Diversions as a method to prevent contaminated runoff from entering waterways, and is now diverting flows from beaches in Santa Monica Bay to protect public health. Therefore, the City supports this concept, but the requirement as clarified by the Regional Board in the final draft permit has been vastly expanded in its scope. It would require that water quality objectives be established for environmental health and the Los Angeles River, Ballona Creek and Dominguez Channel would need to be included in the assessment. Thus, the prioritizing task becomes much more extensive and difficult. Such a project would probably require the entire five years of the permit to accomplish. For example, in the Los Angeles River, we would first determine which of the approximately 2,000 drains have dry weather flows, then develop a ranking scheme to prioritize drains based on flows, effluent characteristics including toxicity, and potential exceedance of water quality

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standards. It would be more appropriate to address this issue through the upcoming TMDL programs.

Recommended City Position -- Oppose the requirement in the NPDES permit and explore this issue during the development of the upcoming TMDLs.

7. Storm drain discharge exemption to wash residual blood from trauma scenes

Final Draft Permit – The existing permit and the previous draft permits do not specifically exempt the washing down of residual blood and bodily fluid from trauma scenes. Los Angeles City Fire Department requested an exemption to the storm drain discharge prohibition requirements in the proposed NPDES permit to allow the practice of washing down residual blood from trauma scenes. Data from the Los Angeles County Department of Health Services indicates that the small amounts of human fluid will have no negative health and safety issues.

Impact on the City – The requirement to clean small amounts of blood from trauma scenes could add to the cost of clean up, with no benefit to storm water quality. According the City Fire Department, conservative estimates project that the additional trauma scene clean-up costs to the City could be $1.8 million annually.

Recommended City Position – Continue to request exemption language.

8. Storm Drain Operation and Management - Accelerated Maintenance Schedule for Wet Weather Catch Basin Cleaning

Final Draft Permit - The cleaning of catch basins has been identified as a best management practice to reduce storm water pollution. The proposed permit contains language that would require all jurisdictions to establish priority rankings for all catch basins and conduct cleaning of those basins on an accelerated maintenance schedule during the wet season.

Current Practice - The existing permit requires a municipality to clean all catch basins between May 1 and September 30 of each year. From October 1 through April 30 of each year, all municipalities are required to clean all catch basins, as necessary. The Bureau of Sanitation performs approximately 50,000 catch basin cleanings each year. This total includes the multiple cleanings that are performed on those catch basins that collect more trash, with some catch basins receiving up to four cleanings per year.

Impact on City – Depending on which devices and measures are chosen to meet the requirements of the trash TMDL, maintenance schedules will be an important part of their effectiveness. It is premature at this time to require an accelerated catch basin cleaning schedule as part of the proposed permit, before a comprehensive citywide approach to trash reduction is developed.

Staff estimates the wet weather priority-based catch basin cleaning program contained in the final draft permit will increase the City's staffing cost by an additional $2.54 million from the implementation of the new permit to July 1, 2003. After July 1, 2003 and until the expiration of

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the permit, the City's staffing and equipment costs will increase by another $8.47 million. The total cost increase to the City during the five-year term of the permit is estimated at $11 million. In addition, there are several other factors that must be considered such as: locating sites for two new maintenance facilities, constructing the two new maintenance facilities, tipping fees for the disposal of debris removed from the catch basins, the impact of debris disposal on the City's requirement to divert waste from landfills, the ability to comply with the South Coast Air Quality Management District's (SCAQMD) regulations that mandate the purchase of alternative-fuel fleet vehicles, and the ability of qualified equipment manufacturers to supply the necessary catch basin cleaning vehicles.

Recommended City Position – Incorporate the City's proposed catch basin cleaning schedule that was verbally agreed to by Regional Board staff.

9. Storm Drain Operation and Management – Special Events

Final Draft Permit – Requires that for any special event, the City shall include provisions that provide for the proper management of trash and litter generated from the event. Further, the permit requires, at a minimum, that the City to arrange for either temporary screens to be placed on catch basins or for catch basins in the event area to be cleaned out subsequent to the event and prior to any rain. During the presentation to the City Council of the second draft permit, the Council directed various city departments to review the City's "Street Closure Provisions and Application Procedures" and recommend changes to the City Council, if any, to further tighten the clean-up requirements relating to trash and debris generated from special events. This analysis is still underway.

Current Practice – The current permit does not specifically address special events. The closest related requirement is under Street and Roads Maintenance, which requires good housekeeping practices to insure proper management of any wastes that are generated.

Presently, the City requires that the sponsors of special events remove any debris that results from the event through the "Street Closure Provisions and Application Procedures." The area is inspected after the event, and an invoice for payment is sent for any cleaning that is performed by the City. In the case of large events, the sponsor may be required to make a cash deposit to assure proper cleaning after the event.

The impending trash TMDL for the Los Angeles River and Ballona Creek will address the necessity of additional measures for catch basin clean up. It is premature at this time to require an accelerated catch basin cleaning schedule as part of the proposed permit, before a comprehensive citywide approach to trash reduction is developed.

Impact on City – The additional cost for clean up after special events would likely be passed onto the event sponsor. Compliance with these enhanced measures would impose more burdens on civic organizations and neighborhood block parties and require more rigorous inspection by City staff preparing the bills.

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Recommended City Position – Delete new requirement in the permit and incorporate language that will require the City to incorporate better enforcement mechanisms.

10. **Installation and maintenance of trash receptacles at all transit stops**

Final Draft Permit – The final draft permit contains new language that would require the placement and maintenance of trash receptacles at all transit stops.

Current Practice – No comparable requirement in the existing permit.

Impact on City – Currently, out of an estimated 9,000 total number of transit stops in the City, approximately 2,500 have trash receptacles that are regularly maintained. To meet this new requirement, the City would have to install an additional 6,500 trash receptacles. Capital costs are an estimated $67 per unit and the projected annual operating and maintenance costs for each unit would be $750. This calculation would yield a total projected one-time capital cost for this new permit requirement of $435,000 and an annual O & M costs of $4,875,000.

The environmental benefits to be derived from this requirement are unknown at this time. The City is reviewing and evaluating both structural and institutional BMPs for controlling trash in response to the recently adopted Los Angeles River and Ballona Creek trash TMDLs. Therefore, it is premature for the Regional Board to mandate trash receptacles at every transit stop prior to the development of a comprehensive proposal by the City to address trash reduction. Finally, placement of trash receptacles at certain critical locations or transit stops may also pose undue security concerns for City residents.

Recommended City Position – Recommend deleting this requirement and implement trash reduction measures in accordance with the impending TMDL requirements.

ATTACHMENT B

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

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DATE: July 25, 2001

TO: Councilmember Mark Ridley-Thomas, Chair
Environmental Quality and Waste Management Committee

FROM: Ronald F. Deaton
Chief Legislative Analyst

William T. Fujioka, Director
City Administrative Office

SUBJECT: POLICY ISSUES RELATED TO THE SECOND DRAFT 2001 NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) MUNICIPAL STORMWATER PERMIT

BACKGROUND: On April 13, 2001, the Los Angeles Regional Water Quality Control Board (Regional Board) issued the first draft of the 2001 NPDES Municipal Stormwater Permit for review and comment. The NPDES permit is reissued every five years and the existing permit expires on July 31, 2001. This permit identifies the waste discharge requirements for municipal storm water and urban runoff discharges within the County of Los Angeles and the incorporated cities (except Long Beach). The County of Los Angeles is the principal permittee and the City of Los Angeles and 83 other jurisdictions are co-permittees.

On May 18, 2001, the Council adopted a motion (CF#01-1020), which directed the CLA and CAO to prepare a report for the Environmental Quality and Waste Management Committee on the policy implications of the draft 2001 NPDES permit. The report was prepared and staff identified eight policy recommendations to forward to the Regional Board. These recommendations were endorsed by the City Council/Mayor and sent to the Regional Board on June 29, 2001.

On June 29, 2001, the Regional Board issued the second draft of the draft NPDES permit. Substantial changes were made to the draft permit. Several of the original policy issues remain in the permit and four new policy issues have been identified. The executive summary section of this report provides an overview of each of the policy issues associated with the second draft permit and the recommended city position. The following two sections provide an update on the status of the City's previous policy issues and a detailed analysis of the new policy issues. A full compilation of the City's technical and policy comments are contained in Table 1.

EXECUTIVE SUMMARY

1. *Public Agency Activities (street sweeping requirement)* – no further comment necessary.

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2. *Industrial/commercial inspections* – continue to support the Regional Board's responsibilities for the inspections of these sites.
3. *Standard Urban Storm Water Mitigation Plans (SUSMPs)* – no further comment necessary.
4. *New peak flow control requirements* – oppose permit language and support the development of consensus language.
5. *Small construction site requirements* – no further comment necessary.
6. *Larger construction site requirements* – continue to support the Regional Board's responsibilities for these site requirements.
7. *Responsibilities of the principal permittee* – no further comment necessary.
8. *Exemption for residual blood wash down* – continue to request exemption language.
9. *Receiving water limitations* – modify text and revise to ensure permittees are not in violation.
10. *Wet weather catch basin cleanings* – retain existing maintenance schedules.
11. *Prioritization for the diversion of storm drains* – oppose the requirements and explore during the development of the upcoming TMDLs.
12. *Special event catch basin cleanings* – delete new requirement.

SUMMARY UPDATE ON POLICY ISSUES FROM FIRST PERMIT DRAFT

1. **Public Agency Activities** – Street Sweeping Requirement

First Draft Permit – The first draft of the proposed permit contained language that would have required all jurisdictions to conduct bi-weekly street sweeping. The existing permit requires a municipality to implement a street sweeping program at least monthly, and where feasible, more frequently in areas generating significant refuse. The current discretion given to municipalities allows the City of Los Angeles to provide street sweeping services more frequently in areas that generate more debris and less sweeping in areas where trash is less of a problem.

Second Draft Permit - The second draft of the permit has deleted the requirement for bi-weekly, citywide street sweeping. Instead, the draft permit identifies three designations for streets and/or street segments (priority A, B, and C) and their required street sweeping frequency. The following is staff's interpretation of the priority categories:

- Priority A streets - consistently generate the highest volume of trash and/or litter, shall be swept at least two times per month. Within the City's territory, Priority A streets and/or street segments are posted routes, which are swept on a weekly basis, and special targeted areas (located within Hollywood, Westwood, Downtown, and Venice), which are swept up to six times per week.
- Priority B streets - consistently generate moderate volumes of trash and/or litter, shall be cleaned at least once per month. Within the City's territory, Priority B streets and/or street segments are non-posted routes, which are swept on a monthly basis.

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- Priority C streets - consistently generate low volumes of trash and/or litter, shall be cleaned at least once per year. All streets in the City are scheduled to be swept at least monthly, so this category is not applicable.

Impact on City – According to the Bureau of Street Services, the City's street sweeping schedule is generally consistent with the program described in the second draft permit. A systematic examination of the City's street sweeping program has not been conducted, however, to verify this fact. Staff may need to sweep additional streets, which may require future additional resources.

Recommended City Position – No further comment is necessary.

2. Programs for industrial/commercial inspections

First Draft Permit – Three major changes relative to the current permit were included, two of which the City agreed to assume. These were:

1. Language to require the City to move from educational visits to site inspections. This will allow the City to thoroughly review industrial/commercial storm water impacts and begin enforcement actions on violators.
2. Additional categories of industrial and commercial businesses within the City, almost doubling the list from 13,000 to 23,000 businesses. City staff agreed with this and it was estimated that an additional two new inspectors would be necessary to fulfill the new NPDES requirements to inspect industrial/commercial sites under the City's jurisdiction, at a cost of $175,081 per year. Additional attorney costs for anticipated legal actions, which are difficult to estimate, may also be necessary.
3. Proposed permit would require the City to inspect all industrial/commercial sites that are now the responsibility of the Regional Board, in addition to the sites that are currently under the City's jurisdiction.

Second Draft Permit – The total number of industrial and commercial businesses to be inspected by the City, under both the City's jurisdiction and primarily the Regional Board's jurisdiction, was reduced to about 15,000 because the Principal Permittee was held responsible for doing all inspections of Restaurants and Retail Gasoline Outlets.

Impact on City - Two additional Industrial Waste Inspectors at an annual cost of $175,081 would be required to perform the additional inspections. Staff strongly opposes the requirements of the draft permit that pass responsibilities to the City when they clearly belong to and should remain with the Regional Board. The Regional Board issues General Industrial Activities Stormwater Permits to industrial and commercial businesses and receives fees from between $250 and $500.

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Recommended City Position – Continue to support the Regional Board's responsibility for inspections of industrial/commercial sites that are under their General Industrial Activities Stormwater Permit.

3. Standard Urban Storm Water Mitigation Plans (SUSMPs)

First Draft Permit – Include administrative projects in the SUSMP project categories. The City comments supported this proposed permit change, based on previous Council motion on SUSMP requirements.

Second Draft Permit – Permit language remains the same.

Impact on City - The inclusion of ministerial projects in the draft NPDES permit for SUSMP project categories is estimated to require four additional staff at a cost of $432,779. The Stormwater Pollution Abatement Fund (SPAF) anticipated some additional costs associated with the proposed NPDES permit and included $530,000 in the SPAF 2001-02 budget.

Recommended City Position – No further comment is necessary.

4. Implement Requirements for Peak Flow Control.

First Draft Permit – Requires all development that drains to soft-bottom channels, including the entire upper Los Angeles River region (the San Fernando Valley), to show that a post-development peak runoff discharge rate does not exceed the pre-development runoff discharge rate. City comments included a request for clarification of the new peak flow control requirements.

Second Draft Permit – Permit language remains the same. The Regional Board staff has stated that this requirement was included to ensure that new developments are not eroding soft bottom areas of the Los Angeles River, due to increased runoff from their developments during storms. In the monitoring element of the draft permit, however, there is a requirement for a peak discharge impact study. This study would require the County to participate in this study in order to study the erosion impacts caused by urbanization. It is unclear why the Regional Board has included the peak flow control requirement, prior to the completion of the study, an assessment of potential impacts and a review of recommendations.

It has been confirmed that permit language would severely restrict development in the San Fernando Valley (see Figure 1). Typical peak flow control measures are limited to detention or retention structures, due to the Watermaster's restriction against infiltration systems. According to the draft permit, a swimming pool-size detention/retention facility, at an estimated cost of $50,000, would be required for a one-acre development.

Recommended City Position – Oppose the permit language and support the development of consensus language to address the issue.

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5. Small Construction Site Requirements

First Draft Permit – Required that for construction sites of less than one acre, the proposed permit would require the implementation of structural and non-structural BMPs, as well as site inspections. In essence, this would have made every project subject to storm water conditions, which would be over 30,000 projects per year in the City of Los Angeles. The City requested that this language be deleted because small construction sites have negligible impact on storm water quality.

Second Draft Permit – The second draft rewrote the language for sites less than 1 acre and removed the requirement for site plan review and verification of BMP implementation by the City for small construction sites.

Impact on City – As currently written the focus on stormwater quality impacts is appropriately placed on larger construction projects.

Recommended City Position – No further comment is necessary.

6. Larger Construction Site Requirements.

First Draft Permit - For construction sites greater than one acre, the proposed permit would require the review and inspection of BMP implementation plans during construction and a Storm Water Pollution Prevention Plan (SWPPP) on site. The City requested that the Regional Board not delegate their obligations for site inspections to any jurisdiction without proper compensation.

Second Draft Permit – Language remains the same. Currently, the City is required to inspect construction sites of two acres and above for compliance with a SWPPP. Should violations be discovered on sites between two and five acres, the City conducts follow-up activities. If the construction project site is five acres or over, the City notifies the Regional Board for follow-up activities. The Regional Board is responsible for issuing State General Construction Permits and conducting follow-up activities for sites five acres and above. Beginning in 2003, however, federal regulations will require the Regional Board to issue General Construction Permits for sites one acre and above. The issuance of these permits will allow the Regional Board to collect fees for site inspection activities. As the proposed permit is currently written, however, cities will be required to inspect these sites, while the Regional Board collects the fees. It is more appropriate for the Regional Board to begin this activity in 2003 and fund their work through their permit fees.

Impact on the City – It is estimated that the cost to hire an additional two staff to review and inspect BMP implementation plans and SWPPPs would cost approximately $188,339. This would cost the ratepayers an increase of several cents on their Stormwater Pollution Abatement Charge.

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Recommended City Position – Continue to support that until March 2003, current permit requirements should be maintained, whereby permittees, such as the City of Los Angeles, are responsible only for SWPPPs for sites 2-5 acres and after March 2003, require that the Regional Board take responsibility for inspections of construction sites greater than one acre. If the Regional Board is willing to transfer the funding from permit fees to the City for the responsibility of inspection of construction sites greater than one acre, the City may want to reconsider this position.

7. Responsibilities of the Principal Permitee

First Draft Permit – Identified the Executive Advisory Council (EAC), in addition to Los Angeles County, the responsibility of coordinating permit activities and negotiate NPDES requirements with the Regional Board. The City's comments requested the addition of the City of Los Angeles, in addition to the EAC.

Second Draft Permit – Deletes mention of the EAC.

Impact on the City – Coordination of permit activities and NPDES negotiations formally remain with the County and the EAC is not elevated to a more formal role at the possible expense of the City of Los Angeles.

Recommended City Position – No further comment recommended.

8. Storm drain discharge exemption to wash residual blood from trauma scenes

First Draft Permit – Does not specifically exempt the washing down of residual blood and bodily fluid from trauma scenes. Los Angeles City Fire Department requested an exemption to the storm drain discharge prohibition requirements in the proposed NPDES permit to allow the practice of washing down residual blood from trauma scenes. Data from the Los Angeles County Department of Health Services indicates that the small amounts of human fluid will have no negative health and safety issues.

Second Draft Permit – No exemption language has been added.

Impact on the City – The requirement to clean small amounts of blood from trauma scenes could add to the cost of clean up, with no benefit to storm water quality. According the City Fire Department, conservative estimates project that the additional trauma scene clean-up costs to the City could be $1.8 million annually.

Recommended City Position – Continue to request exemption language.

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NEW POLICY ISSUES IDENTIFIED IN THE SECOND PERMIT DRAFT

1. Receiving Water Limitations

Proposed Permit – The permit has added a section that would state that all discharges from the City's stormwater system cannot "...cause or contribute to the violation of water quality standards or water quality objectives..." This requirement is not consistent with the State Water Resources Control Board's policy, set forth in Order 99-05, which states that permittees will not be in violation as long as they are complying with the requirements and timetable of the NPDES permit.

Current Practice - The City is committed to meeting water quality standards through the implementation of the NPDES permit. The NPDES permit is the mechanism to require the implementation of controls to prevent pollutants from being washed by stormwater runoff into local water bodies.

Impact on City – The City Attorney's preliminary reading of the second permit language indicate that the City in a non-compliance status from the day the permit is adopted and expose the City to potential enforcement actions. Irrespective of compliance with all of the permit requirements, the language can be interpreted that the City would be out of compliance because we would be discharging storm water into receiving waters. The only mechanism to meet this requirement is for the City to provide full treatment of stormwater. It is virtually impossible to project the cost of constructing additional treatment facilities to fully treat all storm water in the City.

Recommended City Position – Modify the text to be consistent with SWRCB Order 99-05. Further, it is recommended that the section of the permit be revised to state that permitees will not be in violation, as long as they have implemented the control measures and other actions to reduce pollutants in the discharges in accordance with the Stormwater Quality Management Plan and its revisions.

2. Storm Drain Operation and Management - Accelerated Maintenance Schedule for Wet Weather Catch Basin Cleaning

Proposed Permit - Stormwater runoff from urban streets is a contributing factor in the contamination of coastal waters and beaches. Pollutants, litter and debris on city streets enter the storm drain system and are channeled directly to the ocean. The cleaning of catch basins has been identified as a best management practice to reduce storm water pollution. The proposed permit contains language that would require all jurisdictions to establish priority rankings for all catch basins and conduct cleaning of those basins on an accelerated maintenance schedule during the wet season.

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Current Practice - The existing permit requires a municipality to clean all catch basins between May 1 and September 30 of each year. From October 1 through April 30 of each year, all municipalities are required to clean all catch basins, as necessary. The Bureau of Sanitation cleans the City's 35,000 storm drains at least once a year. For those that have a significant amount of trash when cleaned, at least one additional cleaning is conducted, with some storm drains receiving up to four cleanings per year.

Impact on City - It is critical to note that a trash total maximum daily load (TMDL) program is currently under development for the Los Angeles River and Ballona Creek. Compliance with the trash TMDL will require the City to develop a plan to reduce trash in the waterways by the implementation of an effective combination of structural devices and non-structural measures. Depending on which devices and measures are chosen, maintenance schedules will be an important part of their effectiveness. It is premature at this time to require an accelerated catch basin cleaning schedule as part of the proposed permit, before a comprehensive citywide approach to trash reduction is developed.

Staff estimates that a wet weather priority-based catch basin cleaning program will increase the City's staffing cost by an additional $2.8 million annually, from the implementation of the new permit to July 1, 2003. After July 1, 2003 and until the expiration of the permit, the City's staffing cost will increase by another $6.4 million annually. The cost for additional vacuum trucks and new maintenance yards needed to perform the catch basin cleaning is estimated to be $28.5 million. The total cost increase to the City during the five-year term of the Permit is estimated at $63.4 million. In addition, there are several other factors that must be considered such as: locating sites for two new maintenance facilities, constructing the two new maintenance facilities, tipping fees for the disposal of debris removed from the catch basins, the impact of debris disposal on the City's requirement to divert waste from landfills, the ability to comply with AQMD regulations that mandate the purchase of alternative-fuel fleet vehicles, and the ability of qualified equipment manufacturers to supply the necessary catch basin cleaning vehicles.

Recommended City Position – Retain current permit requirements for catch basin cleaning and conform the permit to the proposed trash TMDL.

3. Prioritization for the Diversion of Storm Drains

Proposed Permit – Each permittee is to prioritize storm drains having dry weather flows within their jurisdictions for potential diversion into the sanitary sewer system. Permittees are given a deadline of March 31, 2002 to develop a prioritized list of drains and locations of potential dry-weather diversion structures.

Current Practice – Presently there are no requirements for permittees to prioritize drains and construct dry-weather diversion structures. The City has voluntarily implemented its Low Flow Diversion program to prioritize 19 drains along the Santa Monica Bay shoreline. Of these drains, seven have, or will be, diverted to the Hyperion Treatment Plant for treatment by 2002.

The total cost of this program, including monitoring and assessment, design and construction, is approximately $4.2 million.

Impact on City –The prioritization of storm drains for dry weather diversion is not a permit issue. The City supports the use of Dry Weather Diversions as a method to prevent contaminated runoff from entering waterways, and is now diverting flows from beaches in Santa Monica Bay to protect public health. Therefore, we support this concept, but the requirement as written here needs to be clear in its intent. It would be more appropriate to address this issue through the upcoming TMDL programs. Furthermore, the draft permit language is unclear if this strategy is focusing on beneficial uses associated with safe swimming or aquatic resources. If only public health is the concern, then priority drains should be determined only along bathing beaches as is now being done through the Low Flow Diversion project. However, if water quality objectives are to be attained for environmental health, then the Los Angeles River, Baliona Creek and Dominguez Channel need to be included in the assessment. Thus, the prioritizing task becomes much more extensive and difficult. Such a project would probably require the entire five years of the permit to accomplish. For example, in the Los Angeles River, we would first determine which of the approximately 2,000 drains have dry weather flows, then develop a ranking scheme to prioritize drains based on flows, effluent characteristics including toxicity, and potential exceedance of water quality standards.

Recommended City Position – Oppose the requirement in the NPDES permit and explore this issue during the development of the upcoming TMDLs.

4. Storm Drain Operation and Management – Special Events

Proposed Permit – Requires that for any special event, the City shall include provisions that provide for the proper management of trash and litter generated from the event. Further, the permit requires, at a minimum, that the City to arrange for either temporary screens to be placed on catch basins or for catch basins in the event area to be cleaned out subsequent to the event and prior to any rain.

Current Practice – The current permit does not specifically address special events. The closest related requirement is under Street and Roads Maintenance, which requires good housekeeping practices to insure proper management of any wastes that are generated.

Presently, the City requires that the sponsors of special events remove any debris that results from the event through the "Street Closure Provisions and Application Procedures." The area is inspected after the event, and an invoice for payment is sent for any cleaning that is performed by the City. In the case of large events, the sponsor may be required to make a cash deposit to assure proper cleaning after the event.

Again, the impending trash TMDL for the Los Angeles River and Ballona Creek will address the necessity of additional measures for catch basin clean up. It is premature at this time

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to require an accelerated catch basin cleaning schedule as part of the proposed permit, before a comprehensive citywide approach to trash reduction is developed.

Impact on City – The additional cost for clean up after special events would likely be passed onto the event sponsor. Compliance with these enhanced measures would impose more burden on civic organizations and neighborhood block parties and require more rigorous inspection by City staff preparing the bills.

Recommended City Position – Delete new requirement in the permit and review the need for additional special event clean up during the trash TMDL implementation.

RECOMMENDATION:

That the Council:

1. Forward the attached policy comment matrix to the Regional Board, which details the City's recommended changes for the second draft 2001 NPDES Municipal Stormwater Permit, as follows:

2. Request deletion of the priority street sweeping schedule;

3. Support the Regional Board's responsibility for inspections of industrial/commercial sites that are under the General Industrial Activities Stormwater Permit;

4. Request deletion of the requirement for peak flow control until consensus language is developed;

5. Request that until March 2003, current permit requirements be maintained, whereby the City is responsible only for SWPPPs for sites 2-5 acres and after March 2003, require that the Regional Board take responsibility for inspections of construction sites greater than one acre;

6. Request an exemption for the washing down of blood at trauma scenes;

7. Modify receiving water limitations text to be consistent with the SWRCB Order 99-05 and state that Permittees will not be in violation, as long as they have implemented the control measures and other actions to reduce pollutants in the discharges in accordance with the Stormwater Quality management Plan and its revisions;

8. Retain existing maintenance schedules for wet weather catch basin cleaning;

9. Oppose the prioritization of storm drains for diversion and explore this issue during the development of the upcoming TMDLs;

10. Delete requirement for temporary catch basin screens and catch basin cleanings after special events.

FISCAL IMPACT STATEMENT:

The total cost of the proposed second draft NPDES permit would cost the City just over $67 million over the life of the permit (see Table 2). This would result in an increase of $13 per year on the average residential Stormwater Pollution Abatement Charge. The staff recommendations for the proposed 2001 NPDES Municipal Stormwater Permit will cost a total of $432,779 for the expanded SUSMP implementation requirements (see Table 3). Any increase in attorney costs have not been calculated at this time, however, it is not expected to be significant the first year of the permit and may be revisited in future years if costs escalate substantially.

The 2001-02 Stormwater Pollution Abatement Fund included $530,000 for expected new NPDES permit requirements. The estimated staff costs of $432,779 will leave a surplus of approximately $97,000 in the SPAF. All of the staff will not be necessary the first year of the NPDES permit implementation. In future years, however, the SPAF was budgeted to absorb an increase of $200,000, which will leave the SPAF short by $233,000 annually for permit implementation activities.

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TABLE 1

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General Comment		The City strongly opposes the requirements of the draft Permit that pass responsibilities of the State to the Permittees for the inspection of industrial/commercial sites and construction sites. These responsibilities clearly belong to and should remain with the State and the Regional Water Quality Control Board. Specifically for: Industrial/Commercial Sites: Inspections would include Phase I facilities that operate under NPDES permits issued by the Regional Board. Shifting responsibilities for inspections will put the Permittees in the position of acting as agents of the State, create significant financial burdens for the Permittees, and expose the facilities to being regulated at both the State and local levels. This will create situations where inconsistencies in the interpretation and application of regulations can double the potential liability of a given facility. Construction Sites: a) Between 1 and 5 acres – Federal regulations (Phase II) for sites 1 acre and greater will be in effect beginning March 2003. Therefore, increases in regulations for sites 1 – 5 acres should be deferred until that time, when the State will modify its General Construction Permit to include these sites and take on the responsibilities to inspect them. Until March 2003, current Permit requirements should be maintained, whereby Permittees are responsible only for Local SWPPPs for sites 2-5 acres. b) Five or more acres – Regulating these sites belongs with the State under the Statewide General Construction program.	
General comment		Due to the uncertainty of the actual Permit adoption date, it is recommended that all date-specific deadlines be revised in terms of the equivalent number of days from the date of the adoption of the Permit. For example, the 2nd draft Permit on Page 22, Part 3.h.3a states as follows: "Each Permittee shall submit no later than July 31, 2002, a statement by the legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications." Therefore, this requirement would be modified as follows: "Each Permittee shall submit, no later than ~~July 31, 2002~~ **270 days after the effective date of the Order**, a statement by the legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications."	
02	B.4 Finding	"The causes of impairments include pollutants of concern identified by..."	Recommend modifying as follows: "The causes of impairments include **adverse impacts from** pollutants of concern identified by..."
02	B.6 Finding	"First natural vegetated pervious ground cover..."	Add comma after First. "First, natural vegetated pervious ground cover..."
03	B.6 Finding	"Second, urban development creates new pollution sources as the density of human population brings with it proportionately higher levels of vehicle emissions..."	Recommend modifying as follows: "Second, urban development creates new pollution sources as the increased density of human population brings ~~with~~ it proportionately higher levels of ..."
03	B.6 Finding	"These environmentally sensitive areas include Areas of Special Biological Significance, water bodies designated with a RARE beneficial use, Significant Natural Areas, and Significant Ecological Areas."	None of the following are defined: Areas of Special Biological Significance, RARE, Significant Natural Areas, Significant Ecological Areas. If used in the permit, these terms should be defined. Otherwise, this passage should instead reference "environmentally sensitive areas" that are defined in the permit.
03	B.7 Finding	"The increased volume, increased velocity, and..."	Recommend adding to the end of this sentence: "**In water bodies susceptible to these effects**".
03	B.7 Finding	"Significant declines in the biological integrity and physical habitat of streams and other receiving	Recommend rewording this text as follows because 10% may not be the standard: "Studies have demonstrated that increasing impervious cover can lead to declines in habitat

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		waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces."	quality and associated biodiversity.",
03	B.8 Finding	"The County of Los Angeles has identified as the five highest priority potential priority industrial and commercial critical source types, (I) wholesale trade..."	Recommend modifying as follows: "The County of Los Angeles has identified as the five highest priority potential priority industrial and commercial critical source types, (I) (I) wholesale trade..."
06	D.3 Finding	"About 34 Square miles...into Malibu Creek and thence..."	From each of the offset sentences, remove the word "thence" and replace with "then".
07	E.2 and E.3 Finding	Discussion of EPA Policies	These Findings reference EPA policies related to municipal stormwater permits. The Regional Board should not impose any requirements based solely upon these EPA policies as these policies were not formally adopted as binding regulations required to be implemented by States, and may constitute illegal underground rules. *See Appalachian Power Co. v. EPA*, 208 F.3d 1015 (D.C.Cir. 2000).
08	E.8. Finding	"A TMDL specifies the maximum amount of a pollutant that a water-body can receive and still protect beneficial uses."	Recommend modifying as follows: "A TMDL specifies the maximum amount of a pollutant that a water-body can receive and still ~~protect beneficial uses~~ **implement applicable water quality standards. 33 U.S.C. §1313(d)(1)(C).**"
09	E.11 Finding	Ocean Plan prohibition	This Finding and its reference to the Ocean Plan should be deleted, as this Plan does not apply to the discharges covered by to this permit.
10	E.18 Finding	"Authorizing the construction of a storm water/urban runoff treatment facility in a jurisdictional water body would tantamount to..."	Change to "...In a jurisdictional water body would be tantamount..."
11	E.21 Finding	"These industrial and construction sites and discharges are also regulated under local laws and regulations."	The responsibilities for State General Industrial and General Construction Permits should remain with the State (please reference General Comment above). Recommend modifying as follows: "These industrial and construction sites and discharges ~~are also~~ can also be regulated under local laws and regulations."
12	E.25. Finding	Requirements of Water Code §13263(a)	The City appreciates that the Regional Board has recognized its statutory requirements. However, the City was unable to find any evidence that the Regional Board had complied with each of the statutory requirements contained in §13263(a). Recommend the Regional Board provide evidence in the Permit or Fact Sheet that the required tasks were performed in accordance with law.
13	F.2 Finding	"A ministerial project.... decision making discretion. In the alternative....	A ministerial project cannot be made discretionary by adopting local ordinance. Any modifications and/or additions to CEQA must be done at the State level. Recommend deleting this sentence. Also replace the words at the beginning of the following sentence from "In the alternative" to "However".
13	F.3. Finding	"This decision is controlling in California for nonagricultural applications of pesticides to waterways."	Recommend the following modification: "...This decision is currently controlling in California for nonagricultural applications of aquatic pesticides to ~~waterways~~ **waters of the United States. The State Water Resources Control Board has adopted a general permit (WQ Order No. 2001-XX) to regulate the application of**

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			aquatic pesticides for resource or pest management. This general permit will be rescinded or revised if the law as stated in the *Talent* decision changes."
14	F.7 Finding	PIPP paragraph	The Regional Board should expressly acknowledge the following in a final sentence: "However, the Regional Board recognizes that it may be impossible to fully control the behavior of each of the 9.5 million individuals living in the area covered under this permit."
15	G.6. Finding	CEQA Compliance	The Regional Board has failed to comply with the requirements of 23 C.C.R. §3733. This regulation requires that the Regional Board comply with the policy provisions contained in Chapter 1 of CEQA that require the determination of alternatives and mitigation measures to the proposed permitting action.
15	Part 1.1	"Each Permittee shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges are: 1. covered by a separate individual or general NPDES permit for . . ."	Recommend modifying as follows: " ...covered by a separate individual or general NPDES permit, or granted an exemption by the Regional Board, the Executive Officer, or the State Water Resources Control Board, for..." This modification would maintain the intent of the current Permit and include sources previously granted an exemption from the Regional Board or State Water Resources Control Board.
15	Part 1.2	".... and meet all the conditions specified by the Regional Board Executive Officer..."	We recommend reinstating Part 2, Section II.C.4 (p. 33-34) of Order 96-054, which describes the procedures to obtain additional categories of exemptions.
16	Part 1.2 Last paragraph	"The Regional Board Executive Officer may add or remove categories of non-stormwater discharges above. Furthermore, in the event that any of the above categories of non-stormwater discharges are determined . . . in consideration of anti-degradation policies."	Recommended modifying as follows: " ...In the event that any of the above categories of non-stormwater discharges are determined to be a significant source of pollutants and cause an adverse significant impact . . . the discharge will no longer be exempt . . ."
16	Part 1.2.c	Add new reference items.	9) Washing of fire/emergency vehicles; and 10) Potable water sources with appropriate BMPs applied.
16	Part 1.2.c.1 & 2	Discharge Prohibitions: "Reclaimed and potable landscape irrigation runoff;" "Water line flushing of potable water distribution systems;"	Recommend modifying as follows: "Reclaimed and potable landscape irrigation runoff;" "Water line flushing ~~of potable water distribution systems~~;" Line flushing within the system is necessary to protect the health and safety of the public. In some cases, when flushing occurs within the distribution system, chlorination is increased and then the water is dechlorinated. However, during the flush, the water may not be to potable water standards.
16	Part 1.2.c.6	"Dewatering of lakes and decorative fountains;"	Recommend modifying as follows: "Dewatering of lakes, reservoirs, potable water tanks, and decorative fountains with appropriate BMPs applied;"
16	Part 2	"Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited."	An intro sentence needs to be added that says before paragraph 1, "Except in accordance with this Order:"
16	Part 2.1 & 2.2	"1. Discharges from the MS4 that cause or	The Order includes the "cause or contribute to" language taken from 40 CFR §122.44(d), which

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		contribute to the violation of water quality standards or water quality objectives are prohibited." "2. Discharges from the MS4 of storm water, or non-stormwater, for which a Permittee is responsible shall not cause or contribute to a condition of nuisance."	is arguably not applicable to stormwater discharges as stormwater is regulated under §122.44(k), which allows BMPs where effluent limitations are not feasible. The language should at least be changed to read: "1. Discharges from the MS4 that are demonstrated to cause or contribute to the violation of applicable water quality standards or water quality objectives are prohibited." "2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause ~~or contribute to a~~ condition of nuisance."
16	Part 2.3	"The Permittee shall comply with Part 2.1. and 2.2. through timely implementation of control measures..."	Recommend the following modification to make this language correspond to the language proposed in the recently adopted Aquatic Pesticide General Permit (scheduled for adoption on July 19th): "A ~~The Permittee shall comply with~~ will not be in violation of Receiving Water Limitation Part 2.1 and 2.2 ~~through the timely implementation of~~ as long as the Permittee has timely implemented the control measures..."
17	Part 2.3.a	" a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance...The Regional Board may require modifications to the Report."	Remove the "or contributing to" language.
18	Part 3.C	"The Permittees shall modify the SQMP, at the direction of the Regional Board Executive Officer, to incorporate additional provisions. Such provisions may include regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Daily Maximum Loads (TMDLs) for impaired water bodies."	Include discussion of the process for that modification and the timeline for compliance, which must include a public review.
18	Part 3.C	"The Permittees shall modify the SQMP...for the designation and implementation of Total Daily Maximum Loads (TMDLs)..."	Recommend modifying as follows: "The Permittees shall modify the SQMP...for the designation and implementation of Total Maximum Daily Loads (TMDLs)..."
18	Part 3.D	Designation and Responsibilities of the Principal Permittee	After item D.1 renumber the items that follow.
21	Part 3.H.1	Add a new reference item after j).	"Control spills to the maximum extent practicable."
21	Part 3.H.1.b-h	Prohibit the discharge of "untreated" runoff.	Modify by adding the word "untreated" for each paragraph as follows: "b) Prohibit the discharge of untreated wash waters to the MS4 from the cleaning of gas stations...or other automotive facilities." "c) Prohibit the discharge of untreated runoff to the MS4 from mobile auto washing, steam cleaning..." "e) Prohibit the discharge of untreated runoff to the MS4 from storage areas of materials containing grease, oil... and uncovered receptacles containing hazardous materials unless such containers are now and unopened;" "g) Prohibit the discharge of untreated runoff from the washing of toxic materials from paved or

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			unpaved areas to the MS4..." "h) Prohibit washing impervious surfaces in industrial/commercial areas that result in a discharge of untreated runoff to..." In the existing permit, paragraphs b & g prohibit the discharge of "untreated" runoff.
21	Part 3.H.1.j	"Prohibit spills, dumping, or disposal of materials into the MS4, other than storm water, such as..."	Recommend modifying as follows: "Prohibit ~~spills,~~ dumping, or disposal of materials into the MS4, . . ." Spills are not deliberate, intentional acts whereas dumping and disposal are.
21	Part 3.H.1.j.4	"Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials..."	Recommend modifying as follows: "Fuel and chemical wastes, animal wastes, garbage, and batteries~~, and other materials~~ that have potential adverse . . . " "other materials" is overly broad, too open-ended, and redundant with the phrase "such as" that prefaces this subsection.
21-22	Part 3.H.1.k-p	Paragraphs (k) through (p) are not related to (a) through (j) in that they do not reflect a category of prohibitions or controls.	Recommend adding another appropriate topic heading for items (k) through (p) and renumbering as appropriate.
21-22	Part 3.H.1.m & n	"m) Control the contribution, or potential contribution..." "n) Carry out all inspection, surveillance..."	These paragraphs overlap the responsibilities of the State-wide General Storm Water Permits associated with Industrial Activities and Construction Activities. Recommend modifying as follows: "m) ...discharges of storm water runoff associated with industrial activities (including construction activities) not already covered by the State General Industrial Activities Storm Water Permit or the State General Construction Activities Storm Water Permit to its MS4... " "n) ...and require regular reports from industrial facilities, not already covered by the State General Industrial Activities Storm Water Permit, discharging..."
23	Part 4.A.2	"The fiscal burden of the original BMP or program is substantially greater than the proposed alternative..."	Remove the word "substantially" from this paragraph, as there is no definition of this term and no reason why the substituted BMP could not be equal in cost and effectiveness.
23	Part 4.B	"The Principal Permittee shall implement a PIPP that incorporates the components of the five-year education plan and the provisions of this .. section."	Recommend modifying as follows: "The Principal Permittee shall implement a PIPP that incorporates the components of the second Five-Year Education Plan and the provisions of this section."
23	Part 4.B	"The Principal Permittee shall implement a PIPP that incorporates the components of the five-year education plan and the provisions of this section."	Recommend modifying as follows: "The Principal Permittee shall implement a PIPP that incorporates the components of the five-year education plan, as detailed in the SQMP, and the provisions of this section."
24	Part 4.B.1.d.5	"The Principal Permittee in cooperation with the Permittees shall provide all School Districts within its jurisdiction with materials, including videos, live presentations, brochures, and other	Recommend modifying as follows: "The Principal Permittee in cooperation and coordination with the other Permittees shall provide all School Districts within its their jurisdiction with materials, including ~~videos,~~ live presentations with visual media, brochures, and other media necessary to educate a minimum of 50 percent of

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		media necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution."	all school children (Grades K-12) every 2 years on storm water pollution."
24	Part 4.B.1.d.5	"The Principal Permittee in cooperation with the Permittees shall provide all School Districts within its jurisdiction with materials, including videos, live presentations, brochures, ... "	Recommend modifying as follows: "The Principal Permittee in cooperation with the Permittees shall provide all School Districts within its jurisdiction with services and materials, such as live presentations, videos, ... "
25	Part 4.B.1.e	Permittees shall coordinate to develop.... pollutants listed in Table 1on or before...."	Add space between "Table 1" and "on".
25	Part 4.B.1.e	"Metals may be appropriately addressed through the businesses program."	Recommend modifying as follows: "Metals may be appropriately addressed through the businesses program of the PIPP."
25	Part 4.B.2.a.1 & 2	Corporate Outreach	The phrase "corporate heads" is too limiting, especially for large corporations whose officers are located out of the areas. Therefore, change "corporate heads" to "corporate or management company."
26	Part 4.B.2.b1	"The Principal Permittee and Permittees with the available resources, including but not limited to the City of Los Angeles, may implement a Business Assistance Program to provide confidential, technical resource assistance..."	Recommend modifying as follows: "The Principal Permittee and Permittees with ~~the available resources, including but not limited to the City of Los Angeles~~, may implement a Business Assistance Program to provide confidential, technical and resource assistance..."
26	Part 4.C.2	"Retail Gasoline Outlets"	To clarify, add SIC code to section's title as follows: "Retail Gasoline Outlets (SIC 5541)"
26	Part 4.C.3	"Automotive Service Facilities"	We recommend defining "Automotive Service Facilities" as SIC codes 75XX, and 5014.
26	Part 4.C.3.a	"Frequency...inspected once every 24 months."	In accordance with the General Comment on page1. The following inspection schedule is recommended: 1. Automotive Facilities – twice during the permit cycle.
27	Part 4.C.4.a	"Each permittee shall annually update a watershed-based..."	The requirement calls for including retail Gasoline Outlets and Restaurants in the database. Only the Principal Permittee will be conducting inspections at these facilities. To prevent duplication of effort, the permittees should not be required to include these two SIC groups in their databases. Recommend amending passage as follows: "...inventory of all USEPA Phase I facilities, ~~retail gasoline outlets~~, and Automotive Service Facilities and ~~Restaurants~~ within its jurisdiction..."
27	Part 4.C.4.b	"...Based on the inventory...each Permittee shall visit facilities that appear to be subject to the requirements of USEPA Phase I"	In accordance with the General Comment on page 1, we recommend that Item 4b be modified by the addition of the following: "other than those facilities that have a State General Industrial Activities Storm Water Permit."
28	Part 4.C.4.d	"For Industrial and specified commercial sites, tributary to Clean Water Act..."	Please reference General Comment, located at the top of Page 1. Recommend modifying first half of Part 4.B.4.b as follows: ". . . for Industrial and specified Commercial sites, other than those facilities that have a State General Industrial Activities Storm Water Permit, tributary to Clean Water Act . . . "
28	Part 4.C.4.d	"In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other equivalent BMPs. Furthermore, Permittees may require additional..."	We support doing the extended site-visit program over that now specified in the existing permit. However, we do not have the authority to require BMPs. If we discover potential runoff problems at a site, then we should advise the facility's management on BMPs to install and refer the matter to the RWQCB for follow-up actions. Recommend to rewrite as follows: In the event that particular minimum BMPs are infeasible at any site, Permittees shall require advise

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			implementation of other equivalent BMPs, and forward the information to the RWQCB for their follow-up actions." (Delete remainder of section's paragraph.)
28	Part 4.C.5	"Interagency Coordination"	As written, this passage requires us to provide unlimited assistance to the RWQCB. Lack of limits potentially could use up our resources to the detriment of meeting our own permit requirements. Recommend rewriting the passage as follows: ~~In response to any complaint related to storm water or non-storm water discharges or a specific request by the regional Board, a Permittee shall visit any facility, to determine if the facility~~ **The Regional Board may seek the assistance of a Permittee to conduct inspections at a facility to determine if it is effectively** complying with the SQMP and municipal storm water ordinances. ~~In addition, Permittees~~ **To the Maximum Extent Practicable, the Permittee** shall provide compliance assistance to the..."
29	Part 4.D.1	Programs for Development Planning	Define planning priority projects. Definition must be consistent with the Development Planning Model Program.
29	Part 4.D.1.e	"Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site."	To avoid duplicative terms, recommend modifying as follows: "Provide for appropriate permanent measures to reduce ~~storm water~~ pollutant loads in storm water from the development site."
29	Part 4.D.2	Peak Flow Control	This item requires that all projects, regardless of size or type, must show that the post-development peak discharge rate does not exceed the pre-development rate. This will cause undue hardship for developments, particularly in the Upper Los Angeles River Area, which represents 51% of the entire City. Typical peak flow control measures include detention, retention, or infiltration systems. However, due to concerns expressed by the Upper Los Angeles River Area (ULARA) Watermaster of potential ground water contamination from storm water infiltration (in the San Fernando Valley), infiltration systems cannot be considered. The result can be a limit on or stopping new developments in the Upper LA River Area (See Figure 1). We are also unclear as to the magnitude of the peak flow to be controlled. For estimating purposes, we calculated the amount of runoff generated by 0.75 inch of rainfall on a 1-acre apartment building development. It was assumed that the site was 100% pervious prior to development and 90% impervious after development. Calculations show that the amount of runoff would increase by approximately 16,700 gallons. To address this additional flow, we looked at two options of detention basins, (i.e., above and below ground) and developed respective construction costs: In the first example, limited open space is not an issue and the developer elects to install an aboveground detention basin. To detain this runoff requires a detention basin approximately 40 ft long by 25 ft wide by 3 ft deep, which is estimated to cost $23,000 to construct. Pumps are not required for this basin because it is shallow enough to allow flow to drain by gravity to the storm drain. Add to the construction cost another $50,000 for the appraised value of the land occupied by the detention basin for a total cost of $73,000. In the second example, open space is limited and the developer chooses to install an underground detention basin. The dimensions chosen for this example are 25 ft long by 15 ft wide by 9 ft deep. Because the outlet of the underground basin is below the storm drain, a pump is required to bring flow up to the storm drain elevation. Construction of this underground

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			basin is estimated to cost approximately $50,000. These two examples were done for a 1-acre site. The capture system for bigger sites would be several times larger, with a larger price. Therefore, this requirement of a capture system will put severe constraints on new developments and place an onerous burden on developers, which can potentially reduce the number of development projects in the City. Recommend the Peak Flow Control requirements be deleted until consensus language is developed
30	Part 4.D.2.f	"Named and unnamed coastal drainages."	Delete f) because it's unlimited
30	Part 4.D.3.	Section Heading	For clarity, recommend the following modification: "3. Standard Urban Storm Water Mitigation Plans (SUSMPs)"
30	Part 4.D.3.a.4	"Divert roof runoff to vegetated areas before discharge" "Direct surface flow..."	This violates section 91.7013.9 of the building code, which requires all roof water be delivered through a non-erosive via gravity to a street or watercourse if the slope of the underlying natural ground exceeds 3%. Under Finding #7 (page 4 of the draft permit) the major concern with urban developments in hillside areas is the potential for increase volume and velocity of storm water runoff that will greatly accelerates downstream erosion and impairs stream habitat. This will be true in rural areas where there are no concrete curbs, gutters, or storm drains. Under section 91.7013.9 there will not be any downstream erosion and impairs stream habitat because all the roof drainage will be carried to the City's storm drain system via non-erosive devices. Therefore, it is recommended that item (4), "Divert roof runoff to vegetated areas before discharge" be deleted.
30	Part 4.D.3.b.2	"A 100,000 or more square feet industrial/commercial development."	The 100,000 square feet needs to be clarified? Does the 100,000 refer to building area, lot area etc.? Recommend modifying as follows: "An industrial/commercial development with 100,000 or more square feet of disturbed area."
30	Part 4.D.3.c.3	"discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat"	This requirement is beyond the scope of water quality, which is the original intention of this permit. Recommend deleting item 4.D.3.c.3 in its entirety.
31	Part 4.D.4.b.2	"....for Los Angeles County"	Recommended change: "...for Los Angeles County, or"
31	Part 4.D.5	"The Permittees shall require the following categories of planning priority projects to design and implement post-construction treatment and structural controls to mitigate storm water pollution:"	Recommend modifying as follows: "The Permittees shall require the following categories of planning priority projects to design and implement post-construction treatment ~~and structural~~ controls BMPs to mitigate storm water pollution:"
31	Part 4.D.5.a & b	" ...of one acre or more."	The "one acre" needs to be clarified? Does the one acre refer to building area, lot area etc.? Recommend to be revised to "of one acre or more of disturbed area."

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31	Part 4.D.5.b	"Housing developments (include single family homes, multifamily homes, condominiums, and apartments) one acre or more."	The City of LA has already conducted a training program for staff from City Planning Department and of Building & Safety on the requirements of the SUSMP that was adopted by the Regional Board in March 2000. Changing from 10 or more units to 1 acre is not consistent with those requirements. No justification for the change was provided by the Regional Board in the Staff Report. Recommend modifying as follows: "Ten or more units housing development (including single family homes, multifamily homes, condominiums, and apartments) ~~of one acre or more~~."
32	Part 4.D.5.e & f	"...5,000 square feet or more..."	The 5,000 square feet needs to be clarified? Does the 5,000 refer to building area, lot area etc.? Recommend to be revised to "5,000 square feet or more of disturbed area."
32	Part 4.D.6	" ...to projects one acre and greater to conform..."	Recommend to be revised to "...to projects one acre and greater of disturbed area to conform..."
32	Part 4.D.7	"Site Specific Mitigation"	These added categories have gone beyond the scope of Phase II. In addition, many of these categories are being dealt with in other regulations. The federal regulation for stormwater is to control pollutants via application of BMPs to the MEP. If the discharge is a significant pollutant source that creates an adverse impact to the environment, an individual NPDES permit is required and it is no longer regulated by the Municipal permit. The City recommends that these categories be removed and allow the other regulations already set such as the Federal Phase I and Phase II programs to regulate these sites.
32	Part 4.D.8	"Redevelopment Projects" "Significant redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site."	Delete the term "replacement" because replacement should not trigger SUSMP requirements. It is not consistent with the text in the SUSMP Board Order and will significantly increase redevelopment costs, and impede redevelopment. Economic impacts should be evaluated and taken into account.
33	Part 4.D.10	"A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development."	The first sentence as written is confusing. Suggest the following modification: "A Permittee or ~~Permittee~~ group of Permittees may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to wholly or in part substitute for in ~~part or wholly~~ SUSMP requirements for new development."
33	Part 4.D.9.a	"The developers signed statement accepting responsibility for..."	Add an apostrophe in "developer's" or "developers' "
33-34	Part 4.D.11	Mitigation Funding	Please explain what this entire section means. Are subsections a through c identified as potential funding sources? Define items a through c. In item (a), define conditions of impracticability. (Same as existing permit?) Granting of waivers, including waivers of impracticability, shall be the responsibility of the Regional Board. Item (b) needs clarification. "Legislative funds become available"...to who?

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35	Part 4.D.15.a	"Each Permittee shall develop and make available to developer development planning guidelines immediately."	This sentence as written is confusing. Recommend modifying as follows: "Each Permittee shall ~~develop~~ and immediately begin generating development planning guidelines that are to be made available to developers upon completion and ~~make available to developer development planning guidelines immediately~~.
35	Part 4.E	Development Construction Program	Add Exempt Projects in the categories of construction: Permittees may exempt certain types of Development Construction Projects from the program that pose a minimum risk of storm water pollution. These projects are exempt from any storm water construction control measures including the minimum BMP requirements. A specific listing of exempt projects is included in this section. Additional exemptions may be determined by the Permittee and shall be provided to the Regional Board with a justification for their designation (for purposes of notification). A list of specific types of Development Construction Projects that are deemed to be exempt include: • Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; • Emergency construction activities required to immediately protect public health and safety; • Interior remodeling with no outside exposure of construction materials or construction waste to storm water; • Mechanical permit work; • Electrical permit work; • Sign permit work. Other types of Development Construction projects may be designated as exempt if all three of the following criteria are met: • No significant soil disturbing activity; • No outside storage or exposure to storm water of construction materials or construction wastes (unless adequate controls are provided); and • The activity poses a minimal risk of storm water pollution.
35	Part 4.E	"Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction."	Recommend modifying as follows: "Each Permittee shall implement a program to control runoff from construction activity at all construction sites, unless specifically exempted, within its jurisdiction."
35	Part 4.E	"Each Permittee shall implement a program ... "	This paragraph should be labeled "1", and other subsections under Part 4.E. should relabeled accordingly.
35	Part 4.E.a	"Sediments generated on the project site shall be retained using adequate structural drainage controls;"	Recommend modifying as follows: "Sediments generated on the project site shall be retained ~~using adequate structural drainage controls~~ onsite to the maximum extent practicable;"
35	Part 4.E.b	"No construction-related materials, wastes, spills, or residues shall be discharged from the project site to streets..."	Recommend modifying as follows: "No cConstruction-related materials, wastes, spills, or and residues shall be ~~discharged from the project site to streets, drainage facilities, receiving waters or adjacent properties by wind or runoff~~ kept onsite to the maximum extent practicable;"
35	Part 4.E.c	"Non-storm water runoff from equipment and vehicle washing and any other activity shall be..."	Recommend modifying as follows: "Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at ~~the project site~~ and treated before discharge

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			and/or contained and hauled off site to an approved disposal facility; and"
35-38	Part 4.E	Development Construction Program	Modify the text in this section in accordance with the General Comment on page 1. The General Construction Activities Storm Water Permit (GCASP) and the General Industrial Activities Storm Water Permit (GIASP) should be referenced in this Municipal permit, not restated or modified by this municipal permit. These activities are already regulated under the respective permits and should not be additionally regulated under the Municipal NPDES Permit.
36	Part 4.E.1	"In addition, for construction sites one acre and greater, each Permittee shall require compliance with all conditions in section E. above and;"	Recommend modifying as follows: "In addition, for construction sites one acre and greater, ~~each Permittee shall require compliance with all conditions in section E. above and;~~"
36	Part 4.E.1	"The landowner shall sign a statement to the effect:"	Recommend modifying as follows: "The landowner or agent of the landowner shall sign a statement to the effect"
36	Part 4.E.d & e	Duplicative Requirements regarding grading	Recommend deleting "...limiting grading during wet season..." out of d) and deleting e).
36	Part 4.E.d & e	Development Construction Program	As long as BMPs will be employed, there is no good reason to discourage or limit grading during the rainy season. Delete in item d) the words "limiting of grading scheduled during the wet season" Also delete paragraph e) in its entirety.
37	Part 4.E.2	"In addition, for sites five acres and greater..."	Recommend modifying as follows: "In addition, for construction sites with five acres and greater of disturbed soil..."
38	Part 4.E.3	"Each Permittee shall train employees in targeted positions...no later than March 31, 2002..."	It has been previously requested that sufficient time should be allowed for the accomplishment of the training requirements following the revised Construction Development Program in the SQMP. However, the time allotted has been shortened (157 days from proposed date of adoption is Oct. 25, 2001 to March 31, 2002). Recommend revising to read as follows: "Each Permittee shall train employees in targeted positions... ~~no later than March 31, 2002~~ within one (1) year from adoption of the Order, and...."
38	Part 4.F.1	"Public Agency requirements consist of:"	Recommend modifying as follows: Public Construction Activities Management Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management to be consistent with the succeeding sections.
39	Part 4.F.3.	CMOM	This section improperly seeks to incorporate by reference the CMOM regulations that have not yet been adopted. Such prospective incorporation by reference is not allowable under the Administrative Procedures Act and has been rejected as contrary to law by the California Office of Administrative Law (OAL) in the rulemaking action for the SIP (OAL File No. 00-0317-15). Recommend the following modifications to correct this requirement: "...(until such time that the proposed Capacity, Management, Operation and Maintenance (CMOM) Rregulations ~~(CMOM)~~ are promulgated by the USEPA. After which, the CMOM regulations are promulgated, the Regional Board may reopen this Permit to incorporate those requirements ~~shall be enforceable under this Order until such time they are added into an individual permit~~):"
39	Part 4.F.4.a	"Each Permittee shall...from construction activity at all construction sites."	Change sentence to read: Each Permittee shall...from construction activity activities at all public construction sites.

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40	Part 4.F.4.b.4 & 5	"Implement a program to ensure that SWPPPs and BMPs implemented are effective" And "Inspect public construction sites and implement changes as necessary to maintain or replace ineffective BMPs in order to protect water quality."	Items 4 and 5 address City staff ensuring effectiveness of BMPs. It has always been the City's position that staff is not responsible for ensuring BMPs are effective. Staff may be responsible for ensuring BMPs are in place and operational, but should not be liable for "effectiveness." "Implement a program to ensure that SWPPPs and BMPs implemented are **effective operational.**" Inspect public construction sites and ~~implement changes as necessary to maintain or~~ **replace require that ineffective inoperational** BMPs be remedied or replaced as necessary in order to protect water quality." In addition, the requirement that "ineffective" BMPs be "maintained" does not read clearly. The above suggestion is clearer.
40	Part 4.F.4.b.6	"Each Permittee shall obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction ... "	Correct as follows: "Each Permittee shall obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit **coverage** for public construction ... "
40	Part 4.F.5.b	Vehicle Maintenance/Material Storage... "Each Permittee shall implement BMPs to minimize pollutant discharges in storm water..."	Recommend modifying as follows: "Each Permittee shall implement BMPs to minimize pollutant discharges to the **maximum extent practicable** in storm water . . ."
40	Part 4.F.5.c	"Each Permittee shall require that all vehicle/equipment wash areas..."	Recommend modifying as follows: "...for new facilities or during redevelopment of existing sites wash areas."
41	Part 4.F.6.h	"Regularly inspect storage areas."	Revise to read: "~~Regularly~~ annually inspect storage areas."
41	Part 4.F.7.a	"...designate catch basin inlets within its jurisdiction as one of the following: Priority A --... Priority B --... Priority C --... "	The proposed designation of catch basins as any type of priority is premature in consideration of the upcoming trash TMDLs and before a comprehensive citywide approach to trash reduction is developed. Recommend that this section be deleted and replaced with the current Permit requirements for catch basin cleaning.
41	Part 4.F.7.b	"Clean catch basins according to the following schedule: Priority A . . . . Priority B . . . Priority C . . . "	The impending trash TMDLs will address the necessity of increased frequencies for catch basin cleaning. It is premature at this time to require an accelerated catch basin cleaning schedule as part of the proposed Permit, before a comprehensive citywide approach to trash reduction is developed. Recommend that this section be deleted and replaced with the current Permit requirements for catch basin cleaning.
42	Part 4.F.7.c	"For any special event that can be reasonably expected to generate quantities of trash and litter, the Permittee shall, as a condition of the special use permit issued for that event, include provisions that provide for the proper management of trash and litter generated from the event. At a minimum, the Permittee shall arrange for either temporary screens to be placed on catch basins or for catch basins in that	The impending trash TMDL for the Los Angeles River and Ballona Creek will address the necessity of additional measures for catch basin clean up. It is premature at this time to require an accelerated catch basin cleaning schedule as part of the proposed permit, before a comprehensive citywide approach to trash reduction is developed. Recommend that this selection be deleted.

R0005536

Page #	Text Reference	Passage	Comment & Recommendation
		area to be cleaned out subsequent to the event and prior to any rain."	
42-43	Part 4.F.7.e.2 and 4.F.7.f.5	Data requirements	It is unclear why each of the permittees should be required to utilize the same units of measurement. It should suffice for each Permittee to select and utilize a consistent unit of measurement. As such, recommend modification as follows: "...The Permittees may select the unit, ~~but~~ so long as each Permittees ~~shall use consistently~~ uses the same unit of measure.];"
42-44	Part 4.F.7.d and 4.F.8.f	Reference to TMDLs	All references to the TMDL for trash should be removed until the TMDL and associated wasteload allocations are duly and properly adopted. At that time, the permit may be reopened to incorporate any applicable regulatory requirements pursuant to Standard Provision, Part 6.I.b or Part 6.R.2.
43	Part 4.F.8.a	"Priority A ...volumes and trash..." "Priority B ...volumes and trash..."	Change to "...volumes of and trash..."
43	Part 4.F.8.c	" Each permittee shall require that sawcutting waste be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain."	Recommend modifying as follows: "Each permittee shall require that sawcutting waste be recovered and disposed of properly and that ~~in no case shall~~, to the maximum extent practicable, no waste be left on a roadway or allowed to enter the storm drain."
44	Part 4.F.11	Emergency Procedures	It is unclear whether the Regional Board is providing a defense for permit non-compliance during these periods. To clarify, recommend the following modification: "Emergency situations such as earthquakes, fires, floods, landslides, wind storms and other acts of God shall constitute an affirmative defense to non-compliance with this Permit. Each Permittee shall continue to repair essential public services and infrastructure in a manner to minimize environmental damage in such emergency situations ~~such as: earthquakes; fires; floods; landslides; or wind storms~~...."
44	Part 4.F.12	"Dry Weather Diversions"	The City supports the use of Low Flow Diversions as a last resort to prevent contaminated runoff from entering waterways, and is now diverting flows from beaches in Santa Monica Bay to protect public health. Therefore, we support this concept, but the requirement as written here needs to be clear in its intent. As it reads, the drains are to be prioritized for public health reasons, but the parenthetical phrase brings environmental reasons into the requirement. If only public health is the concern, then priority drains should be determined only along bathing beaches, not in the Los Angeles River, Ballona Creek or Dominguez Channel where swimming is not allowed. Prioritizing drains for diversions can be accomplished within 1-2 years provided adequate monitoring data are collected, as we have done for 19 drains along the Santa Monica Bay shoreline. If environmental health is a goal, then all water bodies (e.g. rivers, creeks) need to be included, and the prioritizing task becomes much more extensive and difficult. Such a project would probably require the entire five years of the permit to accomplish. For example, in the Los Angeles River, we would first determine which of the approximately 2000 drains have dry weather flows, then develop a ranking scheme to prioritize drains based on flows and effluent characteristics, and potential water quality standards. Given these considerations, we recommend the development of a broader watershed-based priority list of all potential structural measures, not limited to dry weather diversions, to improve water quality in the region. Implementation of the structural measures would be subject to availability of funding through

ATTACHMENT B

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

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DATE: July 25, 2001

TO: Councilmember Mark Ridley-Thomas, Chair
Environmental Quality and Waste Management Committee

FROM: Ronald F. Deaton
Chief Legislative Analyst

William T. Fujioka, Director
City Administrative Office

SUBJECT: POLICY ISSUES RELATED TO THE SECOND DRAFT 2001 NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) MUNICIPAL STORMWATER PERMIT

BACKGROUND: On April 13, 2001, the Los Angeles Regional Water Quality Control Board (Regional Board) issued the first draft of the 2001 NPDES Municipal Stormwater Permit for review and comment. The NPDES permit is reissued every five years and the existing permit expires on July 31, 2001. This permit identifies the waste discharge requirements for municipal storm water and urban runoff discharges within the County of Los Angeles and the incorporated cities (except Long Beach). The County of Los Angeles is the principal permittee and the City of Los Angeles and 83 other jurisdictions are co-permittees.

On May 18, 2001, the Council adopted a motion (CF#01-1020), which directed the CLA and CAO to prepare a report for the Environmental Quality and Waste Management Committee on the policy implications of the draft 2001 NPDES permit. The report was prepared and staff identified eight policy recommendations to forward to the Regional Board. These recommendations were endorsed by the City Council/Mayor and sent to the Regional Board on June 29, 2001.

On June 29, 2001, the Regional Board issued the second draft of the draft NPDES permit. Substantial changes were made to the draft permit. Several of the original policy issues remain in the permit and four new policy issues have been identified. The executive summary section of this report provides an overview of each of the policy issues associated with the second draft permit and the recommended city position. The following two sections provide an update on the status of the City's previous policy issues and a detailed analysis of the new policy issues. A full compilation of the City's technical and policy comments are contained in Table 1.

EXECUTIVE SUMMARY

R0005537

1. *Public Agency Activities (street sweeping requirement)* – no further comment necessary.

JUL 25 2001

ENV QUAL & WASTE MGT

Recommended City Position – Continue to support that until March 2003, current permit requirements should be maintained, whereby permittees, such as the City of Los Angeles, are responsible only for SWPPPs for sites 2-5 acres and after March 2003, require that the Regional Board take responsibility for inspections of construction sites greater than one acre. If the Regional Board is willing to transfer the funding from permit fees to the City for the responsibility of inspection of construction sites greater than one acre, the City may want to reconsider this position.

7. Responsibilities of the Principal Permitee

First Draft Permit – Identified the Executive Advisory Council (EAC), in addition to Los Angeles County, the responsibility of coordinating permit activities and negotiate NPDES requirements with the Regional Board. The City's comments requested the addition of the City of Los Angeles, in addition to the EAC.

Second Draft Permit – Deletes mention of the EAC.

Impact on the City – Coordination of permit activities and NPDES negotiations formally remain with the County and the EAC is not elevated to a more formal role at the possible expense of the City of Los Angeles.

Recommended City Position – No further comment recommended.

8. Storm drain discharge exemption to wash residual blood from trauma scenes

First Draft Permit – Does not specifically exempt the washing down of residual blood and bodily fluid from trauma scenes. Los Angeles City Fire Department requested an exemption to the storm drain discharge prohibition requirements in the proposed NPDES permit to allow the practice of washing down residual blood from trauma scenes. Data from the Los Angeles County Department of Health Services indicates that the small amounts of human fluid will have no negative health and safety issues.

Second Draft Permit – No exemption language has been added.

Impact on the City – The requirement to clean small amounts of blood from trauma scenes could add to the cost of clean up, with no benefit to storm water quality. According the City Fire Department, conservative estimates project that the additional trauma scene clean-up costs to the City could be $1.8 million annually.

Recommended City Position – Continue to request exemption language.

R0005538

New Requirement	Dept./Bur.	Position	Class #	No. of Positions	Base Salary/Position	Related Costs/Position	Total Cost
PROGRAMS FOR INDUSTRIAL/COMMERCIAL INSPECTIONS							
Inspect industrial/commercial sites, State jurisdiction, for compliance with ordinances, permits and BMP implementation. (Part 4.C)	Bur. San., SMD	Industrial Waste Inspector	4292	2	$57,566	$29,975	$175,081
Legal action pursuant to inspections of industrial/commercial sites, general, for compliance with ordinances, permits and BMP implementation. (Part 4.C)	City Attorney	[illegible]					
PROGRAMS FOR DEVELOPMENT PLANNING and CONSTRUCTION							
Implement requirement for Standard Urban Storm Water Mitigation Plans (SUSMP) for ministerial projects for the SUSMP project categories. (Part 4.D)	Dept. Bldg. & Safety	Associate Engineer	7240	4	$65,876	$42,319	$432,779
For construction sites greater than 1 acre, review and inspect BMP implementation plans and Local Storm Water Pollution Prevention Plan (Local SWPPP) (Part 4.E)	Dept. Bldg. & Safety	Associate Engineer	7240	1	$65,876	$42,319	$108,195
		Building Inspector	4211	1	$48,797	$31,347	$80,144
PUBLIC AGENCY ACTIVITIES							
Establish priority rankings for all catch basins and conduct cleaning of those basins: first phase, from adoption of Permit until July 1, 2003, requires catch basins to be cleaned when they reach 40% full of trash. (Part 4.F)	Bur. San., WCSD	Wastewater Collection Worker II	4110-11	23	$45,656	$23,741	$1,596,134
	Bur. San., WCSD	Maintenance Laborer	3112	23	$35,594	$18,509	$1,244,366
Annual Salary Cost:							$3,636,699
Capital cost for purchase of equipment for Bureau of Sanitation to perform catch basin cleaning up to July 1, 2003 (23 vacuum trucks @ $250,000/truck)							$5,750,000
Capital Cost:							$5,750,000

Based on established priority rankings for all catch basins, conduct cleaning of those basins: second phase, from July 1, 2003 to expiration of the Permit, requires catch basins to be cleaned when they reach 25% full of trash. (Part 4.F)	Bur. San., WCSD	Wastewater Collection Worker II	4110-11	49	$45,656	$23,741	$3,400,459
	Bur. San., WCSD	Maintenance Laborer	3112	49	$35,594	$18,509	$2,651,041
	Bur. San., WCSD	Wastewater Collection Supervisor	4113	2	$62,712	$32,610	$190,644
Note: meeting the 25% criteria requires these personnel and equipment in addition to those required to meet the 40% criteria.	Bur. San., WCSD	Wastewater Collection Manager I	4125-1	1	$83,200	$43,264	$126,464
Annual Salary Cost:							$6,368,608
Capital cost for purchase of additional equipment for Bureau of Sanitation to perform additional catch basin cleaning from July 1, 2003 to expiration of Permit (49 vacuum trucks @ $260,000/truck)							$12,700,000
Capital cost for construction of new Bureau of Sanitation maintenance yards to house new equipment and personnel required to perform catch basin cleaning (2 yards @ $5,000,000/yard)							$10,000,000

11\MS\Permit\2001 Permit, 2nd RWQCB Draft\Review Comments\Cost Material\revised1.xls 7/19/2001 5:08 PM

Capital Cost:	$22,700,000
Total Cost - Salaries and Capital (for 5-year term of the Permit):	$[illegible],331,473

GENERAL NOTES: 1) [illegible] to comply with Receiving Wa[illegible] [illegible] Implem[illegible] [illegible] weather [illegible] [illegible] 12) are not known at this time. 2) [illegible] cost estimate does not include costs related to implementing TMDLs. 3) The costs to meet the AQMD's alternative fuel requirements to power the vacuum trucks are not known at this time.

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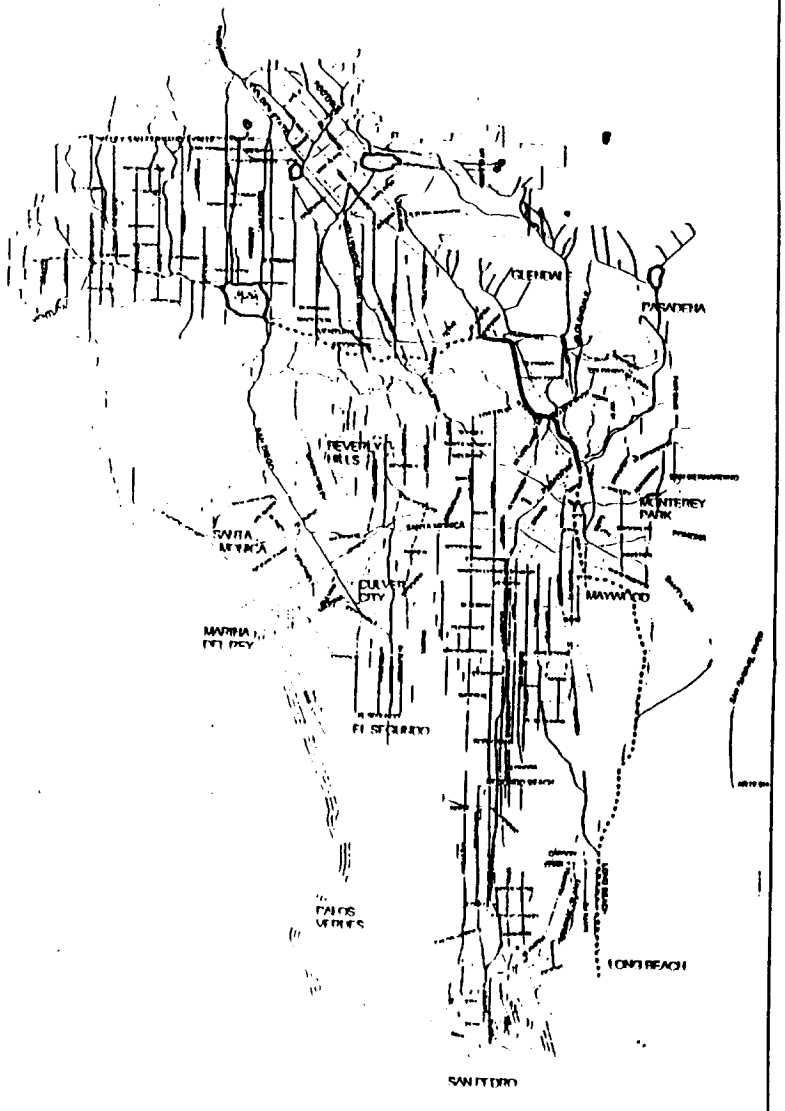
TABLE 3

2nd DRAFT STORM WATER PERMIT: ADDITIONAL REQUIREMENTS AND ESTIMATED COSTS
Supported as City Policy

New Requirement	Dept./Bur.	Position	Class. #	No. of Positions	Base Salary/Position	Related Costs/Position	Total Cost
PROGRAMS FOR INDUSTRIAL/COMMERCIAL INSPECTIONS							
Legal action pursuant to inspections of industrial/commercial sites, general, for compliance with ordinances, permits and BMP implementation. (Part 4.B)	City Attorney						
PROGRAMS FOR DEVELOPMENT PLANNING and CONSTRUCTION							
Implement requirement for Standard Urban Storm Water Mitigation Plans (SUSMP) for ministerial projects for the SUSMP project categories. (Part 4.C)	Dept. Bldg. & Safety	Associate Engineer	7240	4	$65,876	$42,319	$432,779
Annual Salary Cost:							$432,779

GENERAL NOTE: This cost estimate does not include costs related to implementing TMDLs.

FIGURE 1



POTENTIAL AREA IMPACTED BY THE PEAK FLOW CONTROL REQUIREMENTS

BUREAU OF SANITATION
DEPARTMENT OF PUBLIC WORKS
CITY OF LOS ANGELES

STORMWATER MANAGEMENT DIVISION
GARY LEE MOORE
PROGRAM MANAGER

R0005541

Attachment B&C

CITY OF LOS ANGELES: BUREAU OF SANITATION, STORMWATER MANAGEMENT DIVISION
Comments on the Third Draft of the NPDES Municipal Stormwater Permit

Page #	Text Reference	Passage	Comment & Recommendation
General Comment		Much of this permit is prescriptive and detailed. This level of prescription (the most glaring example being the requirement to install garbage cans at all transit stops) violates Cal. Water Code §13360(a) which states that "[n]o waste discharge requirement or other order of a regional board or state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and the person so ordered shall be permitted to comply with the order in any lawful manner." The Regional Board has taken non-regulatory guidance documents and turned them into *de facto* regulations "requiring" these prescriptive programs not routinely required in municipal storm water permits, arguably in violation of Water Code (e.g., §13000 requires that water quality regulations be "reasonable") and Administrative Procedures Act requirements.	
General Comment		The City strongly opposes the requirements of the draft Permit that pass responsibilities of the State to the Permittees for the inspection of Industrial/commercial sites and construction sites. These responsibilities clearly belong to and should remain with the State and the Regional Water Quality Control Board. Specifically for: Industrial/Commercial Sites: The City supports adopting the Version B Inspection program given in the 3rd Draft. About 1,100 facilities that would be inspected by the City now have NPDES Permits from the Regional Board. The City's Stormwater Ordinance will need to be revised to give the City authority to enter private property to conduct inspections for potential stormwater violations. These facilities should be inspected by the RWQCB. If the City inspects these facilities, it needs compensation from the State. Construction Sites: 1 acre and greater – Federal regulations will require the Regional Board to issue General Construction Permits for sites one acre and greater beginning March 2003. Therefore, until March 2003, current Permit requirements should be maintained, whereby Permittees are responsible only for Local SWPPPs for sites 2-5 acres. Beginning in March 2003, the City is willing to provide inspections for sites one acre and greater. However, if violations are observed, follow-up inspections and enforcement actions are the responsibilities of the Regional Board.	
02	Part B.2 Findings	"...as products of combustion, and and.."	Delete the repeated word "and"
02	Part B.4 Findings	"...The Grand Jury recommended that the Regional Board consider among other actions, (I) a focus...(iii) audit of MS4... (iv) clarifying enforcement... "	Correct as follows: "The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus...(iii) (II) audit of MS4...(iv) (III) clarifying enforcement ..."
06	Part C.7 Findings	"In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide regional shoreline-monitoring program associated with storm drain outfalls in Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order."	Recommend modifying as follows: "In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide regional shoreline-monitoring program associated with storm drain outfalls in Santa Monica Bay. **This relocation represents the first step toward an equitable distribution of resources, which are necessary for successful regional programs.** The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order."
06	Part D.2 Findings	~~"Consequently, the Regional Board recognizes that the Permittees will not be held responsible for such facilities and/or discharges."~~	Retain this sentence, as Permittees cannot exercise control over sources for which it has no legal jurisdiction. This removal is inconsistent with the change in Part 3.G.a. requiring legal authority over "persons within their jurisdiction."
09	Part E.8 Findings	"A TMDL specifies...can receive, still meet applicable water quality standards and protect beneficial uses."	Recommend using the term "implement" in place of "meet" since the CWA uses the term "implement," which has a different meaning than "meet." The Act requires that the TMDL "shall be established at a level necessary to implement the applicable water quality standards with seasonal variations..." 33 U.S.C. §1313(d)(1)(D)
10	Part E.14 Findings	"...After approval...and the US EPA the TMDLs..."	Use of comma. Modify as follows: "...and the US EPA, the TMDLs..."

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Page #	Text Reference	Passage	Comment & Recommendation
11	Part E.19 Findings	"The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S. is not permissible ...Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S."	What about the current trash collection devices, such as the net devices, currently located in the Los Angeles River and Ballona Creek? These structural devices are placed in waters of the U.S. for storm water mitigation, thereby violating the regulation. This apparent contradiction needs to be resolved; is the RWQCB proposing the removal of these devices?
12	Part E.22 Findings	"The Regional Board is the enforcement authority in the Los Angeles...These industrial and construction sites and discharges are also regulated under local laws and regulations."	The passage inaccurately implies that permittees regulate the industrial and construction sites referred to in this section. Recommend modifying as follows: "The Regional Board is the enforcement authority in the Los Angeles...~~These industrial and construction sites and discharges are also regulated under local laws and regulations.~~ "
13	Part E.25 Findings	Compliance with Water Code §13241	The 3rd draft states that the Regional Board "has considered the requirements of sections 13263 and 13241." If so, the Regional Board must provide all documents reflecting their required analysis under Water Code §13263(a) and §13241 to demonstrate that the Regional Board actually considered each of the following factors: 1) Past, present and future beneficial of water; 2) Environmental characteristics of the hydrographic unit; 3) Achievable water quality conditions with coordinated controls of all factors; 4) Economic considerations; 5) Need to develop housing in the region; and 6) Need to develop and use recycled water.
13	Part F.1 Findings	"A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project."	The California CEQA defines which projects require discretionary actions. A ministerial project cannot be made discretionary by adopting local ordinance. Any modifications and/or additions to CEQA must be done at the state level. Recommend deleting this sentence.
14	Part F.3 Findings	"...Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited."	Recommend adding the phrase "maximum extent practicable" to make passage more consistent with the order's intent. Additionally, there are instances of non-storm water that are permitted/authorized discharges to the MS4. Recommend modifying as follows: "...Permittees are to assure, **to the maximum extent practicable**, that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of...and that the discharge of **unauthorized** non-storm water to the MS4 has been effectively prohibited."
14	Part F.6 Findings	PIPP paragraph	Recommend that the Regional Board expressly acknowledge the following in a final sentence: **"However, the Regional Board recognizes that it may be impossible to fully control the behavior of each of the 9.5 million individuals living in the area covered under this permit."**
16	Part G.5 Findings	Effective date	The Regional Board should continue to use the effective date of 50 days from adoption of the permit, which is consistent with the MOA between USEPA and the SWRCB.

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Page #	Text Reference	Passage	Comment & Recommendation
16	Part G.6 Findings	CEQA compliance	The Regional Board has failed to comply with the requirements of 23 C.C.R. §3733. This regulation requires that the Regional Board comply with the policy provisions contained in Chapter 1 of CEQA that require the determination of alternatives and mitigation measures to the proposed permitting action.
17	Part 1.1	"...covered by a separate individual or general NPDES permit for non-storm water discharges..."	Recommend modifying as follows: "...covered by a separate individual or general NPDES permit, **or granted an exemption by the Regional Board, the Executive Officer, or the State Water Resources Control Board,** for non-storm water discharges..." This modification would maintain the intent of the current Permit and include sources previously granted an exemption from the Regional Board or State Water Resources Control Board.
17	Part 1.2	"fall within one of the categories below..."	The word "fall" does not follow from the sentence above. Recommend modifying as follows: "...except where such discharges are...2. ~~fall~~ within..."
17	Part 1.2.c.2	"Potable drinking water supply and distribution system releases consistent with American Water Works Association guidelines for dechlorination/ debromination and suspended solids reduction practices."	We do not believe that the American Water Works Association Guidelines exist. Recommend modifying as follows: "...American Water Works Association guidelines **or equivalent**."
18 19	Part 2	Receiving Water Limitations: Sections 1, 2, & 3	Part 2 reads that violations of water quality standards or water quality objectives require the permittees to modify the SQMP to include the implementation of additional BMPs and implementation schedules to prevent any pollutants that are causing the exceedances of water quality standards. In reality, this would require BMP implementation schedules for all pollutants currently listed on the 303(d) list. Isn't this why the TMDLs are being developed? Seems like this section is trying to circumvent the TMDL procedure by requiring implementation without the scientific and technical procedure to develop a defensible source analysis, numeric target, and ultimate waste load allocations for these pollutants. The City recommends that either this language be deleted from the permit or that the following language be added as item 5 to this section: **"If a pollutant of concern is currently listed on the 303(d) list and a TMDL is scheduled for development during the life of this permit, then the above requirements are not applicable."**
18	Part 2.3	"The Permittees shall comply with Part 2.1 and 2.2 through timely implementation of control measures and other actions..."	Strongly recommend changing the beginning of Part 2.3 to the following language taken from SWRCB Order 2001-12-WQ, which should state: "The Permittees ~~shall comply with~~ **will not be in violation of Receiving Water Limitation** Part 2.1 and 2.2 ~~through the~~ **as long as the Permittees** timely implementation ~~of~~ control measures and **take** other actions..." This recent SWRCB Order provides the most timely guidance on the proper language to be used in Receiving Water Limitations (RWL), instead of reliance on older orders adopted in 1999 or 2000. Most importantly, this Order provides language that will not subject the Permittees to legal jeopardy. EPA did not object to this RWL language, thereby overruling any earlier EPA objection cited in the RWQCB's Response to Comments. Furthermore, EPA's reliance on CWA §301(b)(1)(C) is misplaced as this section of the Act has no application after July 1, 1977, unless

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			specifically extended under §301(i). The additional justification provided in the RWQCB's response to comments related to 40 C.F.R. §122.44(d)(1)(i) is not accurate. This section of the EPA regulations requires that "each NPDES permit shall include the following requirements **when applicable**." See 40 C.F.R. § 122.44 (emphasis added). Subsection (d) of this section imposes "any requirements in addition to or more stringent than promulgated **effluent limitations guidelines or standards** under sections 301, 304, 306, 307, 318 and 405 of the CWA necessary to achieve water quality standards established under Section 303 of the CWA, including State narrative criteria for water quality..." 40 C.F.R. § 122.44(d) (emphasis added). Because the CWA does not subject municipal stormwater to "effluent limitations guidelines or standards," this regulatory provision is inapplicable to MS4s. *See e.g.*, 33 U.S.C. §§ 1314(b)(effluent limitations guidelines) and 1317(a)(2) (categorical effluent standards). The applicable part of 40 C.F.R. §122.44 is subsection (k), which provides for BMPs where effluent limitations are not feasible. *See* Fact Sheet at 8, Section III.A.3. This is the approach that Congress intended in adopting CWA §402(p)(3)(B)(iii).
18	Part 2.3	"The Permittees shall comply with Part 2.1 and 2.2 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications."	Recommend adding the words "to the maximum extent practicable" in this section as follows: "...and other actions to reduce pollutants **to the maximum extent practicable** in the discharges in accordance with the SQMP and its components..."
18	Part 2.3.c	"Within 30 days following the approval of the report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs...."	Any revision to the SQMP should be done at the countywide level. Each city will work with the County to modify components of the countywide SQMP that reflect the conditions in the area under its jurisdiction. Recommend as follows: "Within 3180 days following the approval of the report, the Permittee, **in coordination with the Principal Permittee,** shall revise the **county-wide** SQMP and its components and monitoring program to incorporate the approved modified BMPs...."
20	Part 3.A.3	"Each Permittee shall implement additional controls where necessary..."	Recommend modifying as follows: "Each Permittee shall implement controls where **and when** necessary..."
20	Part 3.C	"The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments. Such amendments may include regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies."	The City requests the RWQCB to cite the regulation that grants the RWQCB the authority to request this modification of the SQMP and require implementation plans and schedules for complying with the TMDLs. It is the City's understanding that the TMDL program requires the permittees to comply with the designated load allocations. However, the mechanisms the permittees use to reach these allocations are not under the RWQCB's authority or approval. Therefore, the RWQCB should not be using the NPDES permit and SQMP to require implementation plans and schedules for future TMDLs. At a recent meeting with RWQCB staff, when asked the purpose of this information, the RWQCB staff replied that this information would be used as an enforcement mechanism for the TMDLs. As long as the City meets the required load

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			allocation, the City should be deemed in compliance, regardless of the means used to meet that limit. Additionally, this requirement is not included in the recently adopted Long Beach and Ventura NPDES Permits. The City recommends the RWQCB consider the following alternative language for this section: "The Permittees, **in coordination with the Principal Permittee,** shall revise the **countywide** SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation...."
20	Part 3.D	"The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, The Principal Permittee shall: ..."	Recommend modifying as follows: "...As such, ~~t~~the Principal..."
24	Part 3.G.1	"Permittees shall possess the necessary legal authority to prohibit non-storm water discharges~~, to the maximum extent practicable,~~ to the storm drain system, including but not limited to..."	Recommend retaining the phrase "maximum extent practicable" since it is necessary and appropriate in this section. "Permittees shall possess the necessary legal authority to prohibit non-storm water discharges, **to the maximum extent practicable,** to the storm drain system, including but not limited to..."
24	Part 3.G.1.a-f		In the 40 CFR part 122.26 (d)(2)(i)(A-F), where the legal authority section in the Municipal Permit is derived from, the only required prohibition is for illicit connections and illicit discharges. The remaining federal requirements stipulate, "control" through ordinances, permits, or agreements. This broadening of the federal requirements, in concert with the removal of the ability to treat the runoff from these various activities, makes the permit unworkable. Additionally, the existing Permit excluded from the prohibitions those discharges permitted under a separate NPDES permit, this 3rd draft does not. In addition, storm water runoff cannot be prohibited. It can be controlled and pollutant contamination reduced to the MEP with Best Management Practices (BMPs). Recommend modifying the wording in paragraph 1 to read, " ...to prohibit non-stormwater discharges unless authorized by a separate NPDES runoff permit. In addition, eliminate the word in paragraphs (c), (d), (e), (g) since it implies storm water runoff to "... discharges to the MS4..." The City also suggests changing the wording " Prohibit the discharge" in each of these paragraphs to the words "Prohibit the discharge of untreated runoff, of wash waters, etc."
24	Part 3.G.1.h	"Prohibit washing impervious surfaces in industrial/ commercial areas that results in a discharge of runoff to the MS4..."	It is the City's understanding that the term "impervious surfaces" means "paved surfaces" and that this prohibition does not apply to activities such as washing power line insulators with de-ionized water to remove accumulated dust, which is required as part of general O&M procedures to maintain power service. Insulators are fixed in place high above ground, such that it is infeasible to collect any wash water that may fall on paved or unpaved surfaces below. Recommend modifying as follows: "Prohibit washing ~~impervious~~ **paved** surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;" If these understandings do not follow the intent of the Permit language, then the City

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			takes exception to the intended applicability of Part 3.G.1.h.
25	Part 3.G.2.c-d	"c. Control pollutants...in discharges of storm water runoff associated with industrial activities..." "d. ...Permittees must possess authority to enter, sample, inspect....reports from industrial facilities (including construction sites) discharging polluted..."	These items, which were also addressed in the 2nd draft comments, overlap the responsibilities of the State-wide General Stormwater Permits associated with Industrial and Construction Activities. Recommend modifying as follows: c. Control of pollutants ...associated with industrial activities including **construction sites not already covered by the State General Industrial Activities Stormwater Permit or in State General Construction Activities Stormwater Permit to its MS4**" d. Permittees must possess authority to sample.... industrial facilities **including construction sites not already covered by the State General Industrial Activities Stormwater Permit or in State General Construction Activities Stormwater Permit to its MS4**"
25	Part 3.G.2.d	"Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges...require regular reports from industrial facilities (including construction sites) discharging polluted..."	The local authorities are not responsible for state authorized permits and should not be determining compliance and non-compliance situations for these permits. In addition, the inspections and record review should be limited to non General Industrial Activity storm water permitted (GIASP) and non General Construction Activity storm water permitted facilities (GCASP). Recommend modifying as follows: "... to determine ~~compliance~~ **and** non compliance ~~with permit conditions~~, including the prohibition of illicit discharges...require regular reports from **non GIASP** ~~industrial~~ facilities ~~(including construction sites)~~ **and non GCASP** construction sites discharging..."
25	Part 3.G.2.f	"Require that treatment control BMPs be properly operated and maintained to prevent the breeding of vectors."	The requirement for the proper operation and maintenance of BMPs may pose additional inspection and monitoring responsibilities to the City. Recommend modifying as follows: "Require that treatment control BMPs be properly ~~operated and maintained~~ **designed** to prevent the breeding of vectors."
27	Part 4.A.2	Customized SQMP "Each Permittee shall have available a local SQMP, which..."	Recommend modifying as follows: "Each Permittee ~~shall have available~~ **may develop** a local SQMP, which..."
28	Part 4.B.c	"To involve and engage all socio-economic groups and ethnic communities in Los Angeles County ... (such as African American, Latino...)."	Listing the different ethnic communities is not necessary. Recommend deleting this portion of the sentence.
29	Part 4.B.1.c.3	"The Principal Permittee shall implement an outreach program to educate on proper disposal of cigarette butts."	Recommend modifying as follows: "The Principal Permittee shall implement an outreach program to educate **residents and businesses** on proper disposal of cigarette butts." Also, funds from the Tobacco fund should be used for a regional program not be required of the permittees.
33-A-B	Part 4.C.1.a.1-4	Database for Critical Sources Identification	Recommend adding **watershed identification field** to list of fields.

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33-B	Part 4.C	Industrial/Commercial Facilities Program [VersionB]	The City generally supports Version B of the Industrial and Commercial Facilities Inspection Program presented in the 3rd draft. We believe that industrial and commercial facilities have received adequate education on preventing storm water pollution through the last permit cycle. The new permit needs to focus on working with these facilities to get the proper practices and equipment in place to eliminate polluted runoff from their sites. Based on the current Standard Industrial Classification database from the American Business Institute, within the City of Los Angeles approximately 40,750 inspections will be required at 22,278 facilities over the 5-year life of the permit. Two additional Inspectors will be needed to comply with this requirement. About 1098 facilities within the City's jurisdiction have NPDES stormwater permits issued to them by the RWQCB. More will be added each year as additional facilities needing to file Notice of Intents are reported to the RWQCB. Because these facilities are under the RWQCB's permitting program, the RWQCB should perform the inspections and any follow-up enforcement actions. If the City is required to perform these inspections, then it should be reimbursed for its time and materials spent performing these inspections.
33-B 34-B	Part 4.C.1.b	"b) High Priority Categories" "c) Lower Priority Categories"	This section should be indented as a subsection of 1.a) and relabeled "(1)", and the categories listed should be relabeled "(a) through (k)". This section should be indented as a subsection of 1.a) and relabeled "(2)".
34C	Part 4.C.2	"The Permittees, shall require the implementation of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site. The BMPs shall:	The Local authority is not responsible to control the GIASP. Recommend modifying as it reads in the existing permit: "The Prinicipal Permittee, in consultation with the Permittees, shall develop a list of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site visits. The BMPs shall..."
35-A	Part 4.C.3.d	"Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices"	Restaurants received educational materials under prior General Permit. Obligation has already been met. Passage should be eliminated.
35-A	Part 4.C.4.a	"The Permittees shall inspect each RGO and Automotive Service facility once every 24 months"	Recommend modifying as follows: "The Permittees shall inspect each RGO ~~and Automotive Service facility~~ once every 24 months" Automotive Service Facilities are dealt with on page 36-A, Part 4.C.5.a.
36-A	Part 4.C.4.c.4	"Drains and flow patterns are labeled at the facility;"	Need clarification of statement such as **Site diagram identifying drains and flow patterns**;
36-A	Part 4.C.5.c.1	"The facility area is clean and dry without evident stains;"	Recommend modifying as follows: "The facility area is clean and dry ~~without evident stains~~;"
36-A	Part 4.C.5.c.4	"The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;"	Recommend modifying as follows: "The facility operator is aware of the prohibition of **illicit** discharges to the storm drain;"
38-A	Part 4.C.10	"To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the	How would the Permittees know which facility was already inspected by the Regional Board? Please insert language indicating that Regional Board will make a list of

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Page #	Text Reference	Passage	Comment & Recommendation
		inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period."	facilities to be inspected by Regional Board staff or authorized agent available to the Permittees. The passage shall conclude as follows: **Upon completion of an inspection, the Regional Board shall submit to the Permittee within 72 hours the following information** **1. Permittee Name** **2. Permitte Address** **3. Date Inspected** **4. SIC** 5. **Watershed Identification**
38-A	Part 4.C.7	"In the event that particular minimum BMP's are infeasible at any site, Permittees shall require implementation of other BMP's ..."	At this time, the City has no legal authority to enforce BMP's. L.A.M.C. 64.70 will need to be changed to grant us authority or the State will need to deputize our inspection staff.
38-A	Part 4.C.9	"The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board Staff."	As written, this passage requires us to provide unlimited assistance to the RWQCB creating an open-ended provision. Lack of limits potentially could use up our resources to the detriment of meeting other permit requirements. The entire passage should be removed.
40	Part 4.D.1. a-f	"The Permittees shall implement a development –planning program that will require... (a) Minimize impacts.... (b) Maximize the percentage.... (c) Minimize the quantity.... (d) Minimize pollution emanating..... (e) Ensure that treatment control.... (f) Provide for appropriate.... "	Recommend including " to the Maximum Extent Practicable (MEP)" in each item and modifying as follows: "The Permittees shall implement a development –planning program that will require... (a) Minimize **to the Maximum Extent Practicable (MEP)** impacts.... (b) Maximize **to the MEP** the percentage.... (c) Minimize **to the MEP** the quantity.... (d) Minimize **to the MEP** pollution emanating..... (e) Ensure **to the MEP** that treatment control.... (f) Provide **to the MEP** for appropriate...."
40	Part 4.D.1.e	"Ensure that treatment control BMPs are properly designed and maintained in a manner that does not promote the breeding of vectors..."	Recommend modifying as follows: "~~Ensure that treatment control BMPs are p~~Properly design~~ed and maintained~~ **treatment control BMPs** in a manner that does not promote the breeding of vectors ..."
40	Part 4.D.1.f	"Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site."	To avoid duplicative terms, recommend the following modification: "Provide for appropriate permanent measures to reduce ~~storm water~~ pollutant loads in storm water from the development site."
41	Part 4.D.3	Standard Urban Storm Water Mitigation Plans	Recommend modifying section heading as follows: "Standard Urban Storm Water Mitigation Plans **(SUSMP)**"
41	Part	"Divert roof runoff to vegetated areas before discharge	Recommend modifying as follows:

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	4.D.3.a.4	unless the diversion would result in slope instability"	"Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability **or have any adverse affect on adjoining properties**"
41	Part 4.D.3.a.5	"Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability."	Recommend modifying as follows: Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability **or have any affect on adjoining properties**"
42	Part 4.D.3	"Standard Urban Storm Water Mitigation Plans"	Recommend adding new item 4.D.3.d as follows: **"Each Permittee shall require the implementation of SUSMP provisions for ministerial projects in subject categories no later than (180 days from permit effective date)."**
42 44 67 68	Part 4.D.3.b.6 4.D.5.g 5 5.vi	"Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces"	Recommend modifying as follows: "Parking lots 5,000 square feet or more of **impervious** surface area or with 25 or more parking spaces"
42	Part 4.D.3.b.7	"Redevelopment projects in subject categories that meet redevelopment thresholds"	Recommend modifying as follows: "Redevelopment projects in ~~subject~~ categories **(1) – (6) above** that meet redevelopment thresholds..."
42	Part 4.D.3.c.1	"...discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat..."	This requirement is beyond the scope of water quality, which is the original intent of this permit. Recommend deleting item 4.D.3.c.1 in its entirety.
42	Part 4.D.3.c.2	"...create 2,500 square feet or more of impervious surface area..."	For an Environmentally Sensitive Area (ESA) the issue should be whether or not there is a discharge or whether or not there is an impact. The size of the development should not be a factor. Unless specific studies exist that confirm the 2500 square feet as an impact threshold, the number is purely arbitrary and without scientific basis. Recommend deleting this paragraph.
43	Part 4.D.5.d	"Automotive service facilities...[5,000 square feet or more of surface area]"	Recommend modifying as follows: "Automotive service facilities...[5,000 square feet or more of **impervious** surface area]"
43	Part 4.D.5.e	"Retail gasoline outlets [5,000 square feet or more and with projected Average Daily Traffic (ADT) of 100 or more vehicles]"	Recommend modifying as follows: "Retail gasoline outlets [5,000 square feet or more **of impervious surface area** and with projected Average Daily Traffic (ADT) of 100 or more vehicles]"
44	Part 4.D.5.f	"Restaurants...[5,000 square feet or more of surface area]"	Recommend modifying as follows: "Restaurants...[5,000 square feet or more of **impervious** surface area]"
44	Part 4.D.5.g	"Parking lots 5,000 square feet or more of surface area..."	Recommend modifying as follows: "Parking lots 5,000 square feet or more of **impervious** surface area..."
44	Part 4.D.5.i	"Redevelopment projects in subject categories that meet	Recommend modifying as follows:

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		redevelopment thresholds"	"Redevelopment projects in ~~subject~~ categories **(1) – (6) above** that meet redevelopment thresholds..."
44	Part 4.D.6	"Not later than March 9, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial category to projects that disturb one acre or more of surface area."	The Permittee should require compliance with the GCASP only. Furthermore, the Regional Board has failed to identify scientific study(ies) that show all projects by size (those that disturb one acre or more of surface area) under the industrial/commercial category have potential to cause adverse impacts on storm water quality. In addition, facilities already covered by another NPDES permit, such as a GIASP or GCASP permit, should not be regulated by SUSMP requirements. Therefore, recommend deleting this section.
44	Part 4.D.7	Site Specific Mitigation	Any industrial Phase I facility that has any of these activities or any facility with these activities that is already covered under either another NPDES permit, a GIASP, or a GCASP should not be regulated under this municipal storm water permit and specifically under this subsection. Furthermore, the Regional Board has failed to identify the scientific study(ies) that have been done to confirm that areas identified in (7)(c,d,e,g,h) have the potential to cause adverse impacts on storm water quality. Recommend modifying as follows: "**For facilities or projects not already covered by an NPDES Permit,** ~~E~~each Permittee shall no later than..."
44	Part 4.D.8		Recommend deleting 1st paragraph which is redundant with both (5)(a-i) and (7)(a-h). Also, delete (8)(a) which is redundant with definition in the Glossary.
45	Part 4.9.a	"The developers signed statement accepting..."	Add an apostrophe in "developer's" or "developers' "
46	Part 4.D.10	"A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements...."	The first sentence as written is confusing. Suggest the following modification: "A Permittee or ~~Permittee~~ group of Permittees may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to **wholly or in part substitute for** ~~in part or wholly~~ SUSMP requirements...."
46	Part 4.D.11	Mitigation Funding	Please explain what this entire section means. Are subsections a through c identified as potential funding sources? Define items a through c. In item (a), define conditions of impracticability. (Same as existing permit?) Granting of waivers, including waivers of impracticability, shall be the responsibility of the Regional Board. Item (b) needs clarification. "Legislative funds become available"...to who? It is understood that funding for the waiver was an issue to be worked out by the Regional Board for public consideration and to be approved by the State Board. The Regional Board needs to develop the waiver funding program, until such time this item should not be included in the municipal permit. Recommend deleting this item in its entirety.
46	Part D.10.E.	"...be completed in five years including the construction and	To ensure that treatment facilities are only required if necessary, not as a matter of

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		start-up of treatment facilities."	course, recommend modifying as follows: "...be completed in five years, including **any necessary** ~~the~~ construction and start-up of treatment facilities."
47	Part 4.D.15.a	"Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately."	Recommend modifying as follows: "Each Permittee shall **immediately begin generating development planning guidelines that are to be made available to developers upon completion** ~~develop and make available to the developer community SUSMP (development planning) guidelines immediately~~."
48	Part 4.E.1	"Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites."	Recommend adding "to the Maximum Extent Practicable" and modifying as follows: "The program shall ensure the following minimum requirements are implemented **to the Maximum Extent Possible** at all...".
48	Part 4.E.1.c	"Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site..."	Recommend modifying as follows: "Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained ~~at the project site~~ **and treated before discharge and/or contained and hauled off site to an approved disposal facility**; and"
48	Part 4.E.1.d	"Erosion from slopes and channels...such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events..."	As long as BMPs will be employed, there is no good reason to discourage or limit grading during the rainy season. Recommend modifying as follows: "Erosion from slopes and channels...such as ~~the limiting of grading scheduled during the wet season;~~ inspecting graded..."
49	Part 4.E.2	"For construction sites one acre and greater, each Permittee...."	Recommend modifying as follows: "For construction sites **with** one acre and **greater of disturbed soil**, each Permittee...."
50	Part 4.E.2.a	"The Local SWPPP certification shall be signed by the landowner as follows, for a corporation..."	Recommend modifying as follows: "The Local SWPPP certification shall be signed by the landowner **or the landowner's agent** as follows...."
50	Part 4.E.2.b	"For construction sites one acre and greater...If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.	Currently, construction sites between two and five acres are subject to the municipal storm water permit, which require submittal of a Local SWPPP, and sites five acres and greater are required to submit a State SWPPP in accordance with the State General Construction Permit. The Permittees currently inspect all 2-acre and above construction sites and conduct follow-up inspections for sites with Local SWPPP. However, for sites covered under the General Construction Permit, the Permittees notify the Regional Board for follow up inspections and enforcement actions. Federal regulations, to be effective March 10, 2003, will require the Regional Board to issue General Construction Permits for sites one acre and greater. The Regional Board is responsible for verifying and enforcing requirements of the General Construction Permit. The City proposes to support inspecting construction sites one acre and

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			greater beginning March 10, 2003. However, when inspections are conducted at sites covered under the General Construction Permit, the City will document observed violations and notify the Regional Board for follow-up inspections and enforcement actions. Recommend modifying as follows: If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). **Commencing March 10, 2003, when Permittee's inspections are conducted at sites covered by the General Construction Permit, the Permittee will document observations of potential violations and notify the Regional Board of the possible violations and the location of the construction site.** ~~If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.~~
50	Part 4.E.2.c	"Require, commencing March 10, 2003, prior to issuing a grading permit for all projects less than vie acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP."	After March 10, 2003 all inspections of GCASP covered sites should revert back to the State. In addition, the Statewide construction Permit's SWPPP is mandated to be prepared and be physically located at the construction site only 2 days prior to construction. Therefore, the request in this Permit to submit a certification that the SWPPP has been prepared prior to this GCASP deadline is not enforceable and beyond the scope of the regulation. Also, this paragraph requires proof of the WDID number, which is issued by the State Board. These WDID numbers are not issued for several weeks after submitting an NOI, therefore in order to be able to be in compliance with this requirement, a turn around time needs to be guaranteed by the State for issuance of the WDID number. Recommend modifying as follows: "Require, commencing March 10, 2003, prior to issuing a grading permit for ~~all~~ projects less than ~~vie~~ **five** acres ~~requiring~~ **that require** coverage under a statewide general construction storm water permit, proof of ~~a Waste Discharger Identification (WDID) Number for~~ filing a Notice of Intent (NOI) ~~for permit coverage~~ and a certification that a SWPPP ~~has been~~ **will be** prepared **two days prior to construction** by the project developer. A local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP."
50	Part 4.E.3	"For sites five acres and greater..."	Recommend modifying as follows: "For **construction** sites five acres and greater, each Permittee...."
50	Part 4.E.3	"For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1 and E.2 and	Comment: This paragraph is redundant with paragraph (E)(2)(c). Also, sections E1 and E2 are not applicable to GCASP because the permit provisions prevail.

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		shall..."	Recommendation: The LADWP recommends deleting paragraph (3)(a) and suggests the following wording for paragraph (3): "For sites covered by a GCASP ~~five acres and greater,~~ each Permittee ~~shall comply with all conditions in Section E1 and E2~~ and shall:"
50	Part 4.E.3.c	"Use an effective system to track grading permits issued by each Permittee..."	Recommend to repositioning as Part 4.E.2.d This will include the tracking of grading permits issued for construction sites covered by Part E.2.
54	Part 4.F.3.b	"Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to..."	Recommend adding "to the Maximum Extent Practicable" and modifying as follows: "...implement BMPs **to the Maximum Extent Practicable** to minimize pollutant discharges in storm water..."
54	Part 4.F.3.c.2	""For new facilities or during redevelopment of existing sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4."	Comment: The requirement to install a clarifier or a pretreatment device must be related to part of the facility undergoing redevelopment. For example, if redevelopment is to add a bathroom to an existing structure, then the requirement for a clarifier or pretreatment device would not be applicable. Recommendation: The LADWP recommends that wording be included in this paragraph to clarify that the clarifier or pretreatment device has to be related to the part of the facility undergoing the redevelopment.
56	Part 4.F.5.c	"For any special event that can be reasonably expected to generate substantial quantities of trash and litter...At a minimum, the Permittee shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain."	Delete the last sentence. It is estimated that in the City of Los Angeles, 1500 events take place each year. The cost of event is $2000. The yearly cost $3,000,000.
56	Part 4.F.5.d	"Place trash receptacles at all transit stops within its jurisdiction and maintain them."	n response to the recently adopted Los Angeles River and Ballona Creek Trash TMDLs, the City is currently reviewing and evaluating both structural and institutional BMPs for controlling trash. Upon completion of these evaluations and analysis of associated costs, the City will decide on which BMPs best reduce trash in varying land uses throughout the City in order for the City to meet the requirements of the Trash TMDLs. Increasing the number of trash receptacles in areas throughout the City is one of our study areas to determine how much, if any, trash reduction occurs. If the RWQCB requires trash receptacles at all transit stops, this requirement may undermine the results of our study and the City's ability to reduce trash in the most effective and economical way. The City currently maintains estimated 2500 trash receptacles out of the 9000 existing City transit stops. To install and maintain an additional 6500 trash receptacles, the City will have to spend $435,000 as initial capital cost (based on $67/unit cost estimated from a previous WPD/ SMD study) and will incur annual costs of $4,875,000 for O & M

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			(based on estimated $750/unit/yr for maintenance). Recommend deleting this requirement and implement trash reduction measures in accordance with the impending TMDL requirements.
58	Part 4.F.6.c.3	"The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets or catch ~~basins~~...."	Recommend modifying as follows: "The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets or catch **basins**..."
59	Part 4.F.9	Emergency Procedures	It is unclear whether the Regional Board is providing a defense for permit non-compliance during these periods. To clarify, recommend the following modification: "**Emergency situations such as earthquakes, fires, floods, landslides, wind storms and other acts of God shall constitute an affirmative defense to non-compliance with this Permit**. Each Permittee shall **continue** to repair essential public services and infrastructure in a manner to minimize environmental damage in **such** emergency situations ~~such as: earthquakes; fires; floods, landslides, or wind storms~~...."
59	Part 4.F.10	Treatment Feasibility Study	The prioritization of storm drains for dry weather diversion is not a permit issue. The City supports the use of Dry Weather Diversions as a method to prevent contaminated runoff from entering waterways, and is now diverting flows from beaches in Santa Monica Bay to protect public health. Therefore, we support this concept, but the requirement as revised in the final draft Permit has been vastly expanded in scope. It would require that water quality objectives be established for environmental health, and the Los Angeles River, Ballona Creek and Dominguez Channel would need to be included in the assessment. Thus, the prioritizing task becomes much more extensive and difficult. Such a project would probably require the entire five years of the permit to accomplish. For example, in the Los Angeles River, we would first determine which of the approximately 2,000 drains have dry weather flows, then develop a ranking scheme to prioritize drains based on flows, effluent characteristics including toxicity, and potential exceedance of water quality standards. Recommend deleting this requirement and exploring this issue during the development of the upcoming TMDLs.
60	Part 4.G	Illicit Connections and Illicit Discharges Elimination Program	The City supports that component of the proposed IC/ID program requiring permittees to identify and map permitted connections to their storm drain systems, also noting the locations of any illegal connections. We do not support the requirement to field screen all pipes in the City measuring 36" or greater in diameter for illegal connections. Approximately 70% of the City's main line storm drain system consists of pipes 36" and above in size. If we were to CCTV them, the cost would be about $7,000,000 to inspect 840 miles of line. We propose the following program to find illegal connections: 1. Use information and reports from the City's storm drain maintenance crews and the Stormwater Hotline to investigate potential illicit connections.

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			2. Investigate old connection permits to ensure that discharges from them are legal. 3. Focus on priority areas: • Identify areas based on hotline reports of illegal discharges and connections. • Inspect storm drain pipes using CCTV, walk-throughs, sample collecting and test, or any other appropriate method. • Inspect suspected facilities including dye testing of lines Resources will be better spent on these areas rather than being diluted over the entire City with potentially poor results for the effort.
62	Part 4.G.2	"...Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed."	Since an illicit discharge or a non storm water discharge can be permitted and become an authorized discharge, there needs to be two options listed in this paragraph. One is to terminate the discharge as written and the other is to get the discharge legally authorized and permitted so that it could be a legitimate discharge. Recommend modifying as follows: "...Permittees shall ensure termination of the connection **or legal authorization**.. "
62	Part 4.G.3	"...Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge..."	Recommend modifying as follows: "...Permittees shall respond within ~~one business day~~ **72 hours** of discovery..."
63	Part 5	Definition of Anti-degradation Policies	Change "polici~~es~~**y**" as only one policy is referred to in this definition.
63	Part 5	Definition of Automotive Service Facilities	SIC 5541 is already covered under RGO's. Should be deleted.
64	Part 5		Add definition for "County Segmentation Study"
64	Part 5	Definition of "Development"	The wording reconstruction and rehabilitation should be developed from the definition. It is overly broad and could include repairs or improvements to meet code (e.g. earthquake).
65	Part 5	Environmentally Sensitive Areas	Correct as follows: "Environmentally Sensitive Areas **(ESAs)**"
65	Part 5		Add definition for "Hydromodification Control Plan"
66	Part 5	Definition of MEP "...means the standard...~~It is the maximum extent possible taking into account equitable consideration and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility~~... Specifically, municipalities must choose effective BMPs, and reject applicable BMPs only where other effective BMPs will serve the same purpose.	The MEP definition as written prior to the third draft was developed by using the Federal definition and the Federal intent found in the preamble of the storm water regulations (November 16, 1990). Striking out the original language in the current definition deletes the Federal definition of the standard for MEP and ambiguously redefines MEP. On the second to last sentence, there needs to be an end quote after "for the control of pollutants." In the last sentence, it should state that "...municipalities must choose effective BMPs **whenever necessary**, and reject..." since state law requires that requirements must be based on findings and evidence demonstrating that the requirements are necessary. See 40 C.F.R. § 124.8(b)(4); Topanga Ass'n for a Scenic Community, 11 Cal. 3d at 515; California Edison, 116 Cal. App. 3d at 761; see also In re Petition of the City and County of San Francisco, State Board Order No. WQ-95-4 at 10 (Sept. 21, 1995).

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66	Part 5	Definition of "Local SWPPP"	Comment: The local SWPPP is only for those projects not covered by the Phase I ruling. This definition as written includes all construction projects including those covered by the state wide General construction permit. Recommendation: LADWP suggests to leave the definition as it was prior to the third draft of this permit.
67	Part 5	Definition of "New Development"	A new development should be one that is "new" and did not previously exist. Recommend modifying as follows: "...creation of impervious surfaces, and land subdivision **which is new and did not previously exist**."
68	Part 5	Definition of "Planning Priority Projects"	This is not a definition (items i-ix, including (ix)(1-8)). The City recommends that these items be dropped from the definition since they are already listed on pages 43 and 44. Recommend modifying as follows: "...means...that are required, **because they are significant contributors of pollutants to storm water runoff**, to incorporate..."
71	Part 5	Definition of "Significant Ecological Area"	This item is not clear. What are "special areas"? If they do exist, they should be listed in the definition, or if too extensive it should be appended to permit. Recommend expanding on this item either by appending the permit or listing the areas.
72	Part 5		Add definition for "Storm Water Report and Assessment"
73	Part 5	Definitions	Need a definition of "Vector" as this term is now being used in the permit
73	Part 5	Definition of Vehicle Maintenance/ Material Storage Facilities/Corporation Yards "i. Conducts industrial activity, operates equipment, handlesmaterials, and ..."	Put space between "handles" and "materials".
73	Part 5	Definition of Vehicle Maintenance/ Material Storage Facilities/Corporation Yards "ii. Performs fleet vehicle on ten or more vehicles per day including repair, maintenance, washing, and fueling; ..."	Recommend modifying as follows: "ii. Performs ~~fleet vehicle~~ **maintenance** on ten or more **fleet** vehicles per day including repair, washing, and fueling... "
T-02	I.A.4	"A Receiving Water Limitations (RWL) Compliance Report shall be attached to the unified Annual Report every alternate year, beginning in 2003...If all water quality exceedances have been abated, a RWL Compliance Report is not required."	This is a new report being requested from the RWQCB; is this reporting in any way related to TMDLs? Is this the reporting mechanism to be used to report on compliance with the TMDL load allocations?
T-10	II.E	"The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to the CWC §13267 Request for Trash Monitoring, issued by the Regional Board on [date	It is the City's understanding that this section is referring to the baseline and compliance trash monitoring requirements of the recently approved LA River and Ballona Creek Trash TMDLs. As such, it is the City's interpretation that the first year of baseline monitoring for the Trash TMDL is to begin October 15, 2002 as stated in this section of the NPDES Permit, as opposed to October 1, 2001 as indicated in the latest version of the Trash TMDL documents approved by the RWQCB on September 19, 2001. With regards to implementing a trash monitoring program in watersheds not

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		letter issued]. All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA §303(d) list for impairment for trash no later than October 15, 2003."	listed on the 303(d) list for trash impairment, the City strongly opposes this requirement and requests the deletion of this sentence. The baseline monitoring program for LA River and Ballona Creek Trash TMDLs is a very extensive monitoring program, both financially and technically, with the results used for establishing trash wasteload allocations. Spending money to monitor for constituents in watersheds not even listed is a misappropriation of the public's money. The City fails to understand the purpose this monitoring would fulfill or the importance of this data. The City is faced with numerous TMDLs, for constituents currently listed on the 303(d) list, in the next 13 years, which will be extremely costly; the City cannot afford to implement monitoring for constituents not yet listed or included on a "watch list." Finally, the RWQCB has not identified the length of this monitoring program or distinguished between an extensive baseline monitoring program versus compliance-type monitoring.
Fact Sheet 07	III.A.1.	Statutory Basis	The Regional Board failed to amend the second to the last sentence by removing reference to Section 301(b)(1)(C). This reference should be removed as Section 301 does not apply to MS4s (33 U.S.C. §1342(p) (3)(B); *Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir. 1999)). Furthermore, Section 301(b)(1)(C) references water quality standards in place prior to 1977 and has no applicability after July 1, 1977. (*See* 33 U.S.C. §1311(b)(1)(C)((b) Timetable for achievement of objectives... (1)(C) not later than July 1, 1977...). Finally, the State clearly has the "authority to require less than strict compliance with state water quality standards" which for municipal stormwater is an interim approach, which uses BMPs. *See supra Defenders of Wildlife.*
Fact Sheet 24	C	Legal Authority - typo	Should say "Long Beach MS4" not MS$
Fact Sheet 25		"JUSTIFICATION: The Permittees need to enforce ... The should not wait ..."	Correct as follows: "JUSTIFICATION: The Permittees need to enforce ... ~~The~~ They should not wait ..."
Fact Sheet 25-26 36-37		New Requirements and Justifications	Not all of the justifications provided include specific legal authority for the requirements. Citations to specific legal authority should be provided for each requirement/ justification; otherwise the Regional Board is potentially exceeding their statutory authority in imposing the requirements.
Fact Sheet 37		"NEW REQUIREMENT: For Permittee owned or operated vehicle maintenance, material storage ... This requirement will take effect when a new facility is constructed or when an existing site is remodeled or reconstructed."	The term "redevelopment" is used in the NPDES permit when describing this requirement. Recommend replacing "remodeled or reconstructed" with "redeveloped."
Fact Sheet 48		"The main goal of the estuary sampling ... Form this information, a map of each estuary that depicts ... "	Correct as follows: "The main goal of the estuary sampling ... ~~Form~~ From this information, a map of each estuary ~~that~~ which depicts ... "

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ATTACHMENT D

3rd DRAFT STORM WATER PERMIT: ADDITIONAL REQUIREMENTS AND ESTIMATED COSTS

New Requirement	Dept./Bur.	Position	Class. #	No. of Positions	Base Salary/Position	Related Costs/Position	Total Cost
DISCHARGE PROHIBITIONS (Part 1)							
[redacted]	Fire Dept.	This draft Permit lacks a specific exemption that allows the wash down of trauma scenes, resulting in an additional cost of approximately $1.8 million annually for clean up activities.					$1,800,000
INDUSTRIAL/COMMERCIAL FACILITIES PROGRAM (Part 4.C)							
Inspect industrial/commercial sites, State jurisdiction, for compliance with ordinances, permits and BMP implementation.	Bur. of San., WPD	Industrial Waste Inspector	4292	2	$57,566	$29,975	$175,081
Legal action pursuant to inspections of industrial/commercial sites, general, for compliance with ordinances, permits and BMP implementation.	City Attorney	[redacted]					
DEVELOPMENT PLANNING PROGRAM (Part 4.D)							
Implement requirement for Standard Urban Storm Water Mitigation Plans (SUSMP) for ministerial projects for the SUSMP project categories.	Bur. of San., WPD	Engineering Associate III	7246-3	1	$76,337	$49,039	$125,376
		Engineering Associate IV	7246-4	1	$82,977	$53,304	$136,281
DEVELOPMENT CONSTRUCTION PROGRAM (Part 4.E)							
For construction sites greater than 1 acre, review and inspect BMP implementation plans and Local Storm Water Pollution Prevention Plan (Local SWPPP).	Dept. Bldg. & Safety	Engineering Associate II	7246-2	1	$68,528	$44,022	$112,550
		Building Inspector	4211	2	$48,797	$31,347	$160,288
PUBLIC AGENCY ACTIVITIES PROGRAM (Part 4.F)							
Establish priority rankings for all catch basins and conduct cleaning of those basins: first phase, from adoption of Permit until July 1, 2003, requires catch basins that accumulate moderate levels of trash/litter to be cleaned when they reach 40% full of trash/litter.	Bur. of San., WCSD	Wastewater Collection Worker II	4110-11	5	$45,656	$23,741	$348,986
		Maintenance and Construction Helper	3115	5	$39,278	$20,425	$298,513
		Capital cost for purchase of equipment for Bureau of Sanitation to perform catch basin cleaning up to July 1, 2003 (5 catch basin trucks @ $250,000/truck).					$1,250,000
Based on established priority rankings for all catch basins, conduct cleaning of those basins: second phase, from July 1, 2003 to expiration of the Permit, requires catch basins that accumulate moderate levels of trash/litter to be cleaned when they reach 25% full of trash/litter.	Bur. of San., WCSD	Wastewater Collection Worker II	4110-11	5	$45,656	$23,741	$348,986
		Maintenance and Construction Helper	3115	5	$39,278	$20,425	$298,513
		Wastewater Collection Supervisor	4113	1	$62,712	$32,610	$95,322
Note: meeting the 25% criteria requires these personnel and equipment *in addition* to those required to meet the 40% criteria.		Capital cost for purchase of additional equipment for Bureau of Sanitation to perform additional catch basin cleaning from July 1, 2003 to expiration of Permit (5 catch basin trucks @ $250,000/truck)					$1,250,000
		Capital cost for construction of new Bureau of Sanitation maintenance yards to house new equipment and personnel required to perform catch basin cleaning (1 yard @ $5,000,000/yard)					$5,000,000
For any special event that can be reasonably expected to generate substantial quantities of trash and litter, arrange for screening or cleaning out catch basins subsequent to the event and prior to city rain.	Bur. of San., WCSD	There are an estimated 1,500 special events/year. Assuming 4 catch basins/event at a cleaning cost of $500/catch basin (includes equipment, staff, and disposal), the City will incur annual costs of approximately $3 million.					$3,000,000
Place trash receptacles at all transit stops within City of Los Angeles jurisdiction and maintain them.	Bur. of Street Services	The City currently maintains an estimated 2,500 trash receptacles at the 9,000 existing City transit stops. Initial capital cost to install 6,500 trash receptacles is estimated at $435,000.					$435,000
		Annual O & M cost for the 6,500 trash receptacles is estimated at $4,875,000.					$4,875,000
ILLICIT CONNECTIONS AND ILLICIT DISCHARGES ELIMINATION PROGRAM (Part 4.G)							
Screen underground pipes in priority areas (3 years from Permit effective date).	Bur. of San., WESD, WPD	For priority areas, approximately 40% of 192 miles of pipe system will require visual inspection via person-entry and the remaining 60% will require CCTV inspection. Total cost over five years is estimated at $1.4 million.					$1,400,000
Screen underground pipes with 36" or greater diameter (5 years from Permit effective date).	Bur. of San., WESD, WPD	Approximately 40% (or 336 miles) of 840 miles of pipe system will require visual inspection via person-entry and data evaluation at an estimated cost of $2.7 million over five years (assuming $1.50 per linear foot).					$2,661,000
		Approximately 60% (or 504 miles) of 840 miles of pipe system will require CCTV inspection and data evaluation at an estimated cost of $5.3 million over 5 years (assuming $2.00 per linear foot).					$5,322,000
Total Cost - Salaries and Capital (for 5-year term of the Permit):							**$72,754,345.31**

GENERAL NOTES: 1) The costs to comply with Receiving Water Limitations (Part 2, page 18) are not known at this time. 2) This cost estimate does not include costs related to implementing TMDLs. 3) The costs to meet the AQMD's alternative fuel requirements to power the catch basin trucks are not known at this time.

ATTACHMENT 2

3rd DRAFT STORM WATER PERMIT: ADDITIONAL REQUIREMENTS AND ESTIMATED COSTS

Supported as City Policy

New Requirement	Dept./Bur.	Position	Class. #	No. of Positions	Base Salary/Position	Related Costs/Position	Total Cost
INDUSTRIAL/COMMERCIAL FACILITIES PROGRAM (Part 4.C)							
Inspect Industrial/commercial sites, State jurisdiction, for compliance with ordinances, permits and BMP implementation.	Bur. of San., WPD	Industrial Waste Inspector	4292	2	$57,566	$29,975	$175,081
Legal action pursuant to inspections of industrial/commercial sites, general, for compliance with ordinances, permits and BMP implementation.	City Attorney						
DEVELOPMENT PLANNING PROGRAM (Part 4.D)							
Implement requirement for Standard Urban Storm Water Mitigation Plans (SUSMP) for ministerial projects for the SUSMP project categories.	Bur. of San., WPD	Engineering Associate III	7246-3	1	$76,337	$49,039	$125,376
		Engineering Associate IV	7246-4	1	$82,977	$53,304	$136,281
DEVELOPMENT CONSTRUCTION PROGRAM (Part 4.E)							
For construction sites greater than 1 acre, review and inspect BMP implementation plans and Local Storm Water Pollution Prevention Plan (Local SWPPP).	Dept. Bldg. & Safety	Engineering Associate II	7246-2	1	$68,528	$44,022	$112,550
		Building Inspector	4211	1	$48,797	$31,347	$80,144
Annual Salary Cost:							$629,433

GENERAL NOTES: 1) This cost estimate does not include costs related to implementing TMDLs.

R0005560

City of LYNWOOD
A City Meeting Challenges
11330 BULLIS ROAD
LYNWOOD, CALIFORNIA 90262
(310) 603-0220

2001 NOV -9 P 1:56

November 8, 2001

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board – Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

COMMENTS/CONCERNS NEW STORM WATER PERMIT

The City of Lynwood is one of the most financial strapped and challenged communities in Los Angels County. It has a population of 70,000, in about 4 square miles and a very small tax base.

Lynwood has already suffered enough financial damage due to the State of California. The impending construction of the I-105 freeway in the mid-1970's devastated the City. Homes and businesses laid abandoned along and adjacent to the freeway corridor. Blighted and deteriorating conditions contributed to an increase in criminal activity and in turn more business left. More businesses fell victims to Los Angeles 1992 Civil Unrest and never returned. To this day, the City has not fully recovered from these setbacks. Obviously, the City has set other priorities and is improving the standard of life for its residents by starting to improve streets, parks, housing and attempting to attract business to the City. Over the last 10 years the City has worked hard to meet these priorities with success.

After review of the proposed New Storm Water Permit the City of Lynwood has several legitimate concerns both financial and technical. The City is of the opinion the proposed Storm Water Permit is not based on sound science. The Los Angeles River is a concrete channel used for flood control purposes and not recreational purposes. Base line data has not been established and reasonable goals not set.

Following are a few of many concerns the City has:

A. Inspection Program

This is an additional unfunded mandate and the City has limited funds. The City can legal conduct inspections based on the CUP. However, the City lacks the technical resources and questions the legal authority to conduct inspections on the operations of a facility.

B. Development Planning

The City is trying to revitalize and redevelop blighted areas in Lynwood. The proposed requirements will discourage redevelopment in the most need areas because the development requirements are impractical and not cost effective for a small development.

C. Receiving Water Language in Permit

If the permit is adopted as proposed, the City will immediately become responsible/culpable for any existence of pollutants in storm water. With "perceived deep pockets" the City becomes vulnerable to third party lawsuits.

D. Local Land Use

The City is opposed to any unnecessary infringement on the Local Land Use caused by the proposed Storm Water Permit.

E. Total Maximum Daily Load Plan (TMDL)

The City has concerns whether the TMDL are appropriate and enforceable. A loading capacity for trash was not developed. Potential sources and load allocations to other sources were not properly identified.

Cost to City for monitoring and implementing this program will be a financial burden. In addition the City believes the possibility of actually attaining zero limit TMDL is unattainable.

Because of time constraints the City is only able to address all of our major concerns. We hope the Board reconsiders their position and works with the Cities and County to arrive at a reasonable resolution.

Sincerely,

Joseph Y. Wang, P.E.
Director of Environmental Services

Gov01045

Public Works Department 3621 Bell Avenue Manhattan Beach, CA 90266-4795
Telephone (310) 802-5300 FAX (310) 546-1752

CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION
01 NOV 14 P 2:29

Tuesday, November 13, 2001

Dr. Xavier Swamikannu
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Comments on Proposed NPDES Order

Dear Xavier,

We have reviewed the October 11, 2001 draft of the County of Los Angeles Municipal Storm Water Permit. We have the following concerns, comments and requests:

1. Regarding the inspection of restaurants for appropriate management of the facility's waste, including wastewater, this should be added to the responsibilities of the appropriate health departments. Health departments already make inspections of restaurants for health code compliance. Eliminating pollution from storm water is a public health issue. Therefore, it is bad public policy to have an additional agency (the permittees) conduct health related inspections and enforcement. This would be unnecessary duplication of bureaucracy duplication. If this requires State level legislation then the Water Quality Control Board should sponsor such legislation. Permittees can still enforce illegal discharge violations from restaurants as they are in the best position to catch violations in the act.
2. Regarding the requirement in the commercial/industrial inspection program for permittees to require businesses to use of BMP's whether or not there is a violation of the storm water regulations appears to be unenforceable. Permittees can inspect for illegal discharge, and include the requirement of BMP's as part of the enforcement remedies. However, if there is no illegal discharge, there should be no requirement to impose BMP's.
3. The proposed permit eliminates the Executive Advisory Committee (EAC). We object to this change. The EAC is an effective and appropriate body to meet regularly with Regional Board Staff to discusses various issues involving the permit. The issues can include: language interpretation; practical problems with permit implementation; dialog regarding proposed changes to the permit; and dialog regarding the development of TMDLs. The make up of the EAC should include representatives from each watershed, the County of Los Angeles, the City of Los Angeles, and 2 or 3 at large representatives. Without this body, the Regional Board staff will not have an on going reality check as to how the permit is progressing and what issues are arising.
4. The requirement of placing litter containers at all transit stops is problematic. Our community has tried this in the past. Placing litter containers make sense at certain high-use bus stops. But in low use areas, the containers tend to be used (or abused) by nearby residents who find the container more

R0005563

convenience than moving their own container to the street on trash collection day. This decision should be on a priority basis as are other permit requirements such as street sweeping and catch basin cleaning.

We appreciate this opportunity to provide input on the proposed storm water permit. We strongly encourage the Members of the Regional Board, and the Regional Board staff to seriously consider the changes we have suggested. Also, the permit, as drafted, places an enormous amount of work on the permittees. Pollutants found in storm drains, are, for the most part, not a result of activities of the permittees. Rather, many are generated form the products used in our society such as fuels and lubricants, pesticides, fertilizers, paper and plastic. The responsibility for cleanup actions, or funding for such actions, should be passed on to the producers of the pollutants as much as possible. This permit fails to do this in any effective way.

Sincerely,

Neil Miller, Director of Public Works

cc: Mayor and members of the City Council
Geoff Dolan, City Manager
Bob Wadden, City Attorney

City of MONROVIA

1887

Department of Public Works

VIA FACSIMILE

November 13, 2001

QUALITY CONTROL BOARD
LOS ANGELES REGION

Xavier Swamikannu
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Comments – Tentative Draft LA County Municipal Storm Water NPDES Permit

Dear Mr. Swamikannu:

Thank you for the opportunity to comment on the Tentative Draft of the LA County Municipal Storm Water NPDES Permit. There are still outstanding fundamental issues that must to be addressed in what appears to be the final Municipal Storm Water NPDES Permit. The following comments will address those issues.

Permit Coverage (Pg. 6, No. 2)

The wording "Permittees will not be held responsible for such facilities and/or discharges (from federal/state facilities) should be reinstated in the tentative draft.

Part 3.A.3 – General Requirements (Pg. 20)

The wording "Each Permittee shall implement additional controls where necessary" is too opened ended. This wording should be deleted.

Receiving Water Limitations (Pg. 18, Item 1 & 2)

The City is still concerned with this language and again prefers the existing permit language. The concerned to the proposed permit language is that it does not allow implementing the permit and its programs as a means of achieving compliance with water quality standards and objectives. The language immediately places all permittees into non-compliance, and has the potential to expose all permittees to third party

415 South Ivy Avenue • Monrovia, California 91016-2888 • (626) 932-5575 • FAX (626) 932-5559

litigation. This language also seems to undermine the whole purpose of the permit, which is to accept some exceedances of water quality standards/objectives (as contained in the Los Angeles Basin Plan) provided that permit conditions are met. It is simply impossible for any municipality to prevent all discharges that cause or contribute to the violation of water quality standards or objectives.

As an alternative, remove the following provisions as recommended by the Principal Permitee in the first draft:

- Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited.
- Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible shall not cause or contribute to a condition of nuisance.

Executive Advisory Committee (Pg. 23)

The tentative draft has eliminated the Executive Advisory Committee (EAC) as a recognized permit entity. The EAC has been a part of the Los Angeles County Municipal Storm Water NPDES permit, and has been responsible for raising permittees concerns to the Regional Board. Additionally, it has been a Committee that the Executive Director and Regional Board staff has cooperatively worked with to meet common goals and bring about viable solutions. It is extremely important that their recognized existence continue as part of the permit.

We are requesting that the EAC be reincorporated into the permit.

Legal Authority (Pgs. 25, (G2 c & d)

The City is concerned with the provision that requires it to control pollutants (including potential contributions) in the discharges of storm water runoff associates with industrial facilities. The inclusion of the term "potential contributions" is vague and subject to interpretation, and places many municipalities in a position of liability. The City is concerned with those facilities that are currently permitted under State authority. Our concerned is with the provision that requires the permittees to possess authority to enter, sample, copy records, etc., particularly on State permitted facilities. This City does not think it possessed the legal authority to conduct this action. Please refer to our legal counsel's comment letter prepared by Richards, Watson and Gershon.

Lack of "Safe Harbor"

The current municipal permit provides permittees a legal "safe harbor" (pg 12, 2nd paragraph) within the permit's receiving water limitation language when implementing the various provisions of the permit. The provision reads as follows:

"Timely and complete implementation by a Permitee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations".

This provision affords municipalities' protection from potential third party litigation in the event a permittee's program element(s) effectiveness is questioned. As there are many new elements being required in this tentative draft, it is important that the municipalities are afforded adequate protection for implementing programs to the maximum extent practicable. This legal safe harbor provides permittees that protection. We strongly request that this clause be placed back into the current draft permit.

Meet and Confer Process

Within the current NPDES permit is the procedure that details the Meet and Confer process. The tentative draft permit again does not include this process. As you are aware the process allows for meetings and discussions where potential problems (either actual or perceived) can be resolved prior to enforcement action. .

It is our understanding that the Regional Board staff does not see this necessary, and chooses to utilize the State's enforcement policy (Order 96-030). The City believes this process is extremely important as it allows for resolution of communication and interpretation issues at the staff level, prior to elevating them to violation status.

Special Provisions Part 4(2)– Customized SQMP (Pg 27)

What are the standards for developing the customized SQMP, and what is the time frame? More appropriate wording would be "Permittees shall evaluate the need for a customized SQMP and if necessary, shall develop standards and then develop the SQMP.

Additionally, the municipalities should be afforded the opportunity able to review the existing SQMP, and if found adequate, be allowed to adopt it as the customized SQMP.

Outreach and Education – No. 7 (Pg. 30)

The Principle Permittee (PP) in cooperation with the Permittees are being asked to provide educational materials, in various media forms, to all School Districts within its jurisdiction in order to educate a minimum of 50% of all school children (K-12) every two years. While the City concurs that constant outreach and education is important in order to continue to raise storm water pollution prevention awareness, a 50% minimum requirement to educate all school children can prove to be logistically difficult and costly.

Different grade levels require different materials suitable to reach the target audience, and this results in having to create separate materials for each group or several clusters of groups. This can result in unknown personnel resources expended and substantial costs to comply with this requirement. Under the current permit, the PP has assumed responsibility for this task. Utilizing flood control funds, it has visited every subject school in every city and unincorporated areas of Los Angeles County. If the PP agrees to continue performing this task as a means of satisfying this new requirement, the City has no objection to this requirement.

However, with many new mandated programs being asked of the PP in this tentative draft, if it cannot assume the funding responsibility, the numeric requirement must be modified, as many other permittees may not possess the additional funding or resources to achieve this requirement.

Industrial and Commercial Facilities Program (Pg. 33 –36 ABC)

The tentative draft provides three versions of the Industrial/Commercial Facilities program, which is assumed to provide permittees a choice to select from. First, there is currently no documentation that has been presented to the permittees that the existing educational site visit program is not working. This program should continue in its current format with the inspection element eliminated.

Secondly, there is an interagency coordination requiring permittees to provide assistance to the Regional Board that includes collaborative inspections. As the State is collecting $250 from industrial and construction facilities under the State's general Construction and Industrial activities permits, the state should to provide municipalities with demonstrable site visit and inspection program using a substantial portion of this fee to conduct an inspection program(s).

Third, the inspection criteria require inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. An example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years? The word "effectively" should be removed from all inspection criteria.

Finally, municipalities should be exempted from any exceedances caused by sites under State inspection.

SUSMPs (Pg. 41)

The section appears to make a substantial departure from the SUSMP program as previous developed and implemented. Only discretionary projects should be included as priority projects. To incorporate ministerial projects as well, would create substantial use of resources and costs to the permittees.

Development Construction – Part 4.E.2.b Construction Sites (Pg. 50)

The Regional Board is the enforcement authority for site under the General Construction Activities Permit, yet local municipalities are being required to enforce for non-compliance. Municipalities should not be required to inspect these sites. By mutual agreement with the Regional Board, municipalities can be authorized to do so, but the State should then reimburse the municipality for the costs of the inspection from the fees the State has collected under the General Construction Activities Permit.

Public Agencies Activities – Trash Receptacle at Transit Stops (Pg. 56, item d)

The tentative draft includes (for the first time) a new requirement requesting permittees to place trash receptacles at all transit stops within its jurisdiction and maintain them. The City strongly objects to this requirement as Regional Board staff has not taken into the consideration the extreme cost associated with yet another unfunded mandate.

As the City agrees that efforts to minimize trash from entering the storm drain system is important, with pending trash TMDL and its requirements, municipalities should be allowed to select the best avenues for addressing trash. The City preliminary estimates that this requirement would cost approximately $65,000 in the first year for

purchase and maintenance of trash receptacles. The City is questioning what existing documentation and/or study is being referenced to justify the placement of trash receptacles at each transit location. Subsequently, this requirement should be removed.

Public Agencies Activities – Treatment Feasibility Study/Dry Weather Diversion (Pg. 59)

The tentative draft proposes that each permittee conduct a study with the County Sanitation District to investigate possible diversion of dry weather discharges or use of alternate treatment control BMP to treat the flows from their jurisdiction which may impact health and safety, and require collective reviews and coordination of a watershed based priority list no later than July 2002. Again we reiterate that this requirement appears to be extremely problematic as it will: (1) create a substantial impact on personnel resources and funding to treat flows that may or may not effect health and safety, and (2) establishes an unreachable time frame to complete the objectives.

Considering the limitations on municipalities to finance yet another new requirement, we request that this requirement be removed.

Illicit Connections/Discharges (Pgs. 60-61)

The requirement of Permittees to map all illicit connections and discharges is excessive and not cost effective. If illicit connections are ultimately sealed and illicit discharges stopped, why is it necessary to map and what is the purpose? Mapping is a very labor intensive and costly endeavor and should only be used when necessary. This requirement must be removed.

Secondly, there is no definition within the tentative draft of what "Field Screening" is. The staff report (pg. 37) calls for visual monitoring. This word should be added to the tentative draft's language for clarification that field screening is "visual monitoring during infrastructure maintenance".

Definitions – Redevelopment (Pgs. 52)

The definition of redevelopment as currently proposed in the current draft does not meet the intention of decision applied by the State Board in order WQ 2000-11. In the first

sentence, the word "replacement has been added to the definition. During the State Board revised SUSMPs, "redevelopment projects should subjected to the SUSMP only if they result in the creation or addition of 5000 square feet of impervious surface. As there is no reference to the word replacement, this word should be removed.

Monitoring Program

The monitoring program submitted appears to contain many sampling programs, although well intended, that will not assist the Regional Board and the permitees in assessing the effectiveness of the many program elements being undertaken by the permitees within this permit. As there are many new elements within this permit, should this not be the goal of the monitoring program? An example, the "Toxicity Reduction Evaluation" sampling program is a reporting mechanism on MS4 discharges that cause or contribute toxicity to a receiving water, by requiring the Principal Permitee to provide listing of municipalities who have jurisdiction over the potential source, as well as submittal of recommended BMP to reduce the pollutant. How will this program provide an adequate assessment of the overall permit program's effectiveness?

This monitoring program should be reviewed and modified.

Legal Concerns

Please refer to our Legal Counsel comments as prepared by Richards, Watson and Gershon.

In summary, the City of Monrovia sincerely appreciates the effort and time invested by the Regional Board staff in developing the Los Angeles County Municipal NPDES Storm Water Permit. However, there are still significant remaining issues to be addressed. As the tentative draft contains many new program requirements and procedures, it appears that considerations for costs associated with them are not being fully examined. If the permit were adopted today, it would be very costly for the permittees to implement. It is our hope that the final order will address these outstanding issues, and result in a cost effective and efficient permit to continue to insure protection of the beneficial uses of all receiving waters in the Los Angeles Basin.

Should you have any questions, please contact me at (626) 932-5544, or Louis Celaya at (626) 932-5577. Thank you for your time and consideration in this matter.

Sincerely,

David Fike

David Fike
Director of Public Works

cc: City Manager
City Attorney
John Harris, Richards, Watson & Gershon
Dennis Dickerson, Executive Director, LA Regional Water Quality Control Board

DIANE J. MARTINEZ
Mayor
PEGGY LEMONS
Vice Mayor
GENE DANIELS
Councilmember
MANUEL E. GUILLEN
Councilmember
HENRY HARKEMA
Councilmember

2001 NOV 15 P 2:28

November 13, 2001

California Regional Water Quality
Control Board – Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Via Facsimile – (213) 576-6640
original via U.S. Mail

Attention: Dr. Xavier Swamikannu

Subject: County of Los Angeles Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit

Dear Dr. Swamikannu:

Thank you for this opportunity to comment on the tentative draft County of Los Angeles Municipal Storm Water NPDES Permit (the Permit). After a careful review of the draft and discussions with city staff, the City of Paramount must object to the Permit in its current form. Our comments are specifically detailed below.

The permittees have objected to Parts 2.1 and 2.2, RECEIVING WATER LIMITATIONS (p. 18), from the beginning. As it is drafted, the Permit will result in all permittees being in violation of the Permit's provisions during any rain event during the term of the Permit. This is not fair to either the permittees or to the residents the permittees serve. The provision prohibiting any discharge from the municipal separate storm sewer system (MS4) that causes or contributes to the violation of water quality standards or water quality objectives, is unacceptable. Without full treatment of discharges from the MS4, there will be constituents that contribute to the violation of water quality standards or objectives. Thus, attorneys representing the Regional Board or any member of the environmental community could easily document violations and put the permittees in an unacceptable position. The permittees are pursuing Best Management Practices (BMPs) to comply with permit requirements and are complying with the Maximum Extent Practicable (MEP) standard established by the Clean Water Act (CWA). Subjecting the permittees to claims of permit violations based on the overly broad requirements contained in Parts 2.1 and 2.2 is unreasonable and violates the good faith relationship that should exist between the Regional Board and the permittees. These requirements must be made more reasonable to give permittees a chance to attain them.

The last phrase in Part 2.4 (p. 19) is ambiguous and places the permittees in the position of complying with Regional Board directives and then being informed that their

16400 Colorado Avenue • Paramount, CA 90723-5012 • Ph: 562-220-2000 • Fax: 562-630-6731

compliance is not enough because the Board wants additional, possibly expensive, changes to the Storm Water Quality Management Plan. Part 2.3 contains a defined and reasonable process for correcting oversights and inadequate provisions of the Permit. The permittees do not object to Part 2.3. However, the last phrase of Part 2.4 ignores this process and allows the Regional Board to order additional programs to correct problems without input from any interested party to the Permit. This veto power is unreasonable and ignores the cooperative process established in Part 2.3. The permittees request that this last phrase of Part 2.4 be eliminated in its entirety.

Part 3.A.3 (p. 20) again attempts to impose requirements beyond those negotiated through the permit process. It mandates that permittees implement "additional controls, where necessary to reduce the discharges of pollutants in storm water." This blank check approach is not acceptable to permittees and should not be acceptable to the Regional Board. Who determines when additional controls are needed? Under the CWA, any interested party can challenge the adequacy of the effort permittees are using to comply with permit requirements. Does this mean that a petition from the Natural Resources Defense Council (NRDC) to the Regional Board would be sufficient to cause this provision to be triggered? The permittees, through their good faith comments, are attempting to arrive at an acceptable Permit that permittees can reasonably fund through their limited budgets. This provision eliminates any limits on potential costs for permittees. Therefore this provision is unacceptable, and it is also unnecessary considering the provisions of Part 2.3.

Part 3.D.2 (p. 20) requires clarification. What does it mean for the principal permittee, the Los Angeles County Flood Control District, to "act as liaison between permittees and the Regional Board on permitting issues"? If it means that the Regional Board will communicate only with the County on permitting issues, the provision is unacceptable. While we believe the County has done a fine job of keeping the permittees involved and aware of Board concerns, to make the County the sole contact to the exclusion of the rest of the permittees is unacceptable. If, however, this means that the Board will use the County as a conduit to distribute information to permittees and to open a dialogue with all permittees, then the provision is acceptable. As all permittees are responsible for compliance with the Permit, all permittees should be given the opportunity to comment on and discuss issues with the Board.

The elimination of Part 3.G, the Executive Advisory Committee (EAC) (p. 23), is generally unacceptable. While the EAC does not represent a specific watershed, it is comprised of permittees and acts as a coordinating council. The Board does not want to convene a meeting with 85 permittees every time an issue needs to be discussed. In response to two totally different comments to the second draft of the Permit, the Board has reached a bad decision. The first comment deals with the issue of the Brown Act, and it would seem that an opinion from the Attorneys General could resolve the issue of whether the EAC needs to comply with the Brown Act. There is no material difference between the EAC and the Watershed Management Committee (WMC); they both are made up of permittee representatives. The Board needs the EAC as the formal organization that coordinates the efforts of the watershed management committees.

The provisions of Part 3.G.2.c, Legal Authority (p. 25), are probably illegal in our democracy. Individuals are presumed innocent until proven guilty, and businesses in our communities generally have the same protection as natural persons under the law. Permittees have the ability to inspect, survey, and monitor businesses within their boundaries. This legal authority will allow permittees to check on compliance with permit conditions and, when found, to prohibit illicit discharges to the MS4. The problem arises with the provision that requires permittees to enter, sample, review and copy records, and require regular reports from industrial facilities discharging or potentially discharging pollutants to the MS4. The United States Courts have ruled against illegal search and seizure by municipalities. We must first convince a judge that a crime has been committed, and only then will we be given a warrant, the right to enter onto a property without the property owner's prior permission. The warrant must specify what information is being sought and cannot be overly broad to allow for random seizure of information. It is therefore unlikely that a judge would issue a warrant to enter a business based on a permittee's assertion that a potential violation exists. This over-reaching provision must be toned down.

In addition, this provision will place an unacceptable burden upon the permittees by requiring that every business, regardless of size, obtain on operational permit from the permittees. This is an administrative nightmare and would be totally unmanageable. A small city can have hundreds of businesses and a large city can have millions of businesses, with new businesses being formed and other businesses closing every day. Gathering the required data and obtaining the required reports would impact all aspects of city government and would be viewed by business as an unnecessary intrusion on their rights. As currently written, this section is unacceptable and must be deleted.

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Part 4.G.1.b Illicit Connection and Illicit Discharge Elimination Program, Tracking (p. 60), imposes an impossible task on permittees. The Clean Water Act and the State Water Code define the "Storm Drain System" to include the curb in front of properties. Thus, every curb drain must be identified and incorporated into the required database within one year of the date of Permit issuance. By itself, this would be an onerous task,

but when added to the numerous other tasks required by the Permit, it becomes impossible.

For the reasons listed above, the Permit is unacceptable and should be continued for further revision by the Regional Board Staff.

In addition to the problems detailed above, the following changes should be made to clarify or correct technical or editorial errors in the Permit.

Part 3.D (p. 20) lists the Los Angeles County Flood Control District as the Principal Permittee. While the Flood Control District is the taxing agency, all work is being performed by the Department of Public Works; therefore, perhaps the Department of Public Works be designated the Principal Permittee.

Part 3.E.4 (p. 21) requires the permittees to "participate in intra-agency coordination necessary to successfully implement the provisions of this Order...." This seems to duplicate the requirement of Part 3.E.2. If so, one of the duplicate provisions should be deleted.

Part 3.F.3.g (p. 23) requires the Watershed Management Committees to "conduct joint WMC meetings four times per year and as necessary." It is not clear how this is to be interpreted. Must the watershed committees meet quarterly, or does a joint watershed committee meeting of all permittees have to be held quarterly? The WMCs are currently meeting monthly, and although reducing this frequency to quarterly might be tempting, with the mandates of this new order it will likely be necessary to continue to meet monthly. If the quarterly meeting is a new meeting of all permittees at one time, it could be scheduled as a substitute for one of the regular meetings. The language in the Permit should clarify this issue.

Part 3.G.1.i (p. should be changed to say "Prohibit the discharge of concrete or cement ~~(concrete)~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4." Concrete is a combination of cement, rock, and sand that is set into a rock-like material. Cement is the fine alkaline material that is likely to separate from the rock and sand and be washed away from a concrete truck or pump.

The provisions of Part 4.A.2, Customized SQMP (p. 27), are not clear. First, why must a permittee amend the County approved Storm Water Quality Management Plan (SQMP)? Unless a permittee is unique and does not have – and will never have – certain activities or businesses within its boundaries, the SQMP will provide for all contingencies. If a City does wish to amend the SQMP, how long does it have to comply? The section does not set a time limit; either a time limit should be set, or the issue is moot.

Part 4.B.1.c.6 (p. 30) requires clarification. The Principal Permittee is not an insurance company; it is a Public Agency. While it would be comforting to think that the County could "ensure," it is more likely that it will "endeavor to make" 35 million impressions per

year. In addition, the term "impressions" should be defined so that everyone understands the intent of the provision. Is it intended to be a "lasting impression" or is a listener of a radio station assumed to have heard the spot and counted? Do listeners who hear the message have to live in Los Angeles County, or would a resident of Riverside County driving to work in San Bernardino County who hears the message qualify as an impression? The Los Angeles Radio Market extends from Malibu and Ventura, and in some cases Santa Barbara, on the west, to Banning Beaumont on the east, and south into Orange County and Northern San Diego County. The permittees need to understand how the Regional Board interprets this requirement.

There is no indication regarding which of the three programs provided is the preferred version of Part 4.C Industrial/Commercial Facilities Program (p. 33). Version C most nearly resembles the program currently being run by the permittees. Except for the objectionable provisions related to State Permit inspections, noted above, either version A or B would be acceptable.

Part 4.F.3.c (p. 54) has a provision that makes no sense. This section requires permittees to incorporate clarifiers and pretreatment wherever vehicle washing is proposed. It then exempts fire-fighting vehicles from the requirement. Why would the washing of a fire truck at the fire station be any less hazardous than the washing of a fleet vehicle? Washing oil and grease from fire trucks is just as damaging as washing those products from city fleet vehicles. The only differences would be that a fire-fighting vehicle might be washed more frequently than a fleet vehicle, and the fleet vehicle would be run through a car wash. This exception makes little or no sense and should be eliminated.

Each sub-section of Part 4.F.4.c, d, & e (p. 55) starts with the word "ensure." But since permittees are not insurance companies, their actions are limited to directing that fertilizers and pesticides be applied only by licensed applicators; directing that no banned substances be stored or used by the permittee; and directing that fertilizers and pesticides not be applied immediately prior to storms. The word "ensure" should be replaced with a less onerous word.

Part 4.G.2.a.1.ii (p. 61) contains a term that is not defined. The section requires that underground pipes in "priority areas" be inspected within three years of the Board approval, but there is no definition of "priority area" or any explanation of where these priority areas are located. The Permit establishes several priority areas and defines how they are to be established. This section is the one exception to this practice.

Again, the City of Paramount thanks you for this opportunity to review the tentative NPDES Permit for Los Angeles County. For the reasons noted above, we cannot support the adoption of the Permit as currently constructed. We are prepared to discuss these points in greater detail if the Regional Board so desires.

Very truly yours,

CITY OF PARAMOUNT

William C. Pagett
City Engineer

JF:lss
11855/3000/L18

PUBLIC WORKS AND TRANSPORTATION DEPARTMENT

2001 NOV 13 P 3:42

November 8, 2001

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Draft Municipal Stormwater Permit

Dear Mr. Dickerson;

We appreciate the opportunity your staff has provided for us to review and comment on the draft permit for "Municipal Storm Water and Urban Runoff". Our specific comments are:

Section B.6 *Environmentally sensitive areas*	The text (Sec 4.D.3) allows cities to submit designations for environmentally sensitive areas. This section (B.6) should be consistent. Recommended wording: "These environmentally sensitive areas designated by the State and or- the County of Los Angeles and/-or municipalities
Section C.2 *SQMP*	The proposed Order adopts the model programs developed under the previous (current) permit subject to the revisions of the new permit by the board. The Permittees invested a considerable effort in developing the existing model programs. It should be the permittees' responsibility to review and revise the model programs.
Section D.2 *Responsibility over federal and state institutions*	The wording "Permittees will not be held responsible for such facilities and/or discharges" (from federal / state facilities) should be left in.
Section D.4 *Maximum Extent Practicable*	Add a sentence to the end of the paragraph. "Timely and thorough implementation of this order constitutes compliance with the Maximum Extent Practicable criteria."

R0005579

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Section D.6	The wording is confusing. . . . "the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible . . . "
Sections D.8; D.10 *TMDLS*	This section incorporates the TMDL process into the SQMP. TMDLs should only be added after appropriate public comment and review.
Section D.22 *GIASP and GCAS*	The permit identifies the Regional Board as the "enforcing authority" for the two statewide general permits. If the State is the regulating authority for these sites, then municipalities (similarly to the exclusion of section D.2) should not be responsible for discharges from these sites, either under this permit or the TMDL process.
Part 1 *Exempt discharges*	The permit lists several "exempt" discharges with the provision that the Board's executive officer may remove any of these categories if determined to be a source of pollutants. The Regional Board has obviously invested a considerable amount of time in developing this list, and the permittees are likely to permit these discharges. In the event that a discharge is subsequently determined to be a source of pollutants, the permittees should not be held responsible for any exceedances caused by these discharges without first being given adequate time to develop and implement additional BMPs.
Part 1.1 *Exempt discharges*	All general NPDES permits (dewatering, hydrostatic testing, etc.) should be incorporated into this permit as an attachment so that permittees can know which discharges are covered. The Regional Board should also notify all applicable permittees of any subsequent general NPDES permits.
Part 2 *Receiving water limitations*	The wording "thorough and timely implementation of this order shall constitute compliance with the standard for Maximum Extent Practical." should be added.
Part 2.4	Add wording: "So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, a Notice of Violation will not be issued by the Regional Board and the Permittee does not have to repeat the same procedure . .
Part 3.A.3 *General Requirements*	The wording "Each Permittee shall implement additional controls where necessary" is too open-ended and should be eliminated.
Part 3.B *Best Management*	The paragraph: "The permittees shall implement or require the implementation of the most effective combination of BMPs . . . . Is similarly too open ended. Who will the permittees require *Practices*

implementation by? What is the criterion for "most effective combination"? And doesn't implementation of this Order constitute meeting the standard of MEP?

Part 3.G
Legal authority

Permittees have on several occasions, certified that their ordinances comply with the NPDES stormwater requirements. The continuous amending of municipal ordinances each time there is a change in the permit constitutes a substantial burden of city staffs. The existing ordinances are adequate to provide a framework for implementing this Order. The proposed changes in this section should be relocated into the "Special provisions" section so that ordinances do not need to be modified again.

Municipalities will decide if their ordinances need to be modified for specific areas of the Order.

Part 3.G.d
Inspection

Municipalities can authorize their inspectors to make inspections of a facility on a voluntary (by the owner) basis, but cannot make it *authority* mandatory without probable cause or a prior agreement with the business or property owner. This section should reflect this and permittees should not be held responsible for a discharge from a site that the municipality was not able to inspect.

Part 3.G.2c
Adequate Legal Authority

The word "control" is not adequately defined.

Part 4.A.2
Customized SQMP

What are the standards and what is the timeline for developing the customized SQMP? More appropriate wording would be that Permittees shall evaluate the need for a customized SQMP and if necessary, shall develop standards and then develop the SQMP.

Also, a municipality should be able to review the existing SQMP, and if found adequate, adopt it as the customized SQMP?

***Part 4.B and* Findings C.2**
Public Information and Participation Program

There have been very substantial changes to this program and it appears that the 5-year implementation strategy will no longer be in force. The reference to the existing: "Public Information and Participation" as being continued with revisions, as contained in Findings part C-2 should be removed.

Part 4.C
Site inspections

No documentation has been provided that the existing site educational visit program is not working. The site visit program should continue as is.

The State is collecting $250 from industrial and construction facilities under the State's general Construction and Industrial activities permits. The State should provide municipalities with demonstrable site visit and inspection programs a substantial portion of this fee to conduct an inspection program(s). Municipalities should be exempted from any exceedances caused by sites under State inspection.

If the State (or State's agent) is also conducting site inspections, what is the mechanism for informing municipalities of the State's inspection schedule so that overlaps and duplication can be avoided?

The inspection criteria requires inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. For example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years (and in many cases, once every 5 years starting in 2004)? The word "effectively" should be removed from all inspection criteria.

Also, Section C.2 et. al. requires inspectors to confirm that BMPs are being implemented in compliance with County and Municipal ordinances. The wording could lead to confusion, implying that County ordinances are to be implemented in Municipal areas. Wording to the effect of "appropriate jurisdictions" should be added.

Part 4.D.2
Peak flow control

The wording of this section requires that permittees implement peak flow controls for essentially all streams in hillside areas. This should not be a requirement unless a stream has been specifically identified as susceptible to accelerated erosion.

Table 2.1 as referred to includes many hard-bottomed channels that represent no erosion threat.

Part 4.D.3
SUSMPs

This section marks a substantial departure from the SUMSP program as previously developed and implemented. Only discretionary Projects should be included as priority projects.

Also, as the State's General Activity Permits will be reviewed by the State and contain post construction BMPs, how will any inconsistencies and duplications with plans submitted to the municipalities for review under the SUSMP program, which also show post-construction BMPs, be avoided?

Part 4.D.3.b
ESAs

The wording "Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map" should be made optional:

A Permittee may submit . . .

Also, the Staff Report (pg. 7 of attachment) indicates that they (the Board's Staff) were unable to find a legislative basis for the 2,500 square foot threshold of triggering an SUSMP in an ESA. This level was chosen based upon standard residential lot sizes. A better standard is the federal project size threshold of 1 acre, which would be consistent with the construction thresholds and therefore reduce confusion of when stormwater management plans are required.

Part 4.E.2b
Construction sites

As stated in Section D22 of the permit, the Regional Board is the enforcement authority for sites under the General construction Activities permit. Municipalities should not be required to inspect these sites. By mutual agreement with the Board, municipalities could be authorized to do so, but the State should then reimburse the municipality for the cost of the inspection from the fees the State has collected

Part 4.F.3c2
Public agency

This statement could be construed, as requiring pre-treatment facilities for any facility whether there is wastewater or not (ex: a senior citizens center or library). Add the wording "vehicle or equipment washing".

Also, fire-fighting vehicles are excluded from this requirement. Does this mean that washwater from fire fighting vehicles is now considered an exempt discharge?

Part 4.F.5
Trash receptacles

Permittees, where trash has been designated as a pollutant, are already addressing this through the TMDL process. All reference to trash and litter under this section is redundant and will lead to confusion and should therefore be eliminated.

For example, if a Permittee has already adopted a plan under the TMDL process to reduce trash by utilizing catch basin inserts, why then require trash receptacles at all transit stops?

Suggestion: Permittees evaluate the need for addition anti-trash BMPs and take appropriate action based upon their findings.

Part 4.F.6
Street Sweeping

Similarly, if the discharge of trash is being adequately addressed through other means, why require revisions to the street sweeping program?

Part 4.G.1.b
Illicit Connections

The requirement of Permittees to map all illicit connections and discharges is excessive and not cost effective. If these illicit connections are sealed and illicit discharges stopped, what is the purpose of a map? Mapping is a very labor intensive and costly endeavor and should only be used when necessary.

Part 4.G.2.a
Field Screening

There is no definition within the Order of what "Field Screening" is. The Staff Report (pg. 37) calls for visual monitoring. Wording should be added to the Order's language for clarification that field screening is: visual monitoring during infrastructure maintenance.

Part 4.G.3a
Illicit discharges

Corrective actions are typically performed by the responsible party (the discharger). It should be clear that "activities to abate" include ordering the responsible party to initiate mitigation activities.

Annual Report Under the previous (current) permit, permittees invested a considerable amount of resources in developing an annual reporting form. This process should be continued under the new permit. Permittees should be allowed a minimum of 180 days to develop a revised report format for submittal to the Board's executive officer for approval instead of using the form attached in the permit package.

The Annual Report asks municipalities to grade themselves on a scale of 1 to 10. Is 10 best or worst? Also, what criteria is used for grading and what is the minimum allowable score to assure compliance with this Order and the Clean Water Act?

I wish to thank you for the opportunity to comment on the proposed next Permit. If you have any questions please call Jim Valentine of this office at (626) 744-4265.

Sincerely,

James E. Valentine

for Daniel A. Rix
Acting Deputy Director

DOUGLAS DUNLAP
City Manager

THE CITY OF
POMONA

Office of the City Manager

November 9, 2001

California Regional Water Quality Control Board
Los Angeles Region
Attn: Xavier Swamikannu
320 West 4th Street, Suite 200
Los Angeles, CA 90013

CITY OF POMONA CALIFORNIA INCORPORATED JAN. 1, 1888
01 NOV 13 AM 9:2
REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

Subject: Draft Los Angeles Regional Water Quality Control Board Draft NPDES Permit No. CAS614001

Dear Mr. Swamikannu:

My staff has reviewed the second draft NPDES Permit for Los Angeles County and to our dismay found very few changes in response to our comments. There are still several areas of concern for the City of Pomona that have not been addressed. The draft Permit still imposes unfunded mandates on Pomona with no recognition of the availability of resources necessary to provide the services required by the permit. Some of the unfunded expanded programs required by the Permit include:

Inspection Program

The Industrial/Commercial facilities inspection program requires cities to inspect all industrial and commercial facilities within 24 months of Permit adoption, by each permitee, and inspection of certain delineated facilities once every 24 months.

Transfer of responsibility to cities for inspection and "control" of runoff from industrial facilities, including "potential contribution" of pollutants in runoff from industrial facilities.

Since the State is proposing no funding to the cities for the costs of the new inspection program. The business community will likely object to the additional levy of a city storm water fee since they are already paying fees to the State. Assuming it were even legally enforceable, Cities would be required to fund staffing for inspectors or contract with consultant inspection firms. The City of Pomona is opposed to this shift of inspection and enforcement obligation from the State to the City, and is further opposed to the extension of limitless inspection, reporting and oversight obligations imposed by the Draft Permit.

R0005585

Development Planning Program/SUSMPs

The permit still requires most commercial projects to design and implement post-construction treatment and structural controls to mitigate storm water pollution before the City may issue grading or building permits. The threshold for this requirement, the creation, addition, or replacement of 5,000 square feet of impervious surface area on an already developed site is too broad. Very few commercial projects have parking areas with less than 5,000 square feet or 25 spaces.

If the requirements apply to minor projects such as repaving a parking lot, the requirement may discourage well-intentioned property owners from improving their property.

Stormwater Mitigation Measures included in CEQA reviews

(California Environmental Quality Act (CEQA) Document Update) Each Permittee shall modify planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation, with immediate effect .

The permit will require the City of Pomona to revise its CEQA processes to address stormwater issues. However, it is unclear whether the threshold for significance for storm water impacts will be the projects that are required to have a SUSMP. Interpreting these regulations in this manner will require extended environmental review on projects that are currently categorically exempt or may be approved with a negative declaration. Essentially, this requirement forces the City to make "ministerial" projects "discretionary" for purposes of imposing development planning mitigation measures.

Finally, we are still required to provide weekly street sweeping (this is done monthly under the current permit), increased frequency of cleaning our 492 catch basins, and begin the implementation of a new City Business Assistance Program.

While I agree with the Regional Water Quality Control Board's effort to reduce the volume and velocity of storm water runoff and improve water quality to protect beneficial uses. I believe that the draft Permit does not offer a realistic solution to the problem. I again ask that you carefully consider our comments and I look forward to further dialogue with the Regional Water Quality Control Board staff in the NPDES Permit renewal process.

Sincerely,

Douglas Dunlap
City Manager

MAYOR:
JAY T IMPERIAL

MAYOR PRO TEM:
ROBERT W BRUESCH

COUNCILMEMBERS:
MARGARET CLARK
GARY A TAYLOR
JOE VASQUEZ

City of Rosemead

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2001 NOV 15 P 2:27

November 13, 2001

California Regional Water Quality
Control Board – Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Via Facsimile – (213) 576-6640
original via U.S. Mail

Attention: Dr. Xavier Swamikannu

Subject: County of Los Angeles Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit

Dear Dr. Swamikannu:

Thank you for this opportunity to comment on the tentative draft County of Los Angeles Municipal Storm Water NPDES Permit (the Permit). After a careful review of the draft and discussions with city staff, the City of Rosemead must object to the Permit in its current form. Our comments are specifically detailed below.

The permittees have objected to Parts 2.1 and 2.2, RECEIVING WATER LIMITATIONS (p. 18), from the beginning. As it is drafted, the Permit will result in all permittees being in violation of the Permit's provisions during any rain event during the term of the Permit. This is not fair to either the permittees or to the residents the permittees serve. The provision prohibiting any discharge from the municipal separate storm sewer system (MS4) that causes or contributes to the violation of water quality standards or water quality objectives, is unacceptable. Without full treatment of discharges from the MS4, there will be constituents that contribute to the violation of water quality standards or objectives. Thus, attorneys representing the Regional Board or any member of the environmental community could easily document violations and put the permittees in an unacceptable position. The permittees are pursuing Best Management Practices (BMPs) to comply with permit requirements and are complying with the Maximum Extent Practicable (MEP) standard established by the Clean Water Act (CWA). Subjecting the permittees to claims of permit violations based on the overly broad requirements contained in Parts 2.1 and 2.2 is unreasonable and violates the good faith relationship that should exist between the Regional Board and the permittees. These requirements must be made more reasonable to give permittees a chance to attain them.

The last phrase in Part 2.4 (p. 19) is ambiguous and places the permittees in the position of complying with Regional Board directives and then being informed that their compliance is not enough because the Board wants additional, possibly expensive, changes to the Storm Water Quality Management Plan. Part 2.3 contains a defined and reasonable process for correcting oversights and inadequate provisions of the Permit. The permittees do not object to Part 2.3. However, the last phrase of Part 2.4 ignores this process and allows the Regional Board to order additional programs to correct problems without input from any interested party to the Permit. This veto power is unreasonable and ignores the cooperative process established in Part 2.3. The permittees request that this last phrase of Part 2.4 be eliminated in its entirety.

Part 3.A.3 (p. 20) again attempts to impose requirements beyond those negotiated through the permit process. It mandates that permittees implement "additional controls, where necessary to reduce the discharges of pollutants in storm water." This blank check approach is not acceptable to permittees and should not be acceptable to the Regional Board. Who determines when additional controls are needed? Under the CWA, any interested party can challenge the adequacy of the effort permittees are using to comply with permit requirements. Does this mean that a petition from the Natural Resources Defense Council (NRDC) to the Regional Board would be sufficient to cause this provision to be triggered? The permittees, through their good faith comments, are attempting to arrive at an acceptable Permit that permittees can reasonably fund through their limited budgets. This provision eliminates any limits on potential costs for permittees. Therefore this provision is unacceptable, and it is also unnecessary considering the provisions of Part 2.3.

Part 3.D.2 (p. 20) requires clarification. What does it mean for the principal permittee, the Los Angeles County Flood Control District, to "act as liaison between permittees and the Regional Board on permitting issues"? If it means that the Regional Board will communicate only with the County on permitting issues, the provision is unacceptable. While we believe the County has done a fine job of keeping the permittees involved and aware of Board concerns, to make the County the sole contact to the exclusion of the rest of the permittees is unacceptable. If, however, this means that the Board will use the County as a conduit to distribute information to permittees and to open a dialogue with all permittees, then the provision is acceptable. As all permittees are responsible for compliance with the Permit, all permittees should be given the opportunity to comment on and discuss issues with the Board.

The elimination of Part 3.G, the Executive Advisory Committee (EAC) (p. 23), is generally unacceptable. While the EAC does not represent a specific watershed, it is comprised of permittees and acts as a coordinating council. The Board does not want to convene a meeting with 85 permittees every time an issue needs to be discussed. In response to two totally different comments to the second draft of the Permit, the Board has reached a bad decision. The first comment deals with the issue of the Brown Act,

and it would seem that an opinion from the Attorneys General could resolve the issue of whether the EAC needs to comply with the Brown Act. There is no material difference between the EAC and the Watershed Management Committee (WMC); they both are made up of permittee representatives. The Board needs the EAC as the formal organization that coordinates the efforts of the watershed management committees.

The provisions of Part 3.G.2.c, Legal Authority (p. 25), are probably illegal in our democracy. Individuals are presumed innocent until proven guilty, and businesses in our communities generally have the same protection as natural persons under the law. Permittees have the ability to inspect, survey, and monitor businesses within their boundaries. This legal authority will allow permittees to check on compliance with permit conditions and, when found, to prohibit illicit discharges to the MS4. The problem arises with the provision that requires permittees to enter, sample, review and copy records, and require regular reports from industrial facilities discharging or potentially discharging pollutants to the MS4. The United States Courts have ruled against illegal search and seizure by municipalities. We must first convince a judge that a crime has been committed, and only then will we be given a warrant, the right to enter onto a property without the property owner's prior permission. The warrant must specify what information is being sought and cannot be overly broad to allow for random seizure of information. It is therefore unlikely that a judge would issue a warrant to enter a business based on a permittee's assertion that a potential violation exists. This over-reaching provision must be toned down.

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For the reasons listed above, the Permit is unacceptable and should be continued for further revision by the Regional Board Staff.

In addition to the problems detailed above, the following changes should be made to clarify or correct technical or editorial errors in the Permit.

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Part 3.F.3.g (p. 23) requires the Watershed Management Committees to "conduct joint WMC meetings four times per year and as necessary." It is not clear how this is to be interpreted. Must the watershed committees meet quarterly, or does a joint watershed committee meeting of all permittees have to be held quarterly? The WMCs are currently meeting monthly, and although reducing this frequency to quarterly might be tempting, with the mandates of this new order it will likely be necessary to continue to meet monthly. If the quarterly meeting is a new meeting of all permittees at one time, it could be scheduled as a substitute for one of the regular meetings. The language in the Permit should clarify this issue.

Part 3.G.1.i (p. should be changed to say "Prohibit the discharge of concrete or <u>cement</u> ~~(concrete)~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4." Concrete is a combination of cement, rock, and sand that is set into a rock-like material. Cement is the fine alkaline material that is likely to separate from the rock and sand and be washed away from a concrete truck or pump.

The provisions of Part 4.A.2, Customized SQMP (p. 27), are not clear. First, why must a permittee amend the County approved SQMP? Unless a permittee is unique and does not have – and will never have – certain activities or businesses within its boundaries, the SQMP will provide for all contingencies. If a City does wish to amend the SQMP, how long does it have to comply? The section does not set a time limit; either a time limit should be set, or the issue is moot.

Part 4.B.1.c.6 (p. 30) requires clarification. The Principal Permittee is not an insurance company; it is a Public Agency. While it would be comforting to think that the County could "ensure," it is more likely that it will "endeavor to make" 35 million impressions per year. In addition, the term "impressions" should be defined so that everyone understands the intent of the provision. Is it intended to be a "lasting impression" or is a listener of a radio station assumed to have heard the spot and counted? Do listeners who hear the message have to live in Los Angeles County, or would a resident of Riverside County driving to work in San Bernardino County who hears the message qualify as an impression? The Los Angeles Radio Market extends from Malibu and Ventura, and in some cases Santa Barbara, on the west, to Banning Beaumont on the east, and south into Orange County and Northern San Diego County. The permittees need to understand how the Regional Board interprets this requirement.

There is no indication regarding which of the three programs provided is the preferred version of Part 4.C Industrial/Commercial Facilities Program (p. 33). Version C most nearly resembles the program currently being run by the permittees. Except for the objectionable provisions related to State Permit inspections, noted above, either version A or B would be acceptable.

Part 4.F.3.c (p. 54) has a provision that makes no sense. This section requires permittees to incorporate clarifiers and pretreatment wherever vehicle washing is proposed. It then exempts fire-fighting vehicles from the requirement. Why would the washing of a fire truck at the fire station be any less hazardous than the washing of a fleet vehicle? Washing oil and grease from fire trucks is just as damaging as washing those products from city fleet vehicles. The only differences would be that a fire-fighting vehicle might be washed more frequently than a fleet vehicle, and the fleet vehicle would be run through a car wash. This exception makes little or no sense and should be eliminated.

Each sub-section of Part 4.F.4.c, d, & e (p. 55) starts with the word "ensure." But since permittees are not insurance companies, their actions are limited to directing that fertilizers and pesticides be applied only by licensed applicators; directing that no banned substances be stored or used by the permittee; and directing that fertilizers and pesticides not be applied immediately prior to storms. The word "ensure" should be replaced with a less onerous word.

Part 4.G.2.a.1.ii (p. 61) contains a term that is not defined. The section requires that underground pipes in "priority areas" be inspected within three years of the Board approval, but there is no definition of "priority area" or any explanation of where these priority areas are located. The Permit establishes several priority areas and defines how they are to be established. This section is the one exception to this practice.

Again, the City of Rosemead thanks you for this opportunity to review the tentative NPDES Permit for Los Angeles County. For the reasons noted above, we cannot support the adoption of the Permit as currently constructed. We are prepared to discuss these points in greater detail if the Regional Board so desires.

Very truly yours,

CITY OF ROSEMEAD

Ken Rukavina, P.E.
City Engineer

November 14, 2001

RANCHO PALOS VERDES
PUBLIC WORKS DEPARTMENT

Mr. Dennis Dickerson, Executive Officer
Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

2001 NOV 15 P 2:28

SUBJECT: Comments on Draft Storm Water Permit

Mr. Dickerson:

This letter is in response to the current draft of the storm water permit.

No Certainty as to what areas will be designated as an Environmentally Sensitive Area

The overriding issue for the City of Rancho Palos Verdes is how the term Environmentally Sensitive Area is defined. This is because previous drafts of the permit put nearly the entire City of Rancho Palos Verdes in an ESA. The current permit no longer defines the ESAs but rather requests Cities to submit a map showing the ESAs in their jurisdiction. The maps are to then be reviewed and approved by the Board in conjunction with the Department of Fish and Game.

While this change is an improvement, the two-step approach to the permit makes it difficult for the City of Rancho Palos Verdes to comment on the overall permit at this time. For the City of Rancho Palos Verdes, the reasonableness of the overall permit is highly dependant upon what areas are ultimately approved by the board to be included as an ESA.

Projects adjacent to the Environmentally Sensitive Areas

The permit requires that certain projects adjacent to an Environmentally Sensitive Area include a SUSMP in their plan of development. There is no basis for this category of project needing SUSMP. More fundamentally, whether a project adjacent to an ESA requires a SUSMP will depend on how the ESA is defined. The City of Rancho Palos Verdes understands the need to include a SUSMP in the plan of development for a project draining into an ESA.

Lack of Equity between projects

There is simply a lack of equity in the new permit regarding the type of projects that require SUSMPs. In general, construction of a 2,500 square foot residential improvement in or adjacent to an ESA will require a SUSMP while a 95,000 square foot commercial project not in or adjacent to an ESA will not.

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Cost to the City of Rancho Palos Verdes

The new permit requires several new activities without providing the necessary funds. These new activities include:

- Annual inspection of Restaurants
- Annual inspection of Gas Stations
- Annual inspections of Service Stations
- Installation and maintenance of trash bins at all transit stops
- More frequent street sweeping for some streets in the City
- More frequent catch basin cleaning
- More aggressive public information and public participation program

The City has no funding sources for these new activities which means that some current activities will need to be reduced or eliminated.

Industrial Commercial Inspections

The new permit will require inspections at many city businesses. This will be costly for the City and its merchants, and will have limited benefit. It is not clear how the City will fund these new activities.

The existing permit requires visits based on the type of business and the potential for exposure. In addition there is always the opportunity to add businesses that were found to be potential polluters. The new permit starts with the assumption that all industrial and commercial businesses (including: insurance offices, shoe stores, etc.) are polluters and need to be inspected, which is not the case. The program will require the implementation of "minimum BMPs" at facilities that have not historically been shown to be potential causes of storm water pollution.

Requirement to put trash receptacles at all transit stops

The new permit requires the placement of trash bins at all transit stops. This requirement is arbitrary and does not acknowledge that the City of Rancho Palos Verdes does a very good job of picking up trash along its arterial roadways. The City of Rancho Palos Verdes should not be required to place trash bins at its transit stops because other areas of Los Angeles County may have litter problems. Regulations to reduce litter should be performance based rather than a one size fits all requirement.

Format of Permit

For cost reasons the City of Rancho Palos Verdes prefers not to modify its Municipal Code with each revisions to the permit. To accomplish this the City has established a framework in its Municipal for implementing changes in storm water regulations. If the Board were to include permit changes in the Special Provisions section, the City will save the cost of revising its Municipal Code.

Process

The Board appears to be adopting regulations that have not had adequate public review or comment.

As discussed above the Board is asking for comments to the permit without defining the Environmentally Sensitive Areas in the City of Rancho Palos Verdes. It is difficult to comment on the overall permit unless and until the ESAs are defined.

The Storm water Quality Management Plan (SQMP) now incorporates the Total Maximum Daily Load (TMDL) process. There has not been adequate review or public comment on the TMDL process for this to happen.

The Permit makes provisions for the removal of exempt discharges by the Executive Officer without a public review or comment period.

Requirement for an update to the General Plan

The new permit will require the City to update its General Plan to include a new section on storm water. It will be costly for the City to make such an update, and there appears to be little justification.

The City of Rancho Palos Verdes appreciates the opportunity to comment on the new Municipal Storm Water Permit. The City believes that the permit should be flexible enough to accommodate the unique characteristics of each city, and avoid expending funds on programs that will have limited benefits.

Sincerely,

Dean Allison
Director of Public Works

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Marilyn Lyon - Mayor
John C. McTaggart - Mayor Pro Tem
Barbara Ferraro - Councilmember
Peter C. Gardiner - Councilmember
Douglas W. Stern - Councilmember

RANCHO PALOS VERDES

November 21, 2001

2001 NOV 26 A 10:37

Mr. Dennis Dickerson, Executive Officer
Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

SUBJECT: Comments on Draft Storm Water Permit

Mr. Dickerson: Dennis

The City of Rancho Palos Verdes appreciates this opportunity to provide the following comments to the Draft storm water permit.

As the Permit is currently structured, there is no certainty as to what areas of the City will be designated as an Environmentally Sensitive Area

The overriding issue for the City of Rancho Palos Verdes is what areas are defined as Environmentally Sensitive Areas (ESA's). This is because previous drafts of the permit defined nearly the entire City of Rancho Palos Verdes as an ESA. The result of this definition was that many of our property owners would need to include a costly Standard Urban Storm water Mitigation Plan (SUSMP) in their development, while much larger projects in other cities would not.

The current permit no longer defines the ESA's but rather requests Cities to subsequently define the ESA's in their jurisdiction. The proposed ESA in each City would then be reviewed and approved by the Board in conjunction with the Department of Fish and Game. While this change has the potential for improvement, this two-stepped approach to the permit makes it difficult for the City of Rancho Palos Verdes to comment on the overall permit at this time. For the City of Rancho Palos Verdes, the reasonableness of the overall permit is highly dependant upon what areas are ultimately approved by the board to be included as an ESA.

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Projects adjacent to the Environmentally Sensitive Areas

The permit requires that certain projects adjacent to an ESA include a SUSMP in their plan of development. There is no basis for this category of project needing SUSMP. More fundamentally, whether a project adjacent to an ESA requires a SUSMP will depend on how the ESA is defined. The City of Rancho Palos Verdes understands the need to include a SUSMP in the plan of development for a project draining into an ESA but not for one that is simply adjacent to the ESA.

Lack of Equity between projects

There remains a lack of equity in the new permit regarding the type of projects that require SUSMP's. In general, construction of a 2,500 square foot residential improvement in or adjacent to an ESA will require a SUSMP while a 95,000 square foot commercial project not in or adjacent to an ESA will not.

Cost to the City of Rancho Palos Verdes

The new permit will require several new activities without providing the necessary funds. These new activities include:

- Annual inspection of Restaurants
- Annual inspection of Gas Stations
- Annual inspections of Service Stations
- Installation and maintenance of trash bins at all transit stops
- More frequent street sweeping for some streets in the City
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The City has no funding sources for these new activities, which means that some current activities will need to be reduced or eliminated.

Industrial Commercial Inspections

The new permit will require inspections at many city businesses. This will be costly for the City and its merchants, and will have limited benefit. It is not clear how the City will fund these new activities.

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The new permit requires the placement and maintenance of trash bins at all transit stops. This requirement is arbitrary and does not acknowledge that the City of Rancho Palos Verdes does a very good job of picking up trash along its arterial roadways. The City of Rancho Palos Verdes should not be required to place trash bins at its transit stops because other areas of Los Angeles County may have litter problems. Regulations to reduce litter should be performance based rather than a one size fits all requirements.

Format of Permit

For cost reasons the City of Rancho Palos Verdes prefers not to modify its Municipal Code with each revisions to the permit. To accomplish this the City has established a framework in its Municipal Code for implementing changes in storm water regulations. If the Board were to include permit changes in the Special Provisions section, the City will save the cost of revising its Municipal Code.

Process

The Board appears to be adopting regulations that have not had adequate public review or comment.

As discussed above the Board is asking for comments to the permit without defining the Environmentally Sensitive Areas in the City of Rancho Palos Verdes. It is difficult to comment on the overall permit unless and until the ESA's are defined.

The Storm water Quality Management Plan (SQMP) now incorporates the Total Maximum Daily Load (TMDL) process. There has not been adequate review or public comment on the TMDL process for this to happen.

The Permit makes provisions for the removal of exempt discharges by the Executive Officer without a public review or comment period.

Requirement for an update to the General Plan

The new permit will require the City to update its General Plan to include a new section on storm water. It will be costly for the City to make such an update, and there appears to be little justification.

The City of Rancho Palos Verdes appreciates the opportunity to comment on the new Municipal Storm Water Permit. The City believes that the permit should be flexible enough to accommodate the unique characteristics of each city, and avoid expending funds on programs that will have limited benefits.

Sincerely,

Marilyn Lyon
Mayor

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OFFICE OF
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CITY OF REDONDO BEACH
CALIFORNIA

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November 8, 2001

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

2001 NOV 13 P 2:19

Subject: Draft Municipal Stormwater Permit Review Comments

Dear Mr. Dickerson:

We appreciate the opportunity your staff has provided for us to review and comment on the draft permit for "Municipal Storm Water and Urban Runoff". Our specific comments are:

Findings, Paragraph A.	The Definition of MS4 is very broad in the Definitions section. It includes, in addition to underground piping and open storm channel, street and curbs & gutters. In this paragraph MS4 and "storm drain systems" are defined to mean the same thing. In the ICID program, subparagraph G.1.b) there are requirements to list all permitted connections to the storm drain system and to map all illicit connections. The definition of illicit connection is any connection that is not permitted. There is an exception that makes roof drains and other similar connections not illicit. Therefore, is it correct to assume that a roof drain, or other similar connection that is not permitted and by definition not illicit, need not be listed nor mapped? And, by extension, they do not need to be screened as required by subparagraph G.2.(1).
Findings, Subparagraph C.4	This paragraph states that the existing SQMP is acceptable with the additions contained in the order. Since some of the additions contradict the existing SQMP, "additional" should be changed to "additional and/or revised". In addition, the paragraph should include language that says the revisions supercede the requirements in the existing SQMP.

Part 2, Subparagraph 3.a)	This paragraph specifies that a report be submitted as part of the annual Storm Water Report and Assessment (SWRA) or earlier. Because it is possible that notification by the Board to Permittee may be issued close to the due date of the SWRA, it may not be possible to prepare the report in time to submit with the SWRA or earlier. Suggest that wording be changed to replace "an earlier submittal" to "submittal on a specific date".
Part 3, Subparagraph D.5	This paragraph states that the Principal Permittee is to convene the WMCs, however there is no specified frequency. Subparagraph F.3.g. specifies "joint" WMC meetings are to occur four times per year. Does "joint" mean that all six WMCs are to meet together four times per year, or is this the frequency for the meeting of each WMC? Please clarify.
Part 4, Subparagraph D.3 *Development Planning*	In the Development Planning Program there is a requirement that a SUSMP be implemented for "Parking lots 5000 square feet or more of surface area or with 25 or more parking spaces". The definition of "Parking lots" includes land used for parking related to businesses and commerce, but not industry. This could be misinterpreted to mean that any commercial development (but not industrial development) which includes a parking lot with 25 or more parking spaces, or a parking lot with 5000 sq. ft. or more, would have to implement the SUSMP. This would appear to be inconsistent with the requirement that only commercial developments 100,000 sq. ft. or more are required to implement SUSMPs. The requirement should be clarified to say that only parking lots that are constructed independent of any commercial development fall into this category.
Part 4, Subparagraph F.5.a)	This paragraph states that the Permittee shall prioritize each catch basin within its "jurisdiction". Because many catch basins within a permittee's "jurisdiction" are owned and maintained by another agency, the phrase "within its jurisdiction" should be changed to "owned by permittee".
Definition, Full Capture Device	The definition of "Full Capture Device" may be appropriate in the context of the trash TMDL but may not be appropriate when dealing with other pollutants such as metals and bacteria. Suggest that it be removed from the permit and only defined in the specific TMDL document.

Definition, Illicit Connection	Defining "Illicit Connection" as any un-permitted connection doesn't seem appropriate in the context of this NPDES permit. Any connection that discharges a pollutant, permitted or not, should be considered Illicit and, conversely, an un-permitted connection that discharges only stormwater should not be considered illicit. The definition should be changed to read: "... to the storm drain system used to convey an illicit discharge. Examples include...".
Definition, Planning Priority Project	In defining "Planning Priority Project," the category for "Parking Lots" should be modified so that it doesn't lower the threshold for commercial development from 100,000 sq. ft. to 5,000 sq. ft. The more appropriate wording would be: "Parking Lot as defined herein that is not part of any commercial/ industrial development".

Thank you for the opportunity to comment on the proposed Permit, and please call Mike Shay or me at (310) 318-0661 if you have any questions.

Sincerely,

Steve Huang
Director of Engineering & Building Services

cc: Mike Shay, Civil Engineer
Project File

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City of
Santa Clarita

November 9, 2001

RECEIVED
01 NOV 13 AM 9:25
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

Dr. Xavier Swamikannu, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Dear Dr. Swammikanu:

RE: Comments on *"Tentative Draft (October 11, 2001)*, LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD ORDER No. 01-XXX (NPDES No. CAS004001) WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN (EXCEPT FOR THE CITY OF LONG BEACH)"

Thank you for the opportunity to submit comments on the *"Tentative Draft (October 11, 2001)*, LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD ORDER No. 01-XXX (NPDES No. CAS004001) WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN (EXCEPT FOR THE CITY OF LONG BEACH)" (the Tentative Draft) of the new storm water permit for Los Angeles County. This letter is in addition to the comments to be submitted by Burke, Williams & Sorensen, LLP, on behalf of the City of Santa Clarita, as well as other cities, by letter dated **November 12, 2001**.

The City of Santa Clarita is fortunate that one of the last natural rivers in Southern California runs through the heart of our community. The Santa Clara River is a constant reminder of the importance of water quality and the City supports endeavors to protect and enhance water quality. Great strides have been made with the current Los Angeles County NPDES permit and our city looks forward to accomplishing more with the implementation of the anticipated new NPDES permit.

Meetings with Regional Board staff to discuss the terms of the permit have been very helpful on many levels, including the development of mutual understanding of desired outcomes, identification of the barriers

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solutions to the barriers. However, the City is concerned regarding Board staff's final application of these discussions regarding critical land use provisions and substantial financial requirements in the Tentative Draft.

As previously stated in the City's Second Draft comment letter dated August 2, 2001, Santa Clarita generally supports the water quality challenges that the Tentative Draft proposes to address. However the City is concerned regarding our ability to implement some of the proposed requirements from both a fiscal and land use perspective. The City's primary areas of concern with the Tentative Draft are regarding inclusion of TMDL references throughout the document, receiving water limitations language, commercial and industrial regular inspection requirements, development planning requirements, and the expansion of the applicability of SUSMP requirements.

1. **TMDL Language:** As stated in our previous comment letter dated August 2, 2001, the City is concerned regarding the incorporation of TMDLs into the municipal stormwater permit process. The TMDL language found throughout the Tentative Draft is duplicative of the TMDL processes approved by the Board and imposes requirements that, in some cases, may be contrary to the Board-approved TMDL process. NPDES permits regulate overall issues associated with runoff of pollutants into the storm drain system to the maximum extent practicable, whereas a TMDL focuses on a particular impairment and specific contributions to the creation of that impairment. The TMDL process is both regulatory and an evolving scientific solution to correct impairments of a water body. Proposed solutions to the designated impairments may need to be adjusted throughout the implementation of the TMDL to achieve the goal of higher water quality. TMDLs will become a powerful tool in the goal to improve water quality, but are not appropriate for inclusion as a requirement in a NPDES permit. Development of TMDLs should be done in concert with and as a compliment to the NPDES permit to achieve the mutually supporting goals of protecting and improving water quality.

   The City requests that all language throughout the Tentative Draft that incorporates TMDLs or the TMDL process into the NPDES permit be omitted from the final approved municipal storm drain permit.

2. **Receiving Water Limitations:** As stated in our previous comment letter dated August 2, 2001, the City is very concerned regarding the Receiving Waters Limitations (RWL) language as currently written in

the Tentative Draft. The RWL language could be viewed as creating liability for permittees in the form of third party lawsuits and is not found in the State Board Order WQ 99-05 (page 18). In addition, the City disagrees with Board staff response to comments dated October 11, 2001 that the Permittees' obligations to reduce the discharge of pollutants in stormwater is qualified to the maximum extent practicable; thus, the Permittees are protected from third party lawsuits as long as more and better controls are implemented. As currently written, Permittees are directly responsible for discharges from the MS4 that "cause or contribute" to the violation of water quality objectives, regardless of the source of the discharge, and regardless of the controls implemented to prohibit the discharge. Given that runoff discharges into water bodies that are already listed as impaired on the EPA's 303(d) list, this language could be construed to specifically place Permittees in violation of the new permit immediately upon its adoption and subject to third party litigation.

The City of Santa Clarita requests that the Board use the receiving water limitations language prescribed by the US EPA in permits issued by that agency, and by State Water Resources Control Board in State Board Order WQ 99-05. The additional language found in Part 2.1 and 2.2, on page 18 of the Tentative Draft, with particular reference to the "cause or contribute" language, should be deleted. The State Board's language, which excised the "cause or contribute" language from Order 98-01, is the required language to be used in municipal storm water permits. In this connection, see also the comment letter submitted on our behalf by Burke, Williams & Sorensen, LLP, by letter dated July 19, 2001, especially comments 5, 6 and 7.

3. **Industrial/Commercial Facilities Program:** The City of Santa Clarita does not have the authority to enter private property without permission, an inspection warrant or probable cause to believe that a crime has been committed. The City investigates every complaint of illicit discharge and illicit connection and takes enforcement action where necessary. The City does not inspect industrial and commercial facilities, as Los Angeles County Department of Public Works and Regional Board staff currently conducts these inspections, as well as collects specific revenue for the purpose of providing these inspections. The City does not have the personnel and monetary resources to assume responsibility for regular inspections of all these facilities.

   Versions A and B in the Tentative Draft of the Industrial/Commercial Facilities Program require the ability to conduct regular inspections.

As stated above the City does not have the authority to comply with this requirement and other agencies already conduct these inspections. Due to the nature of the site visits and the coordination with other inspection programs allotted for in Version C, this version is more feasible with the language adjustment stated below.

The City requests that the Board:

1) *Reject Industrial/Commercial Facilities Program Version A and Version B of the Tentative Draft,*
2) *Accept Industrial/Commercial Facilities Program Version C as the program for the Tentative Draft, and*
3) *Modify the language in Version C Part 3.G2.d) on page 25 to read, "Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from facilities associated with industrial activity discharging storm water runoff into its MS4 (including construction sites). Permittees shall act upon this authority when they discover or have illicit discharges and/or illicit connections brought to their attention."*

4. **Development Planning Program:** The requirement to, "minimize the quantity of storm water directed to impermeable surfaces and the MS4" (page 40) does not acknowledge the need to protect structures and people from the ponding of water on-site.

   The City requests the following language change, "minimize the quantity of storm water directed to impermeable surfaces and the MS4 when so doing does not pose a health and safety risk to the public and risk of undermining the structural integrity of nearby structures."

   Additional requirements under the Development Planning Program states the Permittees shall, "Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site," (page 40). This language is vague and appears to require treatment control BMPs/USMPs to be installed/constructed on every planning priority development and redevelopment project. This would negate the need for categories of developments to trigger the SUSMP requirement.

   The City requests to have this language stricken from the permit.

5. **Standard Urban Storm Water Mitigation Plans:** The language, "Divert roof runoff to vegetated areas before discharge unless the

diversion would result in slope instability," and "Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability" (page 41) addresses the concern about slope instability. However, the language should be further clarified to protect the integrity of structures from diverted runoff on the property.

The City requests the language to read, "Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability and/or endanger the integrity of nearby structures."

The addition of the SUSMP category, "redevelopment projects in subject categories that meet redevelopment thresholds," (page 42 and 44) and the changes to the redevelopment definition could conceivably prevent redevelopment in areas that need it the most due to significant costs associated with the design and implementation of USMPs.

*The City requests to have the redevelopment definition language found in the EPA's definition of "redevelopment, at 64 Fed. Reg. 68760, December 8, 1999: **"EPA intends the term "redevelopment" to refer to alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling,** which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls"*

The requirement that, "each Permittee shall require the implementation of SUSMP provisions not later than (180 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA," (page 42) does not utilize the Environmentally Sensitive Area Delineation Map that each Permittee is required to submit for approval by the Regional Board Executive Officer.

The City requests to have the language changed to, "Each Permittee shall require the implementation of SUSMP provisions no later than (180 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA found on the Regional Board Executive Officer approved Environmentally Sensitive Area Delineation Map for its jurisdictional boundary.

6. **Executive Advisory Council (EAC).** The City appreciates and values the role that EAC plays in communication between the permittees and Board staff. The formal recognition of a representative body of the permittees is beneficial for both the Board and the Permittees towards efficient and effective communication. Thus, the City strongly opposes the removal of EAC as a recognized representative body from the Tentative Permit. Of course each permittee should have the right to communicate directly with the Regional Board and its staff.

   The City requests to reinstate the establishment of an Advisory Committee (EAC), a representative committee of the Permittees, to facilitate permit compliance and enhance consistency in program implementation in the Tentative Draft. (As the EAC is composed of staff members, not elected officials, it is not subject to the Brown Act.)

Thank you for your time and consideration of our comments and requests. If you have any questions or need any additional information, please contact Jill Fosselman, Environmental Services Manager at (661) 255-4337.

Sincerely,

George A. Caravalho

George A. Caravalho
City Manager

GAC:JJL:JAF:TLL:ch
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cc: Mayor Weste and Members of the City Council
Jeff Lambert, Director of Planning & Building Services
Jill Fosselman, Environmental Services Manager
Rufus C. Young, Burke, Williams & Sorensen, LLP

City of Santa Fe Springs
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November 13, 2001

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

Dr. Xavier Swamikannu, Acting Storm Water Section Chief
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Tentative Draft – County of Los Angeles Municipal Storm Water NPDES Permit

Dear Dr. Swamikannu:

The City of Santa Fe Springs would, once again, like to thank you for the opportunity to comment on the Tentative Draft – County of Los Angeles Municipal Storm Water NPDES Permit. Although the recent negotiations have brought us a long way towards a reasonable and effective permit, there still remain several fundamental issues that need to be resolved prior to the issuance of any permit.

We are concerned about the following:

- **Lack of Legal "Safe Harbor"**

The current Permit provides cities with a legal "safe harbor" when they implement the Permit's provisions. The "safe harbor" clause insures that a City is in compliance when the Permit's programs are implemented. The "safe harbor" clause has not been included in the Draft Permit and should be brought back to help us focus on improving water quality, rather than spending city resources on defending against third party lawsuits.

- **Proposed Permit is "Open Ended"**

The current NPDES Permit requires that the cities implement only programs specifically identified in the Permit. In the Draft Permit however, language has been included that allows for additional requirements "any modifications thereto". In effect the City of Santa Fe Springs can be directed to add future additional programs, at unknown costs.

Louie Gonzalez, Mayor • Ronald S. Kernes, Mayor Pro-Tempore
City Council
George Minnehan • Betty Putnam • Gustavo R. Velasco
City Manager
Frederick W. Latham

- **Inspection Program**

The Draft Permit transfers the responsibility to inspect state permitted facilities to the cities. This is unreasonable, unfair and unacceptable.

- **Deletion of Executive Advisory Committee**

The Draft Permit eliminates the EAC completely. The EAC is vital to the successful implementation of any such permit. The EAC establishes a necessary link between the various watersheds and allows for sharing of information.

- **SUSMPs**

Under the Draft Permit, SUSMP's now apply to ministerial projects even though the State Board previously rejected this idea.

- **Lack of Economic Considerations/Unfunded Mandates**

The City of Santa Fe Springs supports clean streams, rivers, harbors and beaches - but the questions remain - how much will it cost and who will pay for it? There are mandates in the Permit - unfunded commercial and industrial inspections and enforcement programs, unfunded planning programs and ordinance changes, unfunded illicit discharge programs, unfunded dry weather diversion programs, increased frequencies of catch basin cleaning and street sweeping, and other new unfunded programs.

A reasonable and effective new municipal NPDES Permit is essential if we are going to achieve the goals of the Clean Water Act. We recognize that we all have to do a better job of maintaining and improving water quality. However, we need to work together to implement cost-effective programs that address real water quality programs. The City of Santa Fe Springs is prepared to work with the Regional Board to accomplish this goal. Please allow us the opportunity and flexibility to do so without adverse economic impact.

Very truly yours,

John R. Price
Director of Public Works

JRP/smc

xc: Frederick W. Latham, City Manger
Steve Skolnik, City Attorney

City of San Gabriel

♦ City With A Mission ♦ Founded 1771 ♦

November 6, 2001

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Third Draft Comments, Los Angeles County Municipal NPDES Permit

Dear Mr. Dickerson:

The City of San Gabriel is pleased to submit its comments in connection with the third draft of the proposed Los Angeles County Municipal NPDES Permit, dated October 10, 2001. This version a substantial improvement over the second draft. Still, the City has several concerns about some of the proposed requirements.

The City hopes that you will find these comments helpful in structuring a final permit that balances the need to protect water quality against the need for municipalities to maintain an adequate level of public services for its citizens.

If you have any questions, please feel free to call me.

Sincerely,

Steven A. Preston

Steven A. Preston, FAICP
Deputy City Manager

Attachment: 3rd Draft Comments- NPDES Permit

File: f/cd/engr/NPDES/SRWCB/comments 3rd draft 110601

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
01 NOV 14 P1:52

City Hall 425 South Mission Drive, San Gabriel, California ♦ Mail P.O. Box 130, San Gabriel, California 91778-0130
♦ 626-308-2800 ♦ FAX 626-458-2830 ♦

1. EAC Not Recognized In Municipal NPDES Permit

Issue:

Regional Board staff has, unilaterally, eliminated the Executive Advisory Committee (EAC) from the draft municipal NPDES permit.

The EAC is a creation of the 1996 municipal NPDES permit that was requested by the permittees in the Report of Waste Discharge Application ("ROWD"). The purpose of the EAC is to "... to facilitate programs within each watershed and to enhance consistency among all of the programs." The EAC has also served as an important source of information for the several watershed management committees (WMCs), each of which elects 1 to 2 representatives to the EAC.

According to the Regional Board, the EAC does not need to be recognized in the municipal NPDES permit because it is not a political body and "that it would not be proper to recognize the EAC in the permit when it does not subscribe to government rules for open meetings." It should be noted, however, that the watershed management committees (WMCs) -- which are also adversarial in nature and are not political bodies – are nevertheless sanctioned in the permit. As a result, this argument is without merit.

Municipal permittees depend on the EAC for leadership and guidance and see no harm in having it recognized in the permit. The Regional Boards attempt here at removing the EAC from the permit seems to be because of the EAC's opposition to several Regional Board actions, including the SUSMP and the zero trash TMDL. This strongly reinforces the belief among many permittees that this Regional Board is unfair in its treatment of municipalities.

Action Sought:

Restore EAC recognition to the NPDES permit as stated in the second draft.

2. Meet and Confer Provision Eliminated

Issue:

The Regional Board, unilaterally, has removed the "meet and confer" provision from the proposed permit. The existing permit contains this provision to allow permittees to resolve conflict arising from different interpretations of permit language and, therewith, to prevent unnecessary and unwarranted enforcement action. To cite example, last March, the Regional Board issued notices of violations (NOVs) to several municipalities for failing to implement requirements that actually turned-out to be based on an incorrect interpretation of the permit.

R0005612

The Regional Boards desire to remove this provision reinforces the belief among many municipal permittees that the Regional Board is not objective in its treatment of municipalities. This is because without a safe harbor clause, taking enforcement action against a municipality for misinterpreting a permit requirement can easily lead to enforcement action and, possibly, third party litigation.

Action Sought:

As stated in the second draft permit comments, restore the meet and confer provision or allow permittees some other "safe harbor" clause to prevent unwarranted enforcement action.

3. Industrial/Commercial Inspections

Issue:

The Regional Board still clings to the belief that municipalities are required to conduct inspections of sites of industrial activity and commercial facilities. It requires permittees to inspect certain categories of industrial facilities (1) (scrap, auto dismantling, fabricated metal products, motor freight, chemical/allied products, primary metal products facilities); (2) "lower priority" industrial facilities that require SWPPPs pursuant to the state's GCASWP requirements); and (3) automotive facilities for compliance with BMPs. It also requires cities to inspect for restaurants and other categories of commercial businesses.

Contrary to what the Regional Board asserts, the regulations do not specifically require permittees to do on-site inspections of facilities associated with industrial activity or commercial facilities. The responsibility for inspecting industrial facilities lies with the Regional Board. Nevertheless, the Regional Board contends that municipalities should inspect such facilities for compliance with BMPs that it requires in the permit. Essentially, this defers inspections to municipal permittees. However, nothing in the regulations requires municipalities to inspect for BMPs. Although the term "inspection" mentioned, it is clear this pertains only to off-site inspections (e.g., for illicit discharges through off-site monitoring and surveillance). As to commercial facilities such as automotive repair facilities and restaurants, municipal permittees do not have the authority to do on-site inspections of such facilities – unless permitted by the municipality.

Action Sought:

Allow municipalities to meet this requirement through educational site visit programs and by enforcing BMP requirements for industrial and commercial BMPs by way of off-site visual inspections, unless the violation is noted on-site during the

visit. In such an instance, the site visitor should inform the facility of the violation and advise of it of the need for correction within a certain period of time.

4. BMPs for Industrial Facilities

The proposed permit calls for municipalities to impose more stringent controls on facilities that are subject to GIASWP requirements if existing controls are determined by the municipal permittees to be inadequate. This should not be the responsibility of municipal permittees, but the responsibility of the Regional Board, since it is ultimately responsible for enforcing the GIASWP and has the required expertise.

Action Sought:

Eliminate this requirement, along with the general requirement of making municipal permittees inspect industrial facilities.

5. Standard Urban Storm Water Mitigation Plan

Issue:

The Regional Board is still insistent upon requiring all categorical development/new development projects to comply with mandatory infiltration/treatment control requirements in accordance with numeric design standards. This requirement is excessive. Regional Board staff justifies this requirement on the grounds that other municipalities in and outside of California have similar requirements for new developments. However, such controls (e.g., oil/water separators, catch basin inserts, etc.) are only required when there is a need to protect a water quality standard. For example, if oil and grease – which are really the only pollutants that the required controls mitigate -- is listed on the 303(d) list, then such controls would be required (in addition to soft controls such as canopies over gas stations). This would be a rational approach.

Action Sought:

Maintain existing SUSMP, based on discretionary approval, but require mandatory infiltration treatment controls only when the pollutant of concern for the project is listed on the 303(d) list (e.g., oil grease, metals, etc.). Also require project specific BMPs requirements (e.g., canopies over gas stations, proper trash controls, etc.) on a mandatory basis.

R0005614

6. General Plan Update

Issue:

Requires permittees to include storm water considerations in their general plans when conservation, land use, or housing elements are updated. Given that the existing and proposed permit contains stringent development planning requirements, why is there a need for any updating of the general plan at all? It seems superfluous. Further, to what extent are conservation, housing, and land use elements supposed to be updated?

Action Sought:

Provide general guidance as to what "considerations" should be included in the general plan (relative to conservation, housing, and land use elements) without interfering with municipal land use decision-making.

7. Inspection of Construction Sites

Issue:

Requires permittees to inspect construction sites greater than 1 acre or more for compliance with General Construction Activity Storm Water Permit (GCASWP) requirements, starting in 2003. Once this requirement takes effect in March of 2003, municipal permittees should not be responsible for inspecting them. This duty lies exclusively with Regional Board since such facilities require a state issued GCASWP. Again, the Regional Board is better able to enforce this permit than municipalities.

Action Sought:

Eliminate the requirement.

8. Definition of Control

Issue:

The proposed permit defines "control" to mean the following: "minimize, reduce, eliminate, or prohibit by technological, legal, contractual, or other means, the discharge of pollutants from an activity or activities." This definition is inconsistent with the definition of control found in storm water guidelines. Control, therein means to "... limit, discourage, or terminate a storm water discharge to the MS4." Nothing in the federal regulations or in Porter Cologne requires controlling discharge of pollutants from an activity or activities."

Action Sought:

Eliminate this definition of control.

9. Receiving Water Limitations Language

Issue:

The permit still contains language that enables permittees to be in violation of the permit in the event of a receiving water limitation exceedance, even if the municipal permittee is implementing the permit and its programs. As it proposed in the new permit, an exceedance, would require the Regional Board to impose additional, and presumably more costly requirements, including the installation of treatment controls.

Action Sought:

Re-write this requirement in accordance with language suggested by the Coalition for Practical Regulation and Burke, Williams, and Sorensen.

10. Unfunded Mandate

Issue:

The proposed permit contains several "new" significant costs for municipal permittees, raising, once again, the complaint of it being an unfunded mandate. According to Regional Board staff, "compliance with the Clean Water Act (CWA) is not predicated on the availability of funding." Municipal permittees do not disagree.

Municipal permittees understand that they must allocate a portion of their budgets to fund storm water management programs. The question, however, is to what extent? Congress never intended NPDES permitting costs to over-burden municipalities because of the obvious fact that they are not in the business of environmental regulation. Thus, at some point, the Regional Board needs to recognize that there are limits on municipal resources. Certainly, conducting inspections for the Regional Board is neither a fair nor reasonable cost to impose on municipalities.

It should also be noted, the cost of terrorism on local economies – retail sales tax declines in particular – together with higher public safety costs – will make it even more difficult to comply with unreasonable and unjustifiably stringent program tasks. It has been suggested that the municipalities can fund these programs through utility and sewer fees. The fact of the matter is that they are not a sure thing. Proposition 218 makes it almost impossible to impose such fees.

11. Definition of Redevelopment

Issue

The proposed permit defines redevelopment in a manner that is different from USEPA's definition. According to the proposed permit, significant redevelopment is defined as the addition or creation of 5,000 square feet or more of impervious surface. This threshold would trigger a SUSMP for such a redevelopment project. However, according to the USEPA definition of redevelopment under Phase II, redevelopment is based on 1 acre or more of soil disturbance.

Action Sought:

Change definition of redevelopment to comply with USEPA's Phase II definition.

R0005617

City of San Marino

October 30, 2001

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Third Draft Comments, Los Angeles County Municipal NPDES Permit

Dear Mr. Dickerson:

The City of San Marino is pleased to submit to you its comments in connection with the third draft of the proposed Los Angeles County Municipal NPDES Permit, dated October 10, 2001. This version a substantial improvement over the second draft. Still, the City has several concerns about some of the proposed requirements.

The City hopes that you will find these comments helpful in structuring a final permit that balances the need to protect water quality against the need for municipalities to maintain an adequate level of public services for its citizens.

If you have any questions, please feel free to contact John Alderson Director of Parks and Public Works (626) 943-2648.

Sincerely,

Emile J. Bayle, Mayor.

Emile J. Bayle

R0005618

2200 Huntington Drive, San Marino, CA 91108-2691 • Phone: (626) 300-0700 Fax: (626) 300-0709

Comments In Re: Third Los Angeles County Municipal NPDES Draft

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Issue:

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Action Sought:

R0005621

Maintain existing SUSMP, based on discretionary approval, but require mandatory infiltration treatment controls only when the pollutant of concern for the project is listed on the 303(d) list (e.g., oil grease, metals, etc.). Also require project specific BMPs requirements (e.g., canopies over gas stations, proper trash controls, etc.) on a mandatory basis.

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Action Sought:

Change definition of redevelopment to comply with USEPA's Phase II definition.

CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90806

November 13, 2001

VIA MESSENGER

Dr. Xavier Swamikannu
Calif. Regional Water
Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

2001 NOV 13 P 3:36

Re: Los Angeles Regional Water Quality Control Board, October 11, 2001 Draft NPDES Permit No. CAS004001

Dear Dr. Swamikannu:

Attached for inclusion in the administrative record for the referenced permit are copies of "Financial and Economic Impacts of Storm Water Treatment – Los Angeles County NPDES Permit Area" by Stanley R. Hoffman Associates and "Assessing the TMDL Approach to Water Quality Management" by the National Research Council. Both of these items are referenced in the comments submitted by Mr. Richard Montevideo on behalf of the City of Signal Hill and the Coalition For Practical Regulation.

We look forward to the adoption of an NPDES permit for Los Angeles County that complies with the requirements of the State and federal law. If you have any questions, please do not hesitate to call me.

Sincerely,

Ed Schroder

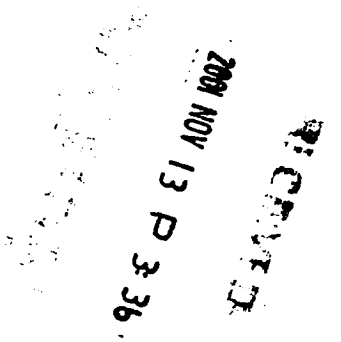
Ed Schroder
Director of Public Works

Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area

Presented to:

California Department of Transportation Environmental Program

Report I.D. #CTSWRT-98-72



November 1998

SRHA
Stanley R. Hoffman Associates

11661 San Vicente Boulevard, Suite 104
Los Angeles, California 90049
(310) 820-2680 • (310) 820-8341 *fax*

R0005626

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SECTION 1
EXECUTIVE SUMMARY

This report evaluates the potential financial and economic impacts of implementing an enhanced storm water treatment program in the Los Angeles National Pollutant Discharge Elimination System (NPDES) Permit area as part of the Caltrans District 7 Storm Water Facilities Retrofit Evaluation. The full storm water treatment system would require about $53.6 billion in capital improvement costs which includes land and $198.9 million in annual operations and maintenance costs. Land requirements for the estimated 480 treatment facilities would total about 13,950 acres. The evaluation methodology applies the EPA Municipal Screener approach and other selected economic indicators.

1.1 Preliminary Municipal Screener Impacts

The EPA publication, Economic Guidance for Water Standards Workbook, describes a methodology for measuring economic impacts. One test in the described methodology is called the Preliminary Municipal Screener. According to the Workbook:

> "This guidance is presented to assist States and applicants in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted. To remove a designated use or obtain a variance, the State or discharger must demonstrate that attaining the designated use would result in substantial and widespread economic and social impacts."

The Municipal Screener test indicates whether a public entity will *not* incur any substantial economic impacts from the proposed pollution control program. This Screener is the estimated Total Annual Pollution Control Cost per Household as a percent of Median Household Income in the community deemed "affordable" by the United States Environmental Protection Agency (EPA). The test specifies that local pollution control costs between 1 percent and 2 percent of median household income constitute "Mid-Range" impacts and greater than 2 percent constitute "Large" impacts. The estimated cost for existing pollution controls plus the full storm water system is about $1,295 per household annually which results in impacts over 2 percent of median household income, therefore; this is judged to create a substantial economic impact. This total cost is comprised of the annual existing non-storm water pollution control cost of $554 per household plus the annual average storm water cost estimate of $741 per household.

1.2 Secondary Municipal Screener Impacts

The EPA standards workbook also specifies that a secondary test must be done if the Municipal Screener is not clearly less than 1 percent of median household income. The secondary test is intended to characterize the community's ability to obtain financing and to indicate the socioeconomic health of the community. As applied to the Los Angeles area, this test generates a score that is within EPA's Mid-Range level of economic impacts.

The Secondary Test utilizes five indicators to form a composite assessment of the community's economic health and the financial impact of the pollution control project. Besides providing guidance on how to calculate each indicator, the Workbook supplies criteria for scoring each as 1-weak, 2-mid-

range or 3-strong. For each of the five indicators the community is rated as weak, mid-range, or strong, based on various thresholds that apply to specific indicators. For example, overall net debt is used as an indicator of a community's ability to meet debt obligations and its capacity to finance infrastructure. For example, if the Overall Net Debt Per Capita is greater than $3,000, the community would have less capacity to fund additional infrastructure and would therefore be rated weak with a rating of 1. However, if the debt per capita is less than $1,000 it would be considered strong and assigned a rating of 3. The indicators are then averaged to derive the Secondary Score.

The results from the Preliminary Municipal Screener and the Secondary Screener are measured jointly to determine whether the community would be expected to incur substantial impacts due to the proposed pollution control project. As shown on Table 1-1, for the Los Angeles area based on the secondary screener analysis, the score falls within the 1.5 to 2.5 range. When combined with an annualized cost greater than 2 percent of median household income, the joint score results in estimated substantial impacts, according to EPA's Substantial Impacts Matrix, as indicated by the "X" in Table 1-1.

1.3 Widespread Impacts

Based on the EPA methodology and other economic indicators presented below, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs. Other levels of treatment or funding sources may be considered to mitigate these impacts.

1.3.1 Property Tax Impacts

One measure of financial feasibility is the estimated impact on the property tax rate. The property tax rate for a single family unit is estimated to increase by 0.87 percentage points for the full system. When added to the median base property tax of 1.19 percent, this results in a total property tax of 2.06 percent, increasing the annual property tax bill by about 70 percent. Given the current economic climate in California, this estimated increase is clearly more than is likely to be absorbed by local single family households alone. For multi-family units, the estimated increase of 0.67 percentage points would also represent a potential sizable rental pass through.

1.3.2 Sales Tax Impacts

To compare the annualized storm water treatment costs to other economic indicators, a hypothetical increase of 6 percentage points above the present sales tax rate, to a level of about 12 percent, was estimated in lieu of increasing the property tax for the cost of full treatment. This impact is judged to be widespread and much higher than most households would consider acceptable.

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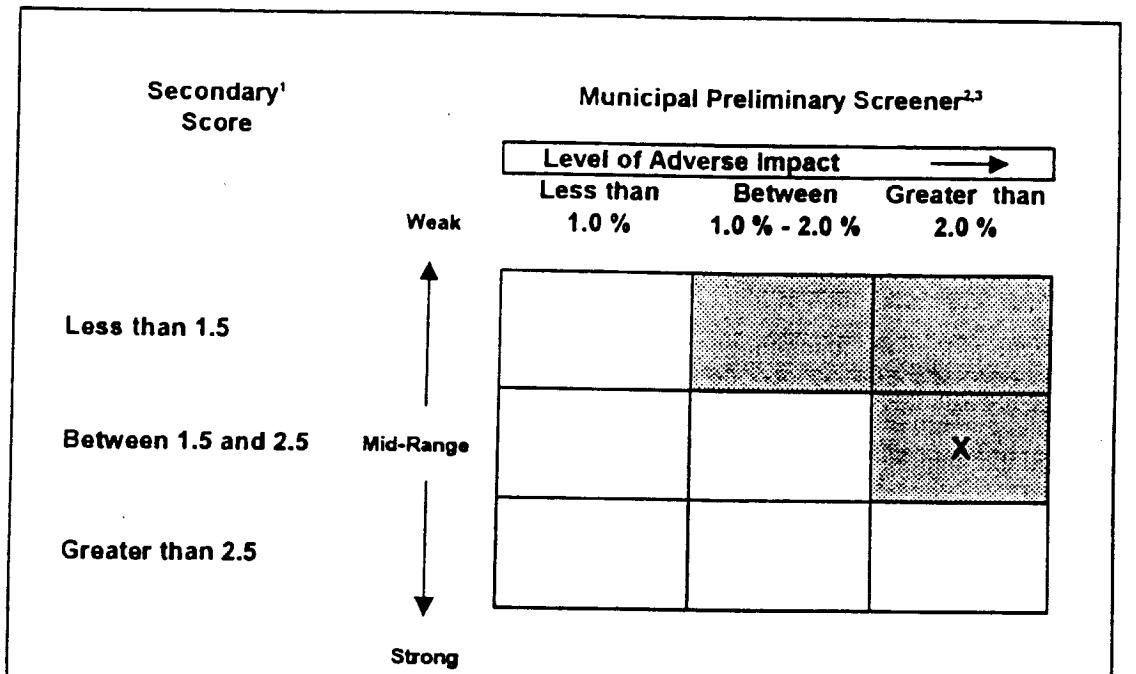
Table 1-1
Financial and Economic Impacts of Storm Water Treatment
Assessment of Substantial Impacts Matrix
Los Angeles NPDES Area



Source: Stanley R. Hoffman Associates, Inc.
Economic Guidance for Water Quality Standards Workbook,
U.S. Environmental Protection Agency

1. The Secondary Score represents a weighted average based on a number of economic criteria described in the text.

2. The Municipal Preliminary Screener represents a percentage of median household income.

3. Shaded area denotes where substantial impacts are estimated to occur according to the EPA Preliminary and Secondary Municipal Screeners. The combined score for the Los Angeles NPDES area results in substantial impacts as shown in the figure by the "X."

R0005633

1.3.3 Land Requirement and Displacement Impacts

Treatment facilities for storm water runoff are land intensive. The land and land cost requirements for the full system are about 13,950 acres and 6.1 billion dollars, requiring multiple treatment plants. About 67 percent of this acreage would be required for treatment Level 1 and the rest for treatment Level 2. While marginal or vacant parcels would initially be sought, potential displacement of many households and businesses as well as relocation and land acquisition costs would be required.

1.3.4 Employment Impacts

The Los Angeles area economy has been recovering from the deep recession of the early 1990s when the total County economy lost more than 400,000 jobs. The County is currently on a recovery path. The additional costs per household and per business are likely to slow this recovery and cause some businesses to relocate or expand elsewhere. Again, while specific estimates of impacts are not made, the burden of additional costs of a substantial nature is viewed as widespread because the potential treatment plants would be distributed throughout the Los Angeles drainage areas. Since specific locations are not identified, these displacement impacts are not quantified as part of this study.

As was indicated earlier, the average household share of the financing burden would amount to about a 73 percent increase in annual property taxes. For many households, such an increase in property taxes would cause a significant reduction in their consumption and savings. Over time, landowners would also pass forward tax increases to renters as increased rents which would produce a reduction in consumption by renters. Such potentially widespread reduction in consumption among households would likely cause loss of retailing and other local serving jobs.

1.3.5 Impacts on Outstanding Local Debt

According to California Municipal Statistics, Inc., there is an estimated $11.6 billion of outstanding local public debt in Los Angeles County. The estimated cost of $53.6 billion for full storm water treatment would represent almost a fivefold increase in debt. Even the Secondary Municipal Screener level of $5.3 billion of estimated capital costs represents about 46 percent of existing unpaid local public debt.

1.4 Estimated Non-Storm Water Pollution Control Costs

According to the EPA guidelines, the Municipal Screener approach provides an estimate of what is deemed "affordable" for pollution control programs. The present study first examined the incremental financial and economic burden of storm water treatment in the Los Angeles County NPDES Permit Area. However, other public pollution control programs also require funding and must be considered in setting expenditure priorities. According to the EPA Municipal Screener, the estimated incremental cost of any new pollution control program should be added to the existing and future costs for other types of pollution control programs, such as air quality, wastewater treatment, and solid and toxic waste disposal.

In Section 10 of this report, estimates of existing and future non-storm water pollution controls are made which can be added to the incremental costs for storm water treatment by area to determine whether they exceed the 2 percent of median household income criteria prescribed by the EPA methodology. Two approaches were utilized to estimate the impacts of existing and future non-storm water pollution control costs in combination with estimated incremental storm water treatment costs: 1) analysis of estimated localized, direct costs in California; and 2) a literature review, including a 1990 comprehensive study by the EPA updated to 1998 dollars. Both methods result in estimated substantial impacts according to the EPA Municipal Screener methodology.

These additional annual pollution control costs per household were based on localized California costs of wastewater user fees, tire/oil disposal, automobile emissions testing and repairs, drinking water treatment and solid waste disposal. This amount was estimated to be about $554 annually per household for the Los Angeles area compared with $537 annually per household based on the nationwide EPA study.

1.5 Costs Limited by EPA Municipal Screeners

When the estimated amount of $703 per household at the Secondary Municipal Screener level of 1.6 percent of median household income level ($43,916), is reduced by the estimated cost of $554 for existing and future pollution controls, this results in a net amount of $149 per household for storm water treatment. If this annual amount of $149 is multiplied by the estimated 3,228,269 households in the Los Angeles County NPDES study area and is then capitalized using a 6 percent interest rate and a term of 20 years, this results in an estimated affordable capital cost of $5.3 billion. This represents about 9.9 percent of the estimated full storm water treatment cost of $53.6 billion.

SECTION 2
INTRODUCTION

2.1 Project Description and Purpose

This economic and financing analysis was prepared for the Los Angeles NPDES Permit Area as part of the Caltrans District 7 Storm Water Facilities Retrofit Evaluation. The analysis examines the economic and financial impacts that may arise for communities due to the increasing costs associated with successive levels of storm water treatment implementation. The project description and costs were defined by Brown and Caldwell. This included storm water treatment technologies designed to meet water quality standards and objectives for a one year return frequency 24 hour storm.

2.2 Project Area

The study area was limited to the Caltrans District 7 areas that drain to the Pacific Ocean in Los Angeles County as shown on Figure 2-1. The Los Angeles NPDES Permit Area includes those areas within Los Angeles County and within the watershed defined by the Santa Susana Mountains, Simi Hills and San Gabriel Mountains. Los Angeles County areas not represented in the study include Avalon, Lancaster, Palmdale and unincorporated areas near these cities. The Los Angeles County NPDES Permit Area is divided into six drainage basins and consists of approximately 1,702,404 acres of land. A relatively small portion of the Santa Ana River Basin is aggregated with the San Gabriel River Basin. The drainage basins that cover this area include the following:

- Dominguez Channel
- Los Angeles River
- Malibu
- San Gabriel River
- Santa Clara River
- Santa Monica Bay

Land-use and acreage for this area were categorized into several classifications and formed the foundation for analysis along with basic demographic and financial data. Of the total acreage, almost 60 percent is open space, which represents the largest land use of the total NPDES area. The next most dominant land use is residential at about 22 percent. The remaining acreage covers other uses such as public, commercial and industrial.

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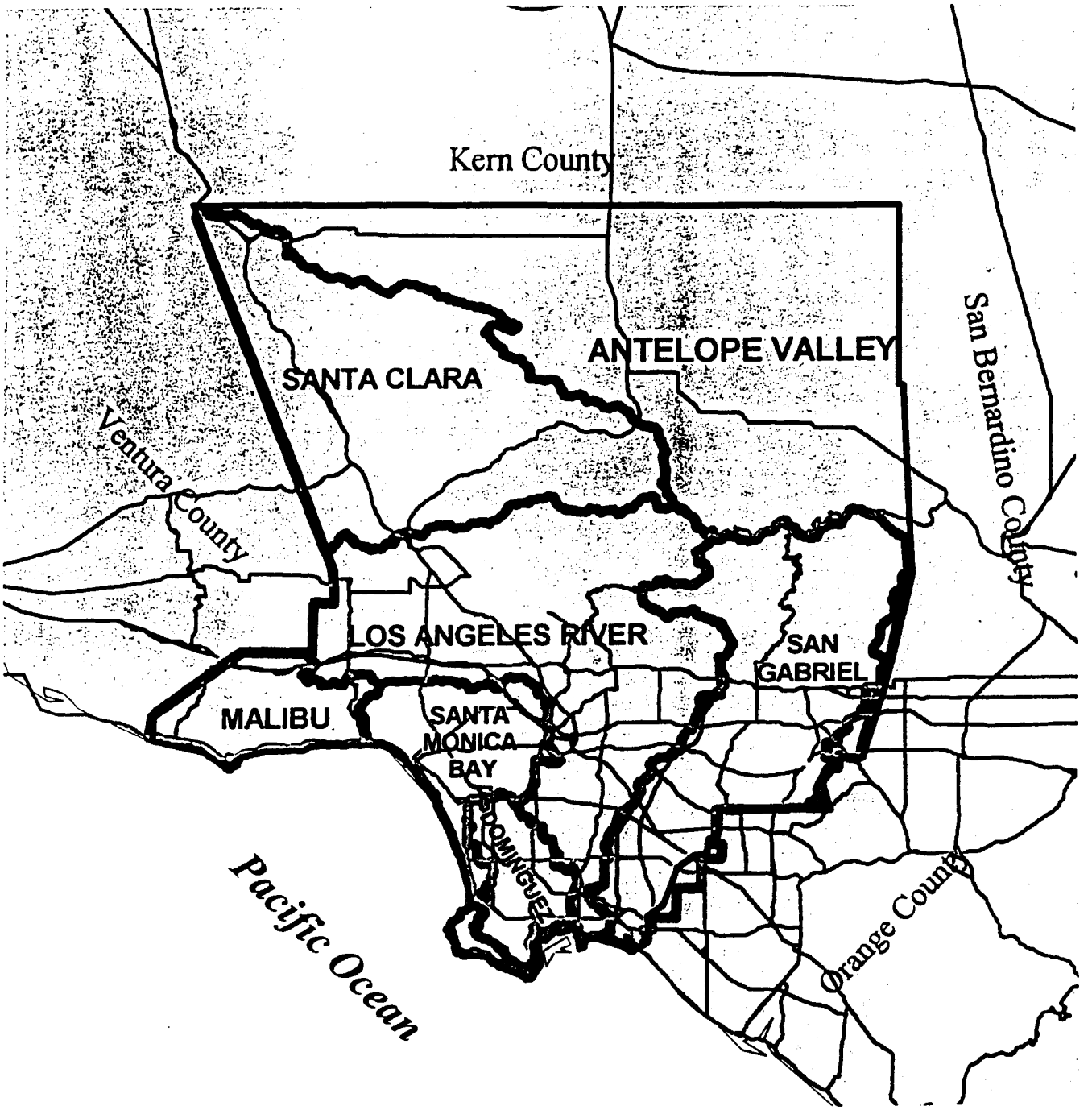
Figure 2-1

Drainage Basins in LA County NPDES Permit Area



SRHA

Stanley R. Hoffman and Associates, 1998

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2.3 Data Sources

To determine the impact on households, businesses and communities, data was analyzed based on several economic indicators. Examples of these indicators include the ability to pay as measured by the ratio of per household annualized storm water pollution costs to median household income, or the ability of local land uses to carry new debt. The following is a summary of the data sources used in preparing this analysis:

- Population, housing and employment data from the Southern California Association of Governments (SCAG), Regional Statistical Area Projections from 1994 to 2020.
- Land use acreages were provided through the SCAG Geographical Information System (GIS) Land Use database.
- City and County Summary Report of Population and Housing, Department of Finance (DOF), 1994 to 1998.
- Consumer Price Index (CPI) for Los Angeles, Anaheim, and Riverside areas, U.S. Bureau of Labor Statistics Data.
- Taxable Sales in California during 1996, California State Board of Equalization, and updated to 1998 using the CPI.
- The 1997-1998 Assessment Roll Release, Los Angeles County Assessor.

Basic demographic variables including median household income and housing value from the 1990 United States Census were updated to 1998 using the Consumer Price Index.

2.4 Organization of the Report

Sections organize the report in the following manner:

Section 3 – Environmental Protection Agency (EPA) Economic Guidelines: This section includes the project's key economic criteria based on EPA's guidelines.

Section 4 – Costs of Storm Water Retrofit: The estimated costs of storm water treatment retrofit for specified treatment levels for both capital and annual operations and maintenance cost is shown.

Section 5 – Los Angeles NPDES Permit Area Land Uses: A description of the study area land uses and their relationship to the analysis variables of population, housing and income.

Section 6 – Financing Approaches: Financing approaches to be considered are identified. Key issues include funding ability, practical means of implementation and political feasibility.

Section 7 – Financial Capacity of Local Jurisdictions: This includes the analysis of the ability of local communities to carry substantial new debt.

Section 8 – Assessment of Market Conditions: An assessment of the market conditions under which some combination of financing strategies may be implemented is presented.

Section 9 – Financial Spread of Costs: Presents the allocation of estimated capital and operations and maintenance costs of storm water retrofit among private sector land uses.

Section 10 - Estimated Non-Storm Water Pollution Control Costs: This section presents the estimated costs of other pollution control programs using two approaches. These include costs related to air quality regulations, drinking water treatment, solid waste disposal and wastewater treatment.

Section 11 – Evaluation of Financial Impacts: An evaluation of the financial impacts of implementing the costs of storm water treatment according to EPA's economic guidelines.

SECTION 3
ENVIRONMENTAL PROTECTION AGENCY (EPA) ECONOMIC GUIDELINES

The approach used to evaluate the economic impacts of the storm water runoff collection and treatment facilities under consideration is based upon the approach and methods presented by EPA's Economic Guidance for Water Quality Standards Workbook and summarized in Figure 3-1. This analysis has focused on incremental costs for existing storm water treatment for residential and non-residential land uses. The Workbook provides guidance to assist interested parties in determining whether attaining a specified water quality standard would result in "substantial and widespread economic and social impacts." The Workbook guidance "is not an exhaustive description of appropriate economic impact analyses," but it does describe "the types of information and analyses that should be considered."

The Workbook calls for a financial analysis to determine "if the capital and the operating and maintenance costs of pollution control will have a substantial impact." For public entities, the Workbook notes, "the households in the community will bear the cost either through an increase in user fees, an increase in taxes or a combination of both." Therefore, "the burden to households resulting from total annual pollution control costs must be estimated. In addition, the financial impact analysis must consider the community's ability to obtain financing and the general economic health of the community."

Demonstrating that substantial economic impacts would occur from implementing pollution control "is not sufficient reason to modify...or grant a variance from water quality standards" according to the Workbook. Rather, the analysis must also include consideration of whether or not "compliance would create widespread socioeconomic impacts on the affected community." Financial impacts are those "that could cause far reaching and serious impacts to the community." While the Workbook states that "there are no correct economic ratios or tests per se to evaluate socioeconomic impacts," it does say that each community must evaluate its own unique circumstances. The guidelines suggest the types of factors that should be considered, including changes in median household income, unemployment, and overall debt burden.

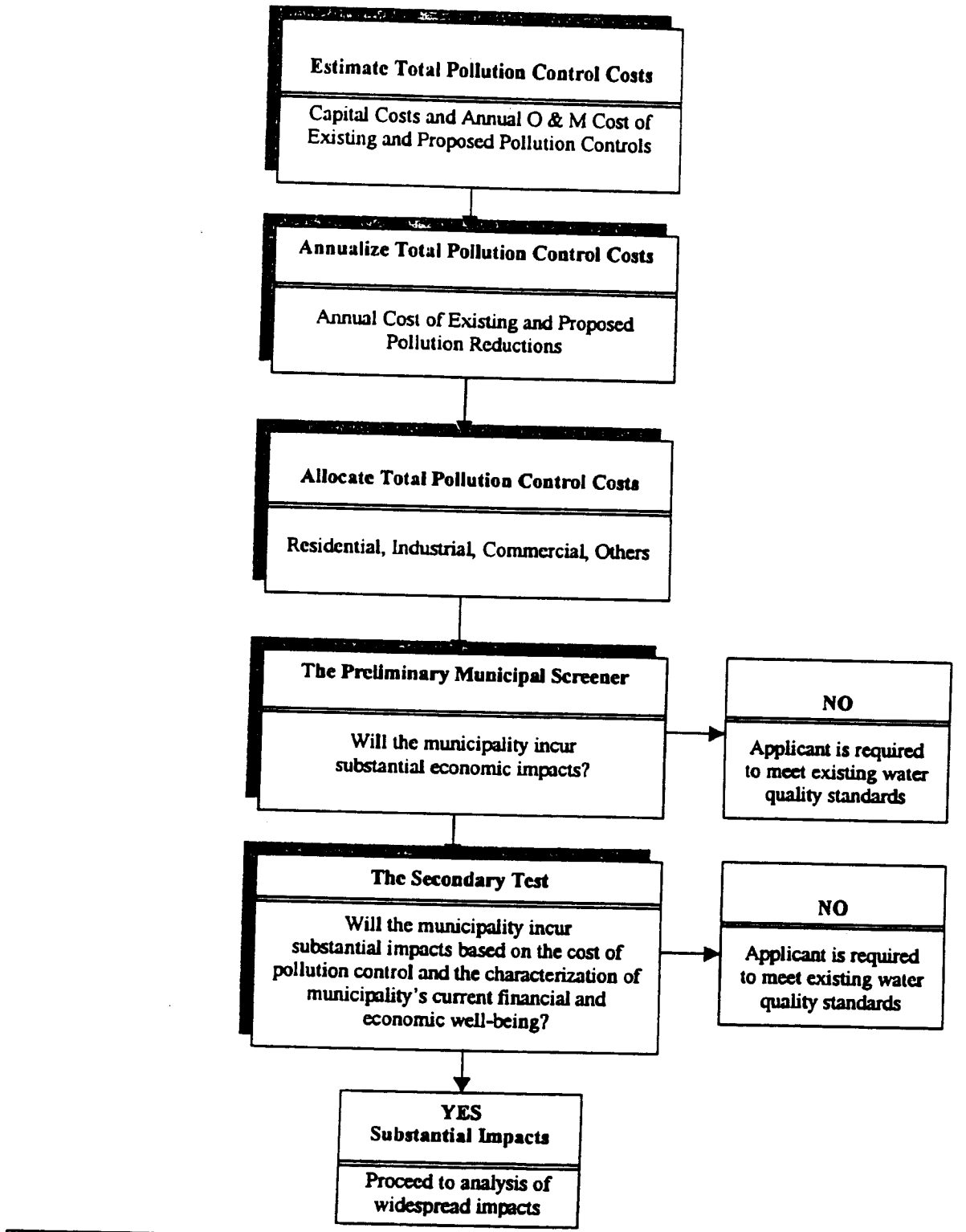
3.1 Step-by-Step Methodology

As shown on Figure 3-1, the Workbook identifies a five-step analysis to determine if the costs of a proposed project will likely result in substantial impacts.

1. Verify Project Costs and Calculate the Annual Cost of the Pollution Control[1]
2. Calculate Total Annualized Pollution Control Cost per Household
3. Calculate and Evaluate the Municipal Preliminary Screener Score
4. Apply the Secondary Test
5. Assess where the community falls in The Substantial Impacts Matrix

[1] The project costs were prepared by Brown and Caldwell and independently assessed by other reviewers.

Figure 3-1
EPA Economic Guidelines
Measuring Substantial Impacts (Public Entities)



Source: Stanley R. Hoffman Associates, Inc.
EPA Economic Guidance For Water Quality Standards
Note: Some text has been modified for presentation purposes.

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The *Municipal Preliminary Screener* (Step 3) is the estimated Total Annual Pollution Control Cost per Household as a percent of Median Household Income in the community. The Screener indicates whether a public entity will *not* incur any substantial economic impacts because of the proposed pollution control program. The Workbook identifies less than 1% as "Little Impact," 1% to 2% as "Mid-Range Impact" and greater than 2% as Large Impact. If the Preliminary Screener results in either a Mid-Range or Large Impact, then the analysis is to proceed to the Secondary Test.

3.2 The Secondary Test

The Secondary Test includes five to six indicators:

Initial Indicators Considered	Final Indicators Used
1. Bond Rating	1. Bond Rating
2. Overall net debt as percent of full market value of taxable property	2. Overall net debt per capita
3. Unemployment	3. Unemployment
4. Median Household Income	4. Median Household Income
5. Property tax collection rate	5. Property tax collection rate
6. Property tax revenues as a percent of full market value of taxable properties	6. Not applied

In states with property tax limitations such as California, the Workbook notes that two of the indicators may not be appropriate: Indicator #2 - Overall Net Debt as Percent of Full Market Value of Taxable Property; and Indicator #6 - Property Tax Revenue as a Percent of Full Market Value of Taxable Properties. The Workbook recommends that Overall Net Debt Per Capita be used in place of Indicator #2 - Overall Net Debt as Percent of Full Market Value of Taxable Property. Also, the Workbook recommends that for states where indicator #6 has no appropriate substitute, it can be dropped and the other five factors assigned equal weight.

The final five indicators are used to form a composite assessment of the community's economic health and the financial impact of the required project. In addition to guidance on how to calculate each indicator, the Workbook provides criteria for scoring each indicator as 1-weak, 2-mid-range or 3-strong. For each of the five indicators the community is rated as weak, mid-range, or strong, based on various thresholds that apply to that specific indicator. For example, overall net debt is used as an indicator of a community's ability to meet debt obligations and its capacity to fund infrastructure. If the Overall Net Debt Per Capita is greater than $3,000, the community would be rated weak in its capacity to fund additional infrastructure and assigned a rating of 1; however, if the debt per capita is less than $1,000 it would have relatively more funding capacity and would be assigned a rating of 3. The indicators are then averaged to derive the Secondary Score.

The results from the first two tests (Preliminary Municipal Screener and Secondary Test) are regarded jointly in the Assessment of Substantial Impacts Matrix to ascertain whether the

community would be expected to incur substantial impacts due to the proposed pollution control project.

3.3 Evaluating Widespread Impacts

The final test is the consideration of *Widespread Impacts*. This test must be done even if substantial impacts are likely to be determined based on earlier tests. This analysis will include both the quantitative indicators and a discussion of potential financial and economic ramifications throughout the community.

SECTION 4
COSTS OF STORM WATER RETROFIT

A cost analysis was prepared by Brown and Caldwell to determine the cost of treating storm water runoff to meet water quality objectives for the Los Angeles NPDES Permit area. The capital costs for the designated drainage basins, as estimated by Brown and Caldwell, have been used for this analysis. These estimates are for a specified number of treatment plants per drainage basin projected to treat storm water from a design storm conforming to a one year return frequency with a duration of 24 hours. The costs have been specified and estimated for three treatment levels plus collection costs as defined below and will be assumed to be incurred in 1998, the first year. The operations and maintenance costs are ongoing costs that will be much less than the capital costs, and can typically be funded on an annual basis rather than through debt financing.

4.1 Storm Water Treatment Levels

The costs for this study have been organized into three levels of increasingly higher costs according to treatment level. Three treatment levels were defined in the Brown and Caldwell June 1998 report, Cost of Storm Water Treatment for Los Angeles County NPDES Permit Area, and were established using the water quality objectives set forth in the Los Angeles RWQCB (Regional Water Quality Control Board) Basin Plan. As stated in this report, the division points between treatment levels are basically the ability to remove sediment and trash; the ability to remove or kill bacteria; and the ability to remove metals. In addition to the three levels described below, there is a cost component of additional collection piping and distribution, which allows collection for treatment before the water runoff enters the major water courses. The three treatment levels include:

Level 1: Detention and Screening
This is the most commonly used storm water treatment technology and is used to remove floating debris and settle solids picked up by storm water. Level 1 is a conventional storm water treatment technology and represents a treatment technology that could be implemented for a large drainage area. The level 1 detention facilities were sized to capture the design storm and hold it for twenty-four to seventy-two hours to allow the solids to settle and clarify the water. Level 1 will decrease pollutant concentrations but cannot meet all the objectives for beneficial use.

Level 2: Filtration and Disinfection
This cost level is cumulative with the preceding level, adding filtration and disinfection costs to level 1 costs of detention and screening facilities. Storm water runoff often contains coliform, which are bacterial indicator organisms used to determine sanitary conditions. The levels of coliform in urban storm water will generally cause the receiving water to exceed levels considered safe for recreational contact. Most waters in California are designated to have a recreational beneficial use and the coliform objective linked to the beneficial use will be exceeded by inflow of storm water. Filtration and disinfection will kill bacterial organisms and allow the objectives for the recreational beneficial use to be met. High rate filtration and chlorination were added to the discharge from the detention basins in level 1. Dechlorination was also provided to protect organisms in the receiving water from the toxicity of any residual chlorination. The flow through treatment units have been designed to treat the captured storm water over a seventy-two hour period following the storm. Level 2 will allow storm water to meet the requirements for the recreational beneficial uses.

Level 3: Advanced Treatment

This level of advanced treatment adds a highly sophisticated treatment process to remove very small concentrations of toxic materials that are often found in urban runoff. Many of the waters in California are designated as potential drinking water sources. The objectives for the beneficial use designation of municipal water supply may require advanced treatment. Even more restrictive than the drinking water standards, are the standards for toxicity as it relates to sensitive species that could potentially exist in the receiving waters. Most waters have beneficial use designations that describe the aquatic environment and have objectives to protect these beneficial uses. Meeting these objectives with structural treatment units will require advanced treatment beyond what is normally expected of water treatment facilities. Reverse osmosis is included as the typical technology representing advanced toxic removal to achieve the required low concentrations. Storm water treated to level 3 is free of almost all pollutants and is suitable for all beneficial uses.

4.2 Capital Costs

The capital costs represent the costs of land and facilities. The costs of the facilities were developed from representative designs then scaled up for the individual watersheds and are based on flow rates. The number of treatment plants required is estimated at 480. For the purposes of this analysis, construction and land purchase is assumed to take place at the beginning of the project in the first year and the annualized cost is assumed to stay constant over the life of the project.

Table 4-1 shows the estimated 1998 total capital costs of $53.6 billion. As indicated, the total capital costs include $12.5 billion in collection of flow costs, which are 23 percent of the total costs. The largest share of the cost is for treatment level 2 at $20.5 billion, or 38 percent of the total.

4.3 Operations & Maintenance Costs

Operations and Maintenance costs include those costs required to operate and maintain the facilities on an annual basis. These include labor, routine materials and supplies, electric power and chemical costs for storm water treatment. Labor costs for operating the facilities are based on crews going to the treatment sites for 12 hours during each storm. Table 4-1 indicates that the annual operations and maintenance costs increase with each treatment level to an annual total of $198.9 million. The largest amount is for treatment level 3 at $82.2 million per year or 41 percent of the total.

Table 4-1
1998 Estimated Capital and Annual Operations and Maintenance Costs
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Treatment Level	Capital Costs (in millions of $)	% to Total Capital Costs	Annual O & M Costs (in millions of $)	% to Total O & M Costs
Collection of Flows	$12,486	23%	10.4	5%
Level 1	20,453	38%	57.1	29%
Level 2	6,150	11%	49.1	25%
Level 3	14,516	27%	82.2	41%
	$53,605	100%	198.9	100%

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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4.4 Land Requirements and Cost

Land cost requirements for 480 treatment units are estimated at $6.1 billion as shown in Table 4-2. This represents a total of 13,950 acres, split over treatment levels 1 and 2 at 67 percent and 33 percent respectively. Land costs for properties that might accommodate treatment facilities were estimated at an average of $435,600 per acre based on discussion with appraiser, John J. Bihary, Jr.

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Table 4-2
Land Acreage and Land Cost Requirements:
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

	Level 1	Level 2	Total
Land Requried (Acres)			
Los Angeles NPDES Permit Area	9,300	4,650	13,950
Land Cost @ $435,600/acre			
Los Angeles NPDES Permit Area	$4,051,080,000	$2,025,540,000	$6,076,620,000
Percentage by Level	67%	33%	100%

Note: Land costs for properties that might accommodate treatment facilities were estimated at an average of $435,600 per acre based on discussion with appraiser John J. Bihary, Jr.

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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SECTION 5
LOS ANGELES COUNTY NPDES PERMIT AREA: LAND USES

The land use classification used for this analysis was taken from the Southern California Association of Governments' (SCAG) 1994 land use classifications as shown on Table 5-1.

- Single family residential, including mobile homes
- Multi-family residential
- Commercial areas, including wholesale and retail trade and general services
- Public uses, including public facilities, educational, military, and transportation
- Light and heavy industrial uses
- Other urban areas not included under other categories
- Open spaces including parks and undeveloped lands
- Unknown, including acreage not elsewhere categorized and vacant land

5.1 Land Use Classification

The land use acreage breakdown from SCAG's Geographic Information System (GIS) database utilizes the following land-use classifications. The residential category includes single family, multi-family, mobile homes and trailer parks and mixed residential. Mixed residential refers to an area in which there are both single and multi-family uses but where no single use predominates. The commercial category includes general office use, retail stores and commercial services and mixed commercial and industrial. The public category includes public facilities, educational institutions, military and transportation uses. Light industrial includes manufacturing, assembly and industrial services but not manufacturing which consists of processing raw materials or discharging industrial waste products. The other urban category involves railroads, truck terminals, communication facilities, mixed urban uses and areas under construction. The Open space category consists of local and regional parks, golf courses, cemeteries, gardens and arboreta and other open space and recreation. The miscellaneous category entails unknown land use, which is acreage that cannot be classified elsewhere and vacant land. Agricultural land use and water, except beaches and harbor and marina facilities, were not included.

5.2 Design Flow

The design flow is the millions of gallons of runoff that would be generated by a representative design storm: a Los Angeles area rainstorm conforming to a one year return frequency with a duration of 24 hours. The runoff was developed by a coefficient of runoff that estimates the percentage of precipitation in the design storm that will become runoff based on the land use of the area and the imperviousness associated with that type of land use. Impervious areas are those areas where rainfall cannot be absorbed and thus surface runoff occurs. In areas of high urbanization, there are more areas such as roof surfaces on structures and paved surfaces that do not allow infiltration of storm water as compared to undeveloped open spaces. The imperviousness for each type of land use was based on the values reported by the Santa Monica Bay Restoration Project Report.

As shown in Table 5-1, residential use accounts for only 25.6 percent of the total land area but 33.6 percent of the total runoff. In contrast, open space accounts for 59.3 percent of total land uses but

Table 5-1
Land Uses and Design Flow
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Drainage Basin	Total Acres	Percent of Total Acres	Design Flow (mg)[1]	Percent of Design Flow
Single Family	378,494	22.2%	6,018	27.8%
Multi-Family	57,619	3.4%	1,192	5.5%
Commercial	59,427	3.5%	1,486	6.9%
Public	90,892	5.3%	2,079	9.6%
Industrial	75,391	4.4%	1,869	8.6%
Other Urban	18,618	1.1%	426	2.0%
Open	1,010,244	59.3%	8,514	39.3%
Miscellaneous	11,719	0.7%	99	0.5%
Total	**1,702,404**	**100%**	**21,683**	**100%**

[1] (mg): millions of gallons

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

only 39.3 percent of the total runoff flows. This illustrates the relationship of imperviousness to urbanization described above. Runoff is critical in determining costs because of the size of the facilities required to capture and treat storm water, and the concentrations of constituents of concern in the water. The Santa Monica Bay Restoration Project Report indicated that significant concentrations are coming from residential areas.

5.3 Variables for Land Use Analysis

The purpose of this study is to determine the potential economic and financial impact on entities within the Los Angeles Area NPDES Permit area because of storm water retrofit costs. The above discussion of land use and runoff indicates that a highly urbanized area will generate more runoff and a higher concentration of potential constituents of concern than less urbanized areas. Therefore, the costs for storm water management will be higher for communities in these areas. To determine the potential impact over various land uses, the following data was utilized:

- Population, housing, and employment statistics from the Southern California Association of Governments (SCAG)
- Household annual median and average income projections based on U.S. Census data, updated using the Consumer Price Index (CPI)
- Single and multi-family housing units and current population estimates from the California Department of Finance (DOF) to determine density and persons per household ratios

5.3.1Population, Housing and Employment

The 1994–1998 population, housing, and employment data from SCAG were tabulated for all the census tracts within the designated drainage areas as shown on Table 5-2. An estimate for 1998 was made based on the predicted average annual change from 1994 to 2000.The 1998 total population for the drainage basins of about 9.3 million is 97 percent of the total Los Angeles County population estimate of 9.6 million for 1998 based on DOF and is projected to increase annually at an average of about 1 percent from 1998 to 2020.

5.3.2Household Income

Estimates for 1998 for median household income were made based on 1990 United States Census data obtained from the 1989 survey, and updated using the 1989 to 1998 change in the CPI of 26.0 percent as shown on Table 5-3. Household income is used as an indicator with the EPA Municipal Screener described earlier in Section 3 to determine storm water facilities retrofit costs for single family and other land uses. The estimated 1998 median income for Los Angeles County is $43,916.

Table 5-2
Population, Housing, and Employment Estimates: SCAG 1994
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin/Area	1994	1998	2000	2010	2015	2020	1998 to 2020 Numerical Change	1998 to 2020 Percent Change	1998 to 2020 Average Annual Change
Population									
Dominguez	463,471	480,066	488,585	507,821	520,829	536,254	56,188	11.7%	0.5%
LA River	5,648,189	5,835,830	5,931,976	6,484,652	6,844,355	7,241,690	1,405,859	24.1%	1.0%
Malibu	73,433	77,607	79,782	92,349	98,087	105,865	28,258	36.4%	1.4%
San Gabriel	1,807,417	1,877,491	1,913,541	2,038,014	2,111,267	2,206,523	329,031	17.5%	0.7%
Santa Clara	163,411	203,921	227,800	355,558	425,876	508,649	304,728	149.4%	4.2%
Santa Monica Bay	777,445	784,835	788,556	798,228	804,657	811,703	26,868	3.4%	0.2%
Total	8,933,366	9,259,750	9,430,239	10,276,622	10,805,071	11,410,683	2,150,933	23.2%	1.0%
Households									
Dominguez	163,898	165,311	166,022	173,961	178,550	186,052	20,741	12.5%	0.5%
LA River	1,830,537	1,844,185	1,851,047	2,029,715	2,136,038	2,299,713	455,528	24.7%	1.0%
Malibu	27,063	27,225	27,306	31,742	34,236	37,512	10,287	37.8%	1.5%
San Gabriel	558,897	563,438	565,723	599,800	621,527	660,322	96,883	17.2%	0.7%
Santa Clara	52,279	56,650	58,971	97,105	125,301	150,606	93,956	165.9%	4.5%
Santa Monica Bay	570,266	571,461	572,059	578,772	582,798	588,494	17,033	3.0%	0.1%
Total	3,202,940	3,228,269	3,241,127	3,511,095	3,678,450	3,922,698	694,429	21.5%	0.9%
Employment									
Dominguez	302,572	319,728	328,667	365,853	382,749	403,893	84,165	26.3%	1.1%
LA River	2,465,071	2,612,887	2,690,087	3,018,081	3,140,993	3,276,112	663,224	25.4%	1.0%
Malibu	34,894	41,554	45,346	50,003	52,371	54,937	13,383	32.2%	1.3%
San Gabriel	611,803	655,842	679,037	807,746	855,785	899,348	243,505	37.1%	1.4%
Santa Clara	53,398	65,018	71,744	103,185	125,256	146,877	81,859	125.9%	3.8%
Santa Monica Bay	700,022	708,656	713,013	746,530	761,289	780,819	72,163	10.2%	0.4%
Total	4,167,760	4,403,684	4,527,893	5,091,398	5,318,442	5,561,985	1,158,301	26.3%	1.1%

Source: Stanley R. Hoffman Associates, Inc.
Southern California Association of Governments, Regional Statistical Area Projections, 1994.

Table 5-3
1998 Estimated Median and Mean Household Income
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Jurisdiction	1998 Estimated Households	1989 Median HH Income	1998 Est. Median HH Income[1]	Estimated Total Household Income Based on Median
Los Angeles NPDES Permit Area	3,228,269	$34,965	$43,916	$141,772,790,536

1. 1998 median household income projected based on CPI inflation factor from 1989-1998: 1.26

Sources: Stanley R. Hoffman Associates, Inc.
United States Census 1990
Consumer Price Index, 1989 - 1998 Inflation Factor

1989 - 1998 CPI Inflation Factor: 1.26

2. Ratio of Median/Average Household Income: 0.740
(Based on Countywide Median Income)

Southern California Association of Governments, Regional Statistical Area Projections, 1994

5.3.3Density

The 1994 land uses from the GIS data base and the 1994 housing units from the Department of Finance were used to determine density as to housing units per acre for single family and multi-family housing units as shown in Table 5-4. The Los Angeles River and Santa Monica Bay basins show the highest overall density at 8.35 and 9.30 units per acre. The Malibu basin has the lowest density at 2.71 units per acre. As shown in Table 5-4, the Los Angeles River and Santa Monica basins have the highest single and multi-family densities.

Table 5-4
Density by Drainage Basin: 1994
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin	Housing Units: Single Family	Housing Units: Multi Family	Housing Units: Total	Population	Persons Per Housing Unit	Single Family Acres	SF Units Per Acre	Multi Family MF Acres	MF Units Per Acre	Total Acres	Total Units per Acre
Dominguez	106,393	61,131	167,524	463,471	2.77	27,567.74	3.86	5,554.15	11.01	33,121.88	5.06
LA River	868,583	771,061	1,639,644	5,648,189	3.44	171,130.61	5.08	25,161.62	30.64	196,292.23	8.35
Malibu	23,029	4,657	27,686	73,433	2.65	9,659.32	2.38	556.34	8.37	10,215.66	2.71
San Gabriel	429,288	164,364	593,652	1,807,417	3.04	91,923.24	4.67	8,658.99	18.98	100,582.22	5.90
Santa Clara	45,306	14,686	59,992	163,411	2.72	18,259.89	2.48	1,341.79	10.95	19,601.67	3.06
Santa Monica Bay	299,055	366,520	665,575	777,445	1.17	55,721.53	5.37	15,820.51	23.17	71,542.04	9.30
Total	**1,771,654**	**1,382,419**	**3,154,073**	**8,933,366**	**2.83**	**374,262.32**	**4.73**	**57,093.39**	**24.21**	**431,355.70**	**7.31**

Source: Stanley R. Hoffman Associates, Inc.
Dept. of Finance: Official State Estimates of Pop. and Housing May 1994
Southern California Association of Governments Population Estimates 1994

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SECTION 6
FINANCING APPROACHES

This section provides a brief overview of various sources and methods for financing the construction, operation and maintenance of the major storm water treatment facilities that would be required to meet water quality standards. While no financing strategy is recommended at this time, there is a range of financing approaches used in California. Typically, in California more than one financing approach is utilized for major projects, including a combination of local and outside sources.

6.1 Federal

The Federal government historically has played a leading role in financing various environmental enhancement programs. A Federal program to pay for all or a significant part of the costs of storm water runoff treatment facilities is currently not available nor expected in the near future. Currently, national attention is on balancing the Federal budget and on maintaining the long-term soundness of Social Security and Medicare, not on major new grant programs.

6.2 State

At the State level of government, a possible approach for financing part of the capital costs of storm water treatment would be through some form of State grants program or allocation of some state's current surplus after existing funding priorities have been completed. Such a grant program would require state legislative action and statewide voter approval since it would likely involve the issuance of general obligation bonds by the State. The State policy as established, both from the Department of Finance and the State Treasurer, is to keep the general fund debt ratio below 6 percent. In other words, the prudent maximum annual cost of servicing debt from the General Fund is by policy established at 6 percent.

Even if approved by the voters, it would be very unlikely to fund any sizable level of statewide storm water treatment costs. The State Department of Finance estimates that as of January 1, 1998, the total capacity for new general obligation bonds issuance over the next 10 years is $40 billion statewide. The $40 billion estimate does not include new bond measures taken to voters in 1998. For example, the November 1998 election ballot included a $9.2 billion school finance measure, which is the largest statewide General Obligation bond measure ever approved by California voters.

6.3 Local

The ability of local governments in California to finance public improvements has been increasingly circumscribed over the last 20 years. In June 1978, the voters of California amended the state constitution to limit the ability of local governments to impose property taxes. That amendment, commonly known as Proposition 13, added Article XIIIA to the state constitution that limits the maximum ad valorem tax on real property to one percent of the assessed value of that property. Proposition 13 also limited annual assessed value increases to 2 percent or the inflation rate, whichever is smaller, until a property is sold. Since the passage of Proposition 13, more than dozen other statewide propositions have been passed that further restrict how local revenues can be raised

or spent. In 1979, the voters passed Proposition 4, known as the Gann Initiative, which added Article XIIIB to the state constitution. This article limits the permitted growth in the rate of local government spending from general revenues to changes in population and inflation growth rates. Voter approval is required to increase spending limits. This vote must be reaffirmed every four years.

Proposition 46 in 1986 allowed local governments by a 2/3 majority vote to impose a property tax above the Proposition 13 one percent for the period required to finance new general obligation bonds. The proposition also restricted the use of general obligation bond proceeds to the purchase or improvement of real property.

While many other measures were passed during the late 1980's and early 1990's, the measure that has had the most widespread impact since Propositions 13 and 4, was passed in 1996 as Proposition 218. This measure adds Articles XIIIC and XIIID to the state constitution. The measure does the following:

1. Limits authority of local governments to impose taxes and property-related assessments, fees and charges. It requires that a majority of voters approve increases in general taxes and reiterates that two-thirds must approve a special tax.
2. Requires that assessments, fees, and charges must be submitted to property owners for approval or rejection, after notice and public hearing.
3. Limits the amount of an assessment on a property to the "special benefit" conferred on the property.
4. Limits fees and charges to the cost of providing the service and establishes that such fees and charges may not be imposed for general governmental services that are generally available to the public.

Within the restrictive context described above, the following are some financing mechanisms used by local governments to finance various public improvements in California:

- Community Facilities Districts
- Special Benefit Assessments
- General Obligation Bonds
- Local Option Sales Tax
- Fees and Charges
- Certificates of Participation, with lease payments from the General Fund
- Development impact fees
- Redevelopment Tax Increment Financing

Community Facility Districts. The Mello-Roos Community Facilities Act permits various local governments to establish a Community Facilities District to finance new facilities and/or to pay for operations and maintenance through the levying of a special tax. This Act plus Proposition 218 discussed earlier requires a two-thirds vote for approving the special tax in inhabited areas.

Special Benefit Assessments. Benefit assessments can be levied on real property by cities, counties and special districts to acquire, construct, operate and maintain public improvements that convey an

identifiable special benefit to the defined properties. As was discussed earlier, Proposition 218 establishes a strict requirement for formal landowner approval before such assessments can be put in place.

General Obligation Bonds (G.O. bonds). Cities, counties and certain other local government entities may issue G.O. Bonds to finance specific projects. Debt service for G.O. bonds is provided by an earmarked property tax above the one percent general property tax mandated by Proposition 13 (often called a "property tax override"). These overrides typically show up on the annual tax bill as "voted indebtedness." The proceeds from G.O. bonds can be used to finance the acquisition, construction and improvement of real property, but cannot be used to pay for equipment, supplies, operations or maintenance costs.

Local Option Sales Tax. Twenty-one counties impose a sales and use tax added onto the basic 6 percent rate. Los Angeles County imposes a sales tax of 8.25 percent. The local share of the basic sales tax is one percent. Local option sales taxes have been used for public safety, traffic, hospitals, education, earthquake recovery and other purposes. If such taxes are earmarked for a specific purpose or if a special district levies them, then they are deemed Special Taxes under Proposition 218 and require a two-thirds voter approval.

Fees and Charges. Local governments can levy various fees and charges to recover the cost of providing services. Under Proposition 218, many of these fees and charges that are "incident to property" are now also subject to landowner approval.

Certificates of Participation (COPs). A COP is a form of lease purchase agreement that does not constitute indebtedness under the state constitution and does not require voter or landowner approval. The lease payments typically are made from the local government's general fund.

Development Impact Fees. These are fees charged to new development to pay for facilities required to serve the new development. State law, and Federal case law, establishes a rigorous set of tests that such fees must meet to be valid. In short, these fees can only be used to pay for those facilities or portions of facilities required to serve new development. They cannot be used to correct existing problems or cure existing capital or operating and maintenance deficiencies.

Redevelopment Tax Increment Financing. A city or county can establish a redevelopment agency to undertake the revitalization of an area that it finds to be "blighted." The redevelopment agency may incur indebtedness to finance improvements needed to accomplish the goals of its redevelopment plan. The property tax base in the redevelopment area is "frozen," and increments in property taxes after the tax base is frozen go into the redevelopment fund to be used for the financing of improvements. Voter approval is not required for tax increment financing. Such financing may be used only for facilities to support the needs of redevelopment. Further, it usually takes many years before significant property tax increment, derived from new development, is available for financing.

6.4 Funding Assumptions

For purposes of this analysis, it was assumed that the financing would be based on the issuance of bonds with a 20-year life as suggested in the EPA Workbook. The tax-exempt interest rate for such

bonds was assumed to be 6 percent. Based on municipal bond rates over the past 10 to 20 years provided by the California Debt Advisory Commission, this is judged to be a reasonable rate for planning purposes. Funding costs of such bonds were assumed to be 12.5 percent of the total issue amount. Funding costs include the cost of debt issuance, underwriters discount, reserve fund and other related costs. These assumptions allow the total capital costs to be annualized and combined with the annual operations and maintenance costs.

SECTION 7
FINANCIAL CAPACITY OF LOCAL JURISDICTIONS

7.1 Overall Net Debt per Capita

Financial capacity of local jurisdictions means the ability of the local community to incur additional debt to pay for public improvements and services, here storm water retrofit facilities and annual operations and maintenance. In California, after the passage of Proposition 13 in 1978 and more recently Proposition 218, significant restrictions have been placed on any increases in property taxes or property related fees and charges. Also, the revenue potential of local jurisdictions to assume additional debt has been further constrained by the effects of the recession in the early 1990s.

Net debt per capita is one indicator of financial capacity of local jurisdictions. Each community, depending upon its infrastructure needs and level of development, will have a different mix of debt instruments, such as general obligation, special assessment or Mello-Roos bonds. Also, besides each community's direct debt, there is overlapping debt from other special purpose districts such as schools, water and sewer, fire protection and flood control. In evaluating the impact of existing debt per capita and the addition of new debt on a community, the EPA has suggested the use of following ranges:

- Greater than $3,000: weak = 1
- $1,000 - $3,000: mid-range = 2
- Less than $1,000: strong = 3

The overall debt per capita estimate of $1,207 for Los Angeles County is used subsequently in the evaluation of local financial and economic impacts. This estimate is based on total outstanding and direct and overlapping debt of about $11.6 billion for Los Angeles County provided by California Municipal Statistics, Inc. This debt per capita is already within the mid-range of $1,000 to $3,000 per capita as prescribed by the EPA. When the total net debt for full treatment of $5,788 per capita ($53.6 billion divided by the study area population of 9,259,750) is added to this debt, it results in $6,995 of debt per capita. This is above the weak range limit of $3,000. The total new net debt represents a 480 percent increase over the existing net debt per capita.

7.2 Analysis of Sample Property Tax Bills

In contrast to the more global overall net debt analysis, a summary of sample local property tax bills for several single family residential units in Los Angeles NPDES area is presented on Table 7-1. Three properties from each basin are shown and the payments through the property tax bill are divided into three categories: 1) the basic 1 percent local property tax rate established by Proposition 13; 2) voter approved bonded indebtedness; and 3) direct assessments. The voter-approved portion includes City, County, MWD, Flood Control and Unified School District debt payments. The direct assessments include annual payments for many purposes, including flood control, storm water, fire/paramedics, parks, lighting maintenance, emergency 911 and mosquito abatement.

Table 7-1
1997 Summary of Sample Tax Bills for Single Family Homes
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin and Property		Assessed Value of Home	Voted Basic 1%	Voted Indebt.	Direct Assessments Flood	Direct Assessments Storm	Direct Assessments Other	Direct Assessments Total	Total Taxes	Total Taxes % of AV
Dominguez	Prop. 1	$112,731	$1,127.31	$27.84	$59.30	$0.00	$963.16	$1,022.46	$2,177.61	1.932%
	Prop. 2	516,241	5,162.41	141.42	73.95	0.00	1,043.59	1,117.54	6,421.37	1.244%
	Prop. 3	128,286	1,282.86	71.58	21.69	17.29	99.69	138.67	1,493.11	1.164%
LA River	Prop. 1	1,870,779	18,707.79	1,043.82	65.01	51.83	206.34	323.18	20,074.79	1.073%
	Prop. 2	106,259	1,062.59	59.29	62.80	50.56	113.19	226.55	1,348.43	1.269%
	Prop. 3	52,254	522.54	29.16	28.12	22.42	115.75	166.29	717.99	1.374%
Malibu	Prop. 1	5,275,000	52,750.00	1,138.40	2,732.42	0.00	1,388.96	4,121.38	58,009.78	1.100%
	Prop. 2	366,817	3,668.17	250.22	5.68	0.00	301.43	307.11	4,225.50	1.152%
	Prop. 3	304,000	3,040.00	55.20	15.19	0.00	100.63	115.82	3,211.02	1.056%
San Gabriel	Prop. 1	339,166	3,391.66	43.01	63.14	0.00	350.05	413.19	3,847.86	1.135%
	Prop. 2	235,271	2,352.71	29.83	35.42	0.00	124.79	160.21	2,542.75	1.081%
	Prop. 3	65,210	652.10	8.27	61.76	0.00	301.92	363.68	1,024.05	1.570%
Santa Clara	Prop. 1	500,947	5,009.47	362.92	56.74	0.00	568.93	625.67	5,998.06	1.197%
	Prop. 2	150,248	1,502.48	127.61	34.31	28.54	214.73	277.58	1,907.67	1.270%
	Prop. 3	78,592	785.92	66.75	53.09	44.16	219.18	316.43	1,169.10	1.488%
Santa Monica Bi	Prop. 1	950,000	9,500.00	335.81	36.77	0.00	35.38	72.15	9,907.96	1.043%
	Prop. 2	172,731	1,727.31	96.38	36.77	29.31	127.79	193.87	2,017.56	1.168%
	Prop. 3	$52,493	$524.93	$6.66	$32.84	$0.00	$131.19	$164.03	$695.62	1.325%
Median Property		$500,947	$5,009.47	$362.92	$56.74	$0.00	$568.93	$625.67	$5,998.06	1.197%

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor

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The range of assessed value for these properties is broad, with a median of $500,947. The total taxes range from 1.043 percent to 1.932 percent of assessed value. Examining the median property, the total charges including the basic one-percent, voter-improved indebtedness, and direct assessments, account for about 1.197 percent of the total assessed value. A typical rule of thumb in municipal finance indicates that the upper limit for reasonable annual charges to a property should not exceed 2 percent.

7.3 EPA Municipal Preliminary Screener Approach

The U.S. Environmental Protection Agency (EPA) has prescribed a methodology, the Municipal Preliminary Screener, to establish whether a community is expected to incur "substantial" economic impacts due to the pollution control project costs. There are two tests with this Municipal Preliminary Screener to establish whether the community can clearly pay for the project without incurring any substantial impacts under the EPA guidelines. The screener is defined as follows:

$$\textit{Municipal Preliminary Screener} = \frac{\textit{Average Total Pollution Control Cost Per Household}}{\textit{Median Household Income}}$$

The EPA has established a lower threshold of below 1 percent of median household income as representing a cost that is not expected to impose a substantial economic hardship on households. A cost between 1 and 2 percent is considered a mid-range impact. If the cost is over 2 percent of median household income, then the project may create an unreasonable financial burden on many households within the community, according to the EPA methodology.

The estimates of 1, 1.5 and 2 percent of median household income are presented in Table 7-2 for the Los Angeles County area. They range from $439 per household to $878 per household annually. When this per household amount is multiplied by the estimated 3,228,269 households in the Los Angeles NPDES permit area, it generates a range of annual revenue potential of $1.4 to $2.8 billion. This revenue represents from about 29 to 58 percent of the total annualized cost for full storm water treatment.

The estimated cost for existing pollution controls plus the full storm water system is about $1,295 per household annually which results in impacts over 2 percent of median household income, therefore, this is judged to create a substantial economic impact. The total cost is comprised of the annualized average storm water cost estimate of $741 plus existing pollution control costs of $554 per household. Using the Preliminary Screener, the level of median household income required for the estimated total pollution control costs exceeds the 2 percent level indicating potentially a substantial economic hardship on households. The EPA guidelines now suggest proceeding to the Secondary Test.

Table 7-2
EPA Municipal Preliminary Screener Analysis
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Municipal Screener Categories[1]	Estimate
Households[2]	3,228,269
1998 Median Household Income	$43,916
1 Percent of Median HH Income	$439
1.5 Percent of Median HH Income	$659
2 Percent of Median HH Income	$878
Annual Revenue Potential @ 1 Percent	$1,417,726,614
Annual Revenue Potential @ 1.5 Percent	$2,126,589,921
Annual Revenue Potential @ 2 Percent	$2,835,453,228

1. EPA has suggested a Municipal Screener range of less than 1 percent for representing little impact, 1 to 2 percent for mid-range impact and over 2 percent for large impact.

2. Estimated households for Los Angeles NPDES Permit Area 1998.

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor

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7.4 The Secondary Test

According to the EPA, the Secondary Test builds upon the characterization of the financial burden identified in the Municipal Preliminary Screener. This test provides an indication of the community's ability to obtain financing and describes its socioeconomic health. According to the EPA Guidelines, the indicators describe precompliance debt and socioeconomic and financial management conditions in the community. In states, such as California, with statutory limits on property tax rates and where data on full market value of taxable property are not generally available, the indicator Overall Net Debt Per Capita can be substituted for other indicators that rely on full market value information. The following five indicators suggested by the EPA have been applied for the Secondary Test:

1. Debt Indicators
   - Bond Rating
   - Overall Net Debt Per Capita

2. Socioeconomic Indicators
   - Unemployment Rate
   - Median Household Income

3. Financial Management Indicators
   - Property Tax Collection Rate

The overall methodology, illustrated on Table 7-3, ranks each indicator on a scale from 1 to 3 and then calculates a simple average of the five indicators, where a score of 1 is Weak, 2 is Mid-Range and 3 is considered Strong. As shown in Table 7-3, the five indicators add to a total score of 11 and an average of 2.2 indicating that the Los Angeles NPDES Permit Area falls in the Mid-Range of the socioeconomic and financial management indicators. The Secondary Test shows a bond rating of Strong with ratings generally above BBB and a score of 3; an overall net debt per capita in the Mid-Range with a score of 2; an unemployment rate of 6.1 percent, or over 1.0 percent higher than the national rate of 4.7 percent, for a Weak ranking and a score of 1; a median household income of $43,916, which is roughly equivalent to the State median, for a mid-range ranking and a score of 2; and a generally Strong property tax collection rate for a score of 3. When this score of 2.2 is prorated across the 1 percent to 2 percent mid-range, it results in an estimated Secondary Test score of 1.6 percent and will be used later as part of the evaluation of substantial economic impacts.

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Table 7-3
EPA Municipal Screener: The Secondary Test
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Indicator	Secondary Indicators[1]			Value	Score
	Weak	Mid-Range	Strong		
Bond Rating	Below BBB (S&P) Below Baa (Moody's)	BBB (S&P)	Above BBB (S&P) BAA (Moody's)	Above BBB	3
Overall Net Debt per Capita	Greater than $3,000	Between $1,000 & $3,000	Less than $1,000	$1,207	2
Unemployment	More than 1% above National Average	National Average (4.7%, March 1998)	More than 1%below National Average	6.1%	1
Median Household Income	More than 10% below State median	State Median ($44,640)	More than 10% above State median	$43,916	2
Property Tax Collection Rate	Less than 94%	94% - 98%	Greater than 98%	98.2%	3

Notes: 1) A Weak rating is assigned a score of 1 point; a Mid-Range rating is assigned a score of 2 points; and 3) a Strong rating is assigned a score of 3 points.

SUM	11
AVERAGE	2.2

Source: Stanley R. Hoffman Associates, Inc.
EPA Economic Guidance for Water Quality Standards Workbook

SECTION 8
ASSESSMENT OF MARKET CONDITIONS

The purpose of assessing market conditions is to determine the potential ability of the various land uses to absorb new taxes, assessments, fees or charges. Two measures used in this section for this purpose are the assessed valuation of property and the amount of taxable sales generated by a community. In addition to household income, these are both indicators of local financial strength and the ability to accommodate additional debt. Assessed value along with the property tax rate determines how much property tax revenue is generated each year. The maximum basic rate of property taxation is limited in California by Proposition 13 to 1 percent. The taxes available for financing debt exceeding the one-percent level now must be approved by a two-thirds vote of the local electorate.

8.1 Assessed Value Trends for Los Angeles County and the Los Angeles NPDES Permit Area

The recession in the early 1990s in California had a dramatic dampening effect on the rate of increase in assessed property valuation in Los Angeles County. This, in turn, constrained property tax revenues for many local jurisdictions. Table 8-1 shows the average annual growth of assessed value from 1989 to 1998 according to the Metropolitan Water District (MWD) for areas in Southern California in their jurisdiction, including Los Angeles County. This indicates an average annual percentage change in total assessed valuation from 1989 to 1998 of 4.7 percent. This growth rate has slowed considerably since 1993.

The assessed valuation from the 1996-1997 annual Los Angeles County Tax Roll was used to analyze the local ability of jurisdictions in the Los Angeles NPDES Permit Area to finance additional costs through property tax revenues. Assessed value and market value per acre of private sector land uses were estimated for use in the analysis. Table 8-2 summarizes assessed valuation for the County with estimates ranging from about $632,900 per acre for single family units to $1.2 million per acre for commercial/industrial land.

When the total estimated assessed valuation of about $457.3 billion for all three categories is averaged over approximately 564,654 acres of residential and commercial/industrial in the Los Angeles NPDES area, this results in an estimated assessed valuation of about $809,915 per acre.

8.2 Taxable Sales Trends

Taxable sales for Los Angeles County can indicate a local jurisdiction's ability to generate additional revenues. Since the passage of Proposition 13, the sales tax has become the preferred source of local government funding for ongoing operations and maintenance. However, some local jurisdictions have traded a share of their sales tax to fund public infrastructure that has attracted revenue generating commercial land uses.

Table 8-1
Assessed Valuation Trends: Metropolitan Water District
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Year	Total Assessed Valuation ($000)	% Growth
1989	596,900,000	
1990	671,600,000	12.5
1991	750,900,000	11.8
1992	820,824,301	9.3
1993	865,027,289	5.4
1994	882,326,828	2.0
1995	887,860,083	0.6
1996	879,101,879	-1.0
1997	879,272,307	0.0
1998	893,911,433	1.7
Average Growth 1989-1998		4.7

Source: **Stanley R. Hoffman Associates, Inc.**
Moody's Investors Service, Metropolitan Water District of Southern California
General Obligation Bond Rating, February 1998

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Table 8-2
Assessed Value for Los Angeles County NPDES Permit Area
Financing and Economic Impacts of Storm Water Treatment

	Single Family	Multi-Family	Commercial/Ind.
Assessed Value Per Acre Los Angeles County	$632,917	$1,063,242	$1,198,244
Los Angeles NPDES Area Assessed Value/Acre	$632,918	$1,063,250	$1,198,380
Total Acres	374,262	57,093	133,299
Estimated Total AV	$236,876,984,488	$60,704,111,495	$159,742,834,395
Estimated AV/Unit[1]	$133,809	$43,918	N/A

1. Units per Acre: Single Family 4.73
   Units per Acre: Multi Family 24.21

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor 1996-1997 Roll Release

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From 1990 to 1997, taxable retail sales for Los Angeles County, according to the California Board of Equalization, declined from $94.7 billion to an estimated $84.7 billion in 1998 inflation-adjusted dollars. This was a decline of approximately $10 billion in taxable sales. Per capita taxable sales are shown in Figure 8-1. The overall decline of per capita taxable sales for the 1990 to 1997 period is 17 percent, declining from $10,802 in 1990 to an estimated $8,925 in 1997. However, since 1993, real per capita taxable sales have been stable and even showed slight increases.

Estimated 1998 taxable sales for the Los Angeles NPDES Permit Area are shown in Table 8-3. The per capita range for communities in this area is quite large, with a low of $8,559 in the Los Angeles River Drainage Basin and a high of $13,336 for the Dominguez Drainage Basin. This indicates a large disparity in both locational selection of shopping and in the income levels of the population as well. The overall taxable sales per capita is $9,050 dollars for the Los Angeles County NPDES area.

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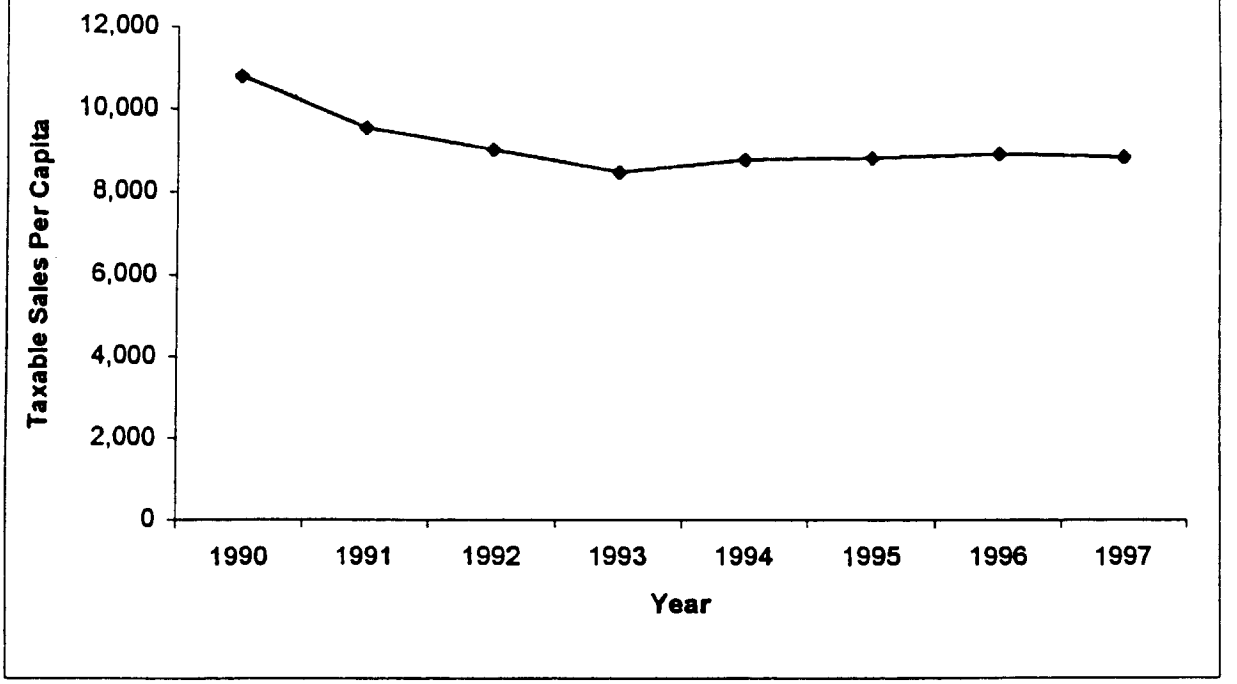
Figure 8-1
LOS ANGELES COUNTY PER CAPITA TAXABLE SALES
FINANCING & ECONOMIC IMPACTS OF STORM WATER TREATMENT
(In Constant 1998 Dollars)



Source: Stanley R. Hoffman Associates, Inc.
California State Board of Equalization

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Table 8-3
1998 Estimated Taxable Sales
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Jurisdiction	1998 Estimated Population[1]	1998 Taxable Sales Per Capita[2]	1998 Total Estimated Taxable Sales	1998 Est. Sales Tax at 1%
Dominguez	480,066	$13,336	$6,402,371,405	$64,023,714
Los Angeles River	5,835,830	8,559	49,950,619,719	499,506,197
Malibu	77,607	9,771	758,265,402	7,582,654
San Gabriel	1,877,491	9,205	17,282,511,179	172,825,112
Santa Clarita	203,921	10,788	2,199,944,611	21,999,446
Santa Monica Bay	784,835	9,179	7,204,283,006	72,042,830
Total	9,259,750	$9,050	$83,797,995,321	$837,979,953

1. Pop. projected based on 1994 - 2000 SCAG projections
2. Consumer Price Index Factor 1996-98: 1.03

Sources: Stanley R. Hoffman Associates, Inc.
California State Board of Equalization: Taxable Sales in California 1996
Southern California Association of Governments, Regional Statistical Area Projections, 1994
Consumer Price Index: U.S. Bureau of Labor Statistics

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SECTION 9
FINANCIAL SPREAD OF COSTS

This section analyzes the potential financing of the 1998 estimated storm water treatment costs for the Los Angeles County NPDES Permit Area under the following two scenarios:

1. Full Storm Water Retrofit Treatment
   - $53.6 billion capital costs; $198.9 million annual operations and maintenance

2. Debt capacity limited by EPA Preliminary & Secondary Screeners
   - $5.3 billion capital; $20.0 million annual operations and maintenance

The first scenario presents the financing of the full system including collection costs and all three levels of treatment. The second scenario reflects the EPA Preliminary and Secondary Municipal Screeners. This combines the revenue potential based on 1.6 percent of median household income to reflect the estimated average Secondary Test screener score, as discussed in Section 7.4, reduced by estimated existing non-storm water pollution control costs of $554 per household.

The financial analysis of the first scenario spreads capital and operations and maintenance costs to both residential and non-residential land uses. The spread is based on the proportionate share of flow from each type of privately owned land use. For example, single family residential land use generates an estimated 38.2 percent of the runoff flow while the commercial and industrial categories generate an estimated 21.3 percent of the flow. The capital costs spread by land use are then annualized assuming bond interest of 6.0 percent, a term of 20 years and estimated bond issuance costs of an additional 12.5 percent above the construction costs.

These annualized capital costs are then converted to a cost per unit basis for single or multi-family land uses or to a cost per acre basis for commercial, industrial and other urban land uses. It is further estimated that the "Open" land use includes about 55 percent privately owned open space. This estimate was based on a geographic information system entitled "GOVOWNERSHIP." It shows groupings of land ownership and was originally digitized by the Forest and Rangeland Resources Assessment Program of the California Department of Forestry. The annualized capital costs are added to the annual operations and maintenance costs to estimate a total annual cost per unit or acre.

The model can analyze the financial implications of outside funding, such as from the State or Federal levels, possible sales tax subventions or redevelopment agency contributions. However, these sources of funds are considered both limited and uncertain. Currently, there are no funding programs for storm water costs of this magnitude.

The basic assumption is that successful implementation is primarily a local responsibility and will require major financial commitments from local sources. In presenting the analysis, a residential land use category has been used for illustration. Each scenario will be discussed in detail, but in summary, the estimated annual storm water treatment cost for each scenario is as follows:

	Cost Per Residential Unit	Cost Per Single Family Unit	Cost Per Per Household
Scenario 1:	$741	$1,024	$1,509
Scenario 2:	$ 73	$ 101	$ 149

9.1 Scenario 1 – Full Storm Water Retrofit Treatment

Scenario 1, Table 9-1, presents the analysis for the full treatment costs of $53.6 billion, including $12.5 billion for storm water collection costs. The annual operations and maintenance costs are $198.9 million. The spread of costs to private sector land uses is based on the distribution of storm water runoff flow from the engineering analysis prepared by Brown and Caldwell.

Using this flow analysis and the single family dwelling unit for illustration, the total allocated capital cost was estimated at $10,062 per single family unit. This was annualized to about $987 and when added to the allocated share of annual operations and maintenance costs of about $37, resulted in $1,024 per single family unit for the full system costs. Based on the average assessed value per single family unit of $117,860 this would be an estimated increase in the property tax rate of 0.87 percentage points.

When the cost of $1,024 per single family unit is weighted with the cost of $309 per multi-family unit, this results in a per residential unit cost estimate of $741. Correspondingly, the cost is $1,509 when allocated on a per household basis. This estimate represents all costs allocated to households with no spread of costs to non-residential land uses. This is for the cost of full storm water treatment before accounting for existing pollution control costs of $554 per household.

9.2 Scenario 2 – Debt Capacity Limited by EPA Secondary Municipal Screener

Scenario 2 summary analysis is presented in Table 9-1 reflecting the Preliminary and Secondary Municipal Screener. For this analysis, it is estimated that the income potential is 1.6 percent of median household income ($703) based on the Secondary Screener. When the estimated amount of $703 per household at the Secondary Municipal Screener level of 1.6 percent of median household income level ($43,916) is reduced by the estimated cost of $554 for non-storm water pollution controls, this results in a net amount of $149 per household available for storm water treatment. If this annual amount of $149 is multiplied by the estimated 3,228,269 households in the Los Angeles County NPDES Permit area and is then capitalized using a 6 percent interest rate and a term of 20 years, this results in an estimated affordable capital cost of $5.3 billion. This represents about 9.9 percent of the estimated full storm water treatment cost of $53.6 billion. On a comparative basis, this yields an estimated cost of $73 per residential unit or $101 per single family unit.

Table 9-1
Detailed Financial Analysis
Financial and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Area

year		YEAR	1998	
capital costs				
collection of flows		23%	12,486	millions $
detention and screening		38%	20,453	millions $
filtration and disinfection		11%	6,150	millions $
advanced treatment		27%	14,516	millions $
total		100%	53,605	millions $
annual O & M costs	as % of const. cost:			
collection of flows		10.405	0.08%	% of Capital C
detention and screening		97.148	0.28%	% of Capital C
filtration and disinfection		48.148	0.80%	% of Capital C
advanced treatment		82.176	0.57%	% of Capital C
total		198.877	0.00%	
alternative allocations	area=1 flow =2			
collection of flows	flow		2	if function
detention and screening	flow		2	if function
filtration and disinfection	flow		2	if function
advanced treatment	flow		2	if function
financing assumptions				
bond terms			20	years
interest rate			6.00%	percent
bond funding costs @			12.50%	percent
estimated cost per EPA municipal screener				
number of households			3,228,269	households
median household income			$43,916	dollars/yr
est. limit per secondary test	1.60% minus existing		0.34%	percent
estimated annual cost per household			$149	dollars/yr
estimated percent of annualized capital cost			9.85%	percent
estimated annualized revenues for capital expen.			$4,872	millions $
estimated total capital costs covered (limited project)			$4,693	millions $
est total bond amount required (limited project)			$5,280	millions $
mitigation of cost using other funding sources				
Federal clean Water Act funds			0.0%	percent
Estimated Federal allocation			0	millions $
State subventions, applied to local share			0.00	percent
Estimated State allocation			0.00	millions $
Sales tax alternative,applied as mitigation if 1			0	
estimated taxable sales 1997			$81.6	billions of $
sales tax required as a percent of taxable sales			5.85%	percent
estimated sales tax revenue required			$4,872	mil $ /yr
estimated annual increase in taxable sales			9.95%	percent
sales tax mitigation in yr: 1998	0		0	mil $ /yr.
revenues from ad valorum tax				
year 1997 ad valorum value			482,382	billions of $
AV tax dollars per 100 dollars AV			$0.01	$/100$av
AV tax revenue			0	mil $ /yr.
estimated annual increase in AV			2.00%	percent
AV tax revenue in year 1998	0		0	mil $ /yr.
redevelopment agency alternatives				
negotiated pass thru as a % of frozen base			0.00%	percent
AV tax dollars per 100 dollars AV (0 rmoves rda)			$1.00	$/100$AV
AV tax revenue			4,624	mil $ /yr.
estimated increase in AV			3.00%	percent
AV tax revenue in year 1998	0		0	mil $ /yr.
escalators used in projected cost or fees				
ratio of market value to AV value			1.81	ratio
CPI growth rate			3.00%	percent
O & M applied yr 1997 1998	0		100.00%	percent
weighted escalator			1	
sizing of project limited by EPA screener				
full retrofit project capital cost (annualized			4674	millions $/yr
annual O & M			199	millions $/yr
total annual cost			4872	millions $/yr
Amount of annual cost per EPA screener			480	millions $/yr
project limited by screener			9.85%	percent
limited project capital cost			5,280	millions $
limited project annual O&M cost			20	millions $/yr

	2	3	4	5	6	7	8	9	10
	single fam	multi-fam	commercial	public	industrial	other urban	open	misc	total
acres	378,494	57,619	59,427	90,892	75,391	18,618	1,010,244	11,719	1,702,404
percent allocated	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	55.00%	100.00%	
allocation acres	378,494	57,619	59,427	0	75,391	18,618	555,634	11,719	1,156,902
percent of total	32.72%	4.98%	5.14%	0.00%	6.52%	1.61%	48.03%	1.01%	1
avg. density du/acre	5.37	23.17	1.00	1.00	1.00	1.00	1.00	1.00	
res dus/other acres	2,032,514	1,335,032	59,427	90,892	75,391	18,618	1,010,244	11,719	4,633,837
est. AV year 1997 in billons	239.56	81.26	71.22	0.00	90.35	0.00	0.00	0.00	482
impervious factor	0.42	0.88	0.92	0.8	0.91	0.8	0	0.65	
acres impervious	158,968	39,181	54,673	72,714	68,606	14,894	0	7,617	416,652
runoff factor	0.42	0.68	0.92	0.8	0.91	0.8	0	0.65	
runoff 1.4" storm mg	6,018	1,192	1,486	2,079	1,869	426	8,514	99	21,684
allocationn flow mg	8017 53327	1192 43781	1485 5156	0	1869 1585	426 40965253	4682 89621	99 369801	15,773
acre feet per storm	18,474	3,681	4,581	0	5,738	1,309	14,378	305	48,424
design flow mgd	7,221	1,431	1,783	0	2,243	512	5,618	119	18,928
percent of flow (1)	38.15%	7.56%	9.42%	0.00%	11.85%	2.70%	29.69%	0.63%	100.00%

	single fam	multi-fam	commercial	public	industrial	urban	open	misc	total
estimated capital cost in millions of dollars									
collection of flows	$4,764	$944	$1,178	$0	$1,480	$338	$3,707	$79	$12,486
detention and screening	$7,803	$1,548	$1,928	$0	$2,424	$553	$6,072	$129	20452.74
filtration and disinfection	$2,346	$465	$579	$0	$729	$166	$1,826	$39	6150
advanced treatment	$5,536	$1,097	$1,367	$0	$1,720	$392	$4,310	$91	$14,516
total	$20,450	$4,052	$5,048	$0	$6,352	$1,449	$15,915	$338	$53,605
estimated dollars of capital cost / unit (per dwelling unit for residential or per acre for other)									
collection of flows	$2,343.68	$707.05	$19,798.02	$0.00	$19,625.17	$18,130.21	$3,669.42	$6,712.32	
detention and screening	$3,838.96	$1,158.17	$32,413.18	$0.00	$32,148.08	$29,687.87	$6,010.58	$10,994.92	
filtration and disinfection	$1,154.38	$348.25	$9,748.43	$0.00	$9,666.71	$8,929.89	$1,807.34	$3,306.10	
advanced treatment	$2,724.84	$821.98	$23,004.74	$0.00	$22,810.58	$21,077.44	$4,265.91	$7,803.47	
total	$10,061.80	$3,035.47	$84,952.37	$0.00	$84,257.53	$77,835.21	$15,753.26	$28,816.81	
estimated annualized dollars of capital cost / unit (per dwelling unit for residential or per acre for other)									
collection of flows	$229.87	$69.35	$1,940.86	$0.00	$1,924.99	$1,778.26	$359.91	$658.36	
detention and screening	$376.54	$113.60	$3,179.17	$0.00	$3,153.17	$2,912.03	$589.53	$1,078.41	
filtration and disinfection	$113.22	$34.16	$955.86	$0.00	$948.14	$875.87	$177.27	$324.27	
advanced treatment	$267.24	$80.62	$2,256.38	$0.00	$2,237.91	$2,067.33	$418.41	$765.38	
total	$986.87	$297.73	$8,332.26	$0.00	$8,264.20	$7,634.28	$1,545.12	$2,826.43	
estimated annual dollars cost of operations and maintenance/ unit (per dwelling unit for residential or per acre for other)									
collection of flows	$1.05	$0.58	$18.49	$0.00	$18.35	$15.11	$3.08	$5.58	
detention and screening	$10.73	$3.24	$80.57	$0.00	$80.53	$82.86	$16.78	$30.72	
filtration and disinfection	$8.22	$2.78	$77.89	$0.00	$77.25	$71.36	$14.44	$26.42	
advanced treatment	$16.42	$4.65	$130.23	$0.00	$129.17	$119.32	$24.15	$44.18	
total per unit or per acre	$37.33	$11.26	$315.18	$0.00	$312.60	$288.77	$58.45	$106.91	
mitigations per dwelling unit or per acre									
federal funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
statewide funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
sales tax funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
RDA funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
estimated annualized dollars of cost by level of treatment/ unit (per dwelling unit for residential or per acre for other)									
collection of flows	$232	$70	$1,957	$0	$1,941	$1,793	$363	$664	
detention and screening	$387	$117	$3,270	$0	$3,243	$2,996	$608	$1,109	
filtration and disinfection	$122	$37	$1,034	$0	$1,025	$947	$192	$351	
advanced treatment	$283	$85	$2,387	$0	$2,367	$2,187	$443	$810	
total	$1,024	$309	$8,648	$0	$8,577	$7,923	$1,604	$2,933	

ad valorum tax required	single fam	multi-fam	commercial	public	industrial	urban	open	misc
$/du-ac/ yr 1998	$1,024	$309	$8,648	$0	$8,577	$7,923	$1,604	$2,933
tax as % of AV	0.67%	0.67%	0.72%		0.72%			

	Full Retrofit Treatment		Limited by EPA screener preliminary & secondary	
Capital Cost	$53,605	millions $	$5,280	millions $
Annual O&M cost	199	millions $/yr	20	millions $/yr
Total Annual Cost	4,672	millions $/yr	480	millions $/yr
Allocated cost per SFD home	$1,024	dollars	$101	dollars
Allocated cost / acre Com/Ind	8,577	dollars	845	dollars
If funded by Sales Tax increase	5.85%	percent	0.59%	percent
Percent of current outstanding debt	477%	percent	47%	percent
Cost per household	$1,509	dollars	$149	dollars

Source: Stanley R. Hoffman Associates, Inc.
Don Owen & Associates

Note (1): The estimated percentage of water runoff flow by land use is used as the basis for the capital cost allocation.

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SECTION 10
ESTIMATED NON-STORM WATER POLLUTION CONTROL COSTS

So far his report has only examined the incremental costs of storm water treatment and has not included the costs of other non-storm water pollution control programs. In this section, estimates of existing and future non-storm water pollution control costs per household were added to the estimated incremental costs for storm water treatment in the Los Angeles County NPDES permit area. The estimated costs to households of other pollution control measures cover the following:

- Air Quality Regulations
- Drinking Water Treatment
- Solid Waste Disposal
- Wastewater Treatment

The analysis in this section represents a preliminary examination of this issue, as a comprehensive study would require a major commitment of resources. When estimating existing or future pollution control costs, there is a wide range of pollution programs for consideration which would require extensive research. In developing the estimated initial costs, two approaches were utilized: 1) analysis of estimated localized, direct costs in California; and 2) a literature review including a 1990 comprehensive study by the EPA updated to 1998 dollars. Because of the widespread effects of pollution controls on the economy and the difficulty of calculating the full effects as they ripple through it, these two approaches likely underestimate the total level of pollution control costs.

10.1 Summary

According to the EPA Municipal Screener, the estimated incremental cost of any new pollution control program should be added to the existing pollution control costs. Therefore, the per household cost estimates of existing pollution control made in this study are added to the incremental costs for storm water treatment by area to determine whether they exceed the 2 percent of median household income criteria prescribed by the EPA municipal screener methodology. The approaches used to estimate the impacts of existing and future pollution control costs in combination with estimated incremental storm water treatment costs are described in this section and summarized below:

1) Localized estimate: $554 annually per household
2) EPA nationwide study estimate: $537 annually per household

10.2 Localized Estimates for Existing Non-Storm Water Pollution Control Costs

Estimates were made for the additional annual pollution control costs per household unit based on localized costs for the Los Angeles area of wastewater user fees, tire/oil disposal, automobile emissions and repairs, drinking water treatment and solid waste disposal. This amount was estimated to be about $554 annually per household for the Los Angeles area as shown on Table 10-1.

Data was compiled using several sources in order to determine the existing residential costs of non-storm water pollution control programs in the Los Angeles area. These costs are analyzed by three

Table 10-1
Financial and Economic Impacts of Storm Water Treatment
Estimated Annual Localized Non-Storm Water Pollution Control Costs Per Household
Los Angeles Area

Description of Localized Cost	Estimated Annual Cost
Annual Wastewater User Charge[1]	$194
Other Localized Pollution Control Costs	
Automobile Tire/Oil Disposal[2]	$8
Average Emissions Costs[3]	$74
Drinking Water[4]	$144
Solid Waste	$134
Total Other Costs	$360
Total Estimated Localized Pollution Costs	**$554**

[1] This estimate is based on the California Environmental Agency's, Wastewater User Charge Survey Report, Fiscal Year 1997-98.

[2] Based on oil disposal costs of $6 and tire disposal costs of $3 per year.

[3] Based on average emissions cost calculations as shown below:

Annual Median smog inspection fee	$14.00
Annual Median smog certificate	$5.00
Annual Average emissions repairs	$55.00
	$74.00

[4] Estimated Water treatment cost based on Metropolitan Water District (MWD) jurisdictions as shown on Table 10-3 has been applied as an average cost to the Los Angeles area.

Sources: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau
Wastewater user Charge Survey Report, Fiscal Year 1997-98, California Environmental Protection Agency
Metropolitan Water District of Southern California, 1998

Notes:			Per Household
Calculations are based on the following estimates:			Annual Estimated Charges
Tires changed @ 50,000 miles or 2 tires/yr.at $1.50 each			$3.00
Oil changed @ $1.00	4.86	times per yr.	$5.00
Annual Median smog inspection fee			$14.00
Annual Median smog certificate			$5.00
Annual Average emissions repairs			$55.00
Per Capita Vehicle Miles Travelled			8,635
Annual VMT per household			17,270

primary environmental media: air, land and water. The detailed annual cost estimates per residential unit for each of these categories, as shown on Table 10-1, include annual wasterwater user charges plus other costs. The estimated other localized pollution costs include: tire/oil disposal fees, smog check and related emissions repairs, drinking water treatment and solid waste disposal and are about $360 per household for the Southern California area.

These total costs are then added to the estimated annual wastewater user charge to arrive at a total estimated annual localized pollution control cost per household. When this total localized amount of $554 is added to the incremental cost of storm water treatment, it represents the total amount that a household is estimated to pay for pollution control on an annual basis if the full storm water treatment system was implemented.

The cost estimates for the air category include costs related to meeting the requirements for automobile smog check, smog certificate, and related emissions repairs every two years. These costs were derived based on estimates received from the California Bureau of Automotive Repairs (BAR) and then annualized on a per household basis. Smog activity is reviewed statewide each month by BAR. Table 10-2 summarizes the emissions related repair costs from July 1997 through March 1998 plus other smog control related costs. The annualized amount was calculated based on the California regulation that automobiles must pass smog certification every two years.

The land category includes costs related to solid waste disposal, as well as those for automobile oil and waste tires. The estimates for solid waste in dollars per household were presented in the EPA study. The costs for tire and oil disposal were derived based on estimates provided by the Integrated Waste Management Board of California. The calculations used in the analysis are referenced on Table 10-1.

The water category includes those costs related to the treatment of drinking water and user fees for wastewater. The costs for the treatment of drinking water were calculated based on the Southern California Metropolitan Water District's (MWD) price schedule for areas within their jurisdiction. A summary of these water treatment costs is shown on Table 10-3. The estimated annual wastewater costs were based on the California Environmental Protection Agency's report, Wastewater User Charge Survey Report, Fiscal Year 1997-98.

10.3 Pollution Control Cost Estimates Based on EPA Study

This approach utilizes a 1990 study by the EPA, Environmental Investments: The Cost of a Clean Environment, which estimates the direct costs of public and private pollution control activities in the United States. Although this report was prepared in 1990, it represents an extensive analysis of environmental costs by economic sector and environmental medium. The study also includes a projection to the year 2000 of what EPA estimated at the time to be the cost of full compliance with existing regulations. According to the report, overall there is expected to be a significant increase in the real costs of pollution control on local government which will require significant additional capital investments and increases in rates charged to customers for expanded environmental services.

Table 10-2
Financial and Economic Impacts of Storm Water Treatment
Statewide Summary of Emissions Related Repair Costs Per Vehicle
Los Angeles Area

	Month	Number of Vehicles	Average Cost Per Vehicle	Annualized Average Cost[1]
Vehicle Repair Costs	Mar-98	31,803	$117	
	Feb-98	33,791	111	
	Jan-98	37,464	111	
	Dec-97	34,447	105	
	Nov-97	35,490	106	
	Oct-97	41,312	105	
	Sep-97	39,881	110	
	Aug-97	41,376	107	
	Jul-97	43,316	$109	
		338,880	$109	$55
Annual Average Estimated Inspection Fee				$14
Annual Average Estimated Smog Certificate Fee				$5
Total Annual Average Estimated Emissions				$74

Source: Stanley R. Hoffman Associates, Inc.
California State Bureau of Automotive Repairs

[1] A Smog check is assumed to be conducted once every two years

Note: includes only costs related to repairs required to pass smog check certification. As of March 1998, repair costs are no longer reported to the BAR. Costs are likely to increase because of the new requirements to control NO_x

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Table 10-3
Financial and Economic Impacts of Storm Water Treatment
Water Treatment Costs
Los Angeles Area

	MWD Service Area 1998 $
Estimated Existing Water Treatment Costs	
Water Rates ($ Per acre foot)	
Basic Treated Water	$431
Basic Untreated Water	$349
Cost of Water Treatment	$82
Estimated Future Water Treatment Costs	
Treatment costs ($ Per acre foot)	
Oxidation Retrofit Program[1]	$25
Other Treatment Technologies[2]	$180
Estimated Annual Cost Per Acre foot	$287
Estimated Annual Per Household Costs	
Annual Water Usage ($ Per acre foot)	0.50
Estimated Water Treatment Cost	$144

Notes:
1. This program is currently underway by MWD and will include ozone treatment of water at $50 per acre foot. It is assumed that 50 % of the area would incur this cost, or an average of $25 per acre foot.

2. Advanced technologies for ground water treatment are more expensive and average about $360 per acre foot. It is assumed that 50 % of the MWD service area would incur this cost, or $180 per acre foot.

Source: Stanley R. Hoffman Associates, Inc.
Metropolitan Water District of Southern California, 1998.

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10.3.1 Overall Costs of Environmental Protection

Based on the EPA study, the estimated future annual cost of pollution controls per household in 1998 dollars would be about $537. These costs are shown in detail on Tables 10-4 and 10-5 and would likely be higher if the effects of more recent pollution control legislation were included. The estimated costs include pollution abatement, control and prevention expenditures. Only the direct costs associated with implementing control measures and compliance activities are included in the analysis.

The report presents data on environmental pollution control costs from 1972 through 1987 and projects those costs for each year through 2000 under various assumptions related to full compliance with existing regulations. The report presents the results in a variety of ways including by type of cost (capital, operating, etc.), by medium (land, air, water), by program and by economic sector which directly bears the cost of the control (public versus private). The report is based upon surveys of spending conducted by the Department of Commerce, EPA Regulatory Impact Analyses and an earlier EPA study, The Municipal Sector Study: Impacts of Environmental Regulations on Municipalities (September 1988).

The EPA study found that in the year 2000, total annualized costs for all pollution control activities in the nation would likely be in the range of $171 billion to $185 billion (in constant 1990 dollars). These costs would represent 2.6 to 2.8 percent of Gross National Product.

The largest share of pollution control costs – 61 percent – is directly borne by the private sector. The second largest share – 23 percent – is directly borne by local governments. Local government costs relate mostly to wastewater, drinking water, sewage sludge and solid waste. According to the report, "...it is projected that over the next several years real pollution control burdens on municipalities will increase dramatically and result in large increases in the fees charged to consumers for locally-provided environmental services."

10.3.2 Estimated Costs per Household

While the EPA report provides a comprehensive analysis of pollution control costs and does estimate which sector initially bears the costs, it does not attempt to estimate how much of these costs are ultimately passed on to households, businesses, and other entities. However, the Municipal Sector Study found that households in smaller communities will pay an average of 0.7 percent of their incomes for environmental services while those in larger communities will pay on average 0.5 percent.

Tables 10-4 and 10-5 show selected annualized cost estimates for mobile source and other selected pollution control programs. This is derived from the EPA report, when combined, results in an estimated cost of $537 per household. The cost estimates in Table 10-4 were projected by the EPA as local government's share in the year 2000. This assumes full compliance with national standards for water quality point sources, drinking water and solid waste.

Table 10-4
Financial and Economic Impacts of Storm Water Treatment
Annualized Environmental Control Costs in the Year 2000
Selected Programs - Local Government Portion[1]

Area	In Millions of 1986 Dollars[2]	In Millions of 1998 Dollars	Cost per Household in 1998 Dollars
Water Quality-Point Sources	$16,589	$23,888	$232
Drinking Water	5,079	7,314	71
Solid Waste	9,681	13,941	135
Total Water & Solid Waste	31,349	45,143	438
Total Households (thousands)			103,058
Estimated Costs per household			$438

1. Air quality regulation costs for local governments were not included as part of this study

2. CPI LA-Ana-Riv:All Items - All Urban Consumers
   Change 1986-1998 1.44

Source: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau

Table 10-5
Financial and Economic Impacts of Storm Water Treatment
Annualized Environmental Control Costs in the Year 2000
Mobile Sources Air Pollution

Area	In Millions of 1986 Dollars[1]	In Millions of 1998 Dollars	Cost per Household in 1998 Dollars
Capital Costs	$10,786	$15,532	$151
Operating Costs	$3,354	$4,830	$47
Total	$14,140	$20,362	$198
Estimated Household Allocation[2]	$7,070	$10,181	$99
Total Households (thousands)			103,058
Estimated Costs per household			$99

[1] CPI LA-Ana-Riv:All Items - All Urban Consumers
Change 1986-1998 1.44

[2] Assumed allocation to households at 50%

Source: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau

Table 10-5 presents estimated air pollution control costs for mobile sources. The EPA study annualized the estimated capital costs using a 7 percent annual amortization rate for capital expenditures and combined them with annual operations and maintenance costs. The first data column shows the cost estimates in 1986 dollars. The second data column converts the cost estimates to 1998 dollars using an adjustment based on the Consumer Price Index. The third column shows the cost per household based on the Census Bureau's forecast of households for 2000 (Series 2) of approximately 103.1 million.

Cost estimates are presented for the three programs with the largest local government financial responsibility. In order to avoid double counting with the incremental storm water treatment cost estimates, EPA estimated non-point source water quality control costs were not included in the table. No attempt was made by EPA to estimate either how much of these costs would be passed back to the consumers of municipally provided environmental services in the form of periodic fees or how much of such fees would be borne by households, businesses and other entities. Such user fees are common for wastewater treatment, drinking water supply and solid waste collection and disposal. Conversely, no attempt was made to include the costs of private providers of the same services. Some drinking water and solid waste collection and disposal services, for example, are provided by private companies who charge user fees in the same manner as municipal providers.

The total annual local cost for local government programs in the year 2000 is projected at about $45.1 billion as shown on Table 10-4. This would be the equivalent of $438 per household based on the Census Bureau's projection of 103,058 million households. The total annual cost of mobile source air pollution controls is shown on Table 10-5 and is projected to be $10.18 billion. Assuming one half of this is for commercial vehicles and the other half is for vehicles owned by households, then the average annual cost per household is estimated at $99. This is considered a conservative assumption since slightly less than one third of the total registered vehicles in California are commercial. When these two estimates are combined, a total cost per household of $537 results.

SECTION 11
EVALUATION OF FINANCIAL IMPACTS

This section discusses the findings of potential financial and economic impacts on the Los Angeles NPDES Permit Area. The EPA Municipal Screener methodology and other selected socioeconomic indicators are used in this evaluation. A set of summary indicators are presented in Table 11-1 for the two scenarios: 1) Full retrofit treatment; 2) Retrofit expenditures limited by the Preliminary and Secondary Screener. The cost of full storm water treatment is first evaluated followed by an evaluation of costs as limited by the Secondary Screener test.

11.1 Widespread Impacts

The financial and economic inpacts are first evaluated for the cost of full storm water retrofit treatment. Based on the EPA methodology and other economic indicators presented below, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs as summarized on Table 11-2.

11.1.1 Property Tax Impacts

One measure of financial feasibility is the estimated impact on the property tax rate. The property tax rate for a single-family unit is estimated to increase by about 0.87 percentage points for the full system as shown previously on Table 9-1. When added to the median base property tax of 1.19 percent, this results in a total property tax of 2.06 percent, an increase of about 73 percent in the annual property tax bill. Given the current economic climate in California, this estimated total rate of 2.06 percent is clearly more than is likely to be absorbed by local single family households alone. For multi-family units, the estimated increase of 0.67 percentage points would also represent a sizable increase if translated into a potential rental pass through.

11.1.2 Sales Tax Impacts

To compare the annualized storm water treatment costs to other economic indicators, a hypothetical increase in the sales current tax rate of 8.25 percent was estimated in lieu of increasing the property tax for the cost of full treatment. For the cost of full treatment, the sales tax increase was estimated at about 6.0 percentage points. This impact, on top of the current rate, is judged to be both widespread and probably far higher than most households would consider acceptable.

11.1.3 Land Requirement and Displacement Impacts

Treatment facilities for storm water runoff are land intensive. The land acreage and cost requirements for the full system are about 13,950 acres and $6.1 billion, requiring multiple treatment plants per drainage basin. The land cost estimate was included in the full treatment costs of $53.6 billion. About 67 percent of this acreage would be required for treatment Level 1 with the remaining 33 percent for treatment Level 2. While marginal or vacant parcels would be initially sought, this still would require potential displacement of many households and businesses in addition to relocation and land costs.

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Table 11-1
Summary of Evaluation Indicators
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Indicators	Full Retrofit Treatment		Limited by EPA screener: preliminary & secondary	
Capital Cost	53,605	millions $	5,280	millions $
Annual O&M cost	199	millions $/yr	20	millions $/yr
Total Annual Cost	4,872	millions $/yr	480	millions $/yr
Allocated cost per SFD	$1,024	dollars	$101	dollars
Allocated cost / acre Com/Ind	8,577	dollars	845	dollars
If funded only by Sales Tax increase	5.95%	percent	0.59%	percent
Percent of current outstanding debt	477%	percent	47%	percent
Cost per household	$1,509	dollars	$149	dollars

Source: Stanley R. Hoffman Associates, Inc.
Don Owen & Associates

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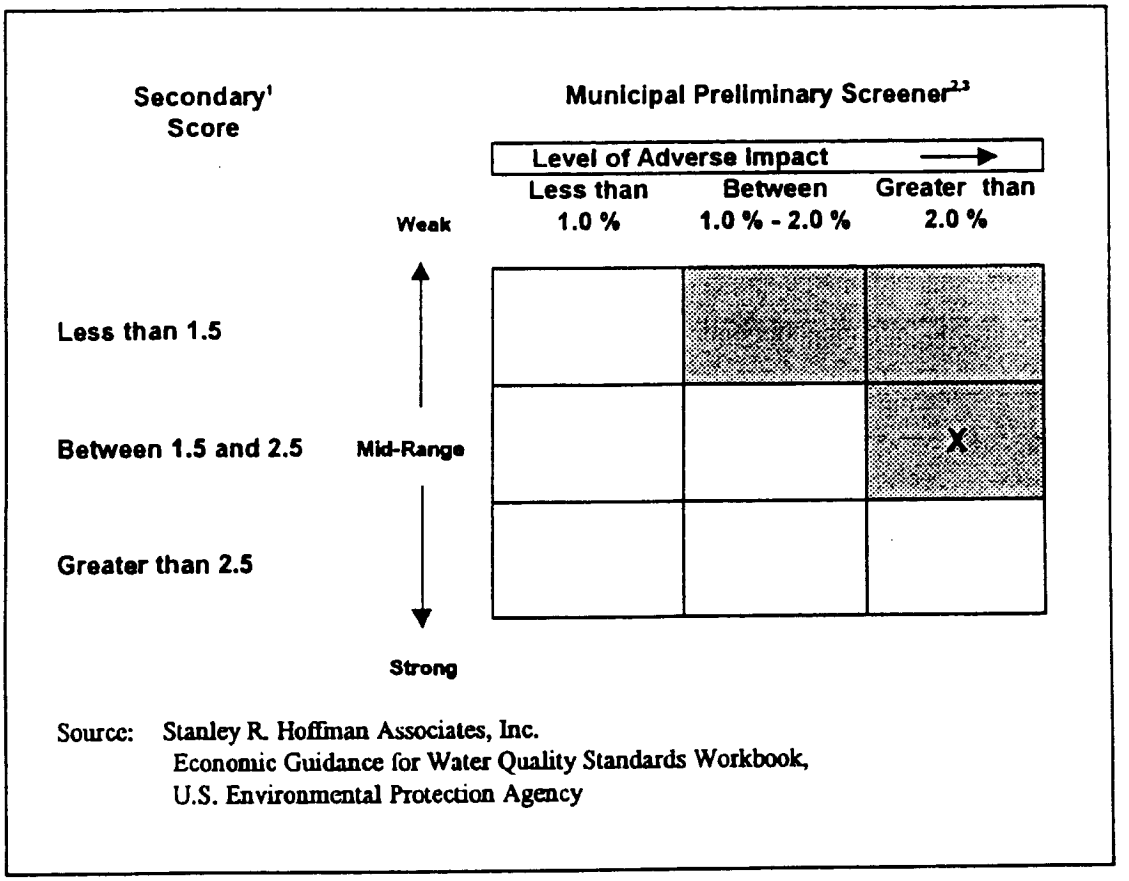
Table 11-2
Financial and Economic Impacts of Storm Water Treatment
Assessment of Substantial Impacts Matrix
Los Angeles NPDES Area



Source: Stanley R. Hoffman Associates, Inc.
Economic Guidance for Water Quality Standards Workbook,
U.S. Environmental Protection Agency

1. The Secondary Score represents a weighted average based on a number of economic criteria described in the text.

2. The Municipal Preliminary Screener represents a percentage of median household income.

3. Shaded area denotes where substantial impacts are estimated to occur according to the EPA Preliminary and Secondary Municipal Screeners. The combined score for the Los Angeles NPDES area results in substantial impacts as shown in the figure by the "X."

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11.1.4 Employment Impacts

The Los Angeles area economy has been recovering from the deep recession of the early 1990s when the total County economy lost more than 400,000 jobs. The County is currently on a recovery path. The additional costs per household and per business would likely slow economic growth and cause some businesses to relocate or expand elsewhere. Again, while specific estimates of impacts are not made, the burden of additional costs of a substantial nature is viewed as widespread because the potential treatment plants would be distributed throughout the Los Angeles drainage areas. Since specific locations are not identified, these displacement impacts are not quantified as part of this study.

Employment trends for Los Angeles County are summarized in Table 11-3 based on estimated projections from 1994 to 2000 from the Southern California Association of Governments (SCAG). According to these projections, the overall County employment is growing at an average annual rate of about 1.4 percent.

As was indicated earlier, the average household share of the financing burden would amount to about a 73 percent increase of annual property taxes for a single family unit. For many households, this increase would cause a significant reduction in their consumption and savings potential. Over time, landowners would pass forward these tax increases in the form of higher rents which would result in consumption reduction. Such potential widespread reduced consumption among households would likely cause loss of retail and other local serving jobs.

Based on the EPA methodology and the other economic indicators presented, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs.

11.1.5 Impacts on Outstanding Local Debt

According to California Municipal Statistics, Inc., there is an estimated $11.6 billion of outstanding local public debt in Los Angeles County. The estimated cost of $53.6 billion for full storm water treatment represents almost a fivefold increase in existing debt. This level of debt increase would be not only considered extremely large but would foreclose capital funding for other non-storm water projects.

11.2 Costs Limited by EPA Screeners

When the estimated costs of storm water treatment are limited by the EPA Preliminary and Secondary Municipal Screeners, this results in an estimated fundable capital cost of about $5.3 billion. This is based on a cost of $149 per household calculated by taking the estimated Secondary Screener amount of 1.6 percent of median household income ($43,916) or $703 per household and reducing it by the estimated existing and future non-storm water pollution control costs of $554 per household. While this amount is estimated to be affordable based on the EPA Preliminary and Secondary Screener methodology, it is likely that it would still be considered too high if directly charged to most households on an annual basis over the bond period of 20 years or longer.

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Table 11-3
Financial and Economic Impacts of Storm Water Treatment
Employment Trends for Los Angeles County NPDES Permit Area: 1994 - 2000

Basin/Area	1994	1998	2000	1994 to 2000 Numerical Change	1994 to 2000 Percent Change	1994 to 2000 Average Annual Change
Dominguez	302,572	319,728	328,667	26,095	8.6%	1.4%
LA River	2,465,071	2,612,887	2,690,087	225,016	9.1%	1.5%
Malibu	34,894	41,554	45,346	10,452	30.0%	4.5%
San Gabriel	611,803	655,842	679,037	67,234	11.0%	1.8%
Santa Clara	53,398	65,018	71,744	18,346	34.4%	5.0%
Santa Monica Bay	700,022	708,656	713,013	12,991	1.9%	0.3%
Total	4,167,760	4,403,684	4,527,893	360,133	8.6%	1.4%

Sources: Stanley R. Hoffman Associates, Inc.
Southern California Association of Governements, Regional Statistical Area Projections, 1994.

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SECTION 12
BIBLIOGRAPHY

Brown and Caldwell, prepared for California Department of Transportation, *Cost of Storm Water Treatment for Los Angeles NPDES Permit Area*, June 1998

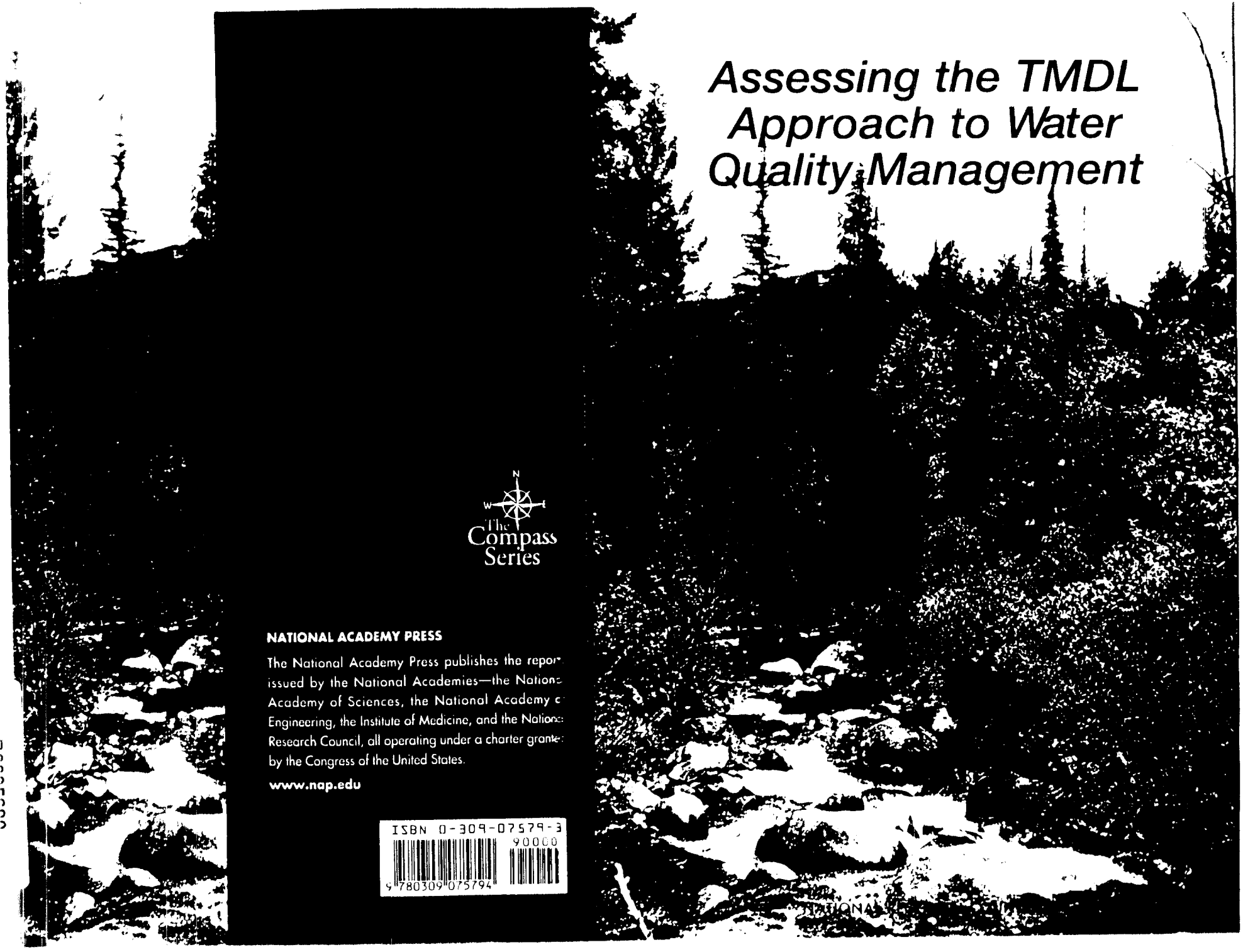
Stenstrom, Michael K., Department of Civil and Environmental Engineering: University of California at Los Angeles, and Eric W. Strecker Woodward-Clyde Consultants, *Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay, Volume1: Annual Pollutants Loadings to Santa Monica Bay from Storm Water Runoff*, May 1993.

United States Environmental Protection Agency, Economics and Statistical Analysis Branch, Office of Science and Technology, Office of Water, *Interim Economic Guidance for Water Quality Standards Workbook*, March 1995.

United States Environmental Protection Agency, Policy, Planning, And Evaluation, *Environmental Investments: The Cost of a Clean Environment*, December 1990.

United States Environmental Protection Agency, *The Municipal Sector Study: Impacts of Environmental Regulations on Municipalities*, September 1988.

Wilchfort, Orit et. al., Center for Environmental and Water Resources Engineering, Department of Civil and Environmental Engineering: University of California at Davis, *An Economic Valuation of Storm Water Quality Improvement for Ballona Creek, California*, May 1997.



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Assessing the TMDL Approach to Water Quality Management

Committee to Assess the Scientific Basis of the Total Maximum Daily Load Approach to Water Pollution Reduction

Water Science and Technology Board

Division on Earth and Life Studies

National Research Council

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Preface

The Total Maximum Daily Load (TMDL) program, initiated in the 1972 Clean Water Act, recently emerged as a foundation for the nation's efforts to meet state water quality standards. A "TMDL" refers to the "total maximum daily load" of a pollutant that achieves compliance with a water quality standard; the "TMDL process" refers to the plan to develop and implement the TMDL. Failure to meet water quality standards is a major concern nationwide; it is estimated that about 21,000 river segments, lakes, and estuaries have been identified by states as being in violation of one or more standards. To address this problem, the U. S. Environmental Protection Agency (EPA) proposed an ambitious timetable for states to develop TMDL plans that will result in attainment of water quality standards. Given the reduction in pollutant loading from point sources such as sewage treatment plants over the last 30 years, the successful implementation of most TMDLs will require controlling nonpoint source pollution.

These two features, the ambitious timetable and nonpoint source controls, are probably the two most controversial of many issues that have been raised by those who have questioned the TMDL program. Behind and intertwined with these basic policy issues are important questions concerning the adequacy of the science in support of TMDLs.

In the last year, the TMDL program has become one of the most discussed and debated environmental programs in the nation, primarily because of the drafting of final rules for the program. These rules follow several years of intense activity, including the formation of a Federal Advisory Committee devoted to this topic. In October 2000, Congress suspended EPA's implementation of these rules until further information could be gathered on several aspects of the program. In particular, Congress requested that the National Research Council (NRC) examine the

scientific basis of the TMDL program. In recognition of the urgent need to address water quality standard violations, Congress established an aggressive schedule for completion of the study that allowed only four months from start to finish—unprecedented for most NRC studies. The eight-member committee, constituted in January 2001, immediately conducted its first meeting. This three-day meeting included two days devoted to public comments and a third day focused on internal committee discussions. The ensuing three months was a period of intense activity filled with correspondence, writing, and two additional committee meetings.

The difficult challenges facing EPA and the states in the implementation of the TMDL program were immediately apparent to the committee. Because the committee faced a congressionally mandated deadline, a number of issues important to some stakeholders were not addressed comprehensively. These include bed sediment issues, atmospheric deposition, translating narrative standards into numeric criteria, and a full review of existing water quality models. Nonetheless, the committee found that substantial improvements can be made in a number of areas to strengthen the scientific basis of the TMDL program. Also of importance, the committee identified several policy issues that are restricting the use of the best science in the TMDL program. We urge Congress, EPA, and the states to give thoughtful attention to the recommendations made throughout this report so that resources can be more efficiently used to improve water quality.

We greatly appreciate the assistance of Don Brady and Françoise Brasier of the EPA Office of Water for their assistance in initiating the study and organizing the first committee meeting. We are also grateful to those who spoke with and educated our committee, including congressional staff, EPA scientists, state representatives, and the many individuals and organizations that submitted comments to the committee.

The committee recognizes the vital role of Water Science and Technology Board (WSTB) director Stephen Parker in making this study possible. The extremely short time period for this study created an enormous challenge for NRC study director Laura Ehlers, who was able to juggle her many responsibilities to keep us focused and provide invaluable assistance in crafting the text. Finally, it is fair to say that this study owes most thanks to Leonard Shabman (Virginia Polytechnic Institute and State University) who was working in the WSTB office as a visiting scholar during the study. Dr. Shabman's insight was invaluable; he added immensely to committee discussion and correspondence, and he played a key role in drafting the text and developing the recommendations.

More formally, the report has been reviewed by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the NRC's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the authors and the NRC in making the published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The reviews and draft manuscripts remain confidential to protect the integrity of the deliberative process. We thank the following individuals for their participation in the review of this report: Richard A. Conway, consultant; Paul L. Freedman, Limno-Tech, Inc.; Donald R. F. Harleman, Massachusetts Institute of Technology (retired); Robert M. Hirsch, U.S. Geological Survey; Judith L. Meyer, University of Georgia; Larry A. Roesner, Colorado State University; Robert V. Thomann, Manhattan University (retired); and Robert C. Ward, Colorado State University.

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before its release. The review of this report was overseen by Frank H. Stillinger, Princeton University, and D. Peter Loucks, Cornell University. Appointed by the NRC, they were responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the NRC.

KENNETH H. RECKHOW
Chair

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Executive Summary

Over the last 30 years, water quality management in the United States has been driven by the control of point sources of pollution and the use of effluent-based water quality standards. Under this paradigm, the quality of the nation's lakes, rivers, reservoirs, groundwater, and coastal waters has generally improved as wastewater treatment plants and industrial dischargers (point sources) have responded to regulations promulgated under authority of the 1972 Clean Water Act. These regulations have required dischargers to comply with effluent-based standards for criteria pollutants, as specified in National Pollutant Discharge Elimination System (NPDES) permits issued by the states and approved by the U.S. Environmental Protection Agency (EPA). Although successful, the NPDES program has not achieved the nation's water quality goals of "fishable and swimmable" waters largely because discharges from other unregulated nonpoint sources of pollution have not been as successfully controlled. Today, pollutants such as nutrients and sediment, which are often associated with nonpoint sources and were not considered criteria pollutants in the Clean Water Act, are jeopardizing water quality, as are habitat destruction, changes in flow regimes, and introduction of exotic species. This array of challenges has shifted the focus of water quality management from effluent-based to ambient-based water quality standards.

This is the context in which EPA is obligated to implement the Total Maximum Daily Load (TMDL) program, the objective of which is attainment of ambient water quality standards through the control of both point and nonpoint sources of pollution. Although the TMDL program originated from Section 303d of the Clean Water Act, it was largely overlooked during the 1970s and 1980s as states focused on bringing point sources of pollution into compliance with NPDES permits. Citizen lawsuits during the 1980s forced EPA to develop guidance for the TMDL program, which is now considered to be pivotal in securing the

nation's water quality goals. Under TMDL regulations promulgated in 1992, EPA requires states to list waters that are not meeting water quality criteria set for specific designated uses. For each impaired water, the state must identify the amount by which point and nonpoint sources of pollution must be reduced in order for the waterbody to meet its stated water quality standards. Meeting these requirements, many of which have been imposed by court order or consent decree, has become the most pressing and significant regulatory water quality challenge for the states since passage of the Clean Water Act.

Given the most recent lists of impaired waters submitted to EPA, there are about 21,000 polluted river segments, lakes, and estuaries making up over 300,000 river and shore miles and 5 million lake acres. The number of TMDLs required for these impaired waters is greater than 40,000. Under the 1992 EPA guidance or the terms of lawsuit settlements, most states are required to meet an 8- to 13-year deadline for completion of TMDLs. Budget requirements for the program are staggering as well, with most states claiming that they do not have the personnel and financial resources necessary to assess the condition of their waters, to list waters on 303d, and to develop TMDLs. A March 2000 report of the General Accounting Office (GAO) highlighted the pervasive lack of data at the state level available to set water quality standards, to determine what waters are impaired, and to develop TMDLs.

Subsequent to the GAO report and following issuance by EPA of updated TMDL regulations, Congress requested that the National Research Council (NRC) assess the *scientific basis* of the TMDL program, including:

- the information required to identify sources of pollutant loadings and their respective contributions to water quality impairment,
- the information required to allocate reductions in pollutant loadings among sources,
- whether such information is available for use by the states and whether such information, if available, is reliable, and
- if such information is not available or is not reliable, what methodologies should be used to obtain such information.

Of concern to the nation's lawmakers was the paucity of data and information available to the states to comply with program requirements and meet water quality standards. Indeed, as the TMDL program proceeds, the best available science, especially with regard to nonpoint sources of pollution, will be needed for regulatory and nonregulatory actions to be equitable and effective. Report recommendations are targeted (1) at those issues where science can and should make a significant contribution and (2) at barriers (regulatory and otherwise) to the use of science in the TMDL program. Chapters 2, 3, and 4 discuss the information required to set water quality standards, to list waters as impaired, and to develop TMDLs (including the identification of pollution sources), while Chapter 5 discusses the role of science in allocating pollutant loading among sources. Chapters 3 and 4 go into considerable detail about the monitoring, modeling, and statistical analysis methods needed to collect data and convert it to information, and to assess and reduce uncertainty.

This report represents the consensus opinion of the eight-member NRC committee assembled to complete this task. The committee met three times during a three-month period and heard the testimony of over 40 interested organizations and stakeholder groups. The NRC committee feels that the data and science have progressed sufficiently over the past 35 years to support the nation's return to ambient-based water quality management. Given reasonable expectations for data availability and the inevitable limits on our conceptual understanding of complex systems, statements about the science behind water quality management must be made with acknowledgment of uncertainties. The committee has concluded that there are creative ways to accommodate this uncertainty while moving forward in addressing the nation's water quality challenges. These broad conclusions are elaborated upon below.

TMDL PROGRAM GOALS

The TMDL program should focus first and foremost on improving the condition of waterbodies as measured by attainment of designated uses. Work on meeting the strict time demands within the budget constraints cited by most states has focused on administrative outcomes as measures of success for the TMDL program. However, the success of the nation's premier water quality program should not be measured by the number of TMDL plans completed and approved, nor by the number of NPDES permits issued or cost share dollars spent. Success is achieved when the condition of a waterbody supports its designated use. Adequate monitoring and assessment must be used to improve the listing of impaired waterbodies and to characterize the effectiveness of the actions taken to meet the designated use.

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The program should encompass all stressors, both pollutants and pollution, that determine the condition of the waterbody[1]. Proposed regulations may limit the applicability of the program to only those water quality problems caused by chemical and physical pollutants. Given their demonstrated effectiveness, activities that can overcome the effects of "pollution" and bring about waterbody restoration—such as habitat restoration and channel modification—should not be excluded from consideration during TMDL plan implementation.

Scientific uncertainty is a reality within all water quality programs, including the TMDL program, that cannot be entirely eliminated. The states and EPA should move forward with decision-making and implementation of the TMDL program in the face of this uncertainty while making substantial efforts to reduce uncertainty. Securing designated uses is limited not only by a focus on administrative rather than water quality outcomes in the TMDL process, but also by unreasonable expectations for predictive certainty among regulators, affected sources, and stakeholders.

CHANGES TO THE TMDL PROCESS

This report focuses on how scientific data and information should be used within the TMDL program. Science plays a crucial role in the standards-setting process, in the decision to add waters to the 303d list, in the development of the TMDL plan, and in the allocation of pollutant loads among various sources (although its importance relative to the role of policy decisions varies). The committee finds that although the state of the science is sufficient to develop TMDLs to meet ambient water quality goals in many situations, programmatic issues substantially hinder the use of the best available science. Thus, the following changes in the TMDL process are recommended, with an understanding that without such changes, the TMDL program will be unable to incorporate and improve upon the best available scientific information.

States should develop appropriate use designations for waterbodies in advance of assessment and refine these use designations prior to TMDL development. Clean Water Act goals of fishable and swimmable waters are too broad to be operational as statements of designated uses. Thus, there should be greater stratification of designated uses at the state level (such as primary and secondary contact recreation). The appropriate designated use may not be the use that would be realized in the water's predisturbance condition. Sufficient science and examples exist for all states to inject this level of detail into their water quality standards. To ensure that designated uses are appropriate, use attainability analysis should be considered for all waterbodies before a TMDL is developed.

[1] This refers to the legal definitions of "pollutant" and "pollution," which are given in Box 1-1 of Chapter 1.

EPA should approve the use of both a preliminary list and an action list instead of one 303d list. Many waters now on state 303d lists were placed there without the benefit of adequate water quality standards, data, or waterbody assessment. These potentially erroneous listings contribute to a very large backlog of TMDL segments and foster the perception of a problem that is larger than it may actually be. States should be allowed to move those waters for which there is a lack of adequate water quality standards or data and analysis from the 303d list back to a preliminary list, as shown in Figure ES-1. This would provide the assurance that listed waters are indeed legitimate and merit the resources required to complete a TMDL. If no legal mechanism exists to bring this about, one should be created by Congress. The data requirements and other criteria that should be used to differentiate the preliminary list from the action list are discussed in the report. No waterbody should remain on the preliminary list for more than one rotating basin cycle.

TMDL plans should employ adaptive implementation. As shown in Figure ES-2, adaptive implementation is a cyclical process in which TMDL plans are periodically assessed for their achievement of water quality standards including designated uses. If the implementation of the TMDL plan is not achieving attainment of the designated use, scientific data and information should be used to revise the plan. Adaptive implementation is needed to ensure that the TMDL program is not halted because of a lack of data and information, but rather progresses while better data are collected and analyzed with the intent of improving upon initial TMDL plans. Congress and EPA need to address the policy barriers that inhibit adoption of an adaptive implementation approach to the TMDL program, including the issues of future growth, the equitable distribution of cost and responsibility among sources of pollution, and EPA oversight.

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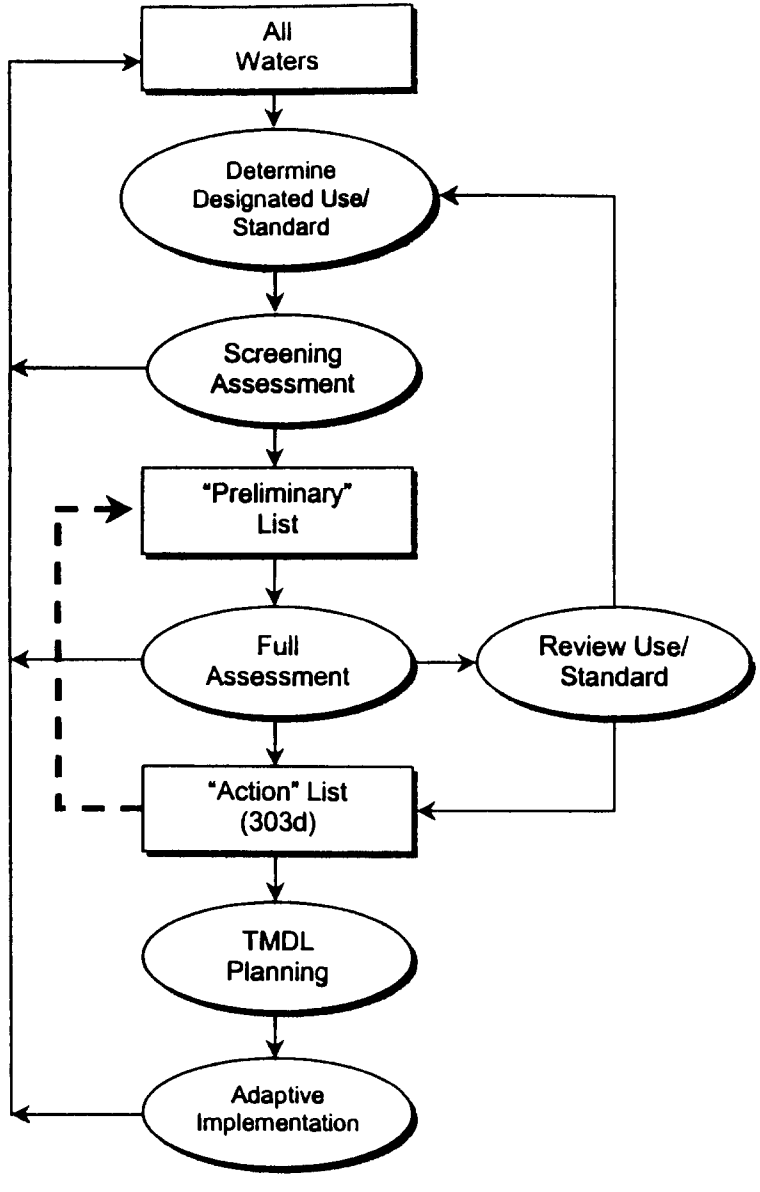

FIGURE ES-1 Framework for water quality management.

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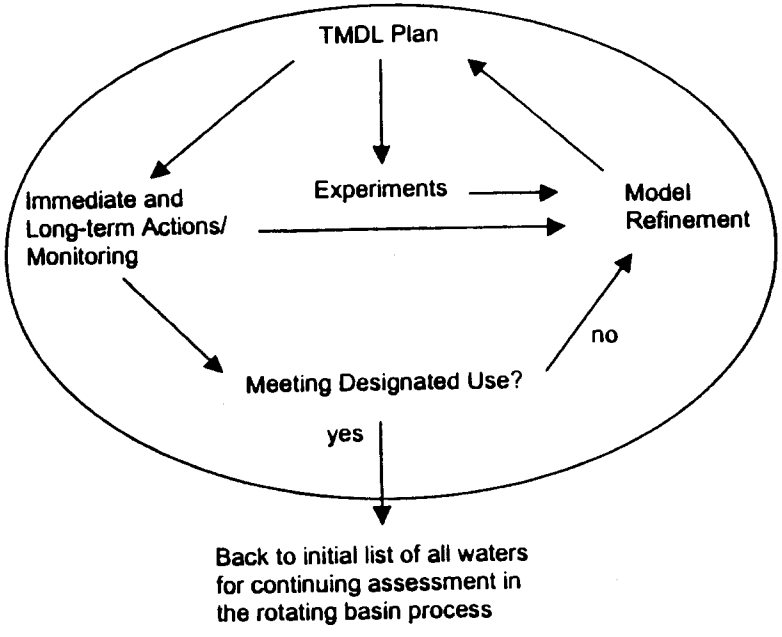

FIGURE ES-2 Adaptive implementation flowchart.

USE OF SCIENCE IN THE TMDL PROGRAM

This report suggests changes in the data used and analytical methods employed that will support the revisions to the TMDL process recommended above. The following sections highlight the use of science in the TMDL program steps as illustrated in Figure ES-1. Additional recommendations about the scientific basis of the program not included in this executive summary are found throughout the report.

Water Quality Standards

The TMDL process is primarily a measurement process and as such is significantly impacted by the setting of water quality standards. Water quality standards consist of two parts: a specific desired use appropriate

to the waterbody, termed a *designated use*, and a *criterion* that can be measured to establish whether the designated use is being achieved.

The criterion used to measure whether the condition of a waterbody supports its designated use can be positioned at different points along the causal chain connecting stressors (such as land use activities) to biological responses in a waterbody. Positioning the criterion involves a trade-off between forecast error for the stressor–criterion relationship and the adequacy of the criterion as a measure (surrogate) for the designated use. Model results that forecast the impact of the stressor on the criterion are likely to be more uncertain as the criterion is positioned farther from the stressor and closer to the designated use. On the other hand, positioning the criterion closer to the stressor and farther from the designated use is likely to mean that the criterion is a poorer measure or surrogate for the designated use.

Biological criteria should be used in conjunction with physical and chemical criteria to determine whether a waterbody is meeting its designated use. In general, biological criteria are more closely related to the designated uses of waterbodies than are physical or chemical measurements. However, guiding management actions to achieve water quality goals based on biological criteria also depends on appropriate modeling efforts.

All chemical criteria and some biological criteria should be defined in terms of magnitude, frequency, and duration. The frequency component should be expressed in terms of a number of allowed excursions in a specified period. Establishing these three dimensions of the criterion is crucial for successfully developing water quality standards and subsequently TMDLs.

Water quality standards must be measurable by reasonably obtainable monitoring data. In many states, there is a fundamental discrepancy between the criteria that have been chosen to determine whether a waterbody is achieving its designated use and the frequency with which water quality data are collected. This report gives examples of this phenomenon and makes suggestions for improvement.

Waterbody Assessment and Listing

Ambient monitoring and assessment programs should form the basis for determining whether waters are placed on the preliminary list or the action list.

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EPA needs to develop a uniform, consistent approach to ambient monitoring and data collection across the states. The rotating basin approach used by several states is an excellent example of a framework than can be used to conduct waterbody assessments of varying levels of complexity, for example to support 305b reports, to place impaired waters on a preliminary list or action list, and to develop TMDLs. **In that regard, EPA should set the TMDL calendar in concert with each state's rotating basin program.**

Evidence suggests that limited budgets are preventing the states from monitoring for a full suite of indicators to assess the condition of their waters and from embracing a rotating basin approach to water quality management. Currently, EPA is assessing the sufficiency of state resources to develop and implement TMDLs. Depending on the results of that assessment, Congress might consider aiding the states, for example through matching grants to improve data collection and analysis.

Evaluated data and evidence of violation of narrative standards should not be exclusively used for placement of a waterbody on the action list, but is useful for placement on the preliminary list. EPA should develop guidance to help states translate narrative standards to numeric criteria for the purposes of 303d listing and TMDL calculation and implementation.

EPA should endorse statistical approaches to defining all waters, proper monitoring design, data analysis, and impairment assessment. For chemical parameters, these statistical approaches might include the binomial hypothesis test or other methods that can be more effective than the raw score approach in making use of the data collected to determine water quality impairment. For biological parameters, they might focus on improvement of sampling designs, more careful identification of the components of biology used as indicators, and analytical procedures that explore biological data as well as integrate biological information with other relevant data.

TMDL Development

The scientific basis of the latter half of the TMDL process revolves around a wide variety of models of varying complexity that are used to relate waterbody conditions to different land uses and other factors. Models are a required element of developing TMDLs because water quality standards are probabilistic in nature. However, although models

can aid in the decision-making process, they do not eliminate the need for informed decision-making.

Uncertainty must be explicitly acknowledged both in the models selected to develop TMDLs and in the results generated by those models. Prediction uncertainty must be estimated in a rigorous way, models must be selected and rejected on the basis of a prediction error criterion, and guidance/software needs to be developed to support uncertainty analysis.

The TMDL program currently accounts for the uncertainty embedded in the modeling exercise by applying a margin of safety (MOS); EPA should end the practice of arbitrary selection of the MOS and instead require uncertainty analysis as the basis for MOS determination. Because reduction of the MOS can potentially lead to a significant reduction in TMDL implementation cost, EPA should place a high priority on selecting and developing TMDL models with minimal forecast error.

EPA should selectively target some postimplementation TMDL compliance monitoring for verification data collection so that model prediction error can be assessed. TMDL model choice is currently hampered by the fact that relatively few models have undergone thorough uncertainty analysis. Postimplementation monitoring at selected sites can yield valuable data sets to assess the ability of models to reliably forecast response.

EPA should promote the development of models that can more effectively link environmental stressors (and control actions) to biological responses. A first step will be the development of conceptual models that account for known system dynamics. Eventually, these should be strengthened with both mechanistic and empirical models, although empirical models are more likely to fill short-term needs. Such models are needed to promote the wider use of biocriteria.

Monitoring and data collection programs need to be coordinated with anticipated water quality and TMDL modeling requirements. For many parameters, there are insufficient data to have confidence in the results generated by some of the complex models used in practice today. Thus, EPA should not advocate detailed mechanistic models for TMDL development in data-poor situations. Either simpler, possibly judgmental, models should be used or, preferably, data needs should be anticipated so that these situations are avoided.

In order to carry out adaptive implementation, EPA needs to foster the use of strategies that combine monitoring and modeling and expedite TMDL development. This should involve the use of Bayesian techniques that can combine different types of information. Although the modeling framework proposed in this report calls for improvements in models, there are existing models that can be applied rapidly and effectively within an adaptive implementation framework.

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FINAL THOUGHTS

Through the adoption and use of the preliminary list/action list approach, adequate monitoring and assessment approaches, sound selection of appropriate models, and adaptive implementation described in this report, the TMDL program will be capable of utilizing the best available scientific information. It is worth noting that the success of these approaches is directly related to the provision of adequate personnel and financial resources for data collection, management, and interpretation and for the development of sufficiently detailed and stratified water quality standards.

1
Introduction

THE RETURN TO AMBIENT-BASED WATER QUALITY MANAGEMENT

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), as supplemented by the Clean Water Act (CWA) of 1977 and the Water Quality Act of 1987, are the foundation for protecting the nation's water resources. Precursors to the Water Quality Act go back to the Rivers and Harbors Appropriations Act of 1899, often referred to as the Refuse Act, and the Water Pollution Control Acts of 1948 and 1965 (Rodgers, 1994). An important impetus for earlier water quality legislation was protection of public health. Over time, this purpose was supplemented by aesthetic and recreational purposes (fishable and swimmable) and then by the goal of restoring and maintaining the "chemical, physical, and biological integrity of the Nation's waters" (Section 101a of PL 92-500).

In practice, each of these general purposes must be restated in operational and measurable terms as *ambient* water quality standards, which are established by the states and are subject to federal approval. Section 303d of the CWA makes it a responsibility of the states to assess whether ambient standards are being achieved for individual waterbodies. If ambient standards are not being met, a water quality management program to achieve those standards is anticipated.

The data and analytical requirements for determining both the causes of a failure to meet ambient standards and the solutions to such problems have challenged water quality analysts for over half a century. Prior to the 1972 Water Pollution Control Act Amendments, states were expected to identify pollutant sources that were resulting in violations of ambient water quality standards. Once the sources of the problem were carefully identified, controls on polluting activities would be put in place. However, in even modestly complex watersheds, multiple sources of pollutants made it difficult to unambiguously determine which sources were responsible for the standard violation. One source might insist that the cause of the problem was the discharge from others, or at least that its own contribution to the problem was not as significant as the contributions of others. Neither the available monitoring data nor the analytical methods available at the time allowed the states to defensibly mandate differential load reduction requirements (Houck, 1999).

The 1972 amendments recognized this analytical dilemma and shifted the focus of water quality management away from ambient standards. Instead, all dischargers of certain pollutants were expected to limit their discharges by meeting nationally established *effluent standards*. Effluent standards are specified in National Pollution Discharge Elimination System (NPDES) permits, issued by the states to certain pollutant sources and approved by the U.S. Environmental Protection Agency (EPA). Effluent standards were set at a national level based on available technologies for wastewater treatment appropriate to different industry groups (although in certain waterbodies effluent standards more stringent than the technology-based requirement have been required to meet local water quality goals). The shift to effluent standards eliminated the need to link required reductions at particular sources with the ambient condition of a waterbody. Instead, each regulated source was simply required to meet the effluent standard in its wastewater. In the intervening period since passage of PL 92-500, pollutants discharged by industry and municipal treatment plants have declined, and the ambient quality of many of the nation's lakes, rivers, reservoirs, groundwater, and coastal waters has improved.

There were consequences that followed the embracing of effluent-based standards instead of ambient-based standards. First, efforts to measure and communicate water quality accomplishments were often described in terms of compliance with wastewater permit conditions rather than the condition of the waters. Second, effluent standards could only apply to so-called point sources rather than to all sources of a pollutant or other forms of pollution (Box 1-1). Pollutants from nonpoint sources (derived from diffuse and hard-to-monitor origins such as land-disturbing agricultural, silvicultural, and construction activities) largely escaped oversight. Third, attention to chemical pollutants measured in discharge water came to dominate water quality policy, and the physical and biological determinants of the ambient condition of a waterbody were less frequently considered. A *pollutant* is defined as a substance added by humans or human activities. In many cases, the condition of a

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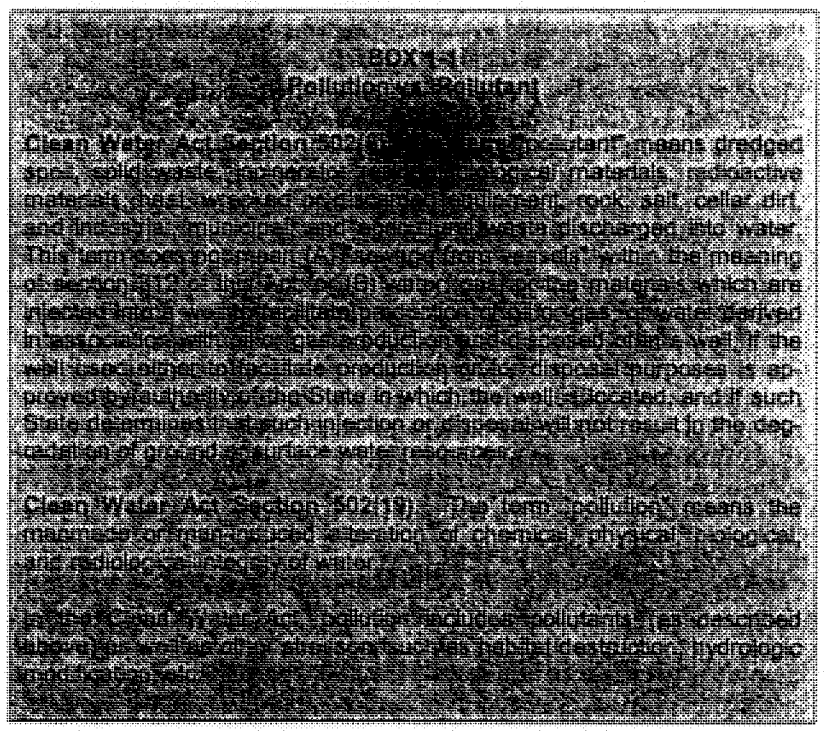

waterbody depends on more than the loads of particular pollutants from sources required to meet effluent standards. For example, changes in the hydrologic regime associated with development activities can destabilize streambanks, increase loads of sediment and nutrients, or eliminate key species or otherwise change the aquatic ecosystem. As shown in Box 1-1, biological, hydrologic, and physical changes to a waterbody that do not fit the definition of pollutant were encompassed in the 1987 act's definition of *pollution*.

Present-day implementation of Section 303d of the Clean Water Act returns to the pre-1972 focus on ambient water quality standards, even though there are still requirements for meeting effluent standards. Section 303d requires states to identify waters not meeting ambient water quality standards, define the pollutants and the sources responsible for

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the degradation of each listed water, establish Total Maximum Daily Loads (TMDLs) necessary to secure those standards, and allocate responsibility to sources for reducing their pollutant releases. Therefore, for each impaired waterbody, the state must identify the amount by which both point and nonpoint source pollutants would need to be reduced in order for the waterbody to meet ambient water quality standards. Other alterations that do not fit the pollutant definition such as changes of habitat, flow alterations, channelization, and modification or loss of riparian habitat may need to be considered as a reason for not meeting standards. If TMDL language is strictly interpreted, however, these causes may fall outside the TMDL program.

Although Section 303d has been in place since the early 1970s, activity to comply with it was limited until the last decade. States were slow to submit inventories of impaired waters, and measures of water quality program success were often simply documentation of point source permit issuance and compliance. Few TMDLs were prepared, and they often did not incorporate both point and nonpoint source discharge controls (Houck, 1999). Action to meet Section 303d requirements accelerated in the 1990s primarily because of a series of citizen lawsuits against EPA. By 1992, EPA revised the TMDL regulations to require submission of states' lists of impaired water bodies every two years.

EPA estimates that from 3,800 to 4,000 TMDLs will need to be completed per year to meet the 8- to 13-year deadlines currently imposed on the process. From 1,000 to 1,800 would have to be completed per year to meet consent decree deadlines, while another 1,800 to 2,200 per year need to be resolved through settlement agreements. States have identified about 21,000 impaired river segments, lakes, and estuaries encompassing more than 300,000 river and shore miles and 5 million lake acres (Brady, 2001). Excess sediments, nutrients, and pathogens are leading reasons for listing according to state reports submitted to EPA. Federal, state, and local governments, regulated and potentially regulated communities, and concerned citizens throughout the nation claim that they face unrealistic deadlines and must use analytical and decision-making procedures that are largely untested. Proposed revisions to the TMDL regulations were submitted in 1999, with a final rule issued July 13, 2000. However, faced with expressions of concern about the practicality of the program, a congressional rider prohibited EPA from implementing the new rule until October 2001. As a result, the TMDL program continues under 1992 regulations and, in some cases, consent decrees.

The 303d focus on ambient water quality standards has returned the nation to a water quality program that was not considered implementable 35 years ago when there was a paucity of data and analytical tools for determining causes of impairment and assigning responsibility to various sources. Determining the pollutant load from a regulated point source is a relatively straightforward task, although isolating its effect in a complex waterbody remains a technical challenge. Such technical uncertainties in relating stresses on the waterbody to impairment are compounded when nonpoint sources of pollutants and other forms of pollution are considered. Having returned the focus to ambient water quality conditions, are we better positioned today than we were years ago? Do we have more and better data and analytical methods? Do we have a better understanding of watershed events and processes responsible for water quality violations? These are the science questions facing the nation as we implement Section 303d of the Clean Water Act.

NATIONAL RESEARCH COUNCIL STUDY

Despite recent progress, the demands of the TMDL program weigh heavily on the limited resources of EPA and the states. The TMDL process requires high-quality data and sophisticated tools to analyze those data. States have reported having insufficient funds, inadequate monitoring programs, and limited staff to collect and analyze such data (GAO, 2000). According to the General Accounting Office (GAO), only six states have enough data to fully assess the condition of their waterbodies, while only 18 have enough data to place their waterbodies on the list of impaired waters (303d list). Forty states had sufficient high-quality data to determine TMDLs for waterbodies impaired primarily by point sources such as municipal sewage treatment plants, and 29 had sufficient high-quality data to implement these TMDLs. When states were asked about waterbodies impaired primarily by nonpoint sources, however, only three claimed to have sufficient data.

The GAO report outlined several critical issues for consideration by the states and EPA. Beyond questions of additional funding for data collection and staff, the states need assistance using watershed models; many reported being unclear where to go for such assistance. There appears to be no formalized process to capitalize on lessons learned, to transfer technology, and to share knowledge. Aside from the reported lack of data to comply with the TMDL regulations, when data are available, they are often not the type needed for source identification and

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TMDL analyses.

Subsequent to the GAO report, Congress requested that the National Research Council (NRC) analyze on a broad scale *the scientific basis of the TMDL program*. The NRC was asked to evaluate:

- the information required to identify sources of pollutant loadings and their respective contributions to water quality impairment,
- the information required to allocate reductions in pollutant loadings among sources,
- whether such information is available for use by the states and whether such information, if available, is reliable, and
- if such information is not available or is not reliable, what methodologies should be used to obtain such information.

While the GAO report was about data, the NRC was charged to focus on *reliable information* for making decisions. In presentations made to the NRC committee, the terms "data" and "information" often were used as synonyms, but data are not the same as information. Unanalyzed data do not constitute information. Data must be interpreted for their meaning through the filter of analytical techniques, and the result of such data analysis is information that can support decision-making. Knowing what data are needed and turning those data into information constitutes, in large part, the science behind a water quality management program. The techniques for transforming data into information include statistical inference methods, simulation modeling of complex systems, and, at times, simply the application of the best professional judgment of the analyst. In all these processes there will always be some uncertainty (and thus some "unreliability") about whether the resulting information accurately characterizes the water quality problem and the effectiveness of the solutions. Because uncertainty cannot be eliminated, determining whether the information generated from data analysis is reliable is a value judgment. Individuals and groups will have different opinions about whether and how to proceed with water quality management given a certain level of uncertainty.

To organize its deliberations, the committee considered the role of science at each step of the TMDL process, from the initial defining of all waters to the implementation of actions to control pollution; the report is structured around this organization. Report recommendations are targeted (1) at those issues where science can and should make a significant contribution and (2) at barriers (regulatory and otherwise) to the use of

science in the TMDL program. Because of this broad scope, the content of the report extends beyond the confines of the charge in the bulleted items above. Chapters 2, 3, and 4 discuss the information (as defined above) required to set water quality standards, to list waters as impaired, and to develop TMDLs (including the identification of pollution sources); Chapter 5 comments on the role of science in allocating pollutant loading among sources. Because GAO (2000) already documents a widespread lack of data and information at the state level and because availability of information varies significantly from state to state, the committee did not devote substantial time to determining availability. As mentioned above, whether the information is reliable depends on the degree of uncertainty decision-makers are willing to accept when making regulatory or spending choices—a decidedly nonscientific matter. Chapters 3 and 4 describe in detail the monitoring, modeling, and statistical analysis methods needed to collect data and convert it to information, and to assess and reduce uncertainty. Chapter 5 describes an approach for making decisions in the face of uncertainty.

This report represents the culmination of three meetings over three months, including a two-day public session in which 30 presentations from a wide variety of stakeholders were made (see Appendix B). Given the information gathered during the study period and the collective experience of its members, the committee feels that the data and science have progressed sufficiently over the past 35 years to support the nation's return to ambient-based water quality management. In addition, the need for this approach is made apparent by the inability of a large percentage of the nation's water to meet water quality standards using point source controls alone. Given reasonable expectations for data availability and inevitable limits on our conceptual understanding of complex systems, statements about the science behind water quality management must be made with acknowledgment of uncertainties. Finally, the committee has concluded that there are creative ways to accommodate this uncertainty while moving forward in addressing the nation's water quality challenges. These broad conclusions are elaborated upon throughout this report.

CURRENT TMDL PROCESS AND REPORT ORGANIZATION

Section 303d requires that states identify waters that are not attaining ambient water quality standards (i.e., are impaired). (Although new rules are pending, at the request of Congress, this report focuses on the 1992

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regulations that govern the current program.) States must then establish a priority ranking for such waters, taking into account the severity of the impairment and the uses to be made of such waters. For impaired waters, the states must establish TMDLs for pollutants necessary to secure applicable water quality standards. The CWA further requires that once water quality standards are attained they must be maintained.

Figure 1-1 depicts the basic steps in the TMDL process. These steps are described briefly below and are considered in greater detail throughout the report. At the beginning of the process are all waterbodies for the state and the development of water quality standards for each waterbody. Water quality standards are established outside the TMDL process and include designated uses for a waterbody and measurable water quality

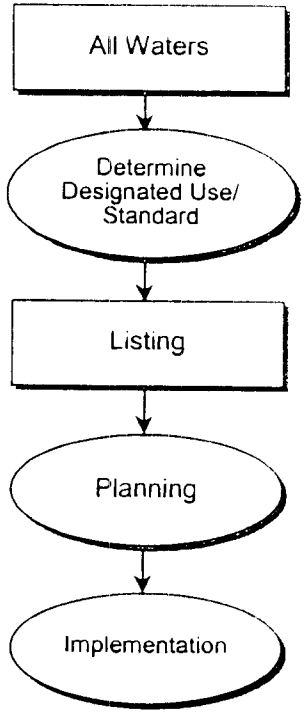

FIGURE 1-1 Conceptualized steps of the TMDL process.

criteria designed to assure that each designated use is being achieved. Because water quality standards are the foundation on which the entire TMDL program rests, more detailed discussion of standard setting is provided in Chapters 2 and 3.

The next step in the process is the listing of *impaired* waterbodies if evaluation of available data suggests that certain waterbodies are not meeting standards. According to Section 303d, all impaired waterbodies must be listed by the states or responsible agencies and submitted to EPA every two years. In addition, the states should provide priority ranking for the waterbodies on the 303d list. Following its submission, EPA must either approve or disapprove the list. Listing of a waterbody initiates a costly planning process and may lead to added costs to implement pollutant controls by point and nonpoint sources. The NRC committee heard testimony that many waterbodies have been listed based on limited or completely absent data and poorly conceived analytical techniques for data evaluation. Chapter 3 reviews the listing process and makes recommendations that will improve the reliability of the listing decision.

Once an impaired waterbody is listed, a planning step ensues. Section 303d specifies that those waters impaired by pollutants should undergo calculation of a TMDL. The term TMDL has essentially two meanings (EPA, 1991):

- The TMDL process is used for implementing state water quality standards—that is, it is a planning process that will lead to the goal of meeting the water quality standards.
- The TMDL is a numerical quantity determining the present and near future maximum load of pollutants from point and nonpoint sources as well as from background sources, to receiving waterbodies that will not violate the state water quality standards with an adequate margin of safety. The permissible load is then allocated by the state agency among point and nonpoint sources.

The calculation described above requires data collection and various forms of modeling in order to identify sources of pollution and background conditions, calculate the maximum load that will meet water quality standards with a margin of safety, and make allocations of responsibility for load reduction to point and nonpoint sources. Chapter 4 reviews modeling capability, data needs for model implementation, and the appropriate role of modeling in the TMDL planning process.

The last step in the process is implementation of the TMDL and the delisting of the waterbody. Implementation is the process of putting the

actions envisioned in the TMDL plan in place. Such actions could include limitations on point sources beyond technology-based effluent standards. Also, using best management practices for nonpoint sources, as well as addressing pollution problems, might be part of implementation, although these actions are not required by Section 303d.[1] The results of implementation actions need to be assessed before a waterbody can be removed from the list. Monitoring in this phase is necessary to measure the success (or failure) of the plan. Chapter 5 discusses postimplementation monitoring and a strategy for assuring that the best available science is used in the TMDL implementation phase. When the monitoring proves that the implementation is successful (i.e., the water quality standards are met), the waterbody can be delisted.

REFERENCES

Brady, D. 2001. Chief of the Watershed Branch in the Assessment and Watershed Protection Division in the EPA Office of Wetlands, Oceans and Watersheds. Presentation to the NRC Committee. January 25, 2001.

Environmental Protection Agency (EPA). 1991. Guidance for Water Quality-based Decisions: The TMDL Process. Washington, DC: EPA Assessment and Watershed Protection Division.

General Accounting Office (GAO). 2000. Water Quality - Key EPA and State Decisions Limited by Inconsistent and Incomplete Data. GAO/RCED-00-54. Washington, DC: GAO.

Houck, O. A. 1999. The Clean Water Act TMDL Program: Law, Policy, and Implementation. Washington, DC: Environmental Law Institute.

Rodgers, W. H., Jr. 1994. Environmental Law, Second edition. St. Paul, MN: West Publishing Co.

[1] Whether nonpoint source controls are required as part of the TMDL program is the source of much of the debate, especially with regard to the 2000 regulations that are now on hold. Under the current (1992) regulations, 303d is a planning exercise only. Implementation must be by some other provisions of the CWA or other programs. Also, states differ in their ability to enforce use of certain best management practices.

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2
Conceptual Foundations for Water Quality Management

This chapter describes the analytical and related policy challenges of implementing an ambient-focused water quality management program, of which the Total Maximum Daily Load (TMDL) program is an example[1]. The goal of an ambient water quality management program is to measure the condition of a waterbody and then determine whether that waterbody is meeting water quality standards. By definition, this process is dependent on the setting of appropriate water quality standards. Although realistic standard setting must account for watershed (hydrologic, ecological, and land use) conditions, the corresponding need to make policy decisions in setting standards must also be recognized. In addition, ambient-based water quality management requires decision-making under uncertainty because the possibility for making assessment errors is always present. Properly executed statistical procedures can identify the magnitude and direction of the possible errors so that knowledge can be incorporated into the decisions made. In addition to uncertainties inherent in measuring the attainment of water quality standards, there are uncertainties in results from models used to determine sources of pollution, to allocate pollutant loads, and to predict the effectiveness of implementation actions on attainment of a standard. As part of the information needed in the TMDL program, this uncertainty must be understood and addressed as implementation decisions are made.

AMBIENT WATER QUALITY STANDARDS

Unlike an effluent standard, an ambient water quality standard applies to a specific spatial area—a defined waterbody—and is expected to be met over all areas of that waterbody. Thus, identifying the waterbody of interest, whether a lake, a stream segment, or areas of an estuary, is a first step in setting water quality standards. Waterbodies vary greatly in size—for example, from a small area such as a mixing zone below a point source discharge on a river to an estuary formed by a major river discharge.

Water quality standards themselves consist of two parts: a specific desired use appropriate to the waterbody, termed a *designated use*, and a *criterion* that can be measured to establish whether the designated use is being achieved. Barriers to achieving the designated use are the presence of pollutants and hydrologic and geomorphic alterations to the waterbody or watershed.

[1] Although this discussion refers to the TMDL program, it is not meant to be a description of that program.

Appropriate Designated Uses

A designated use describes the goal of the water quality standard. For example, a designated use of human contact recreation should protect humans from exposure to microbial pathogens while swimming, wading, or boating. Other uses include those designed to protect humans and wildlife from consuming harmful substances in water, fish, and shellfish. Aquatic life uses are intended to promote the protection and propagation of fish, shellfish, and wildlife resources.

A designated use is stated in a written, qualitative form, but the description should be as specific as possible. Thus, more detail than "recreational support" or "aquatic life support" is needed. The general "fishable" and "swimmable" goals of the Clean Water Act constitute the beginning, rather than the end, of appropriate use designation. For example, a sufficiently detailed designated use might distinguish between beach use, primary water contact recreation, and secondary water contact recreation[2]. Similarly, rather than stating that the waterbody needs to be "fishable," the designated use would ideally describe whether the water-

[2] These uses are defined differently from state to state. In Ohio, primary contact recreation includes full body immersion activities such as swimming, canoeing, and boating. Such streams or rivers must have a depth of at least 1 meter. Secondary contact recreation includes activities such as wading, but where full body immersion is not practical because of depth limitations. The fecal bacteria criteria are less stringent for secondary contact recreation than for primary contact recreation.

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body is expected to support a desired fish population (e.g., salmon, trout, or bass) and the relative invertebrate or other biological communities necessary to support that population. Although small headwater streams may have aesthetic values, they may not have the ability to support extensive recreational uses themselves (i.e., be "fishable" or "swimmable"). However, their condition may have an influence on the ability of a downstream area to achieve a particular designated use. In this case, the designated use for the smaller waterbody may be defined in terms of the achievement of the designated use of the larger downstream waterbody (as illustrated in the discussion of criteria below).

In many areas of the United States, human activities have radically altered the landscape and aquatic ecosystems, such that an appropriate designated use may not necessarily be the aquatic life condition that was present in a watershed's predisturbance condition, which may be unattainable. For example, a reproducing trout fishery in downtown Washington, D.C., may be desired, but may not be attainable because of the development history of the area or the altered hydrologic regime of the waterbody. Similarly, designating an area near the outfall of a sewage treatment plant for shellfish harvesting may be desired, but health considerations would designate it as a restricted shellfish harvest water. Furthermore, there may be a conscious decision to establish a designated use that would *not* have existed in the predisturbance condition. For example, construction of a lake for a warm water fishery is a use possible only as a result of human intervention.

Appropriate use designation for a state's waterbodies is a policy decision that can be informed by technical analysis. However, a final selection will reflect a social consensus made in consideration of the current condition of the watershed, its predisturbance condition, the advantages derived from a certain designated use, and the costs of achieving the designated use. Ideally, a statewide water quality management program should establish a detailed gradient of use designations for waterbodies. Box 2-1 describes the multiple tiers of designated uses developed for waters in Ohio.

Defining a Criterion

A water quality standard includes a criterion representing the condition of the waterbody that supports the designated use. Thus, the designated use is a description of a desired endpoint for the waterbody, and the criterion is a measurable indicator that is a surrogate for use attainment.

BOX 2-1

Appropriate Designated Uses: The Ohio Example

The approach of setting appropriately stratified or tiered designated uses for a state's waterbodies has been developed in Ohio. The criteria are based partly on the stratified set of use designations (for aquatic life, recreation, and water supply uses) needed to accurately reflect the existing quality of the state's waterbodies and to guide the setting of realistic goals for pollution control and water restoration activities. Additional tiers of aquatic life uses were developed to reflect the potential differences in aquatic ecosystem and account for the existence of broader environmental-economic activities. Individual waterbodies are assigned their appropriate designated use based on a use attainability analysis (UAA) process that relies heavily on site-specific information about the waterbody. The information used in this process results from the systematic monitoring of waters via a rotating basin approach in which biological, chemical, and physical data are collected and analyzed. Aquatic life uses are based primarily on the biological criteria and physical habitat assessments that are calibrated with regard to the important regional and watershed-specific variables that determine the potentially attainable aquatic assemblages. Recreational uses are designated based on the size of the waterbody, reflecting the ability of humans to use the water for swimming, boating, fishing, or wading. The system of tiered aquatic life and recreational uses (and the water quality standards) was established in 1978, well before biological criteria were adopted (in May 1990). Two newly proposed uses are now under consideration for urban streams, which would require site-specific UAAs, and a tier for primary headwater streams (<3 sq mi drainage area), which are outside the practical resolution of the existing biological criteria. A readily accessible and detailed example of Ohio's designated uses for ohio can be found at http://www.epa.state.oh.us/dsw/rules/3745_1.html.

The criterion may be positioned at *any* point in the causal chain of squares shown in Figure 2-1. Criteria in squares 2 and 3 are possible measures of ambient water quality condition. Square 2 includes measures of a water quality parameter such as dissolved oxygen (DO), pH, nitrogen concentration, suspended sediment, or temperature. Criteria closer to the designated use (e.g., square 3) include measures such as the condition of the algal community (chlorophyll *a*), a comprehensive index

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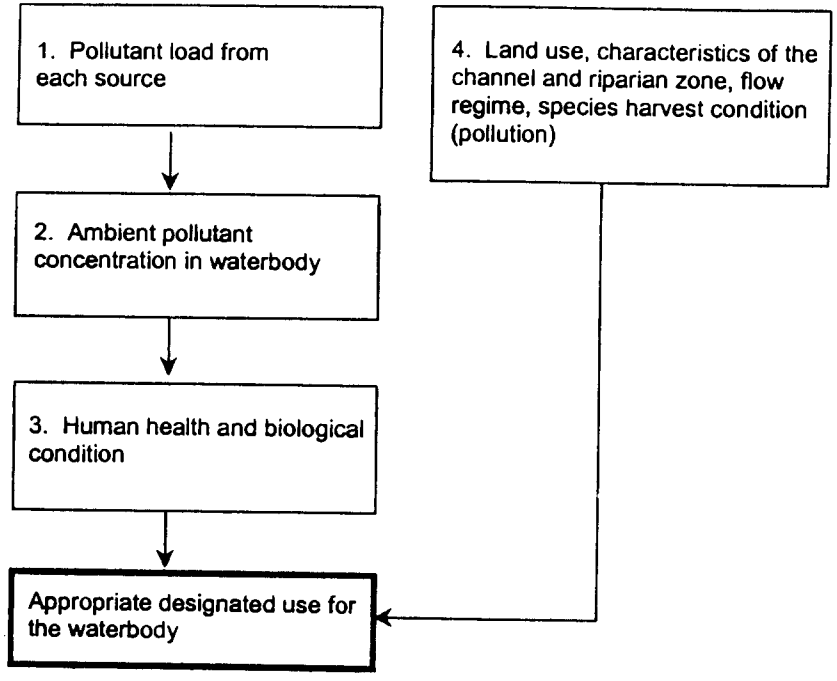

FIGURE 2-1 Types of water quality criteria and their position relative to designated uses.

measure of the biological community as a whole, or a measure of contaminant concentration in fish tissue. In square 1, where the criterion is farther from the designated use, are measures of the pollutant discharge from a treatment plant (e.g., biological oxygen demand, NH_3, pathogens, suspended sediments) or the amount of a pollutant entering the edge of a stream from runoff. A criterion at this position is referred to as an effluent standard. Finally, square 4 represents criteria that are associated with sources of pollution other than pollutants. These criteria might include measures such as flow timing and pattern (a hydrologic criterion), abundance of nonindigenous taxa, some quantification of channel modification (e.g., decrease in sinuosity), etc.

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Because the designated use is stated in written and qualitative terms, the challenge is to logically relate the criterion to the designated use. Establishing this relationship is easier as the criterion moves closer to the designated use (Figure 2-1). In addition, the more precise the statement of the designated use, the more accurate the criterion will be as an indicator of that use. For example, the criterion of fecal coliform count may be used for determining if the use of water contact recreation is achieved, and the fecal count criterion may differ among waterbodies that have primary versus secondary water contact as their designated use.

Surrogate variables often are selected for use as criteria because they are easy to measure. Although the surrogate may have this appealing attribute, its usefulness can be limited if it cannot be logically related to a designated use. For example, chlorophyll *a* has been chosen as a biocriterion in some states because it is a surrogate for aesthetic conditions or the status of the larger aquatic ecosystem. In North Carolina, the ambient water quality standard of 40 µg/l for chlorophyll *a* was proposed for lakes, reservoirs, sounds, estuaries, and other slow-moving waters not designated as trout waters. However, a discussion of the appropriate designated uses for the waters of the state and how this criterion is logically related to those uses did not accompany the adoption of this criterion.

As with setting designated uses, the relationship among waterbodies and segments must be considered when determining criteria. For example, where a segment of a waterbody is designated as a mixing zone for a discharge, the criterion adopted should assure that the mixing zone use will not affect the attainment of the uses designated for the surrounding waterbody. In a similar vein, the desired condition of a small headwater stream may need to be chosen as it relates to other waterbodies in the watershed. Thus, an ambient nutrient criterion may be set in a small headwater stream to secure a designated use in a downstream estuary, even if there are no localized effects of the nutrients in the small headwater stream. Conversely, a higher fecal coliform criterion that supports only secondary contact recreation may be warranted for a waterbody with little likelihood of being a recreational resource—if the fecal load dissipates before the flow reaches an area designated for primary contact recreation.

DECISION UNCERTAINTY

Ambient-focused water quality management requires one to ask whether the designated use is being attained and, if not, the reasons for nonattainment and how the situation can be remedied. Neither of these questions, which make reference to the chosen criteria, can be answered with complete certainty. Determining use attainment requires making criterion measurements at different locations in the waterbody and at different times and comparing the measurements to the standard. Individual measurements of a single criterion constitute a sample, and statistical inference procedures use the sample data to test hypotheses about whether the actual condition in the water meets the criterion. Errors of inference are always possible in statistically valid hypothesis testing. It is possible to falsely conclude that a criterion is not being met when it is. It is also possible to conclude that a criterion is being met when in fact it is being violated. Chapter 3 includes recommendations for controlling and managing such uncertainty.

Water quality management also requires models to relate the criterion to activities that might control pollution. For example, a criterion requiring a certain DO level may be chosen to help meet the designated use of a trout fishery. Models will be required to relate a management practice, such as fertilizer control, to the DO criterion. These types of models can be broadly labeled as models that relate stressors (sources of pollutants and pollution) to responses—similar to models used in hazardous waste risk assessment and many other fields. Stressors include human activities likely to cause impairment, such as the presence of impervious surfaces in a watershed, cultivation of fields too close to the stream, over-irrigation of crops with resulting polluted return flows, the discharge of domestic and industrial effluent into waterbodies, dams and other channelization, introduction of nonindigenous taxa, and overharvesting of fishes. Indirect effects of humans include the clearing of natural vegetation in uplands that alters the rates of delivery of water and sediment to stream channels.

A careful review of direct and indirect effects of human activities suggests five major classes of environmental stressors: alterations in physical habitat, modifications in the seasonal flow of water, changes in the food base of the system, changes in interactions within the stream biota, and release of contaminants (conventional pollutants) (Karr, 1990; NRC, 1992). The presence of one of more of these in a landscape may be responsible for changes in a waterbody that result in failure to attain a designated use. Ideally, models designed to protect or restore water quality to ensure attainment of designated uses should include all five classes of pollution. The broad-based approach implicit in these five features is more likely to solve water resource problems because it requires a more integrative diagnosis of the cause of degradation (NRC, 1992).

Models that relate stressors to responses can be of varying levels of complexity (Chapter 4). Sometimes, models are simple conceptual depictions of the relationships among important variables and indicators of those variables, such as the statement "human activities in a watershed affect water quality including the condition of the river biota." More complicated models can be used to make predictions about the assimilative capacity of a waterbody, the movement of a pollutant from various point and nonpoint sources through a watershed, or the effectiveness of certain best management practices.

There are two significant sources of uncertainty in any water quality management program: epistemic and aleatory uncertainty (Stewart, 2000). Epistemic uncertainty—incomplete knowledge or lack of sufficient data to estimate probabilities—is a by-product of our reliance on models that relate sources of pollution to human health and biological responses. We are limited by incomplete conceptual understanding of the systems under study, by models that are necessarily simplified representations of the complexity of the natural and socioeconomic systems, as well as by limited data for testing hypotheses and/or simulating the systems. Limited conceptual understanding leads to parameter uncertainty. For example, at present there is scientific uncertainty about the parameters that can represent the fate and transfer of pollutants through watersheds and waterbodies. It is plausible to argue that more complete data and more work on model development can reduce epistemic uncertainty. Thus, a goal of water quality management should be to increase the availability of data, improve its reliability, and advance our modeling capabilities. Indeed, Chapter 4 describes ways in which improved data and modeling can narrow the band of uncertainty and ways to characterize the remaining uncertainty.

However, complete certainty in support of water quality management decisions cannot be achieved because of aleatory uncertainty—the inherent variability of natural processes. Aleatory uncertainty arises in systems characterized by randomness. For example, if a pair of dice is thrown, the outcome can be predicted to be between 2 and 12, although the exact outcome cannot be predicted. The example of the dice toss represents the best-case scenario of a system characterized by random-

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ness, because it is a closed system in which we have complete confidence that the result will be between 2 and 12. Not only are waterbodies, watersheds, and their inhabitants characterized by randomness, but they are also open systems in which we cannot know in advance what the boundaries of possible biological outcomes will be.

Thus, uncertainty is a reality that water quality management must recognize and strive to assess and reduce when possible. It derives from the need to use models that relate actions taken to alter the stressors so that the desired criterion and designated use of a waterbody will be secured. Although the purpose of water quality modeling will change depending on how close to the designated use the criterion is positioned, the importance of modeling and the inevitable uncertainties of model results remain.

CONCLUSIONS AND RECOMMENDATIONS

The two major themes of this chapter represent areas in water quality management where science and public policy intersect. First, with respect to the setting of water quality standards, in order for designated uses to reflect the range of scientific information and social desires for water quality, there must be substantial stratification and refinement of designated uses. Information from science can and must be part of this process; however, there are unavoidable social and economic decisions to be made about the desired state for each waterbody. Second, although science should be one cornerstone of the program, an unwarranted search for scientific certainty is detrimental to the water quality management needs of the nation. Recognition of uncertainty and creative ways to make decisions under such uncertainty should be built into water quality management policy, as discussed in the remaining chapters.

1. **Assigning tiered designated uses is an essential step in setting water quality standards.** Clean Water Act goals (e.g., "fishable," "swimmable") are too broad to be operational as statements of designated use. However, designated uses will still remain narrative statements.

2. **Once designated uses are defined, the criterion chosen to measure use attainment should be logically linked to the designated use.** The criterion can be positioned anywhere along the causal chain connecting stressors (sources of pollution) to biological response. As the designated uses are expressed with more detail and are appropriately tiered, the criterion can be more readily related to the use. However, criteria should not be adopted based solely on the ease of measurement in making this link.

3. **Expectations for the contribution of "science" to water quality management need to be tempered by an understanding that uncertainty cannot be eliminated.** In both the assessment and planning processes, even the best available tools cannot banish uncertainty stemming from the variability of natural systems.

REFERENCES

Karr, J. R. 1990. Bioassessment and Non-Point Source Pollution: An Overview. Pages 4-1 to 4-18 in Second National Symposium on Water Quality Assessment. Washington, DC: EPA Office of Water.

National Research Council (NRC). 1992. Restoration of Aquatic Ecosystems. Washington, DC: National Academy Press.

Stewart, T. R. 2000. Uncertainty, judgment, and error in prediction. In Prediction: Science, Decision Making, and the Future of Nature. D. Sarewitz, R. A. Pielke Jr., and R. Byerly Jr., eds. Washington, DC: Island Press.

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3
Waterbody Assessment: Listing and Delisting

On July 27, 2000, the Assistant Administrator for Water at the U. S. Environmental Protection Agency (EPA) testified before a U.S. House committee that over 20,000 waterbodies across the United States were not meeting water quality standards according to Section 303d lists. Because of legal, time, and resource pressures placed upon the states and EPA, there is considerable uncertainty about whether many of the waters on the 1998 303d lists are truly impaired. In many instances, waters previously presented in a state's 305b report[1] or evaluated under the 319 Program[2] were carried over to the state's 303d list without *any* supporting water quality data [e.g., see Iowa Senate File 2371, Sections 7–12 (Credible Data Legislation)]. Meanwhile, some waters that may be impaired have yet to be identified and listed.

The creation of an accurate and workable list of impaired waters is dependent on the first three steps of the Total Maximum Daily Load (TMDL) process, as depicted in Figure 1-1. States need to decide what waters should be assessed in the first place, how to create water quality standards for those waters, and then how to determine exceedance of

[1] The Clean Water Act Section 305b report—the National Water Quality Inventory Report—is the primary vehicle for informing Congress and the public about general water quality conditions in the United States. This document characterizes water quality, identifies widespread water quality problems of national significance, and describes various programs implemented to restore and protect our waters (http://www.epa.gov/305b/).

[2] Under the Clean Water Act Section 319 Nonpoint Source Management Program, States, Territories, and Indian Tribes receive grant money to support a wide variety of activities, including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects (http://www.epa.gov/owow/nps/cwact.html).

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those standards. Ideally, all these activities are encompassed and coordinated under the umbrella of a holistic ambient water quality monitoring program, described in the next section. However, given resource constraints, the approaches currently used in most states to list impaired waters fall short of this ideal. In recognition of these constraints, the committee recommends changes to the TMDL program that would make the lists more accurate over the short and long terms. In addition, this chapter includes discussion on identifying waters to be assessed, defining measurable criteria for water quality standards, and interpreting monitoring results for making the listing (and delisting) decision.

ADEQUATE AMBIENT MONITORING AND ASSESSMENT

The demands of an ambient-focused water quality management program, such as the TMDL program, require changing current approaches toward monitoring and assessment and subsequent decision-making. In many states, administrative performance measures (e.g., number of TMDLs developed, number of permits issued, and timeliness of actions) have been the principal measure of program effectiveness (Box 3-1). Such administrative measures are important, but reliance on such measures diverts attention and resources away from environmental indicators of waterbody condition—the principal measures of effectiveness and success. Rather, information for decision-making should be based on carefully collected and interpreted monitoring data (Karr and Dudley, 1981; Yoder, 1997; Yoder and Rankin, 1998). The committee recognizes that state ambient monitoring programs have multiple objectives beyond the TMDL program (e.g., 305b reports, trends and loads assessments, and other legal requirements), which are not addressed in this report. It is suggested that to make efficient use of resources, states evaluate the extent to which their present ambient monitoring programs are coordinated and collectively satisfy their objectives.

Ambient monitoring and assessment begins with the assignment of appropriate designated uses for waterbodies and measurable water quality criteria that can be used to determine use attainment (EPA, 1995a). The criteria, which may include biological, chemical, and physical measures, define the types of data to be collected and assessed. In response to the Government Performance and Results Act, the EPA Office of Water has developed national indicators for surface waters (EPA, 1995a) and a conceptual framework for using environmental information in decision-making (EPA, 1995b). EPA's Office of Research and Development

BOX 3-1
Ohio's Experience with TMDLs

In 1998, Ohio EPA's Division of Surface Water (DSW) made recommendations for a process to develop TMDLs (Ohio EPA, 1999). The impetus for developing a comprehensive TMDL strategy was (1) the national attention brought about by lawsuits filed by environmental organizations and (2) the potential for the TMDL process to address all relevant sources of pollution to a waterbody. Prior to realizing the importance of this issue, state water quality management efforts were focusing on point sources and National Pollution Discharge Elimination System (NPDES) permitting, although since 1996, the leading cause of waterbody impairment has been shown to be nonpoint pollution and habitat degradation (Ohio EPA, 2000, Section 305b report).

An agreement was reached between Ohio EPA and U.S. EPA Region V on a 15-year schedule for TMDL development. Ohio's 1998 303d list shows 881 of 5,000 waterbody segments as being impaired or threatened in 276 of the 326 watershed areas. Thus, completing TMDLs for all the currently listed segments by 2013 (in keeping with the 15-year schedule) will require an average of 18 watershed TMDLs per year assuming that no new watersheds are added to future revisions of the 303d lists. It is understood that this latter assumption is unrealistic because a good portion of the state's 5,000 waterbody segments has yet to be assessed, and it is a near certainty that additional waterbodies and watersheds will be listed. Ohio recognizes that the technical and management processes required to implement TMDLs will need to go beyond the purview of the past emphasis on NPDES permits and point sources.

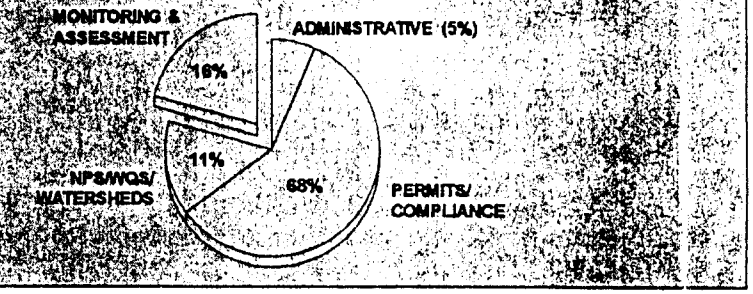
At present, Ohio estimates it has sufficient resources available to develop only half of the TMDLs needed each year to produce the quality of product needed to meet various program expectations and expectations of stakeholders. Using 1998 as a baseline, approximately 16 percent of the DSW's resources were dedicated to efforts that directly support TMDL development (see pie chart below). Without increases in funding, the resources will need to be diverted from other programs, or the pace of TMDL development will slow to the point where the 15-year schedule will need to be significantly extended. Diverting resources from other programs is highly unlikely in that each program faces unique challenges including reduction and elimination of NPDES permit backlogs

continues

BOX 3-1 Continued

and the growing need for new source permits, both of which place new burdens on the largest share of DSW resources. Devoting additional resources to TMDL development and implementation would require significant changes in water quality management emphasis on the national level, which seems unlikely given historical inertia and the emphasis placed on permitting programs by EPA and the states. Better coordination between competing programs as well as additional resources are needed to resolve the present TMDL resource shortfall dilemma. Focusing water quality management more on environmental results (as opposed to administrative accomplishments alone) should provide a framework to better unify the emphasis and direction of competing programs.

Ohio EPA Surface Water Program Resource Allocation by Functional Category (1998)



recently published technical guidelines for the evaluation of ecological indicators (Jackson et al., 2000). One set of measurable parameters, termed indicators in Table 3-1, is offered for illustration. The core indicators include baseline biological, chemical, and physical parameters that comprise the basic attributes of aquatic ecosystems supplemented by specific chemical, physical, and bacteriological parameters from water, sediment, and tissue media, depending on the applicable designated use(s) and watershed-specific issues. Additional indicators not listed (e.g., biochemical markers and whole toxicity testing) may be appropriate as the situation dictates.

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TABLE 3-1. Core and Supplemental Indicators and Parameters that Comprise the Elements of an Adequate State Monitoring and Assessment Framework (after ITFM, 1992, and Yoder, 1997).

Core Indicators				
Fish	**Macroinvertebrates**	**Periphyton**	**Physical habitat**	**Chemical quality**
	• Use at least two assemblages		• Channel morphology • Flow regime • Substrate quality • Riparian condition	• pH • Temperature • Conductivity • DO

For Specific Designated Uses, add the following:				
	Aquatic Life	*Recreation*	*Water Supply*	*Human/Wildlife Consumption*
Base list	• Ionic strength • Nutrients, sediment	• Fecal bacteria • Ionic strength	• Fecal bacteria • Ionic strength • Nutrients, sediment	• Metals (in tissues) • Organics (in tissues)
Supplemental list	• Metals • Organics • Toxics	• Other pathogens • Organics	• Metals • Organics • Other pathogens	

More than one criterion may be necessary to determine attainment of a designated use, and each criterion will have strengths and limitations. In many instances of impairment—for example when riparian and aquatic habitats have been modified or flow regimes altered—biological parameters are better than chemical parameters at reflecting the condition of the aquatic ecosystem (Box 3-2). This is because biological assemblages respond to and integrate all relevant chemical, physical, and biological factors in the environment whether of natural or anthropogenic origin. On the other hand, relying only on biological assessments would not allow precise enough determination of associated causes and sources of impairments to satisfy water quality management needs including TMDL development. Over the long term, a full complement of measured parameters must be the goal for water quality monitoring, assessing

BOX 3-2

The Information Value of Monitoring Multiple Criteria

The tendency for misdiagnosis of impairment by relying on only one type of criterion was illustrated in a study of more than 2,500 paired stream and river sampling sites in Ohio (Ohio EPA, 1990; Rankin and Yoder, 1990). In 51.6 percent of the samples, the results from biomonitoring and chemical monitoring agreed—that is, they both detected either impairment or attainment of the water quality standard. This was particularly true for certain classes of chemicals (e.g., toxicants), where an exceedance as measured by the chemical parameter was always associated with a biocriteria impairment. However, in 41.1 percent of the samples, impairment was revealed by exceedance of the biocriteria but not by exceedance of the chemical criteria. These results suggest that impairment may go unreported in areas where only chemical measurements are made. Interestingly, in 6.7 percent of the samples, chemical assessment revealed impairment that was not detected by bioassessment (especially for parameters such as ammonia-N, dissolved oxygen (DO), and occasionally copper). This latter occurrence is likely related to the fact that biocriteria have been stratified to reflect regional or ecotype peculiarities, and the more generically derived chemical criteria have not. Both the under- and overprotective tendencies of a chemical-criteria-only approach to water quality management can be ameliorated by joint use of chemical criteria and biocriteria, each used within their most appropriate indicator roles and within an adequate monitoring and assessment framework.

chemistry and biology in a complementary manner and in their most appropriate indicator role (Karr, 1991; ITFM 1992, 1993, 1995; Yoder, 1997; Yoder and Rankin, 1998).

At present, monitoring resources available to some states often do not allow for collecting and interpreting data for such a comprehensive suite of parameters. Indeed, ITFM (1995) reported that of the funding allocated by state and federal agencies to water quality management activities, only 0.2 percent was devoted to ambient monitoring. GAO (2000) has also noted the lack of adequate state budgets for the collection of meaningful data and for data interpretation. In response to these resource shortfalls, the tendency has been to use only a single indicator of ambient conditions and often just a limited number of observations. Although some parameters can be monitored at lower costs than others, all monitoring can be costly (Yoder and Rankin, 1995).

After standards development, a second requirement is adoption of a strategic and consistent approach to sampling and assessment given limited data collection resources. Currently, the states use vastly different frameworks for monitoring and assessment, the net result of which is widely divergent estimates of the extent of impaired waters and of the proportion of waters that are fully assessed. This casts a great deal of uncertainty not only about what water quality problems are the most important, but also about the accuracy and completeness of their delineation. Errors in these estimates often become evident in the poor credibility of 303d listings.

A monitoring strategy that has promise in this limited-resource environment is the rotating basin approach, commonly referred to as a five-year basin approach (ITFM, 1995). As discussed in Box 3-3 for Florida, this approach is already followed by a number of states, at least in how ambient monitoring is accomplished[3]. As part of a rotating basin approach, individual waters are assessed at differing levels of complexity each year, allowing for localized problems to be identified and solutions to be developed. For example, whether an individual assessment consists of an initial screening to identify gross impairment or a full assessment with more serious consequences will depend on how the information is to be used (for 305b reports, 303d listing, or other water quality programs). Over time, different waterbodies are intensively studied as part of the rotation. Data collected can be used to support a number of differ-

[3] In some states, the rotating basin approach is considered to be part of the ambient monitoring program, while in others, it is a separate program. This report assumes the former throughout.

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BOX 3-3
The Rotating Basin Program in Florida

Settlement of a lawsuit brought by Earthjustice against EPA for its failure to enforce timely actions to accomplish TMDL-related activities in Florida occurred in June 1999. Under the consent decree's (CD) "Terms of the Agreement," nearly 2,000 TMDLs in 711 waterbody segments are to be completed by the year 2011. Florida Department of Environmental Protection (FDEP) has been named the lead agency to produce and adopt TMDLs, but its efforts must be coordinated with numerous other state and local agencies. In addition, the state has created opportunities for public participation throughout the TMDL generation and adoption process.

To address the challenge of conducting the TMDL program and to better allocate its available resources, on July 1, 2000, Florida moved to the rotating basin approach for watershed management. Florida's rotating basin approach has five phases (see below), with each phase taking about one year to complete. Further, FDEP has divided the state into 30 areas based on 8-digit hydrologic unit codes (HUCs), such that six areas representing approximately one-fifth of Florida will be in the TMDL adoption phase in any one year. To meet the timelines ordered in the CD for Florida, FDEP must limit the time, effort, and resources it can commit in any one phase or waterbody.

Because EPA has largely focused on addressing point source discharges through the NPDES permitting program, state and local governments have in many cases taken the lead in dealing with nonpoint source issues, usually outside of the TMDL program. These programs often provide a flexible option to the time and budget constraints mentioned above. Florida believes that if local stakeholders are willing to initiate substantive programs that can fully or even partially accomplish the goals of the TMDL program at an expedited pace, then state and federal agencies should be able to support these actions, rather than delay or resist them. For example, in southwest Florida, a group of concerned stakeholders combined to form a "Nitrogen Consortium" (NC) to reduce inputs of nitrogen from all sources to the waters of Tampa Bay. Working together with the Tampa Bay Estuary Program and the FDEP, the NC developed a plan designed to "hold the line" against future increases of nitrogen (Tampa Bay National Estuary Program, 1996). Specific load-reduction efforts have been identified within the basin that allow for anticipated growth to occur without resulting in a net increase in nitrogen loads to Tampa Bay, as would be anticipated under the conditions of a more formal TMDL. Periodic reviews are made of the underlying assumptions and models used to further refine the nitrogen loads and associated goals. Although FDEP has not formally adopted a TMDL for Tampa Bay, EPA has approved these "hold the line" limits as a TMDL for Tampa Bay.

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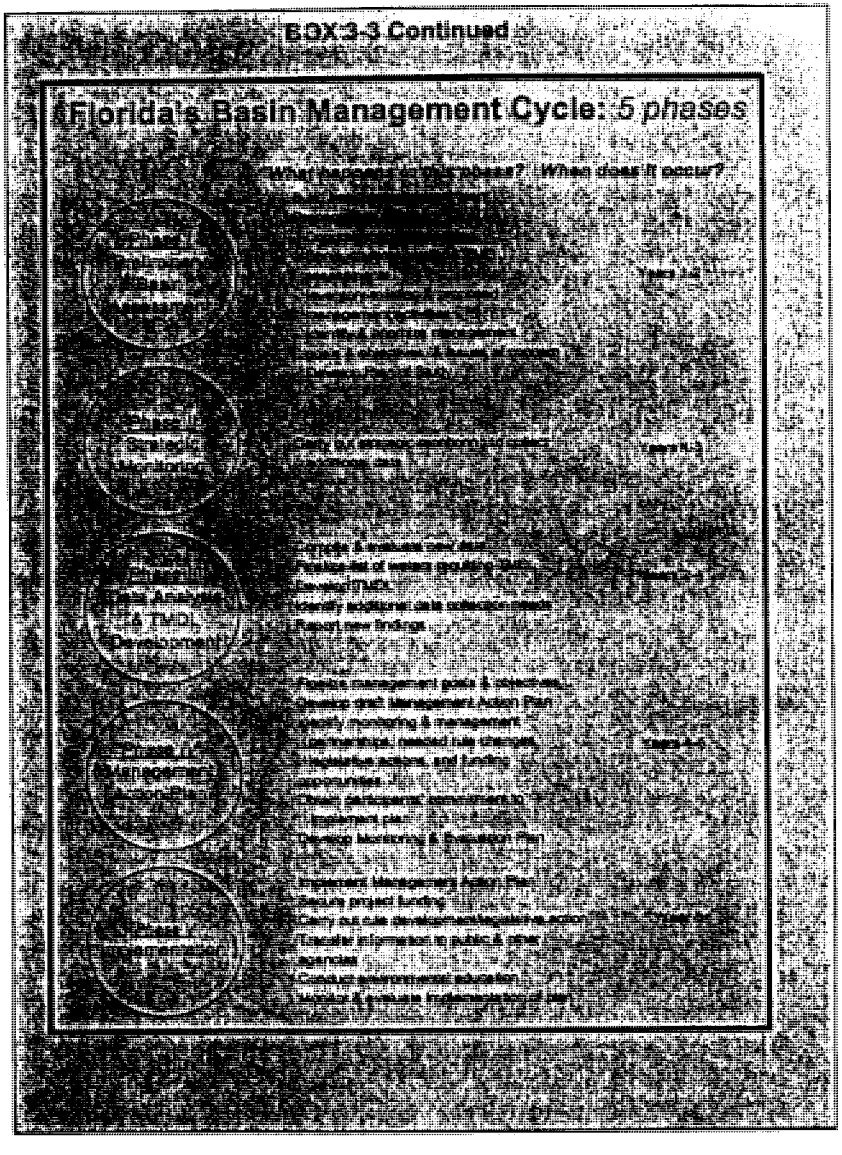
BOX 3-3 Continued



ent reporting and planning requirements, including a finding of attainment of water quality standards, a determination of impairment, or possible delisting if the waterbody is found not to be impaired. Initial assessments that identify a waterbody as *potentially* impaired could be followed up by more thorough assessment. The rotating basin approach is an iterative process where the end result is both continual improvement of water quality management tools and policies and the ability to respond to emerging issues.

Conclusions and Recommendations

1. To achieve the goal of ambient-based water quality management, monitoring and reporting must mature to focus on the condition of the environment as the principal measure of success rather than on administrative measures.

2. Biological parameters should be used in conjunction with physical and chemical parameters to assess the condition of waterbodies. The use of both biological and chemical parameters is needed because they provide different and complementary types of information about the source and extent of impairment.

3. Evidence suggests that limited budgets are preventing the states from monitoring for a full suite of indicators to assess the condition of their waters and from embracing a rotating basin approach to water quality management. Currently, EPA is assessing the sufficiency of state resources to develop and implement TMDLs. Depending on the results of that assessment, Congress might consider aiding the states, for example through matching grants to improve data collection and analysis. EPA would be instructed to develop guidelines for such a program, if needed, making eligibility contingent on an approved statewide monitoring and assessment strategy.

4. To allow states to better target limited monitoring budgets, EPA should set the TMDL calendar in concert with each state's rotating basin program. The rotating basin approach used by several states is an excellent example of a rigorous approach to ambient monitoring and data collection that can be used to conduct waterbody assessments of varying levels of complexity. For example, this approach can be used to create 305b reports, to list impaired waters, and to develop

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TMDLs. Once TMDLs are developed, the rotating basin approach could allow state and local governments to issue permits and implement management programs based on the TMDLs in a coordinated manner.

DEFINING ALL WATERS

As shown in Figure 1-1, the TMDL process begins with identification of all waters for which achievement of water quality standards is to be assessed. The proposed regulations for the TMDL program (EPA, 1999a) define a waterbody as "a geographically defined portion of navigable waters, waters of the contiguous zone, and ocean waters under the jurisdiction of the United States, including segments of rivers, streams, lakes, wetlands, coastal waters and ocean waters." The proposed regulations also require that states identify the geographic location of listed waterbodies using a "nationally recognized georeferencing system as agreed to by [the state] and the EPA." States identify listed waterbodies using a variety of georeferencing systems, including stream segments in the EPA's reach file system and watersheds in the U. S. Geological Survey (USGS) system of hydrologic drainage basins. The use of such systems for documenting the location of listed waters is convenient and provides a degree of national standardization to the TMDL process. However, the selection of a georeferencing system and a spatial scale for defining the totality of state waters is a more complicated issue (aside from the policy issue of national standardization).

The EPA's definition of waterbody implies that all state waters should be considered in the search for impaired waters and provides no guidance on a practical upstream limit or spatial scale to observe in that search. In theory, the hierarchy of tributaries in a watershed extends upstream indefinitely. In practice, however, the choice of a lower limit on spatial scale or stream size has a very large influence on the total number of stream miles and small lakes that are included in the definition of state waters and thus require some form of assessment. For example, RF1, the original version of the EPA's national reach file system (DeWald et al., 1985) contained approximately 65,000 stream reaches totaling approximately 1 million km of stream channels. Now considered by EPA to be inadequate for describing the nation's river and stream system, RF1 has been replaced by the National Hydrography Dataset (NHD) containing more than 3 million reaches totaling nearly 10 million km of channels. Moreover, a number of states have petitioned the EPA to add still lower-

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order reaches (i.e., smaller streams) to the NHD in order to document the location of waters assessed by local interest groups. Because of local pressure and the lack of a regulatory lower limit on the size of streams and lakes to be considered, and because Geographic Information Systems (GIS) can document the existence and location of very small streams and lakes, the task of accurately and comprehensively assessing state waters has become formidable. At the current NHD scale, states contain an average of about 70,000 stream reaches (>100,000 km), and given recent trends, that average is rising.

This raises the question of how large the region of validity (the spatial area over which the data apply) is for data gathered at a single monitoring station. The question is conceptually troubling to begin with because the variability of water quality is large and continuous in both space and time. In practice, moreover, the de facto valid region for monitoring stations is extremely large. Given the spatially detailed treatment of rivers and streams in the NHD, however, most states would need to gather data from more than a thousand stations per year to maintain an average "monitoring ratio" of 100 km per station (assuming the NHD approximately describes state waters). This distance is clearly greater than the valid region for monitoring stations on most surface waters, especially because most of the channel length in state waters is contributed by relatively small streams (e.g., drainage areas less than 100 km^2) where water quality conditions may vary greatly over short distances. Thus, a substantial portion of state waters would appear to be located outside of the valid monitoring region for a state monitoring program of 1,000 stations. These waters are either left out of the decision process and are deemed not impaired by default, or they are included in the decision process with higher error rates.

One solution to this problem is to avoid the concept of a valid region for individual monitoring stations entirely and replace it with an approach in which monitoring data are used to develop statistical models of water quality in state waters. Water quality conditions at monitoring sites can be statistically related to known factors that cause impairment in watersheds (the size and location of stressors, for example), thus enabling estimates of water quality conditions at other unmonitored locations. As discussed later, this approach may also benefit the listing process.

Conclusions and Recommendations

1. Each state should develop a catalogue of waterbodies based on the National Hydrography Dataset for the purposes of defining state waters and designing sampling and assessment programs.

2. States should attempt to move away from the concept of a region of validity of individual monitoring stations and instead consider a statistical modeling approach to assessing the condition of waters. This approach would combine monitoring data with estimates of water quality based on statistical models.

DESIRABLE CRITERIA

This section considers the desired features of chemical and biological criteria as surrogates for designated use. For listing and delisting purposes, numeric and measurable criteria should be logically derived from the designated use statement. Ideally, appropriate designated uses and associated criteria are assigned to each waterbody prior to an assessment. Realistically, the cost and effort involved in categorizing every waterbody in advance of an assessment may be prohibitive, and many states' programs for setting appropriate use designation are continuing efforts. As is noted in Chapter 5, it is advisable to conduct a site-specific review to refine the standard once a waterbody is listed and before a TMDL is initiated.

One desired feature of a criterion is that it must be measurable with available monitoring methods. Unfortunately, federal guidelines for water quality assessment (EPA, 1994) do not assure this feature. In many cases there may be a discrepancy between the formulation of water quality criteria and the frequency with which water quality data are gathered.

A criterion may not be a single number, but instead may be represented as a frequency, duration, and magnitude. In the context of a pollutant, the *magnitude* refers to how much of the pollutant can be allowed in the water while still achieving the designated use. The magnitude can be chosen to protect against either acute or chronic effects of a pollutant. *Duration* refers to the period of time over which measurements of the pollutant are considered. Pollutant levels may be averaged over some number of hours or days to determine that amount of the pollutant that can be present without a loss of the designated use. The allowable *frequency* at which the criterion can be violated (called an excursion) without a loss of the designated use also must be considered. Thus, in the case of a trout fishery, the criterion might specify a minimum DO (or maximum chlorophyll *a*) that can be realized for a period of time and the number of times this number can be violated before there is demonstrable harm to the designated use. It should be noted that these numbers are pollutant-specific, and they might vary with season depending on, for example, fish life-stage.

Establishing these three dimensions of the criterion is crucial for successfully developing water quality standards[4]. Currently, there are many cases where there are insufficient data collected in one or more of these three dimensions to evaluate attainment of water quality criteria. In addition, some standards are virtually impossible to comply with, especially when the frequency of allowable excursions is zero (called "no-exceedance" standards). Box 3-4 provides three examples of criteria that are either unmeasurable given current monitoring protocols or are exceedingly difficult to meet and thus constitute an intractable problem for the TMDL program. Careful consideration of the three dimensions of the criterion is also critical to the development of appropriate TMDLs. In the law, the letter "d" in TMDL refers to a *daily* load, which has been interpreted literally in some legal cases. However, for many pollutants, the load determined over a longer time period (e.g., a season or year) is more relevant to securing the designated use. Examples of this are nutrient and sediment criteria, where the duration component of the criterion is generally not stated as "daily."

A second desirable feature is that the measured criterion must be logically derived from the qualitative statement of the designated use. The closer the criterion is in the causal chain (Figure 2-1), the easier it is to make that connection. This has led to increased interest in biocriteria, particularly numeric measures of fish, benthic invertebrate, algal, and diatom assemblages. Recommendations to adopt biocriteria are often made because biocriteria integrate the effects of multiple stressors over time and space, thus minimizing the need for a large number of samples (Karr, 2000). A second advantage of using biocriteria is that, unlike chemical criteria, they are designed to be specific to certain regions and

[4] Specifying the magnitude, frequency, and duration is critical for chemical criteria, but may not be necessary for certain biological criteria. For example, the fecal coliform standard is best defined with all three components. On the other hand, many biocriteria such as IBI are well defined by a single number because they integrate biological, chemical, and physical effects over time.

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conditions. For example, a swamp forest will typically violate DO criteria, and waterbodies in mountain areas with heavy metal-bearing rocks may violate heavy metal criteria. Biocriteria that are regionally relevant would not show those conditions as violations.

Fecal coliform counts and algal community parameters such as chlorophyll *a* are a type of biocriteria, but they are not comprehensive measures of waterbody condition. To make bioassessment more comprehen-

sive, index systems have been developed that focus on characteristics of the biota expected in the particular region where the waterbody is located, including desired fish species and other associated organisms (Box 3-5).

The scientific community measures integrity by describing the biological condition of waterbodies that, as much as possible, have not been altered by human activity. When "pristine" or "minimally disturbed"

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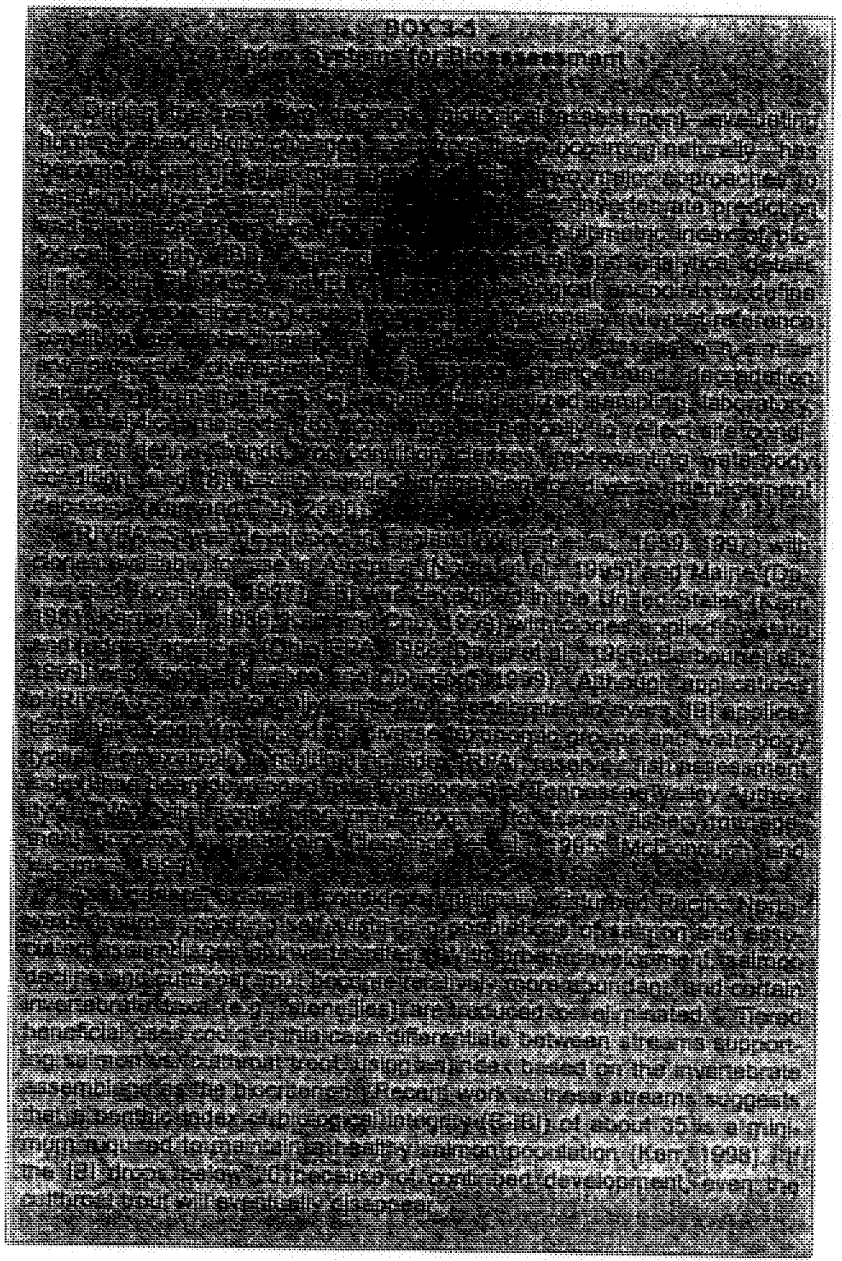

sites are used to define integrity, any site that has been altered by human actions must, by definition, lack integrity because its biota have changed in response to the actions of humans. For obvious reasons, reservoirs, farm ponds, and other waterbodies "created" by human actions cannot be assessed using this standard.

However, it does *not* follow that a waterbody lacking integrity is impaired or that restoring biological integrity is either possible or desirable. A waterbody that is described as lacking "biological integrity" should not be assumed to be in a less-than-desirable state. Rather, when a bioassessment finds that a waterbody diverges from integrity, there must be a social decision about whether that divergence is acceptable. In short,

> "The biota of minimally disturbed sites—those with integrity—provides a benchmark, a standard by which others are measured. The protection of that standard, or something very close to it, is likely to be the goal—the end toward which effort is directed—in relatively few places (e.g., national parks). The modern reality is that we are not able to preserve all areas in this benchmark condition. For example, restoring salmon to every Pacific Northwest stream is not realistic, yet a restoration goal that includes viable populations of cutthroat trout may be reasonable even in many urban or suburban streams. (Karr, 2000)

Measures of biological condition (e.g., IBI) inform society of the status of a water resource. But society must decide the desired designated use and then determine what level on the index numeric scale is, with reasonable certainty, likely to protect that designated use.

Recently, the EPA Office of Water has convened a working group of states and other supporting institutions to better define the gradient of biological condition from pristine to highly degraded and link this with operational measures such as numeric biocriteria in a manner that will ensure consistency across state programs. This is referred to as tiered aquatic life uses and is expressed as a biocondition axis. Examples of this framework already exist in Maine, Ohio, and Vermont. The expectation is that as states develop a more detailed system of tiered designated uses, they will also develop measurable biocriteria logically tied to those uses.

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Conclusions and Recommendations

1. **All chemical criteria and some biological criteria should be defined in terms of magnitude, frequency, and duration.** Each of these three components is pollutant-specific and may vary with season. The frequency component should be expressed in terms of a number of allowed excursions in a specified period (return period) and not in terms of the low flow or an absolute "never to be exceeded" limit. The requirement of "no exceedances" for many water quality criteria is not achievable given natural variability alone, much less with the variability associated with discharges from point and nonpoint sources.

2. **Water quality standards must be measurable by reasonably obtainable monitoring data.** In many states, there is a fundamental discrepancy between the criteria that have been chosen to determine whether a waterbody is achieving its designated use and the frequency with which water quality data are collected.

3. **Biological criteria should be used in conjunction with physical and chemical criteria to determine whether a waterbody is meeting its designated use.** Biocriteria are more closely related to designated uses, they can be defined and measured, and they integrate the effects of multiple stressors over time and space.

LISTING AND DELISTING IN A DATA-LIMITED ENVIRONMENT

As discussed at the beginning of this chapter, states are confronted with lengthy lists of impaired waters requiring TMDLs, many of which were judged against inadequate standards or were not fully assessed as part of a comprehensive ambient monitoring program. This section proposes a mechanism for managing the large number of waters requiring attention by dividing the listing process into multiple smaller steps, as shown in Figure 3-1.

Figure 3-1 illustrates a framework for water quality management that is more detailed than the conceptualized steps of the TMDL process shown in Figure 1-1. Figure 3-1 begins with the identification of all waters to be assessed and the determination of appropriate water quality standards as in the current TMDL program. Following this, however,

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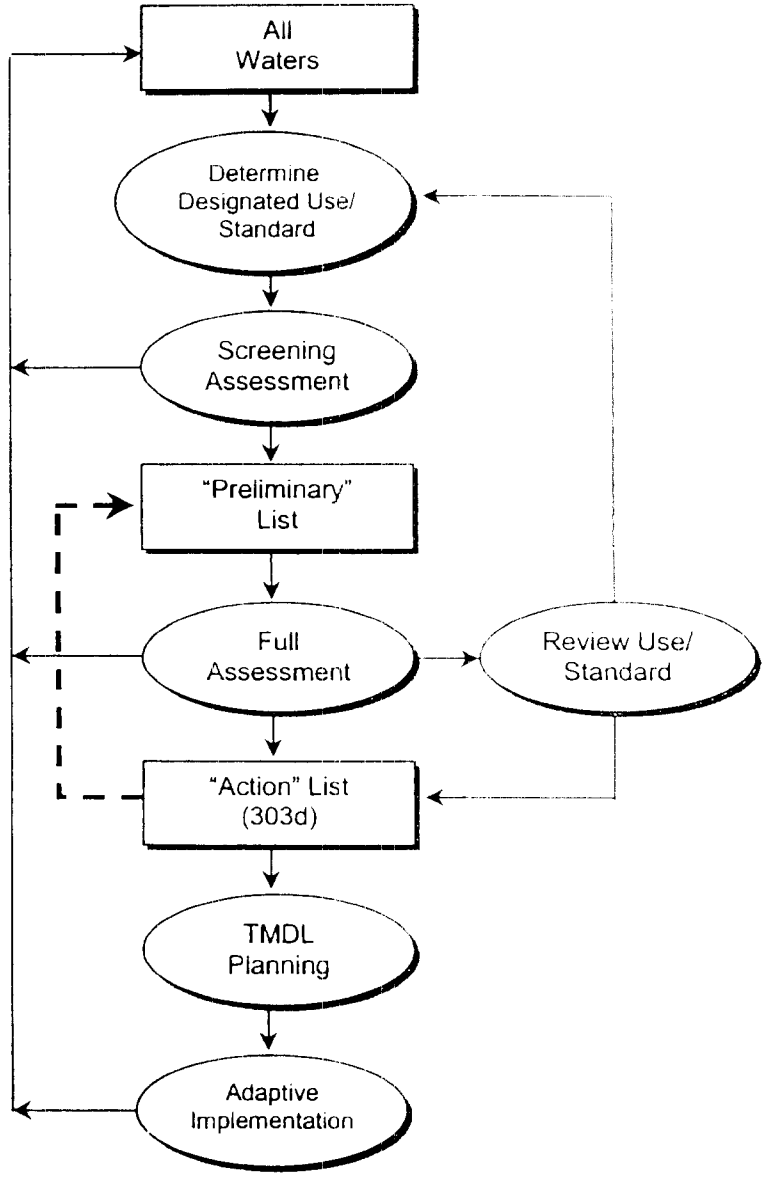

FIGURE 3-1 Framework for water quality management.

waters to be assessed would next go through an initial screening assessment. This involves comparing available, and often limited, data on water quality conditions with the existing applicable water quality criterion. If based on this initial screening assessment the waterbody is considered a candidate for impairment, it is advanced to the "preliminary" list for further consideration. It should be relatively easy to get on the preliminary list, the consequences of which include additional and immediate investigation to determine the nature and reality of a suspected problem. The term "preliminary" indicates that waterbodies on this list may later be placed on an action list, but they may also be declared unimpaired. Such a preliminary list has been suggested or employed in some states (e.g., Florida).

Those waterbodies placed on the preliminary list are the object of a more complete assessment that would involve additional monitoring and appropriate analysis of new data to reduce the uncertainty about their condition. If the decision from the full assessment is that the waterbody is impaired, then it moves to an "action list." One might think of the action list as the state's impaired waters (303d) list. The word "impaired" is a term of art. Impaired waters under Section 303d are analogous to "water quality limited segment(s)," as defined in the federal regulations (40 CFR Section 130.2(j)). The consequence of advancing to the action list is that additional resources are needed to either review and update the existing standard or complete a TMDL. (For those cases in which the existing criteria are not appropriate to a waterbody, Figure 3-1 allows for review of the water quality standard for that waterbody. The process for completing that review—use attainability analysis—is discussed in Chapter 5.)

The organizing concept in this idealized process is continuous and concurrent progress toward improved monitoring and listing decisions. The process moves forward from a position of limited information to more information; from uncertainty to more certainty; and from inaction to progressively larger and possibly more costly actions. Were EPA to endorse the idealized process represented in Figure 3-1, the listing process would be improved. For example, at the current time, there are thousands of waters on state 303d lists that were not placed there using adequate data or information. Waters in this category should be moved back to the preliminary list, represented by the dashed return arrow in Figure 3-1, to allow a more complete evaluation to be made.

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Creating the Preliminary List

Determining whether there should be some minimum threshold of data available when evaluating waterbodies for attainment of water quality standards is an issue of great concern to states. On the one hand, many call for using only the "best science" in making listing decisions, while others fear many impaired waters will not be identified in the wait for additional data. The existence of a preliminary list addresses these concerns by focusing attention on waters suspected to be impaired without imposing on stakeholders and the agencies the consequences of TMDL development, until additional information is developed and evaluated.

In many cases, biological and limited water quality surveys along with an inventory of existing sources of pollution may provide adequate information for a screening assessment of the waterbody. Evaluated data are also an important source of information for determining if a waterbody should be placed on the preliminary list. Evaluated data may take many forms (e.g., data older than a certain age, beach closures based on fixed rainfall thresholds, visual observations, and statistical inferences from small data sets) and have been described differently from state to state[5]. In contrast, monitored data are viewed as being more comprehensive, typically using data less than five years old, and may include a wide array of direct measurements of water quality, including physical, chemical, or biological measures. Use of evaluated data has been controversial in water quality assessments under the Clean Water Act. The controversy would be lessened if the use of evaluated data were limited to placing waters on the preliminary list.

The quality of the data used to list waterbodies as impaired is frequently a concern. Beyond the normal data entry, sampling, and laboratory errors, states must determine the reliability of the data coming from a wide range of sources (especially for evaluated data). Some states have responded to this uncertainty by strictly limiting the data used in making assessments to those collected by the state's lead environmental agency or some other select group of data providers (such as USGS). To over-

[5] Evaluated data and/or information provides an indirect appraisal of water quality through such sources as information on historical adjacent land uses, aquatic and riparian health and habitat, location of sources, results from predictive modeling using input variables, and some surveys of fish and wildlife. Monitored data refers to direct measurements of water quality, including sediment measurements, bioassessments, and some fish tissue analyses (EPA, 1998, 2000).

come this uncertainty, and thereby expand the universe of reliable data, some states have required that associated meta data[6] be provided and entered into a central data repository (such as STORET).

Narrative criteria might also play a significant role in determining whether a waterbody should be placed on the preliminary list. Many water quality standards are characterized only by narrative criteria that express the desired target but do not allow comparison to a numeric value. For example, a typical narrative criterion for nutrients (nitrogen and phosphorus) in inland waters is "concentrations should be limited to the extent necessary to prevent nuisance growths of algae, weeds, and slimes" (as in New York State). Currently, violations based on interpretation of a narrative criterion may be a basis for placing a waterbody on the 303d list, even though such an evaluation is done without a numeric value of the criterion. EPA and the states have worked together over the last ten years to develop translators that will convert narrative standards to numeric criteria or guidance values (EPA, 1999b,c; NRC, 2000). While further progress is made in developing such translators, violations of narrative standards should be used to place waterbodies on the preliminary list.

The approaches to creating a preliminary list will vary from state to state. For example, in Florida, data and information used to place waters on the preliminary list have to meet certain basic QA/QC requirements as well as limited data sufficiency tests. Minimum sample sizes and confidence levels have been established, and both chemical and biological data are considered. States will have to decide upon and develop criteria for defining data sufficiency and analytical procedures for placing waterbodies on the preliminary list and the action list. EPA might be expected to assist in this process.

Moving Off the Preliminary List

Waters on the preliminary list should receive special monitoring attention. Movement from the preliminary list will be either back to the list of all waters *or* onto the action (303d) list. Movement off the preliminary list will demand a more analytically structured evaluation than

[6] Meta data is information about data and its usage, such as (1) what it is about, (2) where it is to be found, (3) how much it costs, (4) who can access it, (5) in what format it is available, (6) what the quality of the data is for a specified purpose, and (7) what spatial location and time period it covers.

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was required for getting on the list. Each state should develop statistical procedures appropriate for testing attainment of each criterion. Sampling design, sample size, and QA/QC assurances for monitoring data would be defined, as would the appropriate tools for data analysis. If the data evaluated by the appropriate procedure indicate that there is no impairment, then delisting would follow. Delisting depends on analyses of sampling data and not on the implementation of a TMDL plan, although such a plan may be required to meet the criterion.

The process represented in Figure 3-1 is designed to improve the accuracy of the listing process. Placement of a waterbody on the preliminary list can serve as an indication to stakeholders that action should be taken soon to achieve water quality standards in order to avoid the costs associated with TMDL development. Because of the consequences of movement to the action list, there may be an incentive to keep waters on the preliminary list indefinitely. This incentive can be eliminated by requiring that a waterbody be automatically placed on the action (303d) list at the end of the next rotating basin cycle if additional analyses have not been undertaken. Such a requirement also may provide an incentive for point and nonpoint pollutant sources to contribute to the monitoring program in order to (potentially) avoid the consequences of a 303d listing.

Conclusions and Recommendations

1. EPA should approve the use of both a preliminary list and an action list instead of one 303d list. The two-list process would reduce the uncertainty that often accompanies a listing decision and would provide flexibility to the TMDL program.

2. If some waters on the current 303d list would be more appropriately catalogued on the preliminary list, EPA should allow states to move those waterbodies from the current 303d list to the preliminary list. If no legal mechanism exists to bring this about, Congress should create one. Many waters now on state 303d lists were placed there without the benefit of adequate data or waterbody assessment. These potentially erroneous listings contribute to a very large backlog of TMDL segments and foster the perception of a problem that is larger than it may actually be.

3. States should be allowed the flexibility to delist a waterbody without having to complete a TMDL if additional data or new in-

formation providing evidence of attainment of the water quality standard becomes available.

4. No waterbody should remain on the preliminary list for more than one rotating basin cycle. If the waterbody has not been removed from the preliminary list at the end of a rotating basin cycle, it should automatically be placed on the 303d list, unless EPA approves an exemption from such a requirement on a waterbody-by-waterbody basis. Criteria for granting exemptions could be developed by EPA.

5. To increase the reliability of the data used in listing waterbodies, EPA should require some limited amount of meta data for data submitted to STORET.

DATA EVALUATION FOR THE LISTING AND DELISTING PROCESS

Given finite monitoring resources, it is obvious that the number of sampling stations included in the state program will ultimately limit the number of water quality measurements that can be made at each station. Thus, in addition to the problem of defining state waters and designing the monitoring network to assess those waters, fundamental statistical issues arise concerning how to interpret limited data from individual sampling stations. Statistical inference procedures must be used on the sample data to test hypotheses about whether the actual condition in the waterbody meets the criterion. Thus, water quality assessment is a hypothesis-testing procedure.

A statistical analysis of sample data for determining whether a waterbody is meeting a criterion requires the definition of a null hypothesis; for listing a waterbody, the null hypothesis would be that the *water is not impaired*[7]. The analysis is prone to the possibility of both Type I error (a false conclusion that an unimpaired water is impaired) and Type II error (a false conclusion that an impaired water is not impaired). Different statistical analyses are needed depending on whether chemical or biological criteria are being assessed.

[7] For delisting, the null hypothesis might be that the water is impaired.

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Statistical Approaches for Chemical Parameters

If chemical criteria—carefully designed to account for magnitude, frequency, and duration—are expected to be met, instantaneous measurements would be needed to determine compliance. Under current practice, however, even when states conduct frequent monitoring, sample sizes are limited, and so the possibility for false positive errors (Type I) and false negative errors (Type II) remains. As sample sizes increase, error rates can be better managed. For placement on the preliminary list, a small sample size may be acceptable. However, placement on the action list would require an increase in the number of sample points used in order to reduce the uncertainty in the listing and delisting decisions.

The committee does not recommend any particular statistical method for analyzing monitoring data and for listing waters. However, one possibility is that the *binomial hypothesis test* could be required as a minimum and practical first step (Smith et al., 2001). The binomial method is not a significant departure from the current approach—called the *raw score approach*—in which the listing process treats all sample observations as binary values that either exceed the criterion or do not, and the binomial method has some important advantages. For example, one limitation of the raw score approach is that it does not account for the total number of measurements made. Clearly, 1 out of 6 measurements above the criterion is a weaker case for impairment than is 6 out of 36. The binomial hypothesis test allows one to take sample size into account. By using a statistical procedure, sample sizes can be selected and one can *explicitly* control and make trade-offs between error rates (see Smith et al., 2001, and Gibbons, in press, for guidance on managing the risk of false positive and false negative errors)[8]. Several states, including Florida and Virginia, are considering or are already using the binomial hypothesis test to list impaired waters. Detailed examples of how to apply

[8] The choice of a Type I error rate is based on the assessors willingness to falsely categorize a waterbody. It also is the case that, for any sample size, the Type II error rate decreases as the acceptable Type I error rate increases. The willingness to make either kind of mistake will depend on the consequences of the resulting actions (more monitoring, costs to do a TMDL plan, costs to implement controls, possible health risk) and who bears the cost (public budget, private parties, etc.). The magnitude and burden of a Type I versus Type II error depend on the statement of the null hypothesis and on the sample size. When choosing a Type I error rate, the assessor may want to explicitly consider these determinants of error rates.

this test are beyond the scope of this document, but can be found in Smith et al. (2001) and the proposed Chapter 62-303 of the Florida Administrative Code[9].

Whether the binomial or the raw score approach is used, there must be a decision on an acceptable frequency of violation for the numeric criterion, which can range from 0 percent of the time to some positive number. Under the current EPA approach, 10 percent of the sample measurements of a given pollutant made at a station may exceed the applicable criterion without having to list the surrounding waterbody. The choice of 10 percent is meant to allow for uncertainty in the decision process. Unfortunately, simply setting an upper bound on the percentage of measurements at a station that may violate a standard provides insufficient information to properly deal with the uncertainty concerning impairment.

The choice of acceptable frequency of violation is also supposed to be related to whether the designated use will be compromised, which is clearly dependent on the pollutant and on waterbody characteristics such as flow rate. A determination of 10 percent cannot be expected to apply to all water quality situations. In fact, it is inconsistent with federal water quality criteria for toxics that specify allowable violation frequencies of either one day in three years, four consecutive days in three years, or 30 consecutive days in three years (which are all less than 10 percent). Embedded in the EPA raw score approach is an implication that 10 percent is an acceptable violation rate, which it may not be in certain circumstances.

Both the raw score and binomial approaches require the analyst to "throw away" some of the information found in collected data. For example, if the criterion is 1.0, measurements of 1.1 and 10 are given equal importance, and both are treated simply as exceeding the standard. Thus, a potentially large amount of information about the likelihood of impairment is simply discarded. (The standard deviation can be used to set priorities for TMDL development or other restoration activities.) There are other approaches that are more effective at extracting information from a single monitoring sample, thereby reducing the number of samples needed to make a decision with the same level of statistical confi-

[9] This proposed rule chapter was approved for adoption by the Florida Department of Environmental Protection's Environmental Regulation Commission on April 26, 2001, but has not been officially filed for adoption by the Department because of a pending rule challenge before the Division of Administrative Hearings.

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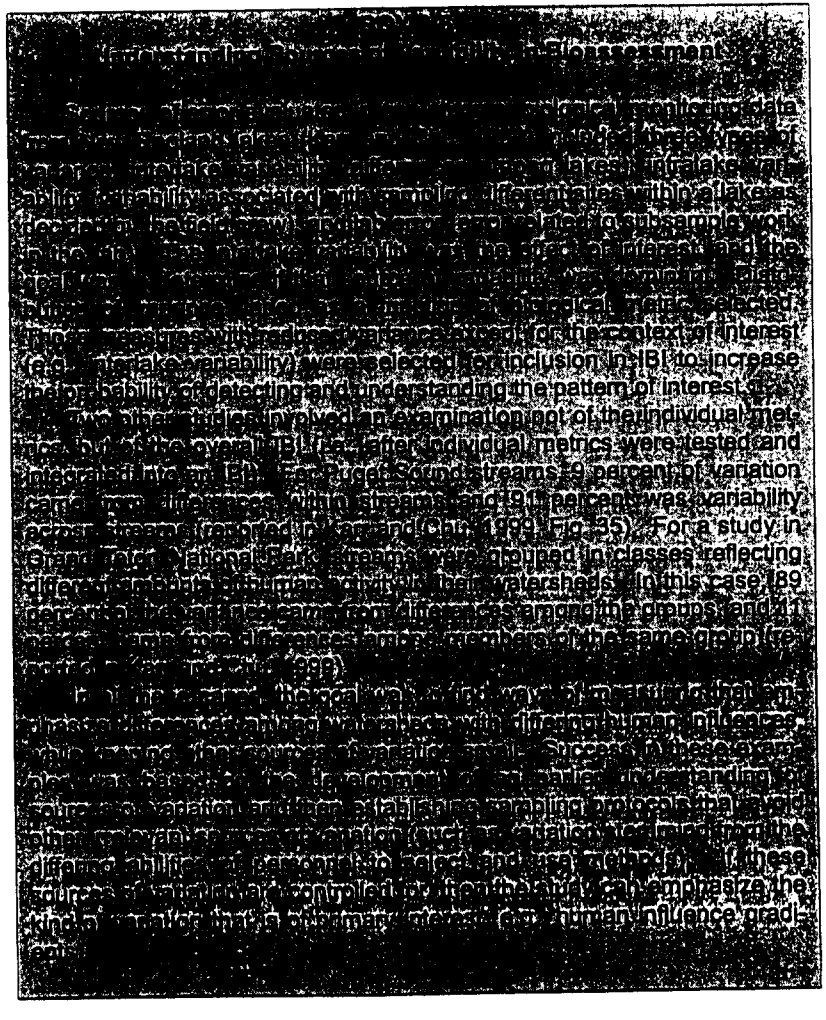
dence. For example, Gibbons (in press) suggests testing the data for normality or log normality and then examining the confidence intervals surrounding the estimated 90th percentile of the chosen distribution. When the data are neither normal nor lognormal, or when more than 50 percent of the observations are censored (below the detection limit), Gibbons suggests constructing a nonparametric confidence limit based on the binomial distribution of ranked data. Another approach that uses all the data to make a decision is "acceptance sampling by variables" (Duncan, 1974). In general, alternative statistical approaches transform questions about the proportion of samples that exceed a standard into questions about the center (or another parameter) of a continuous distribution. It should be noted that new approaches will bring new analytical requirements that must be taken into consideration. For example, if there is a requirement to specify a distribution, sufficient data must be available. In some cases, data from other similar sites may be needed to give an overall assessment of distribution type. Finally, as more powerful statistical procedures are used, water quality assessors will need to understand how to run the tests and also how to state hypotheses that clearly relate to the water quality criterion.

Statistical Approaches for Biological Parameters

Error bands exist with any sampled data, including bioassessment results. Thus, bioassessment procedures must also be designed to be statistically sound. The utility of any measure of stream condition depends on how accurately the original sample represents the condition in the stream—that is, how successful it is in avoiding statistical "bias." Protocols to for making such measurements are established in the technical literature (Karr and Chu, 1999) as well as in guidance manuals produced by EPA (Barbour et al., 1996, 1999; EPA, 1998a; Gibson et al., 2000).

There are three principal ways variability is dealt with in the process of deriving and using biocriteria (Yoder and Rankin, 1995). First, variability is compressed through the use of multimetric evaluation mechanisms such as IBI. Reference data for each metric are compressed into discrete scoring ranges (i.e., 5, 3, and 1). Second, variability is stratified via tiered uses, ecoregions, stream size categories (headwaters, wadable, boatable), and method of calibrating each metric (i.e., vectoring expectations by stream size). Third, variability is controlled through standardized operating procedures, data quality objectives (i.e., level of taxonomy), index sampling periods (to control for seasonal effects), replication

of sampling, and training (Yoder and Rankin, 1995). One can, for example, avoid seasonal variation by carefully defining index sampling periods or variation among microhabitats by sampling the most representative microhabitat (Karr and Chu, 1999). Box 3-6 presents results of several studies in which the error around biological parameters was assessed.



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Conclusions and Recommendations

1. EPA should endorse statistical approaches to proper monitoring design, data analysis, and impairment assessment. For chemical parameters, these might include the binomial hypothesis test or other statistical approaches that can more effectively make use of the data collected to determine water quality impairment than does the raw score approach. For biological parameters, these might focus on improvement of sampling designs, more careful identification of the components of biology used as indicators, and analytical procedures that explore biological data as well as integrate biological information with other relevant data.

2. States should be required to report the statistical properties of the sample data analyses used to make listing determinations. Error rates, confidence limits, or other means of conveying uncertainty should be presented along with the rationale for a decision to list or delist a waterbody.

USE OF MODELS IN THE LISTING PROCESS

As stated in EPA guidance documents as well as the Federal Advisory Committee Act (FACA) report (EPA, 1998b), monitoring data are the preferred form of information for identifying impaired waters. Model predictions might be used in addition to or instead of monitoring data for two reasons: (1) modeling could be feasible in some situations where monitoring is not, and (2) integrated monitoring and modeling systems could provide better information than monitoring alone for the same total cost. EPA guidance and the FACA report explicitly recognize the obvious practicality of the first reason, but largely ignore the potential importance of the second. This section considers some of the ways in which modeling might be used as a complement to monitoring and points out some limitations of modeling in informing the listing process.

Often, in attempting to estimate the frequency of violation of a standard, the number of pollutant concentration measurements made in a waterbody is so small that it is difficult to avoid false negative error with the desired level of confidence. One way in which a simple statistical model may assist in interpreting monitoring data in such cases is by introducing a variable to the analysis that is correlated with pollutant concentration. One common correlate of many water quality time series is

stream flow, which is measured continuously at many monitoring stations, including nearly all USGS stations. The statistical methods for taking advantage of correlated stream flow data are called record extension techniques, several of which have been described and compared by Hirsch (1982). By modeling pollutant concentration as a function of streamflow and using the resulting model to estimate a denser concentration time series, a better estimate of the frequency distribution of pollutant concentration may be obtained. The predicted concentration time series then may be tested for violation frequency using either the binomial approach (see above) or the quantile approach. The value of this modeling approach over using pollutant data alone is directly dependent on the level of correlation that exists between the pollutant concentration and stream flow. Further discussion of the specific extension technique called MOVE (Maintenance of Variance–Extension) appears in Helsel and Hirsch (1991).

The EPA guidance on 303d listing suggests that a simple, but useful, modeling approach that may be used in the absence of monitoring data is "dilution calculations," in which the rate of pollutant loading from point sources in a waterbody (recorded as kg per day in NPDES permits, for example) is divided by the stream flow distribution to give a set of estimated pollutant concentrations that may be compared to the state standard. Simple dilution calculations assume conservative movement of pollutants through a watershed and ignore the fact that for most pollutants some loss of mass occurs during transport due to a variety of processes including evaporation, settling, or biochemical transformation (see, for example, Novotny and Olem, 1994). Thus, the use of dilution calculations will tend to bias the decision process toward false positive conclusions. Lacking a clear rationale for such a bias, a better approach would be to include a best estimate of the effects of loss processes in the dilution model.

Section 303d and related guidance from EPA emphasize the importance of searching for information on waterbodies that are suspected of violating water quality standards, which is understandable given the desire to limit the number of sites sampled and hence the cost of monitoring. Targeted monitoring will often increase the efficiency of the assessment process (i.e., reduce the total number of decision errors), but may have somewhat hidden effects on the balance of false positive and false negative errors. Targeted monitoring represents the informal use of a prior *probability distribution on impairment* to guide monitoring toward sites located in a particular region of the distribution. One of the most potentially valuable uses of modeling in relation to 303d listing would be to formalize the use of prior information on impairment probability in order to better organize the decision process. That is, modeling techniques such as SPARROW (Smith et al., 1997) could be used to estimate preliminary impairment distributions for all waterbodies in the state. These distributions would then be used to guide monitoring and control the rates of false positive and false negative error either through Bayesian or other methods of interpreting monitoring data. Limited monitoring resources generally could be focused on the sites where impairment was most *un*certain (i.e., where the estimated probability of impairment was neither very high nor very low), potentially improving the efficiency of monitoring. Sites at the extremes of the impairment distributions (i.e., extremely likely or unlikely to be impaired) would be less frequently monitored. Decisions for placing waters on a preliminary list might be made primarily on the basis of such modeling. (Formal placement of a waterbody on the 303d list would require additional monitoring.)

Conclusions and Recommendations

1. Models that can fill gaps in data have the potential to generate information that will increase the efficiency of monitoring and thus increase the accuracy of the preliminary listing process. For example, regression analyses that correlate pollutant concentration with some more easily measurable factor could be used to extend monitoring data for preliminary listing purposes. Models can also be used in a Bayesian framework to determine preliminary probability distributions of impairment that can help direct monitoring efforts and reduce the quantity of monitoring data needed for making listing decisions at a given level of reliability.

REFERENCES

Barbour, M. T., J. B. Stribling, J. Gerritsen, and J. R. Karr. 1996. Biological Criteria: Technical Guidance for Streams and Small Rivers. Revised Edition. EPA 822-B-96-001. Washington, DC: EPA Office of Water.

Barbour, M. T., J. Gerritsen, B. D. Snyder, and J. B. Stribling. 1999. Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Peri-

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phyton, Benthic Macroinvertebrates and Fish, Second Edition. EPA 841-B-99-002. Washington, DC: EPA Office of Water.

Davis, W. S., B. D. Snyder, J. B. Stribling, and C. Stoughton. 1996. Summary of State Biological Assessment Programs for Streams and Rivers. EPA 230-R-96-007. Washington, DC: EPA Office of Policy, Planning, and Evaluation.

DeWald, T., R. Horn, R. Greenspun, P. Taylor, L. Manning, and A. Montalbano. 1985. STORET Reach Retrieval Documentation. Washington, DC: EPA.

Environmental Protection Agency (EPA). 1994. Water Quality Standards Handbook. Second Edition. EPA 823-B-94-005a. Washington, DC: EPA Office of Water.

EPA. 1995a. Environmental indicators of water quality in the United States. EPA 841-R-96-002. Washington, DC: Office of Policy, Planning, and Evaluation.

EPA. 1995b. A conceptual framework to support development and use of environmental information in decision-making. EPA 239-R-95-012. Washington, DC: Office of Policy, Planning, and Evaluation.

EPA. 1998a. Lake and Reservoir Bioassessment and Biocriteria: Technical Guidance Document. EPA 841-B-98-007. Washington, DC: EPA Office of Water.

EPA. 1998b. Report of the FACA Committee on the TMDL Program. EPA 100-R-98-006. Washington, DC: EPA Office of the Administrator.

EPA. 1999a. Draft Guidance for Water Quality-based Decisions: The TMDL Process (Second Edition). Washington, DC: EPA Office of Water.

EPA. 1999b. Protocol for Developing Sediment TMDLs. First Edition. EPA 841-B-99-004. Washington, DC: EPA Office of Water.

EPA. 1999c. Protocol for Developing Nutrient TMDLs. First Edition. EPA 841-B-99-007. Washington, DC: EPA Office of Water.

General Accounting Office (GAO). 2000. Water Quality-Key EPA and State Decisions Limited by Inconsistent and Incomplete Data. GAO/RCED-00-54. Washington, DC: GAO.

Gibbons, R. D. In Press. An alternative statistical approach for performing water quality impairment assessments under the TMDL program.

Gibson, G. R., M. L. Bowman, J. Gerritsen, and B. D. Snyder. 2000. Estuarine and Coastal Marine Waters: Bioassessment and Biocriteria Technical Guidance. EPA 822-B-00-024. Washington, DC: EPA Office of Water.

Helsel, D. R., and R. M. Hirsch. 1992. Statistical Methods in Water Resources. Amsterdam: Elsevier. 522 p.

Hirsch, R. M. 1982. A comparison of four record extension techniques. Water Resources Research 15:1781–1790.

Hughes, R. M., and T. Oberdorff. 1999. Applications of IBI concepts and metrics to waters outside the United States and Canada. Pages 79–93 in T. P. Simon, editor. Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communities. Boca Raton, FL: CRC Press.

R0005729

ITFM (Intergovernmental Task Force on Monitoring Water Quality). 1992. Ambient water quality monitoring in the United States: first year review, evaluation, and recommendations. Washington, DC: Interagency Advisory Committee on Water Data.

ITFM. 1993. Ambient water quality monitoring in the United States: second year review, evaluation, and recommendations. Washington, DC: Interagency Advisory Committee on Water Data.

ITFM. 1995. The strategy for improving water-quality monitoring in the United States. Final report of the Intergovernmental Task Force on Monitoring Water Quality. Washington, DC: Interagency Advisory Committee on Water Data.

Jackson, L. E., J. C. Kurtz, and W. S. Fisher, editors. 2000. Evaluation Guidelines for Ecological Indicators. EPA/620/R-99/005. Research Triangle Park, NC: EPA Office of Research and Development.

Jennings, M. J., L. S. Fore, and J. R. Karr. 1995. Biological monitoring of fish assemblages in Tennessee Valley Reservoirs. Regulated Rivers: Research and Management 11:263–274.

Karr, J. R. 1981. Assessment of biotic integrity using fish communities. Fisheries 6(6):21–27.

Karr, J. R. 1991. Biological Integrity: A Long-Neglected Aspect of Water Resource Management. Ecological Applications 1:66–84.

Karr, J. R. 1998. Rivers as sentinels: Using the biology of rivers to guide landscape management. Pages 502–528 in R. J. Naiman and R. E. Bilby, eds. River Ecology and Management: Lessons from the Pacific Coastal Ecosystems. New York: Springer.

Karr, J. R. 2000. Health, integrity, and biological assessment: The importance of whole things. Pages 209–226 in D. Pimentel, L. Westra, and R. F. Noss, editors. Ecological Integrity: Integrating Environment, Conservation, and Health. Washington, DC: Island Press. Pgs. 214–215.

Karr, J. R., and D. R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55–68.

Karr, J. R., and E. W. Chu. 1999. Restoring Life in Running Waters: Better Biological Monitoring. Washington, DC: Island Press.

Karr, J. R., and E. W. Chu. 2000. Sustaining living rivers. Hydrobiologia 422/423:1–14.

Karr, J. R., K. D. Fausch, P. L. Angermeier, P. R. Yant, and I. J. Schlosser. 1986. Assessment of biological integrity in running waters: A method and its rationale. Illinois Natural History Survey Special Publication 5. Illinois Natural History Survey, Urbana, Illinois.

McDonough, T. A., and G. D. Hickman. 1999. Reservoir fish assemblage index development: A tool for assessing ecological health in Tennessee Valley Authority impoundments. Pages 523–540 in T. P. Simon, editor. Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communities. Boca Raton, FL: CRC Press.

National Research Council (NRC). 2000. Watershed Management for Potable Water Supply: Assessing the New York City Strategy. Washington, DC: National Academy Press.

Novotny, V. 1999. Integrating diffuse/nonpoint pollution control and water body restoration into watershed management. Journal AWRA 35(4):717–727.

Novotny, V., and H. Olem. 1994. Water Quality: Prevention, Identification and Management of Diffuse Pollution. New York: Van Nostrand - Reinhold (distributed by Wiley).

Ohio EPA (Environmental Protection Agency). 1988. Biological Criteria for the Protection of Aquatic Life, volumes 1–3. Columbus, OH: Ohio EPA Ecological Assessment Section, Division of Water Quality Monitoring and Assessment.

Ohio EPA. 1990. Ohio water resource inventory, volume I, summary, status, and trends. Rankin, E. T., Yoder, C. O., and Mishne, D. A. (eds.). Columbus, OH: Ohio EPA Division of Water Quality Planning and Assessment

Ohio EPA. 1999. Total maximum daily load TMDL team report. Columbus, OH: Ohio EPA Division of Surface Water. 139 pp.

Ohio EPA. 2000. Ohio EPA five-year surface water monitoring strategy: 2000–2004 (draft). Columbus, OH: Ohio EPA Division of Surface Water, Ecological Assessment Unit.

Plafkin, J. L., M. T. Barbour, K. D. Porter, S. K. Gross and R. M. Hughes. 1989. Rapid Bioassessment Protocol for Use in Stream and Rivers: Benthic Macroinvertebrates and Fish. EPA 440/4-89/001. Washington, DC: EPA.

Rankin, E. T., and C. O. Yoder. 1990. A comparison of aquatic life use impairment detection and its causes between an integrated, biosurvey-based environmental assessment and its water column chemistry subcomponent. Appendix I, Ohio Water Resource Inventory (Volume 1). Columbus, OH: Ohio EPA, Division of Water Quality Planning Assessment. 29 pp.

Singh, K. P., and G. S. Ramamurthy. 1991. Harmonic Mean Flows for Illinois Streams. Champaign, IL: Illinois State Water Survey.

Smith, R. A., G. E. Schwarz, and R. B. Alexander. 1997. Regional interpretation of water-quality monitoring data. Water Resources Research 33(12):2781–2798.

Smith, E. P., K. Ye, C. Hughes, and L. Shabman. 2001. Statistical assessment of violations of water quality standards under Section 303(d) of the Clean Water Act. ES&T 35:606–612.

Tampa Bay National Estuary Program. 1996. Charting the Course—The Comprehensive Conservation and Management Plan for Tampa Bay.

Wright, J. F., D. Moss, R. T. Clarke, and M. T. Furse. 1997. Biological assessment of river quality using the new version of RIVPACS (RIVPACS III). Pages 102–108 in P. J. Boon and D. L. Howell (eds). Freshwater Quality: Defining the Indefinable? Scottish Natural Heritage, Edinburgh.Norris, R. H., B. T. Hart, M. Finlayson, and K. R. Norris (eds).

R0005730

Wright, J. F., P. D. Armitage, and M. T. Furse. 1989. Prediction of invertebrate communities using stream measurements. Regulated Rivers: Research and Management 4:147–155.

Yoder, C. O. 1997. Important elements and concepts of an adequate state watershed monitoring and assessment program. ASIWPCA Standards & Monitoring, Ohio EPA Tech. Bull. MAS/1997-7-1. Columbus, OH: Ohio EPA Division of Surface Water.

Yoder, C. O., and E. T. Rankin. 1995. Biological criteria program development and implementation in Ohio, pp. 109–144, in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Boca Raton, FL: Lewis Publishers.

Yoder, C. O., and E. T. Rankin. 1998. Biological response signatures and the area of degradation value: new tools for interpreting multimetric data, pp. 263–286. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Boca Raton, FL: Lewis Publishers.

4
Modeling to Support the TMDL Process

This chapter addresses the planning step (Figure 1-1) that occurs once a waterbody is formally listed as impaired. The main activity required during the planning step is an assessment of the relative contribution of different stressors (sources of pollution) to the impairment. For example, during this step Total Maximum Daily Loads (TMDLs) are calculated for the chemical pollutant (if there is one) causing the impairment, and the maximum pollutant loads consistent with achieving the water quality standard are estimated. Pollutant load limits alone may not secure the designated use, however, if other sources of pollution are present. Changes in the hydrologic regime (such as in the pattern and timing of flow) or changes in the biological community (such as in the control of alien taxa or riparian zone condition) may be needed to attain the designated use, as discussed in Chapter 2. As hydrologic, biological, chemical, or physical conditions change, the estimation of the TMDL can change.

Because they represent our scientific understanding of how stressors relate to appropriate designated uses, models play a central role in the TMDL program. Models are the means of making predictions—not only about the TMDL required to achieve water quality standards, but also about the effectiveness of different actions to limit pollutant sources and modify other stressors to reach attainment of a designated use. This chapter discusses the necessity for, and limitations of, models and other predictive approaches in the TMDL process. Thus, it directly addresses the committee's charge of evaluating the TMDL program's information needs and the methods used to obtain information.

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MODEL SELECTION CRITERIA

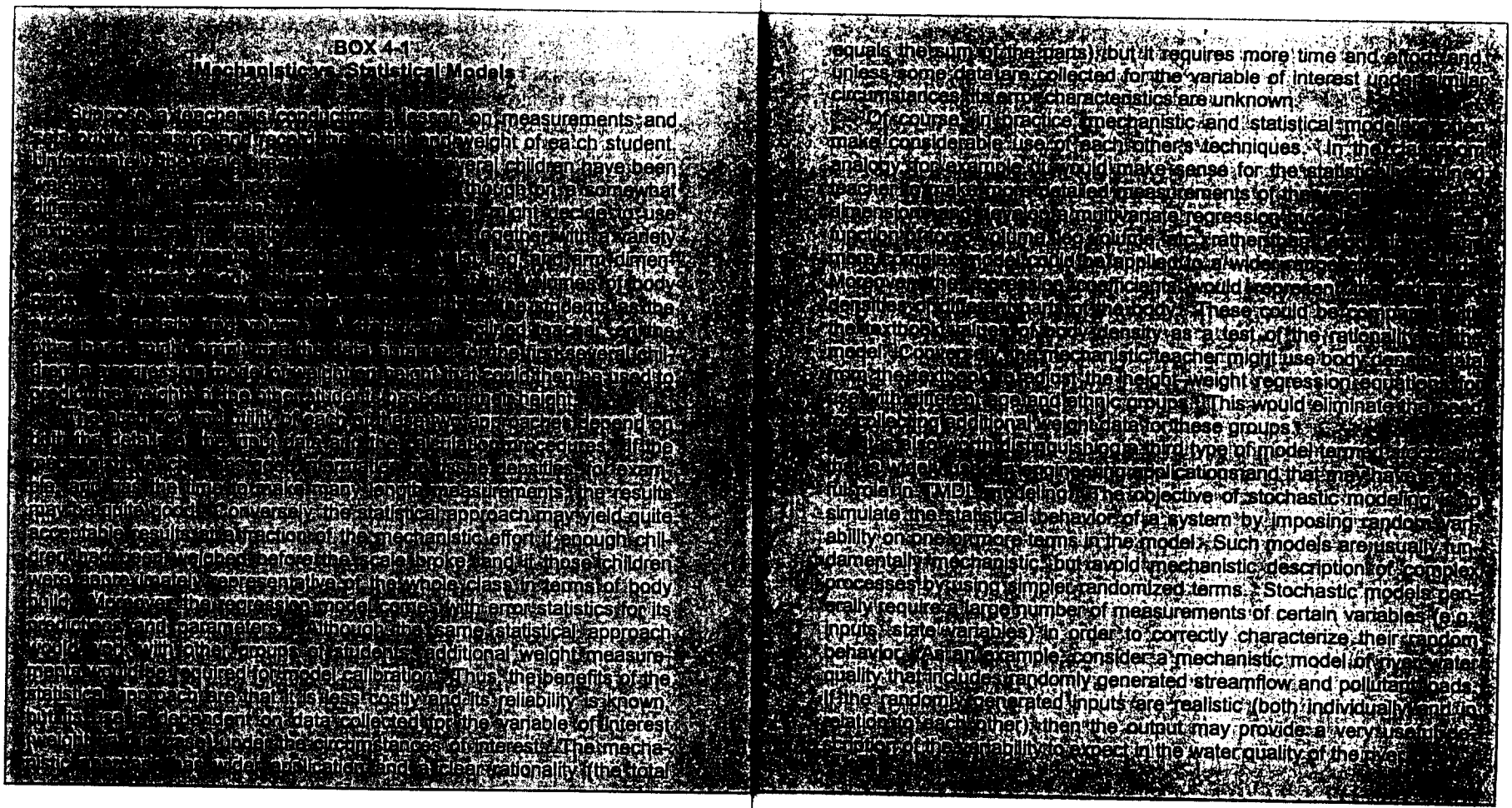
Mathematical models can be characterized as empirical (also known as statistical) or mechanistic (process-oriented), but most useful models have elements of both types. An empirical model is based on a statistical fit to data as a way to statistically identify relationships between stressor and response variables. A mechanistic model is a mathematical characterization of the scientific understanding of the critical biogeochemical processes in the natural system; the only data input is in the selection of model parameters and initial and boundary conditions. Box 4-1 presents a simple explanation of the difference between the two types of models.

Water quality models for TMDL development are typically classified as either watershed (pollutant load) models or as waterbody (pollutant response) models. A watershed model is used to predict the pollutant load to a waterbody as a function of land use and pollutant discharge; a waterbody model is used to predict pollutant concentrations and other responses in the waterbody as a function of the pollutant load. Thus, the waterbody model is necessary for determining the TMDL that meets the water quality standard, and a watershed model is necessary for allocating the TMDL among sources. Some comprehensive modeling frameworks [e.g., BASINS (EPA, 2001) and Eutromod (Reckhow et al., 1992)] include both, but most water quality models are of one or the other type. Except where noted, the comments in this chapter reflect both watershed and waterbody models; examples presented may address one or the other model type as needed to illustrate concepts.

Although prediction typically is made with a mathematical model, there are certainly situations in which expert judgment can and should be employed. Furthermore, although in many cases a complex mathematical model can be developed, the model best suited for the situation may be relatively simple, as noted in examples described later in the chapter. Indeed, reliance on professional judgment and simpler modeling will be acceptable in many cases, and is compatible with the adaptive approach to TMDLs described in Chapter 5.

Highly detailed models are expensive to develop and apply and may be time consuming to execute. Much of the concern over costs of TMDLs appears to be based on the assumption that detailed modeling techniques will be required for most TMDLs. In the quest to efficiently allocate TMDL resources, states should recognize that simpler analyses can often support informed decision-making and that complex modeling studies should be pursued only if warranted by the complexity of the

BOX 4-1
Mechanistic vs. Statistical Models



analytical problem. More complex modeling will not necessarily assure that uncertainty is reduced, and in fact can compound problems of uncertain predictions. As discussed below, accounting for uncertainty and representing watershed processes are two of the possible criteria that need to be considered when selecting an analytical model for TMDL development.

TMDLs, which are typically evaluated through predictive modeling, lead to decisions concerning controls on pollutant sources or other stressors. Thus, models used in TMDL analysis provide "decision support."

Box 4-2 lists *desirable* model selection/evaluation criteria in consideration of the decision support role of models in the TMDL process. The list is intended to characterize an ideal model. Given the limitations of existing models, it should not be viewed as a required checklist for attributes that all present-day TMDL models must have.

EPA has supported water quality model development for many years and, along with the U.S. Geological Survey (USGS), the U.S. Army Corps of Engineers, and the U.S. Department of Agriculture, is responsi-

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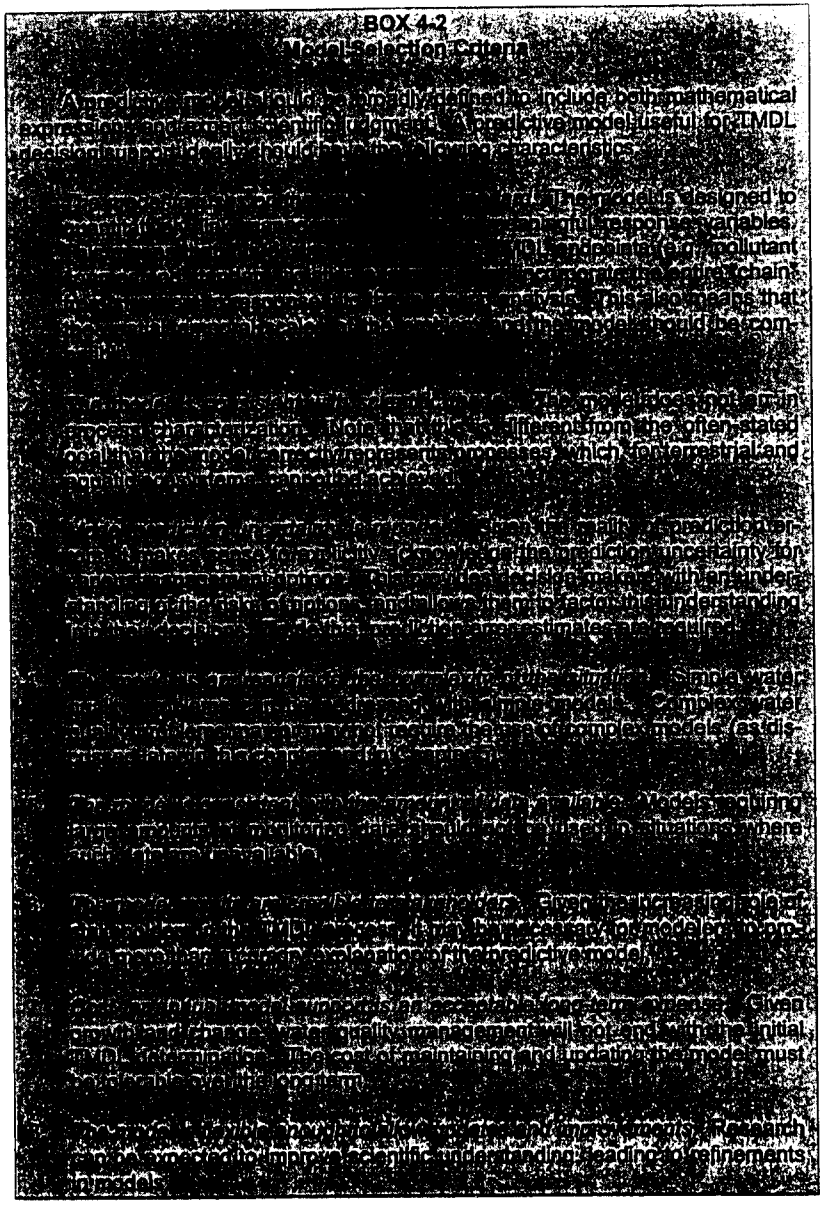

BOX 4-2
Model Selection Criteria

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ble for most models currently being applied for TMDL development. Agency-wide, EPA has funded model development and technology transfer activities for a wide range of models. The greatest concentration of this effort has been at the Center for Exposure Assessment Modeling (CEAM). In contrast to the broad perspective found within EPA as a whole, CEAM has demonstrated a clear preference for mechanistic models, as evidenced by their adoption of the BASINS modeling system (EPA, 2001) as the primary TMDL modeling framework.

Models developed at the CEAM and incorporated into BASINS place high priority on correctly describing key processes, which is related to but different from model selection criterion #2 (see Box 4-2). It is important to recognize that placing priority on ultimate process description often will come at the expense of the other model selection criteria. For one thing, an emphasis on process description tends to favor complex mechanistic models over simpler mechanistic or empirical models and may result in analyses that are more costly than is necessary for effective decision-making. In addition, physical, chemical, and biological processes in terrestrial and aquatic environments are far too complex to be conceptually understood or fully represented in even the most complicated models. For the purposes of the TMDL program, the primary purpose of modeling should be to support decision-making. Our inability to completely describe all relevant processes can be accounted for by quantifying the uncertainty in the model predictions

UNCERTAINTY ANALYSIS IN WATER QUALITY MODELS

The TMDL program currently accounts for the uncertainty embedded in the modeling exercise by applying a margin of safety (MOS). As discussed in Chapter 1, the TMDL can be represented by the following equation:

$$TMDL = \Sigma WLA + \Sigma LA + MOS$$

This states that the TMDL is the sum of the present and near future load of pollutants from point sources and nonpoint and background sources to receiving waterbodies plus an adequate margin of safety (MOS) needed to attain water quality standards.

One possible metric for the point source waste load allocation (ΣWLA) and the nonpoint source load allocation (ΣLA) is mass per unit time, where time is expressed in days However, other units of time may

actually be more appropriate. For example, it may be better to use a season as the time unit when the TMDL is calculated for lakes and reservoirs, or a year when contaminated sediments are the main stressor.

EPA (1999) gives additional ways in which a TMDL can be expressed:

- the required reduction in percentage of the current pollution load to attain and maintain water quality standards,
- the required reduction of pollutant load to attain and maintain riparian, biological, channel, or morphological measures so that water quality standards are attained and maintained, or
- the pollutant load or reduction of pollutant load that results from modifying a characteristic of a waterbody (e.g., riparian, biological, channel, geomorphologic, or chemical characteristics) so that water quality standards are attained and maintained.

The MOS is sometimes a controversial component of the TMDL equation because it is meant to protect against potential water quality standard violations, but does so at the expense of possibly unnecessary pollution controls. Because of the natural variability in water quality parameters and the limits of predictability, a small MOS may result in nonattainment of the water quality goal; however, a large MOS may be inefficient and costly. The MOS *should* account for uncertainties in the data that were used for water quality assessment and for the variability of background (natural) water quality contributions. It should also reflect the reliability of the models used for estimating load capacity.

Under current practice, the MOS is typically an arbitrarily selected numeric safety factor. In other cases, a numeric value is not stated, and rather conservative choices are made about the models used and the effectiveness of best management practices. Consistent with our concerns, NRC (2000) notes that since parameters involved in the TMDL determination are probabilistic and the MOS is a measure of uncertainty, the MOS should be determined through a formal uncertainty and error propagation analysis. There is also a compelling practical reason for explicit and thorough quantification of uncertainty in the TMDL via the MOS—reduction of the MOS can potentially lead to a significant reduction in TMDL implementation cost. On this basis alone, EPA should place a high priority on estimating TMDL forecast uncertainty and on selecting and developing TMDL models with minimal forecast error.

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Model prediction error can be assessed in two ways. First, Monte Carlo simulation can be used to estimate the effect of model parameter error, model equation error, and initial/boundary condition error on prediction error. This process is data-intensive and may be computationally unwieldy for large models. A second and simpler alternative is to compare predictions with observations, although the correct interpretation of this analysis is not as straightforward as it may seem. If a model is "overfitted" to calibration data and the test or "verification" data are not substantially different from the calibration data, the prediction–observation comparison will underestimate the prediction error. The best way to avoid this is to obtain independent verification data substantiated with a statistical comparison between calibration data and verification data.

To date, we are aware of no thorough error propagation studies with the mechanistic models favored by EPA (by thorough, we mean that all errors and error covariance terms are estimated and are plausible for the application). Further, the track record associated with even limited uncertainty analyses is not encouraging for water quality models in general. Among empirical models, only the relatively simple steady-state nutrient input–output models have undergone reasonably thorough error analyses. For example, Reckhow and Chapra (1979) and Reckhow et al. (1992) report prediction error of approximately 30 percent to 40 percent for cross-system models that predict average growing season total phosphorus or total nitrogen concentration based on measured annual loading. Prediction errors are likely to be higher for applications based on estimated or predicted loading. Prediction error will be higher still when these simple models are linked to statistical models to predict chlorophyll *a*, Secchi disk transparency, or an integrative measure of biological endpoints.

Most error analyses conducted on mechanistic water quality models have also focused on eutrophication, so relatively little is known of prediction error for toxic pollutants, microorganisms, or other important stressors. In one of the few relatively thorough error propagation studies, Di Toro and van Straten (1979) and van Straten (1983) used maximum likelihood to determine point estimates and covariances for parameters in a seasonal phytoplankton model for Lake Ontario. Of particular note, they found that prediction error decreased substantially when parameter covariances were included in error propagation, underscoring the importance of including covariance terms in error analyses. This result occurred because, while individual parameters might be highly uncertain, specific *pairs* of parameters (e.g., the half saturation constant and the maximum growth rate in the Michaelis–Menten model) may vary in a

predictable way (expressed through covariance) and thus may be *collectively* less uncertain. Di Toro and van Straten found the prediction coefficient of variation to range from 8 percent (for nitrate-N) to 390 percent (for ammonia-N), with half of the values falling between 44 percent and 91 percent. Zooplankton prediction errors tended to be much higher. Beck (1987) found that the error levels cited in these studies are typical of those reported elsewhere. There is evidence to suggest that the current models of water quality, in particular, the larger models, are capable of generating predictions to which little confidence can be attached (Beck, 1987).

The need for understanding the prediction uncertainty of chosen models is not new. Indeed, recent TMDL modeling and assessment guidance from EPA often mentions the importance of formal uncertainty analysis in determining the MOS (EPA, 1999). However, EPA has consistently failed to either recommend predictive models that are amenable to thorough uncertainty analysis or provide adequate technical guidance for reliable estimation of prediction error.

Conclusions and Recommendations

1. **EPA needs to provide guidance on model application so that thorough uncertainty analyses will become a standard component of TMDL studies.** Prediction uncertainty should be estimated in a rigorous way, and models should be evaluated and selected considering the prediction error need. The limited error analysis conducted within the QUAL2E-UNCAS model (Brown and Barnwell, 1987) was a start, but there has been little progress at EPA in the intervening 14 years.

2. **The TMDL program currently accounts for the uncertainty embedded in the modeling exercise by applying a margin of safety (MOS); EPA should end the practice of arbitrary selection of the MOS and instead require uncertainty analysis as the basis for MOS determination.** Because reduction of the MOS can potentially lead to a significant reduction in TMDL implementation cost, EPA should place a high priority on selecting and developing TMDL models with minimal forecast error.

3. **Given the computational difficulties with error propagation for large models, EPA should selectively target some postimplementation TMDL compliance monitoring for verification data collection to assess model prediction error.** TMDL model choice is currently hampered by the fact that relatively few models have undergone thorough uncertainty analysis. Postimplementation monitoring at selected sites can yield valuable data sets to assess the ability of models to reliably forecast response. Large or complex models that pose an overwhelming computational burden for Monte Carlo simulation are particularly good candidates for this assessment.

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MODELS FOR BIOTIC RESPONSE: A CRITICAL GAP

The development of models that link stressors (such as chemical pollutants, changes in land use, or hydrologic alterations) to biological responses is a significant challenge to the use of biocriteria and for the TMDL program. There are currently no protocols for identifying stressor reductions necessary to achieve certain biocriteria. A December 2000 EPA document (EPA, 2000) on relating stressors to biological condition suggests how to use professional judgment to determine these relationships, but it offers no other approaches. As discussed below, informed judgment can be effectively used in simple TMDL circumstances, but in more complex systems, empirical or mechanistic models may be required.

There have been some developments in modeling biological responses as a function of chemical water quality. One approach attempts to describe the aquatic ecosystem as a mechanistic model that includes the full sequence of processes linking biological conditions to pollutant sources; this typically results in a relatively complex model and depends heavily on scientific knowledge of the processes. The alternative is to build a simpler empirical model of a single biological criterion as a function of biological, chemical, and physical stressors. Both approaches have been pursued in research dating back at least 30 years, and there has been some progress on both fronts. One promising recent approach is to combine elements of each of these methods. For example, Box 4-3 describes a probability network model that has both mechanistic and empirical elements with meaningful biological endpoints.

Advances in mechanistic modeling of aquatic ecosystems have occurred primarily in the form of greater process (especially trophic) detail and complexity, as well as in dynamic simulation of the system (Chapra, 1996). Still, mechanistic ecosystem models have not advanced to the point of being able to predict community structure or biotic integrity. Moreover, the high level of complexity that has been achieved with this

BOX 4-3

Neuse Estuary TMDL Modeling

The Neuse Estuary is listed for chlorophyll *a* violations (exceedances of 40 µg/l) and nitrogen is the pollutant for which a TMDL is developed. Two distinct estuarine models have been developed to guide the TMDL process. One is a two-dimensional [illegible] model (CE-Qual-W2), and the other is a probability (Bayes) network (Borsuk, 2001) depicted in Figure 4-3.

The probability network model has several appealing features that are compatible with the modeling framework proposed here. First, the probabilities in the model are an expression of uncertainty. Second, the conditional probabilities characterizing the relationships described in Figure 4-3 reflect a combination of simple mechanisms, statistical (regression) fitting, and expert judgment [illegible]. Some of the model endpoints, estimated using judgmental probability elicitation (which is a rigorous, established process for quantifying scientific knowledge (Morgan and Henrion, 1990)—such as "shellfish survival" and "number of fishkills"—characterize biological responses that are more directly meaningful to stakeholders and can easily be related to designated use.

The Neuse Bayes network is a waterbody model; it is being linked to the USGS SPARROW watershed model for allocation of the TMDL.

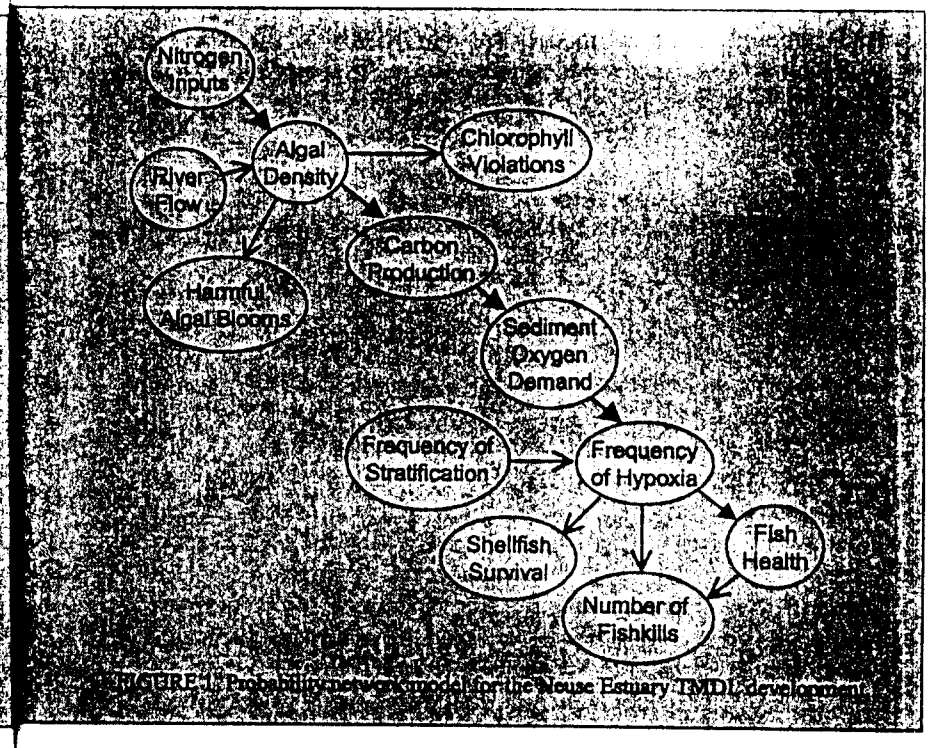

FIGURE 4-3 Probability network model for the Neuse Estuary TMDL development.

approach has made it difficult to use statistically rigorous calibration methods and to conduct comprehensive error analyses (Di Toro and van Straten, 1983; Beck, 1987).

The empirical approach depends on a statistical equation in which the biocriterion is estimated as a function of a stressor variable. Success with this empirical approach has been primarily limited to models of relatively simple biological metrics such as chlorophyll *a* (Peters, 1991; Reckhow et al., 1992). For reasons that are not entirely clear, empirical models of higher-level biological variables, such as indices of biotic integrity, have not been widely used. Regressions of biotic condition on chemical water quality measures are potentially of great value in TMDL development because of their simplicity and transparent error characteristics. Two accuracy issues, however, need to be considered. First is the obvious question of whether the level of statistical correlation between biotic metrics and pollutant concentrations is strong enough that prediction errors will be acceptable to regulators and stakeholders. A second and more difficult issue is that of gaining assurance of a cause–effect relationship between chemical predictors and biotic metrics. The construction of empirical models of biotic condition would benefit greatly from (1) observational data that show the effects of changes in chemical concentrations over a time period when other factors have remained relatively constant and (2) inclusion of as many factors that are relevant to biotic condition as possible. The latter, of course, increases the requirement for observational data. Despite these limitations, in the near term, empirical models may more easily fill the need for biological response models than would mechanistic models.

Conclusions and Recommendations

1. EPA should promote the development of models that can more effectively link environmental stressors (and control actions) to biological responses. Both mechanistic and empirical models should be

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explored, although empirical models are more likely to fill short-term needs. Such models are needed to promote the wider use of biocriteria at the state level, which is desirable because biocriteria are a better indicator of designated uses than are chemical criteria.

ADDITIONAL MODEL SELECTION ISSUES

Data Required

The use of complex mechanistic models in the TMDL program is warranted if it helps promote the understanding of complex systems, as long as uncertainties in the results are reported and incorporated into decision-making. However, there may be a tendency to use complex mechanistic models to conduct water quality assessments in situations with little useful water quality data and/or involving major remediation expenditures or legal actions. In these situations, there is usually a common belief that the expected realism in the model can compensate for a lack of data, and the complexity of the model gives the impression of credibility. However, given that uncertainty in models is likely to be exacerbated by a lack of data, the recommended strategy is to begin with a simple modeling study and iteratively expand the analysis as needs and new information dictate.

For example, a simple analysis using models like those described by EPA (Mills et al., 1985) as screening procedures could be run quickly at low cost to begin to understand the issues. This understanding might suggest (perhaps through sensitivity analysis) that data should be collected on current land use, or that a limited monitoring program is warranted. Following acquisition of that information/data, a revised (perhaps more detailed) model could be developed. This might result in the TMDL (to be further evaluated using adaptive implementation as described in Chapter 5), or it might lead to further data collection and refinement of the model. This strategy for data-poor situations makes efficient use of resources and targets the effort toward information and models that will reduce the uncertainty as the analysis proceeds.

The data required for TMDL model development will be a function of the water quality criterion and its location and the analytical procedures used to relate the stressors to the criterion. Data needs may include hydrology (streamflow, precipitation), ambient water quality measures, and land use and elevation in a watershed (see Box 4-4 for more infor-

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BOX 4-4
Data Requirements for TMDL Modeling of Pollutants

The data and information required for TMDL modeling must [illegible] parameters that affect attainability of water quality standards. [illegible] used today have extremely large data requirements, a fact [illegible] addressed prior to TMDL development so that adequate data collection [illegible]

Flow Data. Critical to the process of calibrating and verifying [illegible] flow data from sources and various locations in the receiving water [illegible] are generally [illegible] if gathered as part of unidirectional [illegible] but become less reliable in areas subject to tidal effects. The USGS [illegible] considered to be the most reliable source for long-term, high-quality [illegible] Tidal records are available historically and for predictive purposes for many coastal waters in the United States from the National Oceanic and Atmospheric Administration. Some states have maintained long-term gages in coastal waters, but these are usually few in number.

Ambient Water Quality Data. A number of federal agencies, state agencies, regional organizations, and research groups collect surface water quality data. Many of these data are retrievable over the Internet, particularly data from the USGS and EPA. Although there is no universal repository for all surface water quality data, the STORET database is the most comprehensive. Because methods of collection and analysis may vary, there is a need for QA/QC of these data.

Land Use Data. All states should have access to a series of land use records and projections. For ease of use, the land use data sets should be made available as Geographic Information System (GIS) coverages. EPA has provided default coverages as a component of its BASINS model. For TMDL purposes, land use data are required for the time period over which water quality data are available in order to calibrate and validate models. Projected land use data are needed for predicting future scenarios. The overall quality of these land use data will vary, often as a function of the level of ground-truthing that was done or the accuracy of the predictions for future land use changes.

Point Source Data. Model inputs may include measured values of pollutant loading from point sources (e.g., based on information reported on NPDES Discharge Monitoring Reports submitted by permitted facilities). Other possible data sources include results from periodic compliance inspections and wasteload allocation studies, or data collected as part of field surveys done in support of the TMDL. Such data are generally available and reliable.

continued

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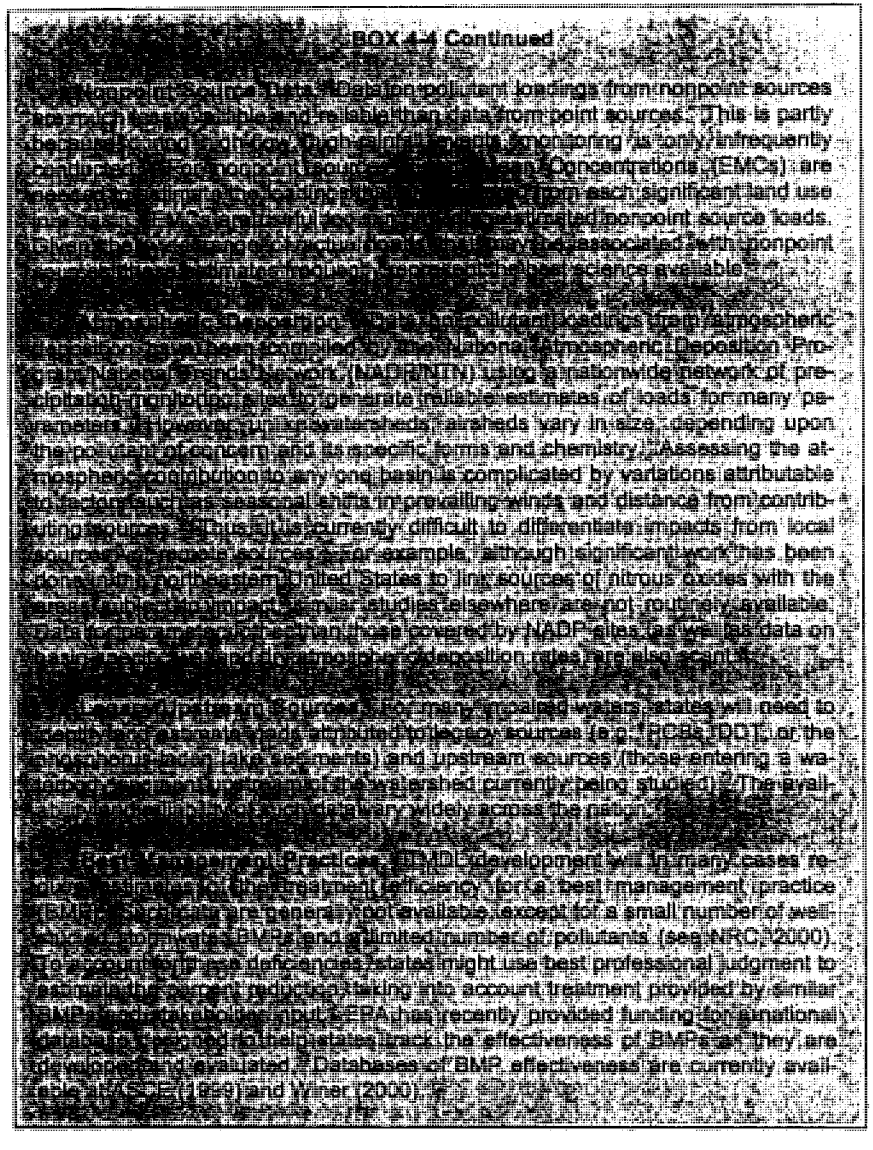
BOX 4-4 Continued



mation). TMDL development will also likely require data on point/ nonpoint sources and pollutant loads, atmospheric deposition, the effectiveness of current best management practices, and legacy/upstream pollutant sources. Because the amount of available data varies with site, there is no absolute minimum data requirement that can be universally set for TMDL development. Data availability is one source of uncertainty in the development of models for decision support. Although there are other sources of uncertainty as well, models should be selected (simple vs complex) in part based on the data available to support their use.

Simple vs. Complex Models

The model selection criteria concerning cost, flexibility, adaptability, and ease of understanding (Box 4-2) all tend to favor simple models, although they may fail to adequately satisfy the first criterion. There are many situations, however, when an exceedingly simple model is all that is needed for TMDL development, particularly when combined with adaptive implementation (to be discussed in Chapter 5). For example, it is not uncommon in many states for farm fields to straddle small streams, with cows being allowed to freely graze in and around the stream. If a downstream water quality standard is violated, a simple mental model linking the cows to the violation, and subsequent actions in which the first step might be to limit cow access to the riparian corridor, may ultimately be sufficient for addressing the impairment. This example is certainly not intended to suggest that all TMDLs will be simple, but it does suggest the value of simple analyses and iterative implementation. Box 4-5 presents a relatively simple modeling exercise (based on a statistical rather than mechanistic model) that was used successfully to develop a TMDL for clean sediment.

With regard to mechanistic models, there is no intrinsic reason to choose the particular scales that have become the basis for representing processes in the majority of mechanistic water quality models. As an alternative, Borsuk et al. (2001) have shown that it is possible to specify relatively simple mechanistic descriptions of key processes in aquatic ecosystems, which limits the dimension of the parameter space so that parameters may be estimated using least squares or Bayesian methods on the available data. The SPARROW model (Smith et al., 1997) is another more statistically based alternative that includes terms and functions that reflect processes. These efforts suggest that a fruitful research direction for the TMDL program is the development of models that are based on

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BOX 4-5

Use of a Simple Empirical Model: Suspended Sediment Rating Curve for Deep Creek, MT

One relatively simple form of model that has been used successfully in many TMDL applications is a statistical regression of a water quality indicator on one or more predictor variables. The indicator may be either the pollutant named in the TMDL or a related metric used to [illegible] impairment but not directly involved in the TMDL analysis. Such [illegible] develop a TMDL for suspended sediment in Deep Creek [illegible] (1996). The designated use of that water body was to support [illegible] fishery and its associated biota, especially to provide high-quality spawning areas to rainbow and brown trout from [illegible]. The [illegible] provide a blue-ribbon trout fishery. [illegible] suspended sediment on salmonids is complicated by the fact that sediment concentrations in western trout streams increase [illegible] with streamflow in healthy as well as sediment-impaired streams, [illegible] at any given flow in the healthy streams than in the impaired streams. Suspended sediment concentrations at all stages of the hydrograph are important biologically.

To develop a sediment TMDL at this site, modelers compared the relationship of sediment concentration to streamflow (known as the "sediment rating curve") at the impaired site to the corresponding sediment rating curve for an unimpaired reference site. Rating curves were developed by regressing sediment concentration on streamflow. In the case of Deep Creek, the sediment–flow relationship is approximately linear with a slope of 0.51 mg l^{-1} per ft^3 sec^{-1}. Based on rating curves for reference streams of similar size in the area (Endicott, 1996), an appropriate slope would be 0.26 mg l^{-1} per ft^3 sec^{-1}. Thus, the goal of TMDL implementation is to lower the Deep Creek ratio by about half. According to the approved TMDL management plan, certain channel modifications and a combination of riparian and grazing BMPs are expected to reduce the slope of the sediment rating curve and restore the health of the trout fishery. Determination of whether the control measures have reduced the rating curve slope to the target level can be accomplished in the future by a hypothesis test on the slope parameter of the revised regression of concentration on flow. The Type 1 and Type 2 error rates for this decision-making method will relate directly to the statistical confidence limits on the estimated slope parameter, and are controllable through the quantity of monitoring data collected after the control measures are in place.

There are several aspects of this modeling approach that make it well suited to the TMDL problem. The analysis was simple to carry out and relatively easy for stakeholders to understand. Despite its simplicity, the model focuses on a [illegible] of the Deep Creek ecosystem—suspended sediment concentrations [illegible] the entire hydrograph. Future decision-making on the success of the management plan can be based on an objective test with known error rates that are controllable through monitoring.

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process understanding yet are fitted using statistical methods on the observational data.

Pilot Watersheds

Another approach to consolidate modeling efforts and develop TMDLs more efficiently is the pilot watershed concept[1]. Many TMDLs involve small- to medium-sized watersheds that have a dominating nonpoint source pollution problem (e.g., the Corn Belt region, watersheds draining forested areas, or suburban watersheds). Watersheds located in the same ecoregion may have similar water quality problems and solutions. Thus, a detailed modeling study of one or two benchmark watersheds can provide problem identification and solutions. These findings could potentially be extrapolated to less investigated but similar watersheds.

Conclusions and Recommendations

If accompanied by uncertainty analysis, many existing models can be used to develop TMDLs in an adaptive implementation framework. Adaptive implementation, discussed in detail in Chapter 5, will allow for both model development over time and the use of currently available data and methods. It provides a level of assurance that the TMDL will ultimately be successful even with high initial forecast uncertainty.

1. EPA should not advocate detailed mechanistic models for TMDL development in data-poor situations. Either simpler, possibly judgmental, models should be used or, preferably, data needs should be anticipated so that these situations are avoided. The strategy of accounting for data-limited TMDLs with increasingly detailed models

[1] In various forms, "pilot watersheds" have for years been the basis for understanding land use impacts on water quality. The concept is implicit in the acceptance and use of export coefficients for pollutant load assessment. A prominent example is the series of PLUARG (Pollution from Land Use Activities-Reference Group) studies to determine the total loads of pollutants to the Great Lakes. The group used several pilot watersheds on each side of the border and extrapolated the detailed monitoring and modeling results into the entire Great Lakes basin.

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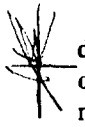
needs rigorous verification before it should be endorsed and implemented. Starting with simple analyses and iteratively expanding data collection and modeling as the need arises is the best approach.



2. EPA needs to provide guidance for determining the level of detail required in TMDL modeling that is appropriate to the needs of the wide range of TMDLs to be performed. The focus on detailed mechanistic models has resulted in complex, costly, time-consuming modeling exercises for single TMDLs, potentially taking away resources from hundreds of other required TMDLs. Given the variety of existing watershed and water quality models available, and the range of relevant model selection criteria, EPA should expand its focus beyond mechanistic process models to include simpler models. This will support the use of adaptive implementation.

3. EPA should support research in the development of simpler mechanistic models that can be fully parameterized from the available data. This would lead to models that meet several model selection criteria present in Box 4-2, such as consistency with theory, assessing uncertainty, and consistency with available data.

4. To more efficiently use scarce resources, EPA should approve the use of pilot watersheds for TMDL modeling. Rather than detailed models being prepared for every impaired waterbody, pilot TMDLs could be prepared in detail for a benchmark watershed (e.g., a typical suburban or agricultural watershed), and the results could be extrapolated to similar watersheds located in the same ecoregion. The notion of extending modeling results to similar areas, which underlies the present-day use of export coefficients, is reasonable if applied in the framework of adaptive implementation. Such a framework, coupled with the rapid application of specific controls/approaches in a number of watersheds, can reveal where techniques do or do not work and can allow for appropriate modifications.

REFERENCES

ASCE. 1999. National Stormwater Best Management Practices (BMP) Database. Version 1.0. Prepared by Urban Water Resources Research Council of ASCE, and Wright Water Engineers, Inc., Urban Drainage and Flood Control District, and URS Greiner Woodward Clyde, in cooperation with EPA Office of Water, Washington, DC. User's Guide and CD.

Beck, M. B. 1987. Water quality modeling: a review of the analysis of uncertainty. Water Resources Research 23:1393–1442.

Beven, K. J. 1996. A discussion of distributed hydrological modeling. Distributed hydrological modeling. M. B. Abbott and J. C. Refsgaard, Ed. Dordrecht, Netherlands: Kluwer Academic Publishers. pp. 255–278.

Borsuk, M. E. 2001. A Probability (Bayes) Network Model for the Neuse Estuary. Unpublished Ph.D. dissertation. Duke University.

Borsuk, M. E., C. A. Stow, D. Higdon, and K. H. Reckhow. 2001. A Bayesian hierarchical model to predict benthic oxygen demand from organic matter loading in estuaries and coastal zones. Ecological Modeling (In press).

Brown, L. C., and T. O. Barnwell, Jr. 1987. The enhanced stream water quality models QUAL2E and QUAL2E-UNCAS: documentation and user manual. EPA-600/3-87/007. Athens, GA: EPA Environmental Research Laboratory.

Chapra, S. C. 1996. Surface Water Quality Modeling. New York: McGraw-Hill. 844 p.

Di Toro, D. M., and G. van Straten. 1979. Uncertainty in the Parameters and Predictions of Phytoplankton Models. Working Paper WP-79-27, International Institute for Applied Systems Analysis, Laxenburg, Austria.

Endicott, C. L., and T. E. McMahon. 1996. Development of a TMDL to reduce nonpoint source sediment pollution to Deep Creek, Montana. Report to Montana Department of Environmental Quality, Helena, Montana. Montana State University, Bozeman, Montana.

Environmental Protection Agency (EPA). 1994. Water Quality Standards Handbook: Second Edition. EPA 823-B-94-005a. Washington, DC: EPA Office of Water.

EPA. 1999. Draft Guidance for water Quality-based Decisions: The TMDL Process (Second Edition), Washington, DC: EPA Office of Water.

EPA. 2000. Stressor Identification Guidance Document. EPA-822-B-00-025. Washington, DC: EPA Office of Water and Office of Research and Development.

EPA. 2001. BASINS Version 3.0 User's Manual. EPA-823-B-01-001. Washington, DC: EPA Office of Water and Office of Science and Technology. 337p.

Mills, W. B., D. B. Porcella, M. J. Ungs, S. A. Gherini, K. V. Summers, L. Mok, G. L. Rupp, G. L. Bowie, and D. A. Haith. 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water, Parts I and II. EPA/600/6-85/002a,b.

Morgan, M. G., and M. Henrion. 1990. Uncertainty. New York: Cambridge University Press. 332 p.

National Research Council (NRC). 2000. Watershed Management for Potable Water Supply—Assessing the New York City Strategy. Washington, DC: National Academy Press.

R0005740

Peters, R. H. 1991. A critique for ecology. Cambridge: Cambridge University Press. 366 p.

Reckhow, K. H., and Chapra, S. C. 1979. Error analysis for a phosphorus retention model. Water Resources Research 15:1643–1646.

Reckhow, K. H., Coffey, S. C., Henning, M. H., Smith, K. and Banting, R. 1992. Eutromod: Technical Guidance and Spreadsheet Models for Nutrient Loading and Lake Eutrophication. Duke University School of the Environment, Durham, NC.

Smith, R. A., G. E. Schwarz, and R. B. Alexander. 1997. Regional interpretation of water-quality monitoring data. Water Resources Research 33(12):2781–2798.

Spear, R., and G. M. Hornberger. 1980. Eutrophication in Peel Inlet – II. Identification of critical uncertainties via generalized sensitivity analysis. Water Research 14:43–49.

Ulanowicz, R. E. 1997. Ecology, the ascendant perspective. New York: Columbia University Press. 201p.

van Straten, G. 1983. Maximum likelihood estimation of parameters and uncertainty in phytoplankton models. In: M. B. Beck and G. van Straten (Editors), Uncertainty and Forecasting of Water Quality. Berlin: Springer Verlag.

Winer, R. 2000. National Pollutant Removal Performance Database for Stormwater Treatment Practices, Second Edition. Center for Watershed Protection, Ellicott City, MD. Prepared for EPA Office of Science and Technology, in association with Tetra Tech, Fairfax VA.

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5
Adaptive Implementation for Impaired Waters

Water quality assessment is a continuous process. The finding of an impaired waterbody during assessment triggers a sequence of events that may include listing of the water, development of a Total Maximum Daily Load (TMDL), planning of state and federal actions, and implementation events designed to comply with water quality standards—all of which are characterized by uncertainty. This chapter describes the process of adaptive implementation of a water quality plan. Adaptive implementation simultaneously makes progress toward achieving water quality standards while relying on monitoring and experimentation to reduce uncertainty.

SCIENCE AND THE TMDL PROCESS

The planning sequence of moving from data to analysis to information and knowledge is supposed to provide confidence that the sometimes costly actions to address a water quality problem are justified. A desire for this confidence is often behind the call for "sound science" in the TMDL program. However, the ultimate way to improve the scientific foundation of the TMDL program is to incorporate the *scientific method*, not simply the results from analysis of particular data sets or models, into TMDL planning. The scientific method starts with limited data and information from which a tentatively held hypothesis about cause and effect is formed. The hypothesis is tested, and new understanding and new hypotheses can be stated and tested. By definition, science is this process of continuing inquiry. Thus, calls to make policy decisions based on the "the science," or calls to wait until "the science is complete," reflect a misunderstanding of science. Decisions to pursue some actions must be made, based on a preponderance of evidence, but there may be a need to continue to apply science as a process (data col-

lection and tools of analysis) in order to minimize the likelihood of future errors.

Many debates in the TMDL community have centered on the use of "phased" and "iterative" TMDLs. Because these terms have particular meanings, this report uses a more general term—adaptive implementation. Adaptive implementation is, in fact, the application of the scientific method to decision-making. It is a process of taking actions of limited scope commensurate with available data and information to continuously improve our understanding of a problem and its solutions, while at the same time making progress toward attaining a water quality standard. Plans for future regulatory rules and public spending should be tentative commitments subject to revision as we learn how the system responds to actions taken early on.

Like other chapters, this chapter discusses a framework for water quality management (shown in Figure 5-1, which is the same as Figure 3-1). Before turning to adaptive implementation, it discusses an important prior step—review of water quality standards. Before a waterbody is placed on the action (303d) list, it is suggested that states conduct a review of the appropriateness of the water quality standard. The standards review may result in the water not being listed as impaired if the standard used for the assessment was found to be inappropriate. On the other hand, the same process may result in a "stricter" standard than was used in the assessment process, in which case the waterbody would have a TMDL plan developed to achieve that revised standard. A review of the water quality standard will assure that extensive planning and implementation actions are directed toward clearly conceived designated uses and associated criteria to measure use attainment.

REVIEW OF WATER QUALITY STANDARDS

Water quality standards are the benchmark for establishing whether a waterbody is impaired; if the standards are flawed (as many are), all subsequent steps in the TMDL process will be affected. Although there is a need to make designated use and criteria decisions on a waterbody and watershed-specific basis, most states have adopted highly general use designations commensurate with the federal statutory definitions. However, an appropriate water quality standard must be defined *before* a TMDL is developed. Within the framework of the Clean Water Act (CWA), there is an opportunity for such analysis, termed use attainability analysis (UAA).

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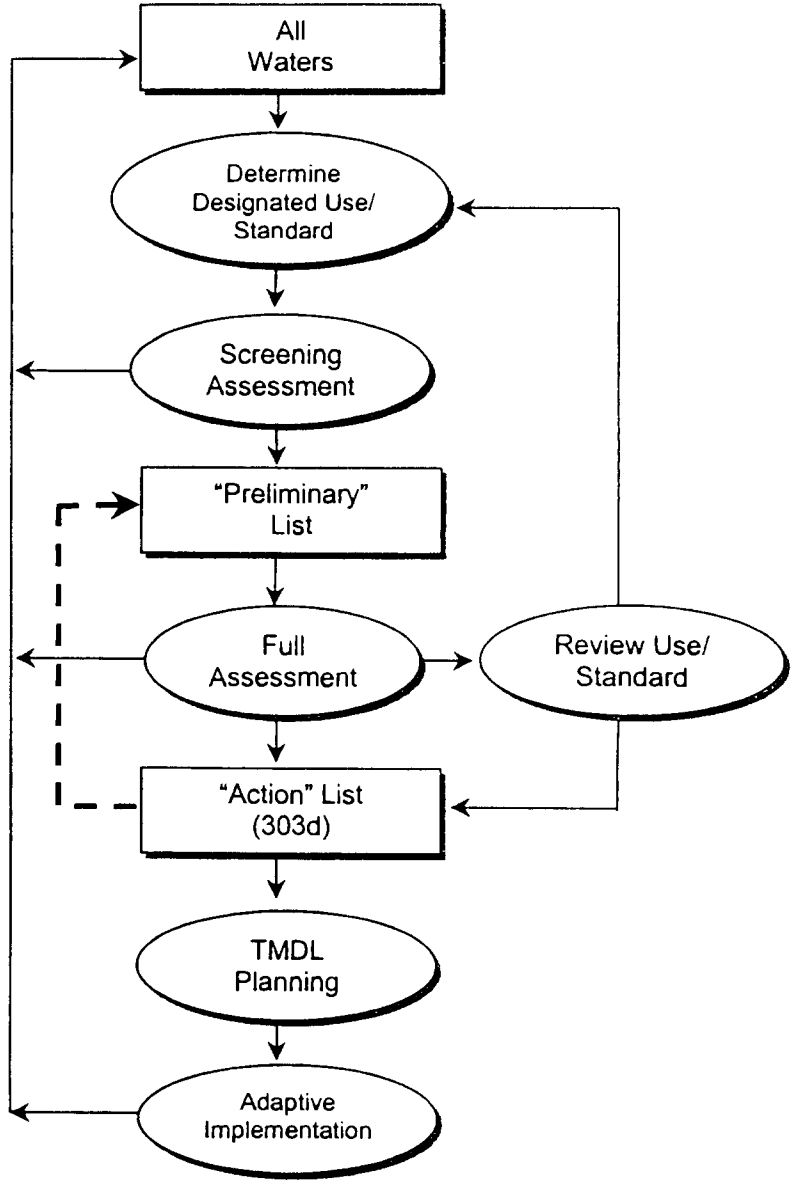

FIGURE 5-1 Framework for water quality management.

A UAA determines if impairment is caused by natural contaminants, nonremovable physical conditions, legacy pollutants, or natural conditions (see Box 5-1). More importantly, a UAA can refine the water quality standard. UAA should result in more stratified and detailed narrative statements of the desired use and measurable criterion. For example, a UAA might refine the designated use and criterion from a statement that the water needs to be fishable to a statement calling for a reproducing trout population. Then one or more criteria for measuring attainment of this designated use are described; these might include minimum dissolved oxygen or maximum suspended sediment requirements. Alternatively, an index to measure biological condition appropriate to the trout fishery designated use, such as an index of biological integrity (IBI), may be defined.

In the 1990s, TMDLs were undertaken for some waterbodies where the designated use was not attainable for reasons that could have been disposed of by a UAA. For example, TMDLs conducted in Louisiana resulted in the conclusion that even implementing zero discharge of a pollutant would not bring attainment of water quality standards (Houck, 1999). A properly conducted UAA would have revealed the true problem—naturally low dissolved oxygen concentrations—before the time and money were spent to develop the TMDL. Unfortunately, UAA has not been widely employed. Novotny et al. (1997) found that 19 states reported no experience with UAA. The majority of states reported a few to less than 100 UAAs, while five states (Indiana, Nebraska, New York, Oklahoma, and Pennsylvania) performed more than 100.

One possible explanation for the failure to widely employ UAA analysis is the absence of useful EPA guidelines. The last technical support manuals were issued in the early 1980s (EPA, 1983) and are limited to physical, chemical and biological analyses. It is presently not clear what technical information constitutes an adequate UAA for making a change to the use designation for a waterbody that will be approved by the EPA.

In addition to being a technical challenge, standards review also has important socioeconomic consequences (see point 6 in Box 5-1). EPA has provided little information on how to conduct socioeconomic analyses or how to incorporate such analyses in the UAA decision. The socioeconomic analysis suggested by EPA is limited to narrowly conceived financial affordability and economy-wide economic impact assessments (e.g., employment effects) (Novotny et al., 1997). However, when setting water quality standards, states may be asked to make decisions in consideration of a broader socioeconomic benefit–cost framework than

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BOX 5-1
Six Reasons for Changing the Water Quality Standard

The following six situations, which can be revealed by UAA, constitute reasons for changing a designated use or a water quality standard (EPA, 1994). Conducting a UAA does not necessarily preclude the development of a TMDL.

1. Naturally occurring pollutant concentrations prevent the attainment of the use;
2. Natural, ephemeral, intermittent, or low flow/water levels prevent the attainment of the use unless these conditions may be compensated for by a sufficient volume of effluent discharge without violating state conservation requirements to enable uses to be met;
3. Human-caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place (e.g., as with some legacy pollutants);
4. Dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way that would result in the attainment of the use;
5. Physical conditions related to the natural features of the waterbody, such as the lack of proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
6. Controls more stringent than those required by the CWA would result in substantial and widespread adverse economic impact. This requires developing a TMDL and conducting a socioeconomic impact analysis of the resulting TMDL (Novotny et al., 1997).



what is currently expected in a UAA. Finally, EPA has offered no guidance on what constitutes an acceptable UAA in waterbodies of different complexity and on what decision criteria will be accepted as a basis for changing a use designation. This is significant because EPA retains the authority to approve state water quality standards. These uncertainties discourage state use of UAA because there is no assurance that EPA will accept the result of the UAA effort as an alternative to a TMDL, especially if the EPA expectation for a UAA will result in significant analytical costs.

Conclusions and Recommendations

1. EPA should issue new guidance on UAA. This should incorporate the following: (1) levels of detail required for UAAs for waterbodies of different size and complexity, (2) broadened socioeconomic evaluation and decision analysis guidelines for states to use during UAA, and (3) the relative responsibilities and authorities of the states and EPA in making use designations for specific waterbodies following a UAA analysis.

2. UAA should be considered for all waterbodies before a TMDL plan is developed. The UAA will assure that before extensive planning and implementation actions are taken, there is clarity about the uses to be secured and the associated criteria to measure use attainment. UAA is especially warranted if the water quality standards used for the assessment were not well stratified. However, the decision to do a UAA for any waterbody should rest with each state.

ADAPTIVE IMPLEMENTATION DESCRIBED

Once a waterbody is on the 303d list, a plan to secure the designated use is developed and a sequence of actions is implemented. The adaptive implementation process begins with initial actions that have a high degree of certainty associated with their water quality outcome. Future actions must be based on (1) continued monitoring of the waterbody to determine how it responds to the actions taken and (2) carefully designed experiments in the watershed. This concurrent process of action and learning is depicted in Figure 5-2.

The plan includes the following related elements: immediate actions, an array of possible long-term actions, success monitoring, and experimentation for model refinement. In choosing *immediate actions*, watershed stakeholders and the state should expect such actions to be undertaken within a fixed time period specified in the plan. If the impairment problem is attributable to a single cause or if the impairment is not severe, then the immediate actions might be proposed as the final solution to the nonattainment problem. However, in more challenging situations, the immediate actions alone should not be expected to completely eliminate the impairment.

Regardless of what immediate actions are taken, there may not be an immediate response in waterbody or biological condition. For example,

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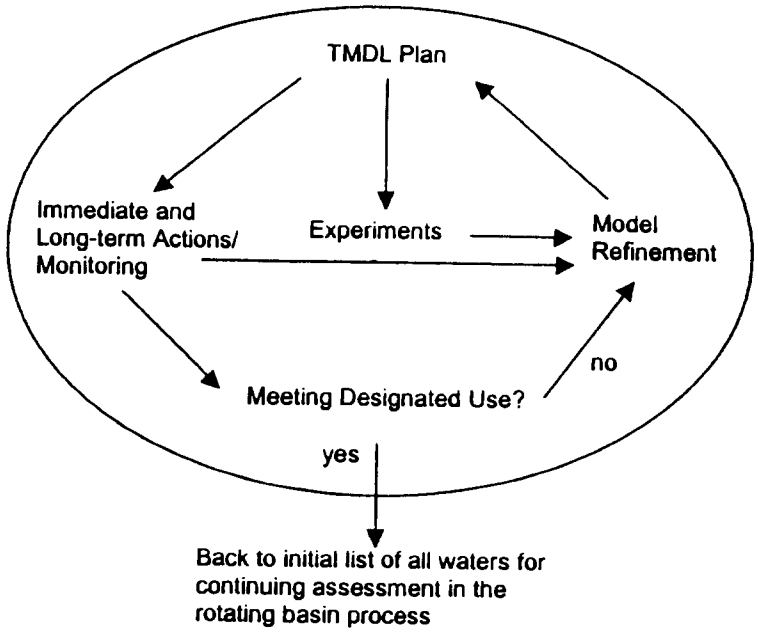

FIGURE 5-2 Adaptive implementation flowchart.

there may be significant time lags between when actions are taken to reduce nutrient loads and resulting changes in nutrient concentrations. This is especially likely if nutrients from past activities are tightly bound to sediments or if nutrient-contaminated groundwater has a long residence time before its release to surface water. For many reasons, lags between actions taken and responses must be expected. As discussed below, the waterbody should be monitored intensively to establish whether the "trajectory" of the measured water quality criterion points toward attainment of the designated use.

Longer-term actions are those that show promise, but need further evaluation and development. They should be formulated in recognition of emerging and innovative strategies for waterbody restoration. The commitment in the plan is to further evaluate such actions based on the collection of additional data, data analysis, and modeling. An adaptive implementation plan would specify analyses of specific long-term alter-

natives, a schedule for such analyses to be conducted, and a mechanism for supporting such analyses.

Success monitoring follows after implementation actions. If success monitoring shows that the waterbody is meeting water quality standards including designated uses, then no further implementation actions would be taken. Waterbodies should be returned to the "all waters" list (see Figure 5-1) where they will be monitored as a part of the rotating basin process. A primary purpose of success monitoring is to establish compliance with water quality standards and ultimately make the delisting decision. Because state ambient monitoring programs typically have limited resources, it may be necessary to design and implement success monitoring for the TMDL program outside the rotating basin process. Those stakeholders affected by 303d listing and TMDL development may have an incentive to make a significant contribution to the monitoring effort to assure that the water is truly impaired and that the best possible models are being used for plan development. Stakeholder monitoring would be conducted with input on its design by the state.

One of the most important applications of success monitoring data is to revise and improve the initial TMDL forecast over time. This revision of the TMDL model can be formally accomplished using techniques such as Bayesian analysis, data assimilation, or Kalman filtering. For example, a TMDL for total phosphorus, based on a model forecast that included uncertainty analysis, might be implemented to address a chlorophyll *a* standard violation. As part of the implementation program, monitoring would be undertaken to assess success and compliance. At the end of the five-year rotating basin cycle, the original chlorophyll *a* forecast could be combined with the monitoring-based chlorophyll *a* time trajectory to yield a revised forecast of ultimate chlorophyll *a* response. This revised forecast could provide the basis for changes to be implemented during the next five-year cycle in order to meet the water quality standard.

Techniques to accomplish model refinement have existed for some time in a Bayesian context (Reckhow, 1985), and under various labels and modifications, they are being applied in other areas. For example, "data assimilation" (Robinson and Lermusiaux, 2000), a derivative of Bayesian inference, is being widely used in the earth sciences to augment uncertain model forecasts with observations. The Bayesian approach holds particular appeal for adaptive TMDLs because it involves "knowledge updating" that is based on pooling precision-weighted information.

The need for *experimentation* to be part of the plan depends on the complexity of the problem and the need to learn more about the system

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for subsequent model refinement and decision-making. Experiments can, for example, be developed to test the site-specific effectiveness and response time of best management practices (BMPs) (like riparian buffers), to determine the fate and transport of pollutants in runoff, or to answer other questions critical to model refinement. Experiments must be carefully designed and adequately supported (with both funding and staff) to study the effectiveness of actions in the watershed context and to study and learn about watershed processes that are not well understood. TMDL plans for waterbodies with relatively simple problems that can be addressed with high certainty about cause and effect might not include experimentation.

All the actions described above can be used to refine the original TMDL plan so that it better reflects the current state of knowledge about the system and innovative modeling approaches. When revising the TMDL plan, water managers should consider whether the longer-term actions discussed above, or other new alternatives, should be implemented in addition to the immediate actions called for in the original plan. TMDL plans for complicated systems (e.g., a reservoir impacted by multiple nonpoint sources of pollution) can be expected to undergo more revisions before water quality standards (including designated uses) are met than will TMDL plans developed for simple systems.

TMDL IMPLEMENTATION CHALLENGES

Allocation Issues

Plan implementation involves actions taken to reduce all the stressors responsible for the impairment. The allocation of financial and legal responsibility for taking those actions will fall on stakeholders in the watershed, who may not receive public subsidies for taking such actions. Because of these cost consequences, stakeholders want to be sure that water quality standards are appropriate and that total load limits and the limits proposed on other stressors (e.g., flow modifications) are necessary to secure the designated use.

The committee's charge included a request to evaluate the reliability of "the information required to allocate reductions in pollutant loadings among sources." Allocation is *first and foremost a policy decision* on how to distribute costs among different stakeholders in order to achieve a water quality goal. Consider a hypothetical example where three differ-

ent actions are possible: reduction of pollutant loads from a treatment plant, reductions in pollutant load in runoff from urban areas and farm fields, and increases in stream flow from reduced consumptive irrigation water use. Also suppose that different combinations of all of these actions can achieve the designated use. Allocation becomes a difficult decision because the different combinations will have a different total cost and different levels of perceived fairness. One suggestion might be to choose the combination of actions that minimizes total cost. However, this may result in a cost distribution that places most of the burden on the customers of the treatment plant (for example). An alternative may be to reduce loads from the plants and from runoff by the same proportion; however, this leaves unanswered whether any cost responsibility should fall on the irrigators. Other combinations of actions would have other cost distribution effects.

Although the allocation process is primarily a policy decision, there is one important role that science can play—determining when actions are "equivalent." Water quality management actions are defined to be "equivalent" when their implementation achieves the designated use, taking uncertainty into consideration. Note that there are two aspects of this definition of equivalency. First, equivalency is established with respect to ambient outcomes for the watershed and not in terms of pollutant loading comparisons, which is the way the allocations are described in the standard TMDL equation. Second, the definition recognizes that equivalency must account for the relative uncertainty of different actions with respect to meeting the applicable water quality standard.

One common scenario might be the need to establish equivalency between nitrogen load reductions from a proposed agricultural BMP vs. a proposed wastewater treatment plant improvement. Estimates of the effectiveness of the BMP and wastewater treatment technology can be made in a controlled setting, perhaps with field studies of the BMP and with experiments at the treatment plant. To achieve equivalency, these load reductions must have the same effect on meeting the water quality standard, which would normally be determined using a modeling approach as described in Chapter 4. It is quite possible that the nitrogen load reductions at the sources (the agricultural BMP and the wastewater treatment plant) are different, but they are equivalent in that they are predicted to have an identical effect on the standard. Further, as noted above, equivalency is a function of both the forecasted mean and forecast uncertainty. Thus, if the BMP and wastewater treatment improvement are both forecast to have the same mean effect on the water quality standard, but the wastewater treatment improvement response has less uncertainty, then the actions are not equivalent.

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Determining equivalency across sources requires predicting or measuring the results of control actions, rather than simply noting the presence or absence of a particular control technology (the results of which may vary depending on how it is operated and on many other factors). Careful thought must be given to determining meaningful results, especially in those watersheds where actions like flow augmentation or planting of oysters in an estuary are being used as substitutes for, or necessary complements to, load reduction to meet the designated use.

Finally, because it should be focused on water quality outcomes, allocation is dependent on modeling the effects of different actions on waterbody response. Thus, the issues of model selection and uncertainty that were described in Chapter 4 for TMDL development also apply to TMDL allocation. If there is uncertainty about the effect of certain control actions, those who bear the costs may resist taking such actions without further evidence of their worth. Adaptive implementation would support a cautious approach of taking low-cost actions with a high degree of certainty about the outcome, while taking parallel longer-term actions to improve model capabilities and revise control strategies.

Progressing Toward Adaptive Implementation

The TMDL program is limited by an incomplete conceptual understanding of waterbodies and watersheds, by models that are necessarily abstractions from the reality of natural systems, and by limited data for testing hypotheses and/or simulating systems. As a result, it is possible for a waterbody to be identified as impaired when it is not; in such cases, the costs to plan and implement control actions are wasted. On the other hand, it is also possible that an impaired waterbody will not be identified, resulting in other adverse consequences. Many of the stakeholders who addressed the committee expressed concern about the ramifications of uncertainty in the TMDL process. Some cautioned against listing errors, noting that the listing decision can trigger a linear and inflexible process of potentially expensive controls on land use and pollutant discharges that may ultimately prove unwarranted. Others who are concerned that impaired waterbodies will go unidentified advocated more aggressive and comprehensive actions to address problems quickly. These differences in viewpoint can be traced to the policy context that

now governs the TMDL program. The committee views adaptive implementation as accommodating this spectrum of opinions.

If adaptive implementation is to be adopted, three policy issues that stand in the way of acceptance of the approach must be addressed. These issues are described without specific recommendations on their solution, except to note that their resolution is needed in order for the TMDL program to fully embrace the scientific method. Criticism of the TMDL program is too often, and sometimes inappropriately, directed at the quality of the data and information, rather than at these underlying policy issues.

1. The listing of a waterbody and the initiation of the TMDL process appear to call for a constraint on total pollutant loading associated with population growth and land use shifts until the designated use is obtained. Given the often weak water quality standards that underlie a listing, the long lag times between actions taken and measured responses, and the uncertainty in our ability to predict what actions will secure a designated use, it is unrealistic to expect that there will be no changes in economic activity and in land uses in a watershed until the designated use has been achieved. A basis for accommodating growth and change in watersheds needs to be established as adaptive implementation proceeds.

2. Many waterbody stressors currently lie outside the CWA regulatory framework, where the only federal enforcement tool available is point source discharge limits. Recognition of this fact was a motivation for EPA's endorsement of the watershed approach in 1991 (EPA, 1993). Nonetheless, in some cases point source permitting is used to impose conditions on point sources that essentially require them to finance control practices for unregulated nonpoint sources (NAPA, 2000). Perceptions of the inequity and the ineffectiveness of such a requirement may be manifested as technical critiques of the TMDL analysis itself. Distributing the cost and regulatory burdens for designated use attainment in a way that is deemed equitable by all stakeholders is critical to future TMDL program success.

3. Watersheds can range in size from a few acres to an area that covers several states, and their diversity can be as far reaching as the diverse climate, soils, topography, and physiography of the entire United States. Consequently, the approaches and solutions to water quality problems must be responsive to the unique characteristics of the surrounding watershed. EPA can set broad guidelines for each state's water quality program and can provide technical assistance in helping

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states meet the guidelines. There may be a leadership role for EPA on waterbodies that cross state boundaries, like the Chesapeake Bay. However, EPA cannot write and review all the designated uses that will apply to each of the nation's waterbodies, it cannot conduct all the monitoring and make all the listing decisions, and it cannot conduct the model analyses for all waterbodies. The scientific foundation for adaptive implementation must rely on state initiative and leadership. Today, EPA retains an extensive oversight role for the TMDL program. This raises the possibility that in an effort to ease the administrative burdens of reviewing and approving every TMDL, EPA will establish requirements for uniformity. This may result in standard setting, listing/delisting, and modeling approaches that are nationally consistent but are scientifically inappropriate for the planning and decision-making needs of the diversity of waterbodies. In the National Pollution Discharge Elimination System (NPDES) permitting program, EPA has helped states assume responsibility for point source permitting such that EPA does not review every permit that is issued. Using similar logic, EPA need not review every TMDL. The concern that the states cannot be relied upon to take action (Houck, 1999) needs to be tempered by the reality that continued extensive EPA oversight may not be feasible, it may place a premium on developing plans instead of taking actions, and it may inhibit the nation's progress toward improved water quality. The adaptive implementation approach may require increased state assumption of responsibility for individual TMDLs, with EPA oversight focused at the program level instead of on each individual water segment.

Conclusions and Recommendations

The call for adaptive implementation may not satisfy those who seek more definitive direction from the scientific community. Stakeholders and responsible agencies seek assurance that the actions they take will prove correct; they desire predictions of the costs and consequences of those actions in as precise terms as possible. However, waterbodies exist inside watersheds that are subject to constant change. For this reason and others, even the best predictive capabilities of science cannot assure that an action leading to attainment of designated uses will be initially identified. Adaptive implementation will allow the TMDL program to move forward in the face of these uncertainties.

1. EPA should act (via an administrative rule) to incorporate the elements of adaptive implementation into TMDL guidelines and regulations. To increase the scientific foundation of the TMDL program, the scientific method, which is embodied by the adaptive implementation approach, must be applied to water quality planning.

2. If Congress and EPA want to improve the scientific basis of the TMDL program, then the policy barriers that currently inhibit adoption of an adaptive implementation approach to the TMDL program should be addressed. This includes the issues of future growth, the equitable distribution of cost and responsibility among sources of pollution, and EPA oversight.

REFERENCES

Environmental Protection Agency (EPA). 1983. Technical Support Manual: Waterbody Surveys and Assessments for Conducting Use Attainability Analyses. Washington, DC: EPA Office of Water Regulations and Standards.

EPA. 1993. The Watershed Protection Approach, The Annual Report 1992. EPA 840-S-93-001. Washington, DC: EPA Office of Water.

EPA. 1994. Water Quality Standards Handbook: Second Edition. EPA 823-B-94-005a. Washington, DC: EPA Office of Water.

Houck, O. A. 1999. The Clean Water Act TMDL Program: Law, Policy, and Implementation. Washington, DC: Environmental Law Institute.

Novotny, V., J. Braden, D. White, A Capodaglio, R. Schonter, R. Larson, and K. Algozin. 1997. A Comprehensive UAA Technical Reference. 91-NPS-1. Alexandria, VA: Water Environment Research Foundation.

National Academy of Public Administration. 2000. Transforming Environmental Protection for the 21st Century. Washington, DC: National Academy of Public Administration. Page 86.

Reckhow, K. H. 1985. Decision Theory Applied to Lake Management. In: Proceedings of the North American Lake Management Society Conference, p. 196–200.

Robinson, A. R., and P. F. J. Lermusiaux. 2000. Overview of data assimilation. Harvard Reports in Physical/Interdisciplinary Ocean Science. Number 62. Cambridge, MA: Harvard University. 19p.

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Appendix A
Guest Presentations at the First Meeting of the NRC Committee[1] January 24–26, 2001

Introduction to the TMDL Program: Current Status and Future Plans
Don Brady, EPA Office of Water

Congressional Request for the Study—Senate
John Pemberton and Peter Washburn, Senate Committee on Environment and Public Works

Congressional Request for the Study—House
Susan Bodine, House Subcommittee on Water Resources and Environment

March 2000 GAO Report on Status of Water Quality Data
Patricia McClure, General Accounting Office

Environmental Perspective on the TMDL Program and this Study
Nina Bell, Northwest Environmental Advocates

State Perspectives on the TMDL Program and this Study
Robbi Savage, Association of State and Interstate Water Pollution Control Administrators
Shawn McGrath, Western Governors' Association

EPA's Pressing Science Issues for the TMDL Program
Lee Mulkey and Tom Barnwell, EPA Office of Research and Development

TMDL Case Studies
Bruce Zander, EPA Region VIII
Gail Mitchell, Bob Ambrose, and Tim Wool, EPA Region IV

[1] The NRC committee does not necessarily agree with all the comments or testimony given but all were taken into account.

Water Environment Research Foundation Support of TMDL Research
Dean Carpenter, Water Environment Research Foundation
Paul Freedman, Limno-Tech, Inc.
Kent Thornton, FTN & Associates

Stakeholder Presentations
Fred Andes, Federal Water Quality Coalition
Doug Barton, National Council of the Paper Industry for Air and Stream Improvement
Richard Bozek, Edison Electric Institute
Faith Burns, National Cattleman's Association
John Cowan, National Milk Producers Federation
Cynthia Goldberg, Gulf Restoration Network
Jay Jensen, National Association of State Foresters
Norman LeBlanc, Association of Metropolitan Sewerage Agencies
Mike Murray, National Wildlife Federation
Rick Parrish, Southern Environmental Law Center
Rob Reash, American Electric Power and the Utility Water Act Group
Dave Salmonsen, American Farm Bureau Federation

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Appendix B
Biographies of the Committee Members and NRC Staff

Kenneth H. Reckhow (chair) is a professor at Duke University with faculty appointments in the School of the Environment and the Department of Civil and Environmental Engineering. In addition, he is director of The University of North Carolina Water Resources Research Institute and an adjunct professor in the Department of Civil Engineering at North Carolina State University. He currently serves as president of the National Institutes for Water Resources and is chair of the North Carolina Sedimentation Control Commission. He has published two books and over 80 papers, principally on water quality modeling, monitoring, and pollutant loading analysis. In addition, Dr. Reckhow has taught several short courses on water quality modeling and monitoring design, and he has written eight technical guidance manuals on water quality modeling. He is currently serving, or has previously served, on the editorial boards of *Water Resources Research, Water Resources Bulletin, Lake and Reservoir Management, Journal of Environmental Statistics, Urban Ecosystems, and Risk Analysis*. He received a B.S. in engineering physics from Cornell University in 1971 and a Ph.D. from Harvard University in environmental systems analysis in 1977. Dr. Reckhow is currently a member of the NRC's Committee to Improve the USGS National Water Quality Assessment Program.

Anthony S. Donigian, Jr., is president and principal engineer for AQUA TERRA Consultants. His expertise is in watershed modeling; nonpoint pollution and water quality modeling; chemical fate, transport, and exposure assessment; and model validation and testing. Mr. Donigian has 30 years of a broad range of experience in the development, testing, and application of modern analytical techniques for the assessment of environmental contamination and water resources planning problems. He is an internationally recognized authority on modeling nonpoint pol-

lution and chemical migration in the environment, primarily for water, soil, and groundwater systems. His recent research and applications studies have concentrated on regional and watershed-scale modeling of nutrients and impacts of management practices, movement of contaminants through the vadose zone, groundwater contamination by pesticides and hazardous wastes, model validation issues and procedures, and the evaluation of control alternatives such as best management practices, conservation tillage, and remedial actions at waste sites. Mr. Donigian received an A.B. in engineering sciences and a B.S. in engineering from Dartmouth College and an M.S. in civil engineering from Stanford University.

James R. Karr is a professor of aquatic sciences and zoology and an adjunct professor of environmental engineering, environmental health, and public affairs at the University of Washington, Seattle. He was on the faculties of Purdue University, University of Illinois, and Virginia Polytechnic Institute and State University; he was also deputy director and acting director at the Smithsonian Tropical Research Institute in Panama. He has taught and done research in tropical forest ecology, ornithology, stream ecology, watershed management, landscape ecology, conservation biology, ecological health, and science and environmental policy. He is a fellow in the American Association for the Advancement of Science and the American Ornithologists' Union. Dr. Karr has served on the editorial boards of *BioScience, Conservation Biology, Ecological Applications, Ecological Monographs, Ecology, Ecosystem Health, Freshwater Biology, Ecological Indicators,* and *Tropical Ecology.* He developed the index of biotic integrity (IBI) to directly evaluate the effects of human actions on the health of living systems. Dr. Karr holds a B.S. in fish and wildlife biology from Iowa State University and an M.S. and Ph.D. in zoology from the University of Illinois, Urbana-Champaign.

Jan Mandrup-Poulsen is an environmental administrator with the Watershed Assessment Section of the Florida Department of Environmental Protection. He is responsible for evaluating surface water quality, surface water/groundwater interactions, and mixing zones, and for determining the Total Maximum Daily Loads (TMDLs) allowable to support designated uses. He has coauthored materials on nonpoint source regulation in Florida and permitting guidance documents for point source discharges in Florida with consideration of the TMDL program. He is a frequent speaker on the topics related to the Florida Department of Environmental Protection watershed management approach, TMDLs, and the

R0005750

Impaired Waters Rule. Mr. Mandrup-Poulsen received his B.S. in atmospheric and oceanic science from the University of Michigan and his M.S. in biological oceanography and M.B.A. from Florida State University.

H. Stephen McDonald is a principal with Carollo Engineers. He has 22 years of experience in the areas of wastewater planning, watershed management, wastewater disinfection, biosolids treatment/reuse/disposal, and chemical and biological wastewater treatment/reuse. He is currently project manager for the development of TMDLs for several watersheds, including the Truckee River from Lake Tahoe to Pyramid Lake and the Calleguas Watershed in California. For the Truckee River, he is developing the Coordinated Monitoring Program and an adaptive management watershed/water quality modeling and stakeholder process to establish TMDLs for nutrients (nitrogen and phosphorus) and total dissolved solids (TDS). Mr. McDonald has developed master plans for water and wastewater treatment facilities in many western regions, including Sacramento County, the city of Fresno, CA; and the cities of Reno, Sparks, and Washoe County, NV. He holds a B.S. in biology from Portland State University and a B.S. in chemical engineering from Oregon State University. He has an MBA from California State University in Hayward and is a registered professional engineer in California.

Vladimir Novotny is a professor of environmental and water resources engineering at Marquette University and director of the Institute for Urban Environmental Risk Management. He is also president of the consulting firm Aqua Nova International, Ltd. His research has included risk-based urban watershed management integrating water quality and flood-control objectives, development of an adaptive methodology for online computerized modeling and real-time control of wastewater treatment facilities, and development of algorithms for control of urban sewer systems. He developed nationwide manuals on attainment of water quality goals (use attainability analysis) and abatement of winter diffuse pollution by road deicing operations. He is a past chair of an international group of specialists dealing with diffuse pollution and watershed management with the International Water Association. Dr. Novotny received a diploma engineer degree in sanitary engineering and a candidate of science degree in sanitary and water resources from the Technical University of Brno, Czechoslovakia and a Ph.D. in environmental engineering from Vanderbilt University.

Richard A. Smith joined the Water Resources Division of the U. S. Geological Survey (USGS) in 1975 and began working with a small research team on statistical methods in water quality and their applications to the extensive and diverse water quality monitoring records maintained by the USGS. Throughout the 1980s, his research dealt with patterns of change in the nation's water quality and with statistical analysis of data collected from the more than 400 stream and river monitoring stations in the Survey's NASQAN program. In the early 1990s he began to investigate the possibility of using the rapidly advancing technology of GIS to enable the use of monitoring data in making statistically based predictions of water quality in unmonitored waters. For more than a decade he has also been very interested in the question of the adequacy of the nation's monitoring programs. He recently served on a panel of scientists charged with making recommendations for a comprehensive monitoring plan for the drinking-water supply watersheds serving New York City. Dr. Smith received his B.S. and M.S. in biology from the University of Richmond and his Ph.D. in environmental engineering from Johns Hopkins University.

Chris O. Yoder is manager of the Ecological Assessment Section of the State of Ohio Environmental Protection Agency. His current responsibilities include ecological evaluation of Ohio's surface water resources including streams, rivers, lakes, and wetlands; development of ambient biological, physical, and chemical assessment methods, indicators, and criteria for rivers, streams, inland lakes, wetlands, Lake Erie, and the Ohio River; reporting on the condition of Ohio surface water resources on a local, regional, and statewide scale; and development of environmental indicators for the surface water program. Previously he was a principal investigator of a cooperative agreement with the U.S. EPA Office of Water for developing approaches to implementing bioassessments and biological criteria within state and federal water quality management programs. Mr. Yoder received a B.S. in agriculture from Ohio State University and his M.A. in zoology from DePauw University.

NRC Staff

Leonard Shabman is a professor in the Department of Agricultural and Applied Economics at the Virginia Polytechnic Institute and State University and director of the Virginia Water Resources Research Center. He earned his Ph.D. in resource and environmental economics from

R0005751

Cornell University. His research interests include water supply, water quality, and flood hazard management; fishery management; and the role of economists in public policy formulation. Dr. Shabman was a member of the NRC's Committee on Watershed Management, Committee on USGS Water Resources Research, Committee on Flood Control Alternatives in the American River Basin, and the Committee on Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy.

Laura J. Ehlers is a senior staff officer for the Water Science and Technology Board of the National Research Council. Since joining the NRC in 1997, she has served as study director for seven committees, including the Committee to Review the New York City Watershed Management Strategy, the Committee on Riparian Zone Functioning and Strategies for Management, and the Committee on Bioavailability of Contaminants in Soils and Sediment. She received her B.S. from the California Institute of Technology, majoring in biology and engineering and applied science. She earned both an M.S.E. and a Ph.D. in environmental engineering at the Johns Hopkins University. Her dissertation, entitled RP4 Plasmid Transfer Among Strains of *Pseudomonas* in a Biofilm, was awarded the 1998 Parsons Engineering/Association of Environmental Engineering Professors award for best doctoral thesis.

City of Sierra Madre

November 12, 2001

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION
01 NOV 14 PM 1:58

Dr. Xavier Swamikannu
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: Tentative NPDES Order

Dear Dr. Swamikannu:

The City of Sierra Madre is supportive of efforts to clean up storm water and has demonstrated that support by adopting appropriate NPDES Ordinances, budgeting for catch basin inserts, and implementing street sweeping programs which exceed and in some areas double the minimum standards.

As head of the Department responsible for NPDES compliance, I am concerned about what I have read in the Los Angeles Municipal NPDES Permit (the Permit). While I have noted the Regional Board Staff's response to comments (Page 1, October 11, 2001) about the new Permit containing unfunded mandates, the fact remains that the new permit requires new stormwater cleanup efforts by local agencies. The permit does not identify any new or additional funding source for the new activities; therefore what is being required is in fact an unfunded mandate. The Regional Staff response suggests that cities implement storm water utility fees or sewer utility fees. Is the Regional Board Staff aware of the provisions of Propositions 13 and 218 which do not allow local agencies to institute new taxes without going to the voters? Does the Regional Board Staff seriously believe that voters will agree to tax themselves in order to implement the NPDES permit? The fact remains, the new Permit is an unfunded mandate.

We are further concerned that as written, the Permit will cause local agencies to be in a state of non-compliance from the moment it is adopted. The "receiving waters" definition also allows for the Cities to be vulnerable to third party lawsuits. This provision must be altered to allow for a "safe harbor" provision, otherwise local agencies will be forced into spending already limited funds on court costs rather than on Permit compliance.

232 W. Sierra Madre Blvd., Sierra Madre, CA 91024
Telephone (626) 355-7135 Fax (626) 355-2251

R0005752

There simply must be a provision in the Permit to allow for Cities' good faith efforts to comply.

Finally, I am concerned that my staff, or our Police Department's Code Enforcement staff may run head-on into a conflict with the Fourth Amendment to the US Constitution. We do not currently have the authority to enter private property to inspect and take enforcement action, and it is doubtful that we could enact any Ordinance that would hold up under court review against the Fourth Amendment.

Please consider the untenable position in which this Permit places local agencies, and make the necessary adjustments in the Permit language.

Sincerely,

Bruce Inman
Director of Public Works

Cc: Tamara Gates, City Manager
Charles Martin, City Attorney

CITY OF SOUTH EL MONTE

1415 N. SANTA ANITA AVENUE
SOUTH EL MONTE, CALIFORNIA 91733
(626) 579-6540 • FAX (626) 579-2107

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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

November 5, 2001

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Draft Municipal Stormwater Permit

Dear Mr. Dickerson;

We appreciate the opportunity your staff has provided for us to review and comment on the draft permit for "Municipal Storm Water and Urban Runoff". Our specific comments are:

Section B.6 *Environmentally sensitive areas*	The text (Sec 4.D.3) allows cities to submit designations for environmentally sensitive areas. This section (B.6) should be consistent. Recommended wording: "These environmentally sensitive areas designated by the State and or- the County of Los Angeles and/or municipalities
Section C.2 *SQMP*	The proposed Order adopts the model programs developed under the previous (current) permit subject to the revisions of the new permit. The Permittees invested a considerable effort in developing the existing model programs. It should be the permittee's responsibility to review and revise the model programs.
Section D.2 *Responsibility over federal and state institutions*	The wording "Permittees will not be held responsible for such facilities and/or discharges" (from federal / state facilities) should be left in.
Section D.4 *Maximum Extent Practicable*	Add a sentence to the end of the paragraph. "Timely and thorough implementation of this order constitutes compliance with the Maximum Extent Practicable criteria."
Section D.6	The wording is confusing. ". . . the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible . . . "

Sections D.8; D.10 *TMDLs*	This section incorporates the TMDL process into the SQMP. TMDLs should only be added after appropriate public comment and review.
Section D.22 *GIASP and GCASP*	The permit identifies the Regional Board as the "enforcing authority" for the two statewide general permits. If the State is the regulating authority for these sites, then municipalities (similarly to the exclusion of section D.2) should not be responsible for discharges from these sites, either under this permit or the TMDL process.
Part 1 *Exempt discharges*	The permit lists several "exempt" discharges with the provision that the Board's executive officer may remove any of these categories if determined to be a source of pollutants. The Regional Board has obviously invested a considerable amount of time in developing this list, and the permittees are likely to permit these discharges. In the event that a discharge is subsequently determined to be a source of pollutants, the permittees should not be held responsible for any exceedances caused by these discharges without first being given adequate time to develop and implement additional BMPs.
Part 1.1 *Exempt discharges*	All general NPDES permits (dewatering, hydrostatic testing, etc.) should be incorporated into this permit as an attachment so that permittees can know which discharges are covered. The Regional Board should also notify all applicable permittees of any subsequent general NPDES permits.
Part 2 *Receiving water limitations*	The wording "thorough and timely implementation of this order shall constitute compliance with the standard for Maximum Extent Practical." should be added.
Part 2.4	Add wording: "So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, a Notice of Violation will not be issued by the Regional Board and the Permittee does not have to repeat the same procedure . . .."
Part 3.A.3 *General requirements*	The wording "Each Permittee shall implement additional controls where necessary" is too open-ended and should be eliminated.

Part 3.B *Best Management Practices*	The paragraph: "The permittees shall implement or require the implementation of the most effective combination of BMPs . . . ." Is similarly too open ended. Who will the permittees require implementation by? What is the criterion for "most effective combination"? And doesn't implementation of this Order constitute meeting the standard of MEP?
Part 3.G *Legal authority*	Permittees have on several occasions, certified that their ordinances comply with the NPDES stormwater requirements. The continuous amending of municipal ordinances each time there is a change in the permit constitutes a substantial burden of city staffs. The existing ordinances are adequate to provide a framework for implementing this Order. The proposed changes in this section should be relocated into the "Special provisions" section so that ordinances do not need to be modified again. Municipalities will decide if their ordinances need to be modified for specific areas of the Order.
Part 3.G.d *Inspection authority*	Municipalities can authorize their inspectors to make inspections of a facility on a voluntary (by the owner) basis, but cannot make it mandatory without probable cause or a prior agreement with the business or property owner. This section should reflect this and permittees should not be held responsible for a discharge from a site that the municipality was not able to inspect.
Part 3.G.2c *Adequate Legal Authority*	The word "control" is not adequately defined.
Part 4.A.2 *Customized SQMP*	What are the standards and what is the timeline for developing the customized SQMP? More appropriate wording would be that Permittees shall evaluate the need for a customized SQMP and if necessary, shall develop standards and then develop the SQMP. Also, a municipality should be able to review the existing SQMP, and if found adequate, adopt it as the customized SQMP?

Part 4.B and Findings C.2
Public Information and Participation Program

There have been very substantial changes to this program and it appears that the 5-year implementation strategy will no longer be in force. The reference to the existing: "Public Information and Participation" as being continued with revisions, as contained in Findings part C-2 should be removed.

Part 4.C
Site inspections

No documentation has been provided that the existing site educational visit program is not working. The site visit program should continue as is.

The State is collecting $250 from industrial and construction facilities under the State's general Construction and Industrial activities permits. The State should provide municipalities with demonstrable site visit and inspection programs a substantial portion of this fee to conduct an inspection program(s). Municipalities should be exempted from any exceedances caused by sites under State inspection.

If the State (or State's agent) is also conducting site inspections, what is the mechanism for informing municipalities of the State's inspection schedule so that overlaps and duplication can be avoided?

The inspection criteria require inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. For example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years (and in many cases, once every 5 years starting in 2004)? The word "effectively" should be removed from all inspection criteria.

Also, Section C.2 et al, requires inspectors to confirm that BMPs are being implemented in compliance with County and Municipal ordinances. The wording could lead to confusion, implying that County ordinances are to be implemented in Municipal areas. Wording to the effect of "appropriate jurisdictions" should be added.

Part 4.D.2
Peak flow control

The wording of this section requires that permittees implement peak flow controls for essentially all streams in hillside areas. This should not be a requirement unless a stream has been specifically identified as susceptible to accelerated erosion.

Table 2.1 as referred to includes many hard-bottomed channels that represent no erosion threat.

Part 4.D.3
SUSMPs

This section marks a substantial departure from the SUSMP program as previously developed and implemented. Only discretionary Projects should be included as priority projects.

Also, as the State's General Activity Permits will be reviewed by the State and contain post construction BMPs, how will any inconsistencies and duplications with plans submitted to the municipalities for review under the SUSMP program, which also show post-construction BMPs, be avoided?

Part 4.D.3.b
ESAs

The wording "Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map" should be made optional:

A Permittee may submit . . .

Also, the Staff Report (pg. 7 of attachment) indicates that they (the Board's Staff) were unable to find a legislative basis for the 2,500 square foot threshold of triggering an SUSMP in an ESA. This level was chosen based upon standard residential lot sizes. A better standard is the federal project size threshold of 1 acre, which would be consistent with the construction thresholds and therefore reduce confusion of when stormwater management plans are required.

Part 4.E.2b
Construction sites

As stated in Section D22 of the permit, the Regional Board is the enforcement authority for sites under the General construction Activities permit. Municipalities should not be required to inspect these sites. By mutual agreement with the Board, municipalities could be authorized to do so, but the State should then reimburse the municipality for the cost of the inspection from the fees the State has collected

Part 4.F.3c2
Public agency

This statement could be construed, as requiring pre-treatment facilities for any facility whether there is wastewater or not (ex: a senior citizens center or library). Add the wording "vehicle or equipment washing".

Also, fire-fighting vehicles are excluded from this requirement. Does this mean that washwater from fire fighting vehicles is now considered an exempt discharge?

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For example, if a Permittee has already adopted a plan under the TMDL process to reduce trash by utilizing catch basin inserts, why then require trash receptacles at all transit stops?

Suggestion: Permittees evaluate the need for addition anti-trash BMPs and take appropriate action based upon their findings.

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Similarly, if the discharge of trash is being adequately addressed through other means, why require revisions to the street sweeping program?

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Corrective actions are typically performed by the responsible party (the discharger). It should be clear that "activities to abate" include ordering the responsible party to initiate mitigation activities.

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I wish to thank you for the opportunity to comment on the proposed next Permit. Please call me if you have any questions.

Sincerely,

James L. Harris
City Engineer

cc: Gary Myrick
Hunter-Kennedy and Associates, Inc.

City of South Gate

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November 7, 2001

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
01 NOV -8

Subject: Draft Municipal Stormwater Permit

Dear Mr. Dickerson;

We appreciate the opportunity your staff has provided for us to review and comment on the draft permit for "Municipal Storm Water and Urban Runoff". Our specific comments are:

Section B.6 *Environmentally sensitive areas*	The text (Sec 4.D.3) allows cities to submit designations for environmentally sensitive areas. This section (B.6) should be consistent. Recommended wording: "These environmentally sensitive areas designated by the State and or- the County of Los Angeles and/-or municipalities
Section C.2 *SQMP*	The proposed Order adopts the model programs developed under the previous (current) permit subject to the revisions of the new permit. The Permittees invested a considerable effort in developing the existing model programs. It should be the permittees responsibility to review and revise the model programs.
Section D.2 *Responsibility over federal and state institutions*	The wording "Permittees will not be held responsible for such facilities and/or discharges" (from federal / state facilities) should be left in.
Section D.4 *Maximum Extent Practicable*	Add a sentence to the end of the paragraph. "Timely and thorough implementation of this order constitutes compliance with the Maximum Extent Practicable criteria."
Section D.6	The wording is confusing. . . . "the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible . . . "

Sections D.8; D.10 *TMDLs*	This section incorporates the TMDL process into the SQMP. TMDLs should only be added after appropriate public comment and review.
Section D.22 *GIASP and GCASP*	The permit identifies the Regional Board as the "enforcing authority" for the two statewide general permits. If the State is the regulating authority for these sites, then municipalities (similarly to the exclusion of section D.2) should not be responsible for discharges from these sites, either under this permit or the TMDL process.
Part 1 *Exempt discharges*	The permit lists several "exempt" discharges with the provision that the Board's executive officer may remove any of these categories if determined to be a source of pollutants. The Regional Board has obviously invested a considerable amount of time in developing this list, and the permittees are likely to permit these discharges. In the event that a discharge is subsequently determined to be a source of pollutants, the permittees should not be held responsible for any excceedances caused by these discharges without first being given adequate time to develop and implement additional BMPs.
Part 1.1 *Exempt discharges*	All general NPDES permits (dewatering, hydrostatic testing, etc.) should be incorporated into this permit as an attachment so that permittees can know which discharges are covered. The Regional Board should also notify all applicable permittees of any subsequent general NPDES permits.
Part 2 *Receiving water limitations*	The wording "thorough and timely implementation of this order shall constitute compliance with the standard for Maximum Extent Practical." should be added.
Part 2.4	Add wording: "So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, a Notice of Violation will not be issued by the Regional Board and the Permittee does not have to repeat the same procedure . . . .
Part 3.A.3 *General requirements*	The wording "Each Permittee shall implement additional controls where necessary" is too open-ended and should be eliminated.

Part 3.B *Best Management Practices*	The paragraph: "The permittees shall implement or require the implementation of the most effective combination of BMPs . . . . Is similarly too open ended. Who will the permittees require implementation by? What is the criterion for "most effective combination"? And doesn't implementation of this Order constitute meeting the standard of MEP?
Part 3.G deleted *Executive Advisory Committee*	The proposed permit eliminates the EAC as a recognized entity. How will the Permittees coordinate their efforts on a countywide basis?
Part 3.G *Legal authority*	Permittees have on several occasions, certified that their ordinances comply with the NPDES stormwater requirements. The continuous amending of municipal ordinances each time there is a change in the permit constitutes a substantial burden of city staffs. The existing ordinances are adequate to provide a framework for implementing this Order. The proposed changes in this section should be relocated into the "Special provisions" section so that ordinances do not need to be modified again. Municipalities will decide if their ordinances need to be modified for specific areas of the Order.
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Part 3.G.2c *Adequate Legal Authority*	The word "control" is not adequately defined.
Part 4.A.2 *Customized SQMP*	What are the standards and what is the timeline for developing the customized SQMP? More appropriate wording would be that Permittees shall evaluate the need for a customized SQMP and if necessary, shall develop standards and then develop the SQMP. Also, a municipality should be able to review the existing SQMP, and if found adequate, adopt it as the customized SQMP?

Part 4.B and Findings C.2
Public Information and Participation Program

There have been very substantial changes to this program and it appears that the 5-year implementation strategy will no longer be in force. The reference to the existing: "Public Information and Participation" as being continued with revisions, as contained in Findings part C-2 should be removed.

Part 4.C
Site inspections

No documentation has been provided that the existing site educational visit program is not working. The site visit program should continue as is.

The State is collecting $250 from industrial and construction facilities under the State's general Construction and Industrial activities permits. The State should provide municipalities with demonstrable site visit and inspection programs a substantial portion of this fee to conduct an inspection program(s). Municipalities should be exempted from any exceedances caused by sites under State inspection.

If the State (or State's agent) is also conducting site inspections, what is the mechanism for informing municipalities of the State's inspection schedule so that overlaps and duplication can be avoided?

The inspection criteria requires inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. For example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years (and in many cases, once every 5 years starting in 2004)? The word "effectively" should be removed from all inspection criteria.

Also, Section C.2 et. al. requires inspectors to confirm that BMPs are being implemented in compliance with County and Municipal ordinances. The wording could lead to confusion, implying that County ordinances are to be implemented in Municipal areas. Wording to the effect of "appropriate jurisdictions" should be added.

Part 4.D.2
Peak flow control

The wording of this section requires that permittees implement peak flow controls for essentially all streams in hillside areas. This should not be a requirement unless a stream has been specifically identified as susceptible to accelerated erosion.

Table 2.1 as referred to includes many hard-bottomed channels that represent no erosion threat.

Part 4.D.3
SUSMPs

This section marks a substantial departure from the SUMSP program as previously developed and implemented. Only discretionary Projects should be included as priority projects.

Also, as the State's General Activity Permits will be reviewed by the State and contain post construction BMPs, how will any inconsistencies and duplications with plans submitted to the municipalities for review under the SUSMP program, which also show post-construction BMPs, be avoided?

Part 4.D.3.b
ESAs

The wording "Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map" should be made optional:

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I wish to thank you for the opportunity to comment on the proposed next Permit. Please call me if you have any questions.

Sincerely,

Efrain Mino
City Engineer

CITY COUNCIL

LEONIS C. MALBURG
Mayor

THOMAS A. YBARRA
Mayor Pro-Tem

WM. "BILL" DAVIS
Councilman

H. "LARRY" GONZALES
Councilman

W. MICHAEL MCCORMICK
Councilman

BRUCE V. MALKENHORST
City Administrator - City Clerk
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KENNETH J. DeDARIO
Director of Municipal Utilities
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STEVEN E. PARKER
Fire Chief
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Police Chief
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November 14, 2001

Mr. Dennis A. Dickerson
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Third Draft Comments, Los Angeles County Municipal NPDES Permit

Dear Mr. Dickerson:

The City of Vernon is pleased to submit to you its comments in connection with the third draft of the proposed Los Angeles County Municipal NPDES Permit, dated October 10, 2001. This version is a substantial improvement over the second draft. Still, the City has several concerns about some of the proposed requirements.

The City hopes that you will find these comments helpful in structuring a final permit that balances the need to protect water quality against the need for municipalities to maintain an adequate level of public services for its citizens.

If you have any questions, please feel free to call me.

Very truly yours,

Samuel Kevin Wilson, P.E.
Director of Community Services and Water

R0005768

Comments In RE: Third Los Angeles County Municipal NPDES Draft

1. EAC Not Recognized In Municipal NPDES Permit

Issue:

Regional Board staff has, unilaterally, eliminated the Executive Advisory Committee (EAC) from the draft municipal NPDES permit.

The EAC is a creation of the 1996 municipal NPDES permit that was requested by the permittees in the Report of Waste Discharge Application ("ROWD"). The purpose of the EAC is to "to facilitate programs within each watershed and to enhance consistency among all of the programs." The EAC has also served as an important source of information for Watershed Management Committees (WMCs), each of which elects 1 to 2 representatives to the EAC.

According to the Regional Board, the EAC does not need to be recognized in the municipal NPDES permit because it is not a political body and "that it would not be proper to recognize the EAC in the permit when it does not subscribe to government rules for open meetings." It should be noted, however, that the Watershed Management Committees (WMCs), which are also advisorial in nature, and are not political bodies – are nevertheless sanctioned in the permit. As a result, this argument is without merit.

Municipal permittees depend on the EAC for leadership and guidance and see no harm in having it recognized in the permit. The regional board's attempt here at removing the EAC from the permit seems to be because of the EAC's opposition to several regional board actions, including the SUSMP and the zero trash TMDL. This strongly reinforces the belief among many permittees that this regional board is unfair in its treatment of municipalities.

Action Sought:

Restore EAC recognition to the NPDES permit as stated in the second draft.

2. Meet and Confer Provision Eliminated

Issue:

The regional board, unilaterally, has removed the "meet and confer" provision from the proposed permit. The existing permit contains this provision to allow permittees to resolve conflict arising from different interpretations of permit language and, therewith, to prevent unnecessary

R0005769

and unwarranted enforcement action. To cite example, last March, the regional board issued notices of violations (NOVs) to several municipalities for failing to implement requirements that actually turned-out to be based on an incorrect interpretation of the permit.

The regional board's desire to remove this provision reinforces the belief among many municipal permittees that the regional board is not objective in its treatment of municipalities. This is because without a safe harbor clause, taking enforcement action against a municipality for misinterpreting a permit requirement can easily lead to enforcement action and, possibly, third party litigation.

Action Sought:

As stated in the second draft permit comments, restore the meet and confer provision or allow permittees some other "safe harbor" clause to prevent unwarranted enforcement action.

3. Industrial/Commercial Inspections

Issue:

The regional board still clings to the belief that municipalities are required to conduct inspections of sites of industrial activity and commercial facilities. It requires permittees to inspect certain categories of industrial facilities (1) (scrap, auto dismantling, fabricated metal products, motor freight, chemical/allied products, primary metal products facilities); (2) "lower priority" industrial facilities that require SWPPPs pursuant to the state's GCASWP requirements); and (3) automotive facilities for compliance with BMPs. It also requires cities to inspect for restaurants and other categories of commercial businesses.

Contrary to what the regional board asserts, the regulations do not specifically require permittees to do on-site inspections of facilities associated with industrial activity or commercial facilities. The responsibility for inspecting industrial facilities lies with the regional board. Nevertheless, the regional board contends that municipalities should inspect such facilities for compliance with BMPs that it requires in the permit. Essentially, this defers inspections to municipal permittees. However, nothing in the regulations require municipalities to inspect for BMPs. Although the term "inspection" mentioned, it is clear this pertains only to off-site inspections (e.g., for illicit discharges through off-site monitoring and surveillance). As to commercial facilities such as automotive repair facilities and restaurants, municipal permittees do not

have the authority to do on-site inspections of such facilities – unless permitted by the municipality.

Action Sought:

Allow municipalities to meet this requirement through educational site visit programs and by enforcing BMP requirements for industrial and commercial BMPs by way of off-site visual inspections, unless the violation is noted on-site during the visit. In such an instance, the site visitor should inform the facility of the violation and advise of it of the need for correction within a certain period of time.

4. BMPs for Industrial Facilities

The proposed permit calls for municipalities to impose more stringent controls on facilities that are subject to GIASWP requirements if existing controls are determined by the municipal permittee to be inadequate. This should not be the responsibility of municipal permittees, but the responsibility of the regional board, since it is ultimately responsible for enforcing the GIASWP and has the required expertise.

Action Sought:

Eliminate this requirement, along with the general requirement of making municipal permittees inspect industrial facilities.

5. Standard Urban Storm Water Mitigation Plan

Issue:

The regional board is still insistent upon requiring all categorical development/new development projects to comply with mandatory infiltration/treatment control requirements in accordance with numeric design standards. This requirement is excessive. Regional board staff justifies this requirement on the grounds that other municipalities in and outside of California have similar requirements for new developments. However, such controls (e.g., oil/water separators, catch basin inserts, etc.) are only required when there is a need to protect a water quality standard. For example, if oil and grease – which are really the only pollutants that the required controls mitigate – is listed on the 303(d) list, then such controls would be required (in addition to soft controls such as canopies over gas stations). This would be a rational approach.

Action Sought:

Maintain existing SUSMP, based on discretionary approval, but require mandatory infiltration treatment controls only when the pollutant of concern for the project is listed on the 303(d) list (e.g., oil grease, metals, etc.). Also require project specific BMPs requirements (e.g., canopies over gas stations, proper trash controls, etc.) on a mandatory basis.

General Plan Update

Issue:

Requires permittees to include storm water considerations in their general plans when conservation, land use, or housing elements are updated. Given that the existing and proposed permit contains stringent development planning requirements, why is there a need for any updating of the general plan at all? It seems superfluous. Further, to what extent are conservation, housing, and land use elements supposed to be updated?

Action Sought:

Provide general guidance as to what "considerations" should be included in the general plan (relative to conservation, housing, and land use elements) without interfering with municipal land use decision-making.

6. Inspection of Construction Sites

Issue:

Requires permittees to inspect construction sites greater than 1 acre or more for compliance with General Construction Activity Storm Water Permit (GCASWP) requirements, starting in 2003. Once this requirement takes effect in March of 2003, municipal permittees should not be responsible for inspecting them. This duty lies exclusively with regional board since such facilities require a state issued GCASWP. Again, the regional board is better able to enforce this permit than municipalities.

Action Sought:

Eliminate the requirement.

7. Definition of Control

Issue:

The proposed permit defines "control" to mean the following: "minimize, reduce, eliminate, or prohibit by technological, legal, contractual, or other means, the discharge of pollutants from an activity or activities." This definition is inconsistent with the definition of control found in storm water guidelines. Control, therein means to "... limit, discourage, or terminate a storm water discharge to the MS4." Nothing in the federal regulations or in Porter Cologne requires controlling discharge of pollutants from an activity or activities."

Action Sought:

Eliminate this definition of control.

8. Receiving Water Limitations Language

Issue:

The permit still contains language that enables permittees to be in violation of the permit in the event of a receiving water limitation exceedance, even if the municipal permittee is implementing the permit and its programs. As it proposed in the new permit, an exceedance, would require the regional board to impose additional, and presumably more costly requirements, including the installation of treatment controls.

Action Sought:

Re-write this requirement in accordance with language suggested by the Coalition for Practical Regulation and Burke, Williams, and Sorensen.

9. Unfunded Mandate

Issue:

The proposed permit contains several "new" significant costs for municipal permittees, raising, once again, the complaint of it being an unfunded mandate. According to regional board staff, "compliance with the Clean Water Act (CWA) is not predicated on the availability of funding." Municipal permittees do not disagree.

Municipal permittees understand that they must allocate a portion of their budgets to fund storm water management programs. The question, however, is to what extent? Congress never intended NPDES permitting costs to over-burden municipalities because of the obvious fact that they are not in the business of environmental regulation. Thus, at some point,

the regional board needs to recognize that there are limits on municipal resources. Certainly, conducting inspections for the regional board is neither a fair nor reasonable cost to impose on municipalities.

It should also be noted, the cost of terrorism on local economies – retail sales tax declines in particular – together with higher public safety costs – will make it even more difficult to comply with unreasonable and unjustifiably stringent program tasks. It has been suggested that the municipalities can fund these programs through utility and sewer fees. The fact of the matter is that they are not a sure thing. Proposition 218 makes it almost impossible to impose such fees.

10. Definition of Redevelopment

Issue

The proposed permit defines redevelopment in a manner that is different from USEPA's definition. According to the proposed permit, significant redevelopment is defined as the addition or creation of 5,000 square feet or more of impervious surface. This threshold would trigger an SUSMP for such a redevelopment project. However, according to the USEPA definition of redevelopment under Phase II, redevelopment is based on 1 acre or more of soil disturbance.

Action Sought:

Change definition of redevelopment to comply with USEPA's Phase II definition.

CITY OF
WEST HOLLYWOOD

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DEPARTMENT OF
TRANSPORTATION
AND PUBLIC
WORKS

November 7, 2001

2001 NOV -9 P 2:01

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

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Section D.6	The wording is confusing. . . . "the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible . . . "

shop WEST HOLLYWOOD

Sections D.8; D.10 *TMDLs*	This section incorporates the TMDL process into the SQMP. TMDLs should only be added after appropriate public comment and review.
Section D.22 *GIASP and GCASP*	The permit identifies the Regional Board as the "enforcing authority" for the two statewide general permits. If the State is the regulating authority for these sites, then municipalities (similarly to the exclusion of section D.2) should not be responsible for discharges from these sites, either under this permit or the TMDL process.
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Part 2 *Receiving water limitations*	The wording "thorough and timely implementation of this order shall constitute compliance with the standard for Maximum Extent Practical." should be added.
Part 2.4	Add wording: "So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, a Notice of Violation will not be issued by the Regional Board and the Permittee does not have to repeat the same procedure . . . .
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If the State (or State's agent) is also conducting site inspections, what is the mechanism for informing municipalities of the State's inspection schedule so that overlaps and duplication can be avoided?

The inspection criteria requires inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. For example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years (and in many cases, once every 5 years starting in 2004)? The word "effectively" should be removed from all inspection criteria.

Also, Section C.2 et al requires inspectors to confirm that BMPs are being implemented in compliance with County and Municipal ordinances. The wording could lead to confusion, implying that County ordinances are to be implemented in Municipal areas. Wording to the effect of "appropriate jurisdictions" should be added.

Part 4.D.2
Peak flow control

The wording of this section requires that permittees implement peak flow controls for essentially all streams in hillside areas. This should not be a requirement unless a stream has been specifically identified as susceptible to accelerated erosion.

Table 2.1 as referred to, includes many hard-bottomed channels that represent no erosion threat.

Part 4.D.3
SUSMPs

This section marks a substantial departure from the SUMSP program as previously developed and implemented. Only discretionary Projects should be included as priority projects.

Also, as the State's General Activity Permits will be reviewed by the State and contain post construction BMPs, how will any inconsistencies and duplications with plans submitted to the municipalities for review under the SUSMP program, which also show post-construction BMPs, be avoided?

Part 4.D.3.b
ESAs

The wording "Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map" should be made optional:

A Permittee may submit . . .

Also, the Staff Report (pg. 7 of attachment) indicates that they (the Board's Staff) were unable to find a legislative basis for the 2,500 square foot threshold of triggering an SUSMP in an ESA. This level was chosen based upon standard residential lot sizes. A better standard is the federal project size threshold of 1 acre, which would be consistent with the construction thresholds and therefore reduce confusion of when stormwater management plans are required.

Part 4.E.2b
Construction sites

As stated in Section D22 of the Permit, the Regional Board is the enforcement authority for sites under the General Construction Activities Permit. Municipalities should not be required to inspect these sites. By mutual agreement with the Board, municipalities could be authorized to do so, but the State should then reimburse the municipality for the cost of the inspection from the fees the State has collected

Part 4.F.3c2
Public agency

This statement could be construed, as requiring pre-treatment facilities for any facility whether there is wastewater or not (ex: a senior citizens center or library). Add the wording "vehicle or equipment washing".

Also, fire fighting vehicles are excluded from this requirement. Does this mean that washwater from fire fighting vehicles is now considered an exempt discharge?

Part 4.F.5
Trash receptacles

Permittees, where trash has been designated as a pollutant, are already addressing this through the TMDL process. All reference to trash and litter under this section is redundant and will lead to confusion and should therefore be eliminated.

For example, if a Permittee has already adopted a plan under the TMDL process to reduce trash by utilizing catch basin inserts, why then require trash receptacles at all transit stops?

Suggestion: Permittees evaluate the need for addition anti-trash BMPs and take appropriate action based upon their findings.

Part 4.F.6
Street Sweeping

Similarly, if the discharge of trash is being adequately addressed through other means, why require revisions to the street sweeping program?

Part 4.G.1.b
Illicit Connections

The requirement of Permittees to map all illicit connections and discharges is excessive and not cost effective. If these illicit connections are sealed and illicit discharges stopped, what is the purpose of a map? Mapping is a very labor intensive and costly endeavor and should only be used when necessary.

Part 4.G.2.a
Field Screening

There is no definition within the Order of what "Field Screening" is. The Staff Report (pg. 37) calls for visual monitoring. Wording should be added to the Order's language for clarification that field screening is: visual monitoring during infrastructure maintenance.

Part 4.G.3a
Illicit discharges

Corrective actions are typically performed by the responsible party (the discharger). It should be clear that "activities to abate" include ordering the responsible party to initiate mitigation activities.

Annual Report

Under the previous (current) permit, permittees invested a considerable amount of resources in developing an annual reporting form. This process should be continued under the new permit. Permittees should be allowed a minimum of 180 days to develop a revised report format for submittal to the Board's executive officer for approval instead of using the form attached in the permit package.

The Annual Report asks municipalities to grade themselves on a scale of 1 to 10. Is 10 best or worst? Also, what criteria is used for grading and what is the minimum allowable score to assure compliance with this Order and the Clean Water Act?

I wish to thank you for the opportunity to comment on the next proposed Permit. Please call me if you have any questions.

Sincerely,

Sharon Perlstein

Sharon Perlstein
City Engineer, City of West Hollywood

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
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JAMES A. NOYES, Director

ADDRESS ALL CORRESPONDENCE TO:
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ALHAMBRA, CALIFORNIA 91802-1460

November 13, 2001

IN REPLY PLEASE REFER TO FILE WM-9

Mr. Dennis A. Dickerson, Executive Officer
California Regional Water Quality
Control Board--Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

2001 NOV 13 P 3:09

Dear Mr. Dickerson:

COMMENTS OF THE COUNTY OF LOS ANGELES ON THE LOS ANGELES COUNTY MUNICIPAL STORMWATER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM TENTATIVE PERMIT (OCTOBER 11, 2001, DRAFT)

Enclosed are the comments of the County of Los Angeles to the Regional Water Quality Control Board's October 11, 2001, draft National Pollutant Discharge Elimination System (NPDES) Permit for the Los Angeles County Flood Control District, County of Los Angeles, and 84 cities.

The following items are among the major issues of concern that are outlined in greater detail in the attached markup of the draft Permit:

1. *Receiving Waters Limitation Language*

   The receiving waters limitation language set forth in Part 3 of the draft permit continues to be inconsistent with the Clean Water Act. As you know, the Act sets forth the specific implementation standard that is to be applied to municipal permittees as the "maximum extent practicable" (MEP) standard.

   The present receiving waters limitation language creates the potential for contradictory enforcement regimes in violation of the Clean Water Act. As the language is presently worded, it could be argued that even a discharge that merely contributed to, but did not cause, a violation of a water quality standard or a condition of nuisance, violated the permit, without regard to whether the permittee was implementing the permit to the MEP. Although we assume that such an interpretation is not the Board's intent, the

failure to clarify the Board's intent could create an enforcement "exception" that swallows the MEP "rule." Additionally, if it is the Board's intent that compliance with Part 2.3 is sufficient to achieve compliance with Parts 2.1 and 2.2, we again request that this intent be explicitly stated.

2. *Inspections of Facilities Subject to State General Permits*

As we have stated in past comments, it is the Regional Water Quality Control Board's (RWQCB) *sole* responsibility under both the General Industrial Activities Stormwater Permit (GIASP) and the General Construction Activities Stormwater Permit (GCASP) to inspect such facilities for the purposes of enforcement with the GIASP and the GCASP. This obligation cannot be transferred to permittees.

Similarly, the permit appears to require that the permittees force certain businesses to adopt additional Best Management Practices (BMPs) if minimum BMPs are infeasible at a particular site. The role of the permittee is to inspect the businesses for BMP implementation and to recommend the adoption of alternative BMPs, if required to adequately control stormwater. By transferring the obligation to the permittees to "require" the adoption of alternative BMPs, the RWQCB would impermissibly transfer its obligations under the GIASP. Similarly, the permit requirements relating to the enforcement of the GCASP impermissibly transfer the obligations of the RWQCB to the permittees. This transfer also represents an unfunded mandate, prohibited by Article XIIIB, Section 6, of the California Constitution.

3. *Requirement to Place Waste Receptacles at All Transit Stops*

Part 4(F)(5)(d) of the permit requires that waste receptacles be placed at all transit stops. We note that under the proposed Trash Total Maximum Daily Loads (TMDLs), permittees are given discretion to implement the most cost-effective litter control BMPs. Studies are currently planned to determine the optimal combination of BMPs, and micro-management of control strategies through the permit is not good public policy. More importantly, however, the Porter-Cologne Water Quality Act specifically prohibits the Regional Board from "specifying the design, location, type of construction, or particular manner in which compliance may be had" with an order of the Regional Board (Water Code § 13360(a)). In that the permit represents an order of the Regional Board, the Regional Board lacks jurisdiction to require the placement of waste receptacles at transit stops.

4. *Establishment and Implementation of Numerical Peak Flow Control Criteria*

The permit requires the permittees to implement peak flow control criteria to control peak flows in various natural drainage systems. While the latest draft proposes a study to determine numerical criteria for peak flow control, the permit continues to assume that peak flow controls are required. As we have previously stated, this requirement assumes that peak flow is a problem that must be controlled. However, it has not been proven that the only solution is the restriction of flows/volumes. Many jurisdictions in the Pacific Northwest have been trying to deal with reductions in peak flows for many years, and have experienced many problems, both with execution and results. Those jurisdictions are looking to alternate analyses/solutions to the issue, such as verification studies to determine the extent of effect (if any) to river biology due to changes in flow, environmentally friendly streambank stabilization, etc. Rather than assume that peak flow control must be implemented, the permit should instead direct that the results of the study to be conducted on this issue be implemented within a reasonable time frame.

5. *Trash Monitoring Requirements*

We take serious issue with the requirement in Part II (E) of the Monitoring and Reporting Program regarding trash monitoring. First, this section is inconsistent with the monitoring provisions of the newly adopted Trash TMDLs for the Los Angeles River and the Ballona Creek watersheds. Those Trash TMDLs provide for two years of baseline monitoring, followed by implementation of a compliance monitoring program. Compliance monitoring may be different than baseline monitoring. In contrast, the permit imposes baseline monitoring procedures on the permittees for the entire five-year period of the permit.

Second, under the TMDL, the permittees are not obligated to perform baseline. Thus, there is no basis for requiring that obligation on the permittees in this permit. It also is neither appropriate nor necessary to impose the same monitoring provisions on unimpaired watersheds by October 15, 2003. This requirement arbitrarily imposes an additional monitoring cost on the permittees of as much as $5 million without any prior consultation and without any prior thought as to its necessity. This amount would exceed the agreed-upon NPDES monitoring budget and would require cessation of all other monitoring activities.

Rather than arbitrarily directing the permittees to expend this money, a trash program for the unimpaired watersheds should be developed after the baseline TMDL monitoring has been conducted for the Los Angeles River and Ballona Creek watersheds. This will allow both the Board staff and the permittees to determine whether the information gained from that monitoring can be used in lieu of monitoring, or whether a modified, and less costly monitoring program, is all that is required. Accordingly, a monitoring program for trash in the unimpaired watersheds should not be ordered until after the permittees have gained the knowledge and experience to be gained from the monitoring of the Los Angeles River and Ballona Creek watersheds.

6. *Responsibility of Principal Permittee to Assess Permittee Compliance*

The Monitoring and Reporting Program for the permit proposes that the Principal Permittee assess the effectiveness of the SQMP and, in particular, assess the level of effort of the permittees. The Principal Permittee has agreed to organize the data and compile the unified Annual Report. The Principal Permittee will not, however, evaluate the performance of the 84 permittees.

Similarly, the County will not agree to evaluate which municipalities may be responsible for sources of pollutants causing toxicity as part of the Toxicity Reduction Evaluations (TRE) program. Once the locations of potential sources of pollutants are identified, it is the responsibility of the RWQCB to identify the municipalities that may have jurisdiction over the sources.

The concept of a Principal Permittee is for the administrative convenience of Regional Board staff. There is no statutory or regulatory basis for designating a party as a Principal Permittee. Instead, the regulations specifically provide that co-permittees stand on equal footing to each other. 40 CFR §122.26(d) specifically provides that "[w]here more than one public entity owns or operates a municipal separate storm sewer system within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application."

The Los Angeles Flood Control District has voluntarily agreed to assume significant administrative tasks as the "Principal Permittee" in order to further the interests of the storm water program. The Principal Permittee is not, however, in a position where it can assume the task of evaluating the performance of the other permittees, nor will it to agree to do so.

7. *Definition of Maximum Extent Practicable Standard*

The revision to the definition of "Maximum Extent Practicable" in the current draft of the permit represents both an unlawful expansion and an incorrect interpretation of the Clean Water Act. The sole support for inclusion of this language is an internal memorandum written by an attorney for the State Water Resources Control Board. Such a legal memorandum has no regulatory force, as it was neither readily available to the permittees nor adopted pursuant to the Administrative Procedure Act. Moreover, MEP is a Federal term of art in a Federal statute; it can be interpreted only by a Federal Court. A more expansive definition can be obtained only through an act of Congress. MEP cannot be defined by reference to a legal memorandum of a California attorney, especially one that has no regulatory effect.

Moreover, as revised, the permit's definition of MEP is contrary to the Clean Water Act. MEP does not necessarily require that municipalities "reject applicable BMPs only where other effective BMPs will serve the same purpose," if by this the permit is interpreted to mean that cost, environmental benefits, technical feasibility, implementability and public acceptance are to be ignored. Clean Water Act § 402(p)(2)(iii) requires controls "to reduce the discharge of pollutants to the maximum extent practicable." "Practicable" means "capable of being put into practice, done, or effected, especially with the available means or with reason or prudence; feasible." (The American College Dictionary, Random House, 1970.) The use of the word "practicable" implies a test of practicality. Practicality includes technical feasibility, public acceptance and cost. To impose a different test upon which BMPs can be rejected violates the Clean Water Act.

The SWRCB, in Order WQ 2000-11, specifically addressed the definition of MEP, noting that the Federal interpretation of the term, as it appears in various Federal statutes, includes the factors of technical feasibility, cost, and state and public acceptance. (Order, p. 20.) As the Board stated: "If a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the [MEP] standard." (Order, p. 20.)

Moreover, the sentence cited from the SWRCB legal memorandum does not support the interpretation placed on it by staff. That sentence reads: "[MEP] means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, *the BMPs would not be technically feasible, or the cost would be prohibitive.*" (Memorandum, February 11, 1993, from State Board Office of Chief Counsel to Division of Water Quality, p. 4) (emphasis added.)) The memorandum then

lists five factors to be considered: (1) effectiveness; (2) regulatory compliance; (3) public acceptance; (4) cost; and (5) technical feasibility. *Id.*, pp. 4-5.

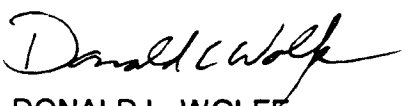
Indeed, these five factors were included in the definition of MEP found in the previous drafts of the permit, but deleted in the latest version. As set forth in the SWRCB memorandum, these factors *are* part of the MEP calculation. Thus, the last two sentences added by this revision should be stricken and this sentence, "It is the maximum extent possible taking into account equitable considerations and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility," should be reinserted.

In addition to the comments contained in this letter, additional detailed comments were made in color and incorporated into the text of your tentative order for your convenience. These comments are attached. We look forward to working with you and your staff in addressing our comments.

If you have any additional questions, please Mr. Adam Ariki at (626) 458-5948, Monday through Thursday, 7:30 a.m. to 6 p.m.

Very truly yours,

JAMES A. NOYES
Director of Public Works



DONALD L. WOLFE
Assistant Director

CT:kk
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Enc.

cc: All County Departments
All Permittees

Comment Version
Proposed Language is in Blue.
Comments are in Red.

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

NOV 13 P 3:09

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit Existing Permit and Report of Waste Discharge

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.

2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from

atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (iii) audit of MS4 Permittee programs; and (iv) clarifying enforcement responsibilities between the State and local governments.

5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight,* Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight,* Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001).

6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the

increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York.)

   It is true that development will increase runoff and would have some degradation effect (downstream erosion) on natural streams. However, we do not agree that this increase of runoff would significantly decline the biological integrity of natural streams in Los Angeles County. Los Angeles County's climate is close to semi-arid with an average annual precipitation of 16 inches. We experience only a few runoff producing storms in a given year. This line item provides a blanket application of a study that may not be consistent with an environment unique to southern California. The environmental impact analysis of individual projects should address the impacts of development on the natural habitats of streams. We have been unable to locate the ASCE paper on this topic that the Regional board has made a reference to in this finding. Since this finding is not substantiated by scientifically valid studies in this area, it should be deleted.

8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County demonstrates that the priority industrial sectors and auto

repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000).

9. A review of industrial waste/ pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) adequate legal authority, (ii) fiscal resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) monitoring and reporting program.

2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

   Public Information and Participation
   Development Planning
   Development Construction
   Public Agency Activities
   Illicit Connection/Illicit Discharge Elimination Program

   These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water monitoring program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional provisions contained in this Order would meet the minimum requirements of federal regulations and the Porter-Cologne Water Quality Control Act.

   It is necessary to state that the implementation of the SQMP is consistent with the Porter-Cologne Water Quality Control Act and the CWA. This language has been present in other MS4 NPDES permits.

5. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, , L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]

6. Retail gasoline outlets are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from retail gasoline outlets have high concentrations of hydrocarbons and heavy metals. [*Schueler and Shepp* (1992)]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The LA Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States

(such as Washington and Oregon) are already subject to numerical BMP design criteria under the MS4 program, as well in other U.S. States.

7. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County ~~Flood Control District~~ within the jurisdiction of the Los Angeles Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing,* Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles. Attachment B shows the map of the permitted area in Los Angeles County ~~Flood Control District~~.

2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside ~~the~~ Los Angeles County ~~Flood Control District~~, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

   About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

   About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the United States.

5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C Section 1251-1387). This section requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.

   - The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed Reg.* 47990).

   - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed Reg.* 68722).

2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contains certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.

4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act (ESA) and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].

5. ~~USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).~~

   The sections cited do not support the Finding. Section 122.26(d)(2)(iv)(A) requires a description of structural and source control measures to reduce runoff pollutants from commercial and residential areas. It does not apply to industrial facilities. Section 122.26(d)(2)(iv)(C) applies only to landfills, hazardous waste treatment, disposal or recovery facilities, facilities subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the MS4. There is no reference in these sections to inspecting, monitoring or controlling pollutant loads from "discharges from industrial facilities" in general, i.e. the entire category of all industrial permittees, as implied by the finding.

6. Section 402 (p) of the CWA (33 U.S.C. Section 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC)

has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and require amending the SQMP after pollutants loads have been allocated and approved.

9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. Sections 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.

10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule) 65 *Fed. Reg.* 31682 (40 C.F.R. § 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000,* on March 2, 2000, for implementation of the California Toxics Rule (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.

11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.

12. The State Board *In Re*: California Department of Transportation (State Board Order WQ 2001-08), determined that the discharge of storm water to Areas of Special Biological Significance (ASBS) is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.

14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA the TMDLs for trash will be effective and enforceable.

15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).

17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)

18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

    - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in

environmentally sensitive areas, and water quality design criteria for retail gasoline outlets.

- The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.

- ~~The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S. is not permissible. 40 CFR Part 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.~~

  This section conflicts with several voluntary programs such as the trash nets and could limit useful options under future TMDLs. Determination of allowable pollution control facilities can be made on a case by case basis or broadly under documents such as the Development Planning Model Program or TMDLs.

19. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

20. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

    Malibu Creek and Rural Santa Monica Bay WMA
    Ballona Creek and Urban Santa Monica Bay WMA
    Los Angeles River WMA
    San Gabriel River WMA
    Dominguez Channel/Los Angeles Harbor WMA, and
    Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

21. To facilitate compliance with federal regulation, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

22. The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.

24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th. Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

25. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC Section 13241. The Regional Board has considered the requirements of

sections 13263 and 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.

26. CWC Section 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the Federal Clean Water Act and its amendments.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal Pub Resources Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.

2. On March 12, 2001, the United States Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District,* 243 F3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

3. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

4. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize

discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

5. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then structural and treatment control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

6. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

7. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interferences. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

8. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP or requirement under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

9. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its requirements are not intended to restrict or control local land use decision-making authority.

10. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain treatment control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of treatment control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.

4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.

5. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit, pursuant to Section 402 of the CWA, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.

6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal Pub. Resources Code Section 21100 *et seq.*), in accordance with CWC § 13389.

7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.

8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 2. DISCHARGE PROHIBITIONS

The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges are:

1. covered by a separate individual or general NPDES permit for non-storm water discharges; or

2. fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:

   a) Category A - Natural flow:

      (1) Natural springs and rising ground water;

      (2) Flows from riparian habitats or wetlands;

      (3) Stream diversions, permitted by the State Board; and

      (4) Uncontaminated ground water infiltration ~~[as defined by 40 CFR 35.2005(20)]~~.
      This citation applies only to the sanitary sewer.

b) Category B - Flows from emergency fire fighting activity.

c) Category C - Flows incidental to urban activities:

(1) Reclaimed and potable landscape irrigation runoff;

(2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination/debromination and suspended solids reduction practices);

(3) Drains for foundations, footings, and crawl spaces;

(4) Air conditioning condensate;

(5) Dechlorinated swimming pool discharges;

(6) Dewatering of lakes and decorative fountains;

(7) Non-commercial car and recreational vessels washing by residents or by non-profit organizations; and

This is a common activity at all marinas, many boat launch ramps, and at homeowner sites. The pollution potential is similar to washing cars and there is no practical alternative for vessels moored in the water.

(8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of anti-degradation policies and TMDLs.
There are neither criteria nor procedures included in the draft permit for the addition of categories of non-storm water discharges subject to conditions in the paragraph above.

Part 3. RECEIVING WATER LIMITATIONS

~~1. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited.~~

~~2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.~~

Parts 2.1 and 2.2 are inconsistent with the Clean Water Act. The Clean Water Act sets forth the specific standard to be applied to municipal permittees. Under the Clean Water Act, a municipal permittee shall

"reduce the discharge of pollutants *to the maximum extent practicable*...." CWA § 402(p)(3)(B)(iii), 33 U.S.C. §1342(p)(3)(B)(iii).

This MEP standard is explicit recognition that a municipal permit, unlike industrial storm water permits, should not include an absolute prohibitions. Under this standard the discharge of pollutants are required to be reduced to the maximum extent practicable. There is no absolute prohibition.

Parts 2.1 and 2.2 violate this statutory directive. Parts 2.1 and 2.2 prohibit discharges without regard to the permittee's compliance with MEP. As such, these sections either should be eliminated or they should be modified to make clear that only discharges which have not been reduced to the maximum extent practicable are prohibited.

Moreover, the prohibitory language in Parts 2.1 and 2.2 create the potential for contradictory enforcement regimes that violate the Clean Water Act. As presently worded, it could be argued that even a discharge that could contribute, but not cause, a violation of a water quality standard or a condition of nuisance, violated the permit, without regard to MEP. Although we assume that such an interpretation is not the permit's intent, such an interpretation would create an enforcement "exception" that swallows the MEP "rule." Again, the statutory obligation of a municipal permittee is to comply with the MEP standard, not to insure that a discharge from the MS4 does not cause or contribute to the violation of a state water quality standard or a nuisance without regard to the MEP standard.

If it is the Board's intent that compliance with Part 2.3 is sufficient to achieve compliance with Parts 2.1 and 2.2, then this should be explicitly stated by amending Part 2.4 with the following words in italics:
So long as the Permittee has complied with the procedures set forth *in Part 2.3* and is implementing the revised SQMP and its components, the Permittee *is in compliance with this permit notwithstanding Parts 2.1 and 2.2, and* does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

3. **The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of water quality objectives or water quality standards (collectively, water quality standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:**

a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of water quality standards. This report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the Report.

b) Submit any modifications to the report required by the Regional Board within 30 days of notification.

c) Within 30 days following the approval of the report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.

4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the permittee is in compliance with this Order.

Part 4. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order.

2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the maximum extent practicable.

3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the maximum extent practicable.

B. Best Management Practice Implementation

~~The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution controls. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the maximum extent practicable.~~
This statement seems to be misplaced. This requirement is too general and needs some clarification. Please indicate what type of implementation program is needed, who the Permittee is to require implemenation of the BMP from, when is this applicable, and how is this to be accomplished.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments. Such amendments may include to the maximum extent practicable regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies. In the notice to the Permittees, the Regional Board Executive Officer shall provide reasons for seeking modifications to the SQMP and its components and his or her legal authority for such comments.

Modification of the SQMP must be consistent with the Clean Water Act and its statutory requirement that the permit "shall require controls to reduce the discharge of pollutants to the maximum extent practicable . . ." 33 U.S.C. 1342(p)(3).

As currently drafted, this section does not set forth the standard to be applied by the Executive Officer in requesting changes to the SQMP. Because the SQMP is part of the Order, its modification should follow the standards set forth in 40 CFR 122.62 for amending permits.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, The Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;

2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitt~~ing issues~~;
Wording is vague, please verify.

3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;

4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;

5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;

6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;

7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and

8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings B.2. and D.2.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;

3. Designate a technically knowledgeable representative to the appropriate WMC; and

4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and SQMP.

5. Prepare an Annual Report and Assessment which includes an annual summary of expenditures applied to the storm water management program. This summary of budget expenditures shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

   Is the Budget Summary part of the Annual Report and Assessment? It is not currently included in section T-I.

   a) Program management
      - Administrative costs

   ~~b) Illicit connection/illicit discharge~~

~~c) Development planning~~

~~d) Development construction~~

~~• Construction inspection activities~~

~~e) Industrial/Commercial inspection/site visit activities~~

~~f) Public Agency Activities~~

~~(1) Maintenance of structural BMPs and treatment control BMPs~~

~~(2) Municipal Street Sweeping~~

~~(3) Catch basin clean-up~~

~~(4) Trash collection~~

~~(5) Capital costs~~

g) Public Information and Participation

h) Monitoring Program

i) Miscellaneous Expenditure

This budget summary would be an impossible task with respect to the County's $16 Billion budget. The cost of compiling this information would far exceed any possible value of the report. Items related to storm water quality could be best addressed in the summary provided by the Los Angeles County Flood Control District.

6. Each Permittee, in addition to the budget summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).

2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a) Facilitate cooperation and exchange of information among Permittees;

b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and

g) Conduct joint WMC meetings four times per year and, as necessary.

G. Executive Advisory Committee (EAC)

1. The EAC shall be composed of one representative from the Malibu Creek WMA, two representatives from each of the other WMAs, one representative from the City of Los Angeles, and one representative from the Los Angeles County Flood Control District.

2. The EAC shall facilitate program compliance in each watershed and enhance consistency among Permittees.

The Permit establishes six Watershed Management Committees (WMCs) to develop various programs within each of the watersheds. However, the Permit is issued for all watersheds and does not differentiate among them. It is beneficial to have one group that coordinates the efforts of the WMCs and serves as a convenient contact point for the Regional Board to discuss Permit requirements. This role has been met by the Los Angeles County Storm Water Program Executive Advisory Committee. The Permit should recognize the EAC and its role as a coordinating body to facilitate the implementation of the Permit.

H. Legal Authority

1. **Permittees shall possess the necessary legal authority to prohibit non-storm water discharges,** to the maximum extent practicable, to the **storm drain system, including, but not limited to:**

   In items a through j the repetition of the word "prohibit" is unnecessary

   a) ~~Prohibit~~ illicit discharges and illicit connections and require removal of illicit connections;

   b) ~~Prohibit~~ the discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;

   c) ~~Prohibit~~ the discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

d) ~~Prohibit~~ the discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;

e) ~~Prohibit~~ the discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

f) ~~Prohibit~~ the discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;

g) ~~Prohibit~~ the discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

h) ~~Prohibit~~ washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;

i) ~~Prohibit~~ the discharge of concrete or concrete laden wash water from concrete trucks, pumps, tools, and equipment to the MS4.

j) ~~Prohibit~~, dumping, or disposal of materials into the MS4, other than storm water, such as:

(1) Litter, landscape debris and construction debris;

(2) Any state or federally banned or unregistered pesticides;

(3) Food and food processing wastes; and

(4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

a) Require persons within their jurisdiction comply with conditions in Permittees ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;

c) Control pollutants, ~~including potential contribution~~, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to source control, and treatment control, BMPs;

The potential contributions are difficult to define and identify, furthermore controls are variable.

~~d)~~ In cases where a Permittee has probable cause to suspect a violation of discharge provisions of their stormwater ordinance, follow due process to carry out all inspection, surveillance and

monitoring procedures necessary to determine compliance and non-compliance. ~~with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4.~~

We cannot inspect private property without the permission of the property owner or a court warrant.

Requiring regular reports from industrial facilities is beyond the scope of an illegal discharge investigation by a permittee and is the RWQCB's responsibility.

40 CFR Section 122.26(d)(2)(i), in pertinent part, provides only that a permittee shall demonstrate that it has the legal authority to "(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer." The second sentence of Section H.1.n. should be eliminated as it contains requirements that go beyond the CWA and this implementing regulation.

e) **Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s to the maximum extent practicable.**

f) **Require that treatment control BMPs be properly operated and maintained to prevent the breeding of vectors.**

3. **Each Permittee shall, no later than [9 months from permit effective date] amend and adopt, (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.**

4. **Each Permittee shall submit no later than [10 months from permit effective date], a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.**

Part 5. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce

the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

   The Regional Board Executive Officer may approve any site-specific Best Management Practice (BMP) substitution upon petition by a Permittee(s), if the Permittee can document that:

   a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

   b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

   c) The proposed alternative BMP or program will be implemented within a similar period of time.

2. Customized SQMP

   Each Permittee shall have available a local SQMP, which:

   a) Is customized and reflects the conditions in the area under its jurisdiction; and

   b) Specifies activities being implemented under the appropriate elements described in the countywide SQMP.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements. The Principal Permittee's maximum obligation under this section shall not exceed $10,000,000 for the five-year program. In addition co-permittees shall be required to develop their own public education program or supplement the County's program through contributions based on population.

The public education needs are unlimited. We need to establish a spending cap to ensure that we will be able to fund the program. The County has voluntarily taken on the regional campaign, but has been unfairly required to fund an inequitable amount. Unless all permittees contribute a reasonable amount based on population, the campaign will not reach its maximum effectiveness.

The objectives of the PIPP are as follows:

a) To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on

receiving waters, and potential solutions to mitigate the problems caused;

b) To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions;

c) To involve and engage ~~all~~ socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution (such as African American, Latino, East Asian, South Asian, and Middle Eastern).

There are hundreds if not thousands of socio-economic groups and ethnic communities in Los Angeles County and it would not be possible to target all of them.

The Principal Permittee shall convene an advisory committee ~~panel~~ to provide input and assistance in meeting the goals and objectives of the public education campaign. ~~review the PIPP and the effectiveness of each of its components.~~ The advisory committee shall be consulted during the process of developing the campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals, and other tasks as appropriate. The committee shall be comprised of stakeholders including representatives of the environmental community, Permittee Cities, Regional Board staff, the EAC, and experts in the fields of public education and marketing. ~~Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer for consideration no later than December 31, annually. The PIPP will become effective upon approval.~~

The Principal Permittee welcomes input from other knowledgeable stakeholders in developing the PIPP and has sought such input in the past. However, the PIPP must be continuous and somewhat seamless over the years to be effective. The outreach contract is not renewed annually and therefore modifications cannot easily be made at that frequency. The permit has a term of five years, so should the public education campaign.

2. PIPP - Residential Program

a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than (2 years after the effective date of this Order). Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts within 30 days of the date this order becomes effective. Permittees are responsible for providing current, updated information to the Principal Permittee for handling reports of illegal dumping posting on the website.

c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year Public Education Program:

(i) Advertising;

(ii) Media relations;

(iii) Public service announcements;

(iv) "How To" instructional material distributed in a targeted and activity-related manner;

(v) Corporate, community association, environmental organization and entertainment industry tie-ins;

(vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate major ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than (365 days from the effective date of this Order).

Spending limited resources to address small groups of residents or business owners who do not contribute substantially to the pollutant load is inefficient. When appropriate subgroups are identified, outreach should incorporate culturally effective methods.

(3) The Principal Permittee shall enhance existing outreach efforts related to proper disposal of cigarette butts.

~~implement an outreach program to educate on proper disposal of cigarette butts.~~

(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.

(5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning (within 3 months of the effective date of this Order). The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.

(6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

(7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

(8) The Permittees shall provide the contact information for their appropriate storm water staff to the Principal Permittee no later than (60 days from the effective date of this Order). Cooperative efforts with other agencies may also be used to accomplish this requirement.

~~(9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than (90 days from the effective date of this Order). It shall be implemented on approval.~~

~~(10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than (90 days from the effective date of this Order). The strategy shall be developed based on sociological data and studies (such as the County~~

~~Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.~~

We already perform regular assessment of our school programs and our public education program. We receive evaluation forms at every school presentation and conduct focus groups and other research among elementary school teachers. We also commission annual independent assessments of the educational effectiveness of our secondary school program from researchers at UCLA's School of Education. Extensive research and assessment are conducted as an integral part of our media campaign and outreach. In each case, research results and assessment findings are used to improve and modify the programs when appropriate. We have submitted assessment data on our stormwater campaign to the Board annually.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than (365 days from the effective date of this Order). Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts. .

Table 1.	
Watershed	***Target Pollutants for Outreach***
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information

on pollutants, sources of concern, and source abatement measures.

3. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target retail gasoline outlets and restaurant chains. At a minimum, this program shall include:

(1) Conferring with corporate management to explain storm water regulations;

(2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all retail gasoline outlet and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than (365 days from effective date of this Order).

b) Business Assistance Program

(1) The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

(2) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and

(3) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Program

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable ~~by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities~~. At a minimum, the Program shall include the following requirements.

The RWQCB, through Industrial Stormwater Permits, is responsible for regulating the implementation of BMPs and this obligation cannot be transferred onto Permittees without remuneration.

1. **Inventory of Facilities**

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

~~(1) Municipal Landfills~~

~~(2) Hazardous Waste Treatment, Disposal and Recovery Facilities~~

~~(3) Facilities Subject to SARA Title III (also known as EPCRA)~~

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

~~**2. Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**~~

~~a) The Permittees shall inspect~~

~~(1) Municipal landfills;~~

~~(2) Hazardous waste treatment, disposal and recovery facilities; and,~~

~~(3) Facilities subject to SARA Title III~~

~~once every 24 months.~~

~~b) Level of inspection: The Permittees shall confirm that~~

~~(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,~~

~~(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.~~

These facilities are highly regulated under other laws and generally are not subject to inspection by local cities for stormwater issues. The state and federal regulations covering such facilities are complex and any imposition of BMP provisions must be coordinated with the agency having primary jurisdiction. Given the fact that there are relatively few of these highly complex facilities, local resources are better spent on the more common businesses.

3. Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

c) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. **Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities**

a) The Permittees shall follow due process to inspect
This requirement must, of course, be secondary to the property rights guaranteed by Federal law. Any private facility has the legal right to refuse entry or inspection. However, permitted facilities do so at the risk of permit revocation and non-permitted facilities at the risk of reporting to the RWQCB for possible investigation.

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products

facilities once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

6. Automotive Service Facilities

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall follow due process to inspect each Automotive Service facility once every 24 months.

This requirement must, of course, be secondary to the property rights guaranteed by Federal law. Any private facility has the legal right to refuse entry or inspection. However, permitted facilities do so at the risk of permit revocation and non-permitted facilities at the risk of reporting to the RWQCB for possible investigation.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

7. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 7.

8. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall note this fact on their report and recommend ~~require~~ implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

By delegating Permittees to require BMPs, this section impermissibly forces the RWQCB's responsibilities onto an unpaid agent.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

9. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

10. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

11. Regional Board Inspected Facilities

To the extent that the Regional Board is required to ~~has~~ conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

Without conducting a site visit, there is no practical way for Permittees to verify which facilities the RWQCB has inspected at any particular time. We must assume that the RWQCB has met its legal obligation to inspect all State Permitted facilities.

12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

Industrial/Commercial Facilities Program [Version B]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by ~~requiring~~ recommending the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. **Inventory of Facilities**

   a) Database for Critical Sources Identification

   Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

   (1) Name of facility and name of owner/operator;

   (2) address;

   (3) coverage under the GIASP or other individual or general NPDES permits; and

   (4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

   The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

   b) High Priority Categories

   ~~(1) Municipal Landfills~~

~~(2) Hazardous Waste Treatment, Disposal and Recovery Facilities~~

~~(3) Facilities Subject to SARA Title III (also known as EPCRA)~~

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

~~Facilities which are listed in Attachment B of the permit.~~

~~**2. Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**~~

~~a) The Permittees shall inspect~~

~~(1) Municipal landfills;~~

~~(2) Hazardous waste treatment, disposal and recovery facilities; and,~~

~~(3) Facilities subject to SARA Title III~~

~~once every 24 months.~~

~~b) Level of inspection: The Permittees shall confirm that~~

~~(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,~~

~~(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.~~

3. **Restaurants**

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. **Retail Gasoline Outlets**

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. **Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities**

a) The Permittees shall inspect

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products

facilities once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

6. **Automotive Service Facilities**

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

7. **Site Visits to Lower Priority Categories**

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm

water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 7.

8. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall ~~require~~ recommend implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

9. Complaint Response

~~In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.~~

10. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

~~Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.~~

11. Regional Board Inspected Facilities

To the extent that the Regional Board is required to ~~has~~ conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

C. Industrial/Commercial Educational Program [Version C]

Each Permittee shall implement an industrial/commercial site visit program. The purpose of such site visits will be solely educational and to provide industrial/commercial facilities with information regarding the Permittee's storm water program, and to provide advice when requested in understanding and complying with the Permittee's storm water regulations. To minimize cost, each Permittee is encouraged to coordinate its site visit program with existing fire, health, industrial wastes and/or other inspection type programs so that the Permittee need not institute new and separate site visit programs. The program shall contain the following components:

1. Identification of Sources

   a. The Principal Permittee in consultation with the Permittees shall maintain and update a database for listing industrial/commercial facilities by four digit SIC Industry Numbers. This database will serve as a reference resource for the public, business, industry, local government, the Regional Board, and other public agencies on storm water program participation. The initial accuracy of the database will be dependent on the accuracy of electronic and information sources used to establish the database, but the accuracy is expected to

improve after Permittees begin to implement the industrial/commercial site visit program. No legal import is to be attributed to the database developed by the Permittees. The database format shall include at a minimum:

i. Facility name;
ii. Site address;
iii. Watershed Management Area;
iv. Applicable SIC code(s); and
v. NPDES storm water permit coverage status, if applicable.

b. Each Permittee shall collect information based on the format developed by the Principal Permittee to identify industrial/commercial facilities within its jurisdiction and submit to the Principal Permittee not later than one month after the Principal Permittee provides the database format to the Permittees or for "iii" below not later than one year after designation of groups by the WMC. The list of facilities shall include, at a minimum:

i. All industrial groups regulated under Phase I of the Federal storm water program (40 CFR 122.26; Phase I Facilities);

ii. Motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, gas stations, and restaurants; and

iii. Additional SIC industrial/commercial groups identified as priorities by each WMC pursuant to this Order.

c. The Principal Permittee shall maintain and update the information submitted by each Permittee into a database of industrial/commercial facilities. This database shall include:

i. For each four-digit SIC Industry Number, primary activities that might impact runoff discharges (from national or commercial database sources); and

ii. For each four-digit SIC Industry Number, primary materials that might impact runoff discharges (from national or commercial database).

2. Source Control Measures

The Permittees, shall ~~require~~ recommend the implementation of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site visits. The BMPs shall:

a. Address multiple pollutants;

b. Initially focus on pollutant source minimization, education, good housekeeping, and site design alternatives; and

c. Target source areas and activities with the highest potential to generate substantial pollutant loads.

The Principal Permittees shall distribute the BMP lists to the Permittees to be incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.

3. Educational Site Visits

a. Each Permittee shall implement an industrial/commercial educational site visit program according to the following schedule in Table 7:

Table 7
Schedule of Educational Site Visits

FACILITIES	SITE VISIT FREQUENCY (No. of Contacts / Time period)
i) Phase I*, [i]-[ix] and [xi] with waste discharge or pretreatment permit	1 / 24 months **
ii) Phase I, [i]-[ix] and [xi] with no waste discharge or pretreatment permit but with GIASP	1 / 24 months**
iii) Phase I, [i]- [ix] with no waste discharge or pretreatment permit, and no GIASP	1 / 24 months**
iv) Phase I [xi] with no GIASP	1 / 5 years***
v) Vehicle repair shops, vehicle body shops, vehicle parts and accessories facilities	1 / 24 months**
vi) Gas stations	1 / 24 months**
vii) Restaurants	1 / 24 months**
viii) Facilities selected by WMCs	1 / 36 months

* See Glossary of Terms for definition
** Once in 24 months with a minimum of two site visits during the five-year term of this Order
*** See exception in text below

i. Phase 1 facilities in categories [i] through [ix] and [xi] which have an industrial waste discharge permit or a pretreatment permit, once every twenty-four months;

ii. Phase 1 facilities in categories [i] through [ix] and [xi], which do not have an industrial waste discharge permit or a pretreatment permit but have obtained coverage under the GIASP, once every twenty-four months;

iii. Phase 1 facilities in categories [i] through [ix], which do not have an industrial waste discharge permit, a pretreatment permit or GIASP coverage, once every twenty-four months;

iv. Phase 1 facilities in category [xi] without an industrial waste discharge permit, a pretreatment permit, or GIASP coverage. In lieu of a site visit, contact by phone, mail-out of questionnaire and educational materials, or other similar method to inform the facilities of notice of intent (NOI) requirements and encourage good storm water quality control measures (non-responders to be identified in annual report), once in five years;

v. Vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC Industry Major Group 75); once every twenty-four months;

vi. Gasoline stations (SIC Industry Number 5541); once every twenty-four months;

vii. Restaurants (SIC Industry Number 5812), once every twenty-four months; and,

viii. Additional SIC industrial/commercial groups identified by the WMC for the watershed in which the Permittee is located, once in thirty-six months, with a maximum limit of 3,000 additional site visits per Permittee during the term of this Order.

b. During the educational site visit, the Permittee shall:

i. Consult with a representative of the facility to explain applicable storm water regulations;

ii. Distribute and discuss applicable BMP and educational materials, including information regarding the codes, regulations, ordinances, and permits applicable to the category of the facility. In the case of Phase I facilities, notify the facility of specific requirements under the GIASP including that such facilities must file an NOI with the State Water Resources Control Board and that SWPPP must be available on the site; and

iii. Follow-up with facilities, as deemed necessary and appropriate by the Permittee, to provide advice in complying with the Permittee's storm water ordinances, prohibitions, and other legal instruments.

c. Each Permittee shall submit to the Principal Permittee, on a quarterly basis, the lists of visited facilities identified by category. The Principal Permittee shall compile the submitted lists and submit them to the Executive Officer on a quarterly basis.

4. Alternative Programs

A Permittee may petition the Executive Officer to substitute the industrial/commercial educational program with an alternative industrial/commercial educational program that will achieve greater or

substantially similar educational goals and which will be implemented within a similar period of time.

D. Development Planning Program

1. The Permittees shall implement a development-planning program that will require all planning priority development and redevelopment projects to:

   a) Minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

   b) Maximize the percentage of permeable surfaces to allow percolation of storm water into the ground;

   c) Minimize the quantity of storm water directed to impermeable surfaces and the MS4;

   d) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices;

   e) Ensure whenever possible, that treatment control BMPs are properly designed and maintained in a manner that does not promote the breeding of vectors; and

   f) Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

2. Peak Flow Control

   The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in natural drainage systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. ~~Natural drainage systems are located in the following areas:~~

   ~~a) Malibu Creek~~

   ~~b) Topanga Canyon Creek~~

   ~~c) Upper Los Angeles River~~

   ~~d) Upper San Gabriel River~~

   ~~e) Santa Clara River~~

~~f) Los Angeles County Coastal streams (see Basin Plan Table 2-1)~~

We recommend that the list of natural drainage systems be determined as a part of the Peak Discharge Impact Study.

~~The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section I),~~
~~Each Permittee shall no later than (540 days from the permit effective date) implement numerical criteria for peak flow control.~~

The Permittees, the Regional Board Staff, and a third Party will collaborate to conduct exploratory assessment of peak flow control impact on erosion and water quality. The assessment would be conducted by evaluating the Peak Discharge Impact Study required under the Monitoring Program of this permit.

Upon completion of the Peak Flow Impact Study, each Permittee shall implement the recommendation of the Peak Discharge Impact Study.

First, this requirement will create a very significant burden on the development community, most notably single lot developers, small business owners, etc. The requirements may render many projects infeasible. Second, the requirement should be substantiated with adequate science. It has not been proven that the only solution to water quality issues with regards to impervious area creation is the restriction of flows/volumes. Many jurisdictions in the Pacific Northwest have been trying to deal with reductions in peak flows for many years, and have experienced many problems, both with execution and results. Those jurisdictions are looking to alternate analyses/solutions to the issue, such as verification studies to determine the extent of effect(if any) to river biology due to changes in flow, environmentally friendly streambank stabilization, etc. Some believe that some increases in flow may actually improve river ecosystems, especially in arid regions such as ours.

Implementation of the numerical criteria for peak flow control should be solely based on the result of the study.

A Permittee or group of Permittees may substitute for the peak flow control criteria with a Hydromodification Control Plan, on approval by the Regional Board, in the following circumstances:

(1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

(2) Watershed wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

3. Standard Urban Storm Water Mitigation Plans

a) Each Permittee shall require that a single-family hillside home development:

(1) Conserve natural areas

(2) Protect slopes and channels

(3) Provide storm drain system stenciling and signage if necessary

Most single family residence storm drains are yard drains which are grates and can not be stenciled. It is unclear how stencil and signage can be provided.

~~(4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability~~

(5) ~~Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability~~

Most hillside developments are subject to some degree of geotechnical instability. By imposing these criteria, We will incur liability from any structural damage or technical hazard.

b) Each Permittee shall require that a Standard Urban Storm Water Mitigation Plan as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet redevelopment thresholds

c) Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than (120 days from permit effective date) for approval by the Regional Board

Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.

In order for us to effectively enforce this requirement, the map must be able to overlay on House Numbering Map. Therefore, we request that the Board should provide us the maps for SNA and RARE at the parcel level.

d) Each Permittee shall require the implementation of SUSMP provisions no later than (180 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA, where, the development will:

(1) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and

(2) create 2,500 square feet or more of impervious surface area.

4. Numerical Design Criteria

The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

a) Volumetric Treatment Control BMP

(1) the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

(2) the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

(3) the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

(4) the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

b) Flow Based Treatment Control BMP

(1) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity, or

(2) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County, or

(3) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

5. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of planning priority projects to design and implement post-construction treatment controls to mitigate storm water pollution:

a) Single-family hillside residential developments of one acre or more of impervious surface area

Surface area needs to be defined.

b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more

c) A 100,000 square feet or more impervious surface area industrial/ commercial development

d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of impervious surface area]

Surface area needs to be defined.

e) Retail gasoline outlets [5,000 square feet or more and with projected Average Daily Traffic (ADT) of 100 or more vehicles]

f) Restaurants (SIC 5812) [5,000 square feet or more of impervious surface area]

Surface area needs to be defined.

g) Parking lots 5,000 square feet or more of impervious surface area or with 25 or more parking spaces

Surface area needs to be defined.

h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 3.c.

i) Redevelopment projects in subject categories that meet redevelopment thresholds

~~6. Not later than March 9, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial category to projects that disturb one acre or more of impervious surface area.~~

This is based on a requirement that doesn't currently exist and therefore shouldn't be included at this time.

7. Site Specific Mitigation

Each Permittee shall no later than (180 days from permit effective date) require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

a) Vehicle or equipment fueling areas

b) Vehicle or equipment maintenance areas, including washing and repair

c) Commercial or industrial waste handling or storage

d) Outdoor handling or storage of hazardous materials

e) Outdoor manufacturing areas

f) Outdoor food handling or processing

g) Outdoor animal care, confinement, or slaughter

h) Outdoor horticulture activities

8. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all planning priority projects that undergo significant redevelopment in their respective categories.

a) Significant redevelopment means land-disturbing activity that results in the creation or addition ~~or replacement~~ of 5,000 square feet or more of impervious surface area on an already developed site.

To be consistent with State Board Resolution (WQ2000-11).

Where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the change must be mitigated, and not the entire development.

b) Redevelopment does not include activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.

Original purpose of the facility needs to be defined. For example, an existing park wants to add a parking lot. Is the parking area exempt from SUSMP requirements since the original and proposed purpose of the facility is still a park?

c) Existing Single Family Structures are exempt from the redevelopment requirements.

d) Replacement of roofs and air conditioner are exempt from the redevelopment requirements.

It should be clarified that the replacement of roofs and AC are exempt in the Permit since these two activities are the most common routine maintenance.

9. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for structural and treatment control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

a) The developers signed statement accepting responsibility for maintenance until the responsibility is legally transferred, and either

b) A signed statement from the public entity assuming responsibility for structural or treatment control BMP maintenance and that it meets all local agency design standards, or

c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year, or

d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the structural and treatment control BMPs; or

e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction structural or treatment control BMPs

10. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements . Upon review and a determination by the Regional Board Executive Officer that the proposal

is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will

a) result in equivalent or improved storm water quality;

b) protect stream habitat;

c) promote cooperative problem solving by diverse interests;

d) be fiscally sustainable and has secure funding; and

e) be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

11. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

a) A waiver for impracticability is granted

b) Legislative funds become available

c) Off-site mitigation is required because of loss of environmental habitat

d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation

The language is added for clarification purpose.

~~12. California Environmental Quality Act (CEQA) Document Update~~

~~Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:~~

~~a) Potential Impact of project construction on storm water runoff~~

~~b) Potential Impact of projects post-construction activity on storm water runoff.~~

~~c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.~~

~~d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit~~

~~e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies~~

f) ~~Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm~~

~~g) Potential for significant increases in erosion of the project site or surrounding areas~~

This section impermissibly delineates the scope of CEQA guidelines, a task that is within the discretion of the Board of Supervisors, guided by California statute. The Regional Board cannot dictate to the Board the content of the CEQA guidelines. In any event, the consideration of potential storm water quality impacts is already an element of the CEQA guidelines. It does not need to be included in this draft permit.

13. General Plan Update

~~a) Each Permittee shall amend, revise or update its General Plans to include watershed and storm water quality and quantity management considerations and policies when the following General Plans elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, (iv) Open Space.~~

As noted above with respect to the sections purporting to require amendment of the County Public Health Code and the CEQA guidelines, this section impermissibly orders the Board of Supervisors to take certain actions within the exclusive discretion of that elected body.

b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 et seq.

14. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the requirements of the development planning on an annual basis beginning no later than (six months from the effective date of this Order), and more frequently if necessary. For Permittees with a population of 250,000 or more, training shall be completed no later than (one year from the effective date of this Order).

15. Developer Technical Guidance and Information

a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.

~~b)~~ The Principal Permittee in partnership with Permittees shall issue no later than (~~ten months~~ two years from the effective date of this Order), a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. ~~The technical manual shall at a minimum include:~~

~~(1) treatment control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;~~

~~(2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;~~

~~(3) expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;~~

~~(4) maintenance considerations; and~~

(5) ~~cost considerations.~~

To develop a comprehensive manual requires considerable amount of time for literature research. Moreover, the Peak Flow criteria will not be ready to be included in the manual in ten months.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

   a) Sediments generated on the project site shall be retained using adequate treatment control or structural controls;

   b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;

   c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

   d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as ~~the limiting of grading scheduled during the wet season~~; inspecting graded

areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.

We have regulations that require properly engineered erosion control to be used on all projects that have the need for grading; therefore it is impractical to impose limitation on grading schedules during the wet season.

2. For construction sites between one acre and ~~greater~~ five acres, each Permittee shall comply with all conditions in section E.1. above and shall:

a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.

The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

"As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

The proposed statement implies that all qualifying projects must have an architect or engineer involved. This is not always the case on single family residential development.

~~The landowner or the landowner's agent shall sign a statement to the effect:~~

~~*"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."*~~

~~The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which~~

~~means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.~~

It is the responsibilities of the project architect/engineer to insure that the plan is in compliance of all regulations (state and local laws).

~~b)~~ Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. ~~If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.~~

This section needs to be modified to reflect that it is not the Permittees' obligation to inspect, oversee or enforce the General Construction Activity Storm Water Permit. The draft permit, as written, violates Article XIIIB, section 6, of the California Constitution, and the GCASP itself. The federal regulations also do not authorize imposition of these obligations on the Permittees.

Article XIIIB, Section 6, of the California Constitution provides in pertinent part, "Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local government for the costs of such program or increased level of service . . ." The imposition of the obligation to inspect to assure compliance with the GCASP is to shift responsibility for enforcement of the general permit from the regional board to the permittees. As such it is mandating a new program or a higher level of service on each permittee. Because the Board is not reimbursing the permittees for the costs of this

program or higher level of service, these requirements violate the California Constitution

The requirements also violate the General Construction Permit itself. That permit delegates to the Regional Boards the authority to implement the permit, including, but not limited to, reviewing SWPPs, reviewing monitoring reports, conducting compliance inspections, and taking enforcement actions." (State Board Order No.99-08-DWQ, Section D.1.a.) The General Permit does not give that authority to municipal storm water permittees. The federal regulations also do not authorize imposition of these obligations on the Permittees. 40 CFR 122.26(d)(2)(iv)(D) requires a description of a program to implement best management practices to reduce pollutants in storm water from constructions sites. There is no reference in this section to overseeing or enforcing the General Construction Permit.

c) ~~Require, commencing March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer.~~ A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

This is based on a requirement that doesn't currently exist and therefore shouldn't be included at this time.

3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2.and shall:

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

d) Inspect construction sites covered under the GCASP for storm water quality requirements during routine inspections a minimum

of once during the wet season. If violations are observed during the inspection, the Permittee must notify the Regional Board.

4. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than (six months from the effective date of this Order), and annually thereafter. For Permittees with a population of 250,000 or more, initial training shall be completed no later than (one year from the effective date of this Order). Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
- Public Construction Activities Management
- Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
- Landscape and Recreational Facilities Management
- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Parking Facilities Management
- Public Industrial Activities Management
- Emergency Procedures
- Treatment Feasibility Study

1. Sewage System Maintenance, Overflow, and Spill Prevention

   a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:

      (1) Investigation of any complaints received;

      (2) Upon notification, immediate response to overflows for containment; and

      (3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

   b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:

      (1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and

(2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

2. Public Construction Activities Management

a) Each Permittee shall implement the Development Planning Program requirements (Permit Section D) at public construction projects.

b) Each Permittee shall implement the Development Construction Program requirements (Permit Section E) at Permittee owned construction sites.

c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population need not obtain coverage under a separate permit until March 10, 2003.

~~d) Each Permittee, no later than March 9, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.~~

This is based on a requirement that doesn't currently exist and therefore shouldn't be included at this time.

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Each Permittee, consistent with the SQMP, shall implement pollution prevention plans for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:

(1) Good housekeeping practices;

(2) Material storage control;

(3) Vehicle leaks and spill control; and

(4) Illicit discharge control.

c) Each Permittee shall require:

(1) For existing facilities, that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.

(2) For new facilities or during redevelopment of existing sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.

This provision does not apply to fire fighting vehicles.

4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;

~~b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ).~~

Aquatic pesticide monitoring requirements, if applicable, would be implemented through an aquatic pesticide NPDES Permit not the municipal NPDES Permit.

c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event ~~or~~ when water is flowing off the area to be applied;

No time period is given for "before" or "after" a rain event.

d) Ensure that no banned or unregistered pesticides are stored or applied;

e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

f) Where practicable, implement procedures ~~to encourage retention and planting of native vegetation and~~ to reduce water, fertilizer, and pesticide needs;

This requirement exceeds the RWQCB's regulatory authority.

g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

h) To the MEP, reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

i) Regularly inspect storage areas.

5. Storm Drain Operation and Management

Each Permittee shall:

a) Designate catch basin inlets within its jurisdiction as one of the following:

Priority A – catch basins that are designated as consistently generating the highest volumes of trash and/or litter.

Priority B - catch basins that are designated as consistently generating moderate volumes of trash and/or litter

Priority C – catch basins that are designated as generating low volumes of trash and/or litter.

b) Clean catch basins according to the following schedule:

Priority A –At least once during the dry season and once per month during the wet season.

Priority B – At least 2 times per year and once during the wet season. Between the effective date of this Order and July 1, 2003, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin is found or reported to be ~~reaches~~ 40% full during the wet season. From July 1, 2003 to the date this Order is renewed, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin is found or reported to be ~~reaches~~ 25% full during the wet season.

Original wording could be interpreted that Permittees are out of compliance immediately when a basin is 40% or 25% full even before its scheduled inspection and cleaning.

Priority C – as necessary but at least once per year.

c) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the Permittee shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain.

~~d) Place trash receptacles at all transit stops within its jurisdiction and maintain them.~~

Trash TMDLs give Permittees the discretion to implement whatever combination of BMPs are most effective in meeting the required load allocations.

e) The Permittees shall implement a program which achieves the waste load allocations in conformance with a TMDL schedule of implementation by using an effective combination of BMPs which may include a combination of street sweeping, catch basin clean outs, installation of treatment devices, or other BMPs.

f) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall

be recorded and re-stenciled or re-labeled within 180 days of inspection.

g) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

(1) A program to visually monitor Permittee-owned open channel storm drains and ~~other drainage structures~~ for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

Wording is not specific and could be interpreted to mean underground storm drains which are on a different inspection schedule.

(2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;

(3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

(4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and

(5) Proper disposal of material removed.

6. Streets and Roads Maintenance

a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter.

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter.

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter.

b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:

Sweepers operate to collect trash against the curb. There is little benefit in sweeping streets without curbs due to lower traffic/litter rates and the fact that any litter is quickly blown by cars into the gutter out of reach of sweepers.

Priority A – These streets and/or street segments shall be swept at least two times per month.

Priority B - Each Permittee shall ensure that each street and/or street segments is swept at least once per month.

Priority C – These streets and/or street segments shall be swept as necessary but in no case less than once per year.

c) Each Permittee shall require that:

(1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain.

(2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and

(3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.

d) Each Permittee shall, no later than (six months from effective date of this Order), train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

(2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more training shall be completed no later than (one year from the effective date of this Order.)

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity , obtain separate coverage under the GIASP except that a municipality under 100,000 in (1990 Census) population need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1,2002.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system that they become aware of, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

The phrase "..shall eliminate ALL illicit connections and illicit discharges..." is absolute. Permittees can only eliminate all IC/ID that they become aware of.

1. General

a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

b) Tracking: All Permittees shall, no later than [365 days from the effective date of this Order] develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to ~~the Principal Permittee~~ Regional Board Executive Officer, as part of their Annual Storm Water Report. No later than [365 days from the effective date of this Order] ~~the Principal Permittee~~ Permittees

shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.

- This element calls for the Department to pose requirements on municipalities that can be cost-prohibitive for many of them. Namely, it puts the Department in a position to require all cities to develop a GIS program (since the only way to do cluster analysis using data from all 84 cities requires all data to be in the same format, the Department would be forced to require all cities to submit their data in GIS). The Department can not take the place of the regulatory agency and does not have legal authority to pose unenforceable requirements to other agencies.
- Each permmittee should evaluate trends and patterns of illicit connections and illicit discharges with their own data and with the technology available to them (GIS, tabular databases, etc.) since the purpose of this evaluation is to determine hot spots and priority areas, the information will be used by the permmittees themselves.
- To evaluate patterns and trends of Illicit Connections and Illicit Discharges, the County's data may suffice and at most, if the City of L.A. agrees, we can combine City of L.A. and County's data. Between these two agencies, enough data should be available to do cluster analysis. Additionally, any City that already has a GIS program implemented, may participate by sharing their data in a GIS format.

c) **Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000, training shall be completed no later than [six months from the effective date of this Order]. For Permittees with a population of 250,000 or more, training shall be completed no later than [365 days from the effective date of this Order]. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.**

2. Illicit Connections

a) Screening for Illicit Connections

(1) **Field Screening: All Permittees shall field screen the storm drain system for illicit connections in accordance with the following schedule:**

(i) **Open channels: [365 days from the effective date of this Order];**

(ii) Underground pipes in priority areas: [three years from the effective date of this Order]; and

(iii) Underground pipes with a diameter of 36 inches or greater: [five years from the effective date of this Order].

This element requires dedication of significant manpower from this Department. As we have approximately 2,600 miles of storm drains and about 450 miles of open channels. Based on our Department's past experience, scheduling and coordinating activities in a more effective way is to schedule the inspections in the following cycle (which is very similar to the one proposed): Open Channels and priority areas – one year cycle; Drains in commercial and industrial areas – three years cycle; Drains in residential areas – six years cycle.

Permittees shall report, to the ~~Principal Permittee~~ Regional Board Executive Officer,as part of their Annual Storm Water Report, on the location and length of open channels or underground pipes that have been screened vis a vis the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.
Permittees can incorporate these figures as part of their Annual Storm Water Report and Assessment.

(2) Permit Screening: [five years from the effective date of this Order], Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

(1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed. For those cases of illicit connections that require more than 180 days to eliminate due to legal proceedings, Permittees shall provide written notification of the case to the Regional Board Executive Officer.

This element was on the second draft and was removed (hopefully inadvertently) but it is necessary to follow due process for illicit connection cases where resolution may take more than 180 days due to legal proceedings. This is an essential element.

3. Illicit Discharges

a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 6. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"**Areas of Special Biological Significance (ASBS)**" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"**Automotive Service Facilities**" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility~~; nor does it include~~ emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or cnstruction waste to storm water; mechanical permit work; electrical permit work; and sign permit work.

Be consistent with the existing Development Construction Model Program definition.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

"Discharging Directly" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

"Discharge of a Pollutant" means: Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

"Environmentally Sensitive Areas" means an area "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments" (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements ~~are~~ can include: areas designated as Significant Ecological Areas as defined in the Los Angeles County General Plan ~~by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)*~~

~~and amendments)~~; an area designated as a Significant Natural Area by the California Department of Fish and Game's Significant Natural Areas Program; an area listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use~~; or an area identified by a Permittee as environmentally sensitive~~. In lieu of these areas, each Permittee can identify its own environmentally sensitive areas.
The SEA is not an individual independent study and is a part of the General Plan. The area designated as a Significant Natural Area by the California Department of Fish and Game has not been field verified; therefore, it should not be used for any regulatory purpose in this Permit. The RARE area listed in the Basin Plan is too broad and vague. Moreover, in order for us to effectively enforce this requirement, the maps must be able to overlay on House Numbering Map. Therefore, we request that the Board should provide us the maps for SNA and RARE at the parcel level.

"Full Capture Device" means any device or system that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow resulting from a one-year, one-hour, storm.

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to: 1. Pre-inspection documentation research.; 2. Request for entry; 3. Interview of facility personnel; 4. Facility walk-through. 5. Visual observation of the condition of facility premises; 6. Examination and copying of records as required; 7. Sample collection (if necessary or required); 7. Exit conference (to discuss preliminary evaluation); and, 8. Report preparation, and if appropriate, recommendations for coming into compliance.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR § 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population estimate of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water CWA's § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. ~~Specifically, municipalities must choose effective BMPs, and reject applicable BMPs only where other effective BMPs will serve the same purpose. See the legal memorandum (Feb 11, 1993) from State Board OCC to DWQ.~~ The revisions to the definition of "Maximum Extent Practicable (MEP)" render the definition inconsistent with the Clean Water Act and illegally incorporate by reference a legal memorandum neither readily available to the permittees nor adopted pursuant to the Administrative Procedure Act. The last two sentences, added by this revision, should therefore be stricken. The sentence in the definition that was in prior drafts ("It is the maximum extent possible taking into account equitable considerations and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility"), should be reinserted.

As revised, the permit's definition of MEP is contrary to the Clean Water Act and State Board Order WQ 2000-11 (the Los Angeles County SUSUMP decision). MEP does not necessarily require that municipalities "reject applicable BMPs only where other effective BMPs will serve the same purpose," if by this the Board means that cost, environmental benefits, technical feasibility, implementability and public acceptance are to be ignored. Clean Water Act Section 402(p)(2)(iii) requires controls "to reduce the discharge of pollutants to the maximum extent practicable." "Practicable" means "capable of being put into practice, done, or effected, especially with the available means or with reason or prudence; feasible." (The American College Dictionary, Random House 1970) The use of the word "practicable" implies a test of practicality. Practicality includes technical feasibility, public acceptance and cost. To impose a different test on when BMPs can be rejected is contrary to the Clean Water Act.

The State Water Board in Order WQ 2000-11 specifically addressed the definition of MEP. The Board noted that the federal interpretation of the term, as it appears in various federal statutes, includes technical feasibility, cost, and state and public acceptance as factors. (Order, p.20.) As the Board stated: "If a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the [MEP] standard." (Order, p. 20.)

The sentence cited from the State Board OCC legal memorandum itself read "[MEP] means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive." (Memorandum, dated February 11, 1993, from State Board OCC to DWQ, p. 4)(emphasis added.) The memorandum then lists five factors to be considered: (1) effectiveness; (2) regulatory compliance; (3) public acceptance; (4) cost; and (5) technical feasibility. *Id., p 4-5.*

Indeed these five factors were included in the sentence that was previously found in the permit's definition of MEP, but was deleted in the latest version. As set forth in the legal memorandum these factors are part of the MEP calculation and for this reason the sentence that was deleted should also be placed back in the definition of MEP.

Moreover, MEP is a federal term of art in a federal statute. It is defined by the intent of the United States Congress. It is impermissible to define it by reference to a legal memorandum of a California attorney. Moreover, it is unlawful to do so in the manner done here, as that memorandum was not adopted after notice or comment in accordance with the Administrative Procedure Act nor adopted in a precedential decision of the State Water Resources Control Board. Accordingly the last two sentences of this definition should be deleted.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used personally, for businesses or for commerce with a lot size of 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces.
Surface area needs to be definded.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet redevelopment thresholds

Additionally, for all projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and

(8) Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

(9) Vehicle or equipment fueling areas;

(10) Vehicle or equipment maintenance areas, including washing and repair;

(11) Commercial or industrial waste handling or storage;

(12) Outdoor handling or storage of hazardous materials;

(13) Outdoor manufacturing areas;

(14) Outdoor food handling or processing;

(15) Outdoor animal care, confinement, or slaughter; or

(16) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; ; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

"Sidewalk Rinsing" means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

"Significant Ecological Area (SEA)" means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.[1]
Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.

[1] The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.[2]

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

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[2] These criteria from the 1976 study have been modified in the *Update Study 2000.*

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;

ii. Performs fleet vehicle on ten or more vehicles per day including repair, maintenance, washing, and fueling;
iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

"Water Column Toxicity" means a 70 percent survival rate for a single test or an average of 90 percent survival for three consecutive tests.

"Water Quality Standards and Water Quality Objectives" means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

"Waters of the State" means any surface water or groundwater, including saline waters, within boundaries of the state.

"Waters of the United States" or "Waters of the U.S." means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate "wetlands";
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
a. All impoundments of waters otherwise defined as waters of the United States under this definition;
b. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
c. The territorial sea; and
d. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's

status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with US EPA.

"Wet Season" means the calendar period beginning October 1 through April 15.

Part 7. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.

2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.

3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal Government Code Section 6250 *et seq.*).

2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a

combination thereof [40 CFR 122.41(a), CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC Section 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;

2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;

3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,

4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the Clean Water Act and the California Water Code.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC Section 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of

Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. **Reopener and Modification [40 CFR 122.41(f) & 122.62]**

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the Water Code and Title 23 of the California Code of Regulations for the issuance of waste discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

   ~~a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;~~

   b) ~~Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;~~

   c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,

   ~~d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.~~

   The U.S. EPA Regulations provide detailed criteria for the amendment of a permit, which are not reflected in current language.

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   a) Violation of any term or condition contained in this Order;

   b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,

   c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

~~3. This Order may be modified, revoked and reissued, or terminated for cause.~~

This provision is superfluous.

4. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

5. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR Part 122.63, if processed as a minor modification. Minor modifications may only:

   a) Correct typographical errors, or

   b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)][3]

1. The Permittees shall report to the Regional Board ~~any noncompliance~~ the exceedance of any narrative effluent limitations that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   As noted above, footnote moved into the text, and assumption made that violation effluent limit is the only circumstance requiring reporting under this provision.

2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][4]

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) of any storm water control or BMP as provided in this Order or in the SQMP and installed by a Permittee is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:
Footnote moved in the text for clarity.

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical

[3] ~~This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.~~

[4] This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;

3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)][5]

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b) The permitted facility was being properly operated by the time of the upset;

   c) The Permittee submitted notice of the upset as required; and,

   d) The Permittee complied with any remedial measures required.

2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

[5] *Supra*. See footnote number 2.

3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The Clean Water Act provides the following:

   a) Criminal Penalties for:

      (1) Negligent Violations:

      The CWA provides that any person who negligently violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

      (2) Knowing Violations:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

      (3) Knowing Endangerment:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

      (4) False Statement:

      The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine

of not more than $10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See section 309(c)(4) of the Clean Water Act.)

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation or combination violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on November 29, 2006. The Principal Permittee must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with Title 23, California Code of Regulation, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on November 29, 2001.

_____

Dennis A. Dickerson

Executive Officer

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM - CI 6948

FOR

MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF LONG BEACH

(NPDES PERMIT NO. CAS004001)

I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a unified Annual Storm Water Report (unified Annual Report) documenting the progress of Permittee implementation of the SQMP and the requirements of this Order. The unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the unified Annual Report. The unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first unified Annual Report, to be submitted on October 15, 2002, shall include the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.

2. Proposed changes to the SQMP, as recommended by the WMCs.

~~3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment will be based upon the specific record-keeping information requirement in each major section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:~~

~~a) Summary of common activities conducted by all Permittees;~~

~~b) County-wide BMP implementation;~~

~~c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;~~

~~d) Permittee level of effort;~~

~~e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and~~

~~recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the monitoring program. When exceedances of applicable water quality standards have been identified, a discussion of how Permittees will comply with the requirements in Part 2 of this Order (Receiving Water Limitations) shall be included.~~

Evaluate the results of analyses from the Monitoring Program to measure the effectiveness of the SQMP.

The principal permittee will organize the data and compile the annual report. The principal permittee will not evaluate the performance of the 84 other permittees.

The concept of a principal permittee is for the administrative convenience of Regional Board staff. There is no statutory or regulatory basis for designating a party as a principal permittee. Instead, the regulations specifically provide that co-permittees stand on equal footing to each other. 40 CFR §122.26(d) specifically provides "Where more than one public entity owns or operates a municipal separate storm sewer system within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application."

The Los Angeles Flood Control District has voluntarily agreed to assume significant administrative tasks as the "principal permittee" in order to further the interests of the storm water program. The principal permittee is not, however, in a position where it can assume the task of evaluating the performance of the other permittees, nor would it be appropriate for the principal permittee to do so.

It is more appropriate to link the SQMP and the result of analyses from the Monitoring Program together. The Regional Board should specify how to relate the result of the monitoring program with the SQMP.

~~4. A Receiving Water Limitations (RWL) Compliance Report shall be attached to the unified Annual Report every alternate year, beginning in 2003. The RWL Compliance Report shall include the following:~~

~~a) A plan to comply with the RWL (Order 01-XXX, Part 2);~~

~~b) Changes to the SQMP to eliminate water quality exceedances;~~

~~c) Enhanced monitoring to demonstrate compliance; and~~

~~d) Results of implementation.~~

~~If all water quality exceedances have been abated, a RWL Compliance Report is not required.~~

There is no authority to order a Receiving Water Limitations Compliance Report as part of the annual report. In addition, this paragraph is inconsistent with the procedure set forth in Part 2.3.a of the Permit (Receiving Water Limitations).

There is no statutory authority for a "Receiving Water Limitations Compliance Report" to be attached to the Annual Report. 40 CFR § 122.42(c) requires an operator of a MS4 that has been designated under §122.26(a)(1)(v) to submit an annual report. The report shall include, in pertinent part, "(4) A summary of data, including monitoring data, that is accumulated throughout the reporting year." There is no requirement that the report contain a "Receiving Water Limitations Compliance Report."

This paragraph is also inconsistent with the part of the permit it seeks to implement. Part 2 of the Permit sets forth receiving water limitations. Paragraph 3 of that part sets forth the procedure to be followed upon a determination that discharges are causing or contributing to an exceedance of an applicable water quality standard. The procedure set forth herein is inconsistent with the procedure in Part 2 of the Permit. This paragraph unilaterally orders a report in 2003, and a second report two years later whereas Part 2 states that as long as a permittee has complied with the procedures of that paragraph, the permittee does not have to repeat the same procedure.

B. Individual Annual Reports

Each individual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the past annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-5), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

1. Status of implementation of the monitoring program.

2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of

the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program. ~~All data shall be compared to applicable water quality standards in the Ocean Plan, the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22).~~

It is not clear what water quality standards are applicable to each monitoring component. Detailed guidelines need to be provided if the comparison is necessary.

3. An analysis of the findings of each monitoring program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures. The analyses described above will be conducted if appropriate data is available.

   Structure of the monitoring program in this draft may not provide enough information to perform pollutant source analysis and evaluate the effectiveness of control measures. In addition, the mechanism of the analyses is not specified. We recommend that the Regional Board develop a manual that describes all procedures and responsible parties that identify and prioritize water quality problems, identify potential sources and evaluate the effectiveness of control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.

5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.

6. ~~An assessment of compliance with applicable water quality standards for each component of the monitoring program. The lowest applicable standard from the Basin Plan, the Ocean Plan, the CTR, or Title 22 shall be used as a comparison. When data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of how Permittees plan to comply with the requirements of Part 2 of this Order (RWL) shall be included.~~

   This paragraph is inconsistent with the part of the permit it seeks to implement. Part 2 of the Permit sets forth receiving water limitations. Paragraph 3 of that part sets forth the procedure to be followed upon a determination that discharges are causing or contributing to an exceedance of an applicable water quality standard. The procedure set forth herein is inconsistent with the procedure in Part 2. Part 2 of the permit requires the permittee whose discharge is contributing to an exceedance of an applicable water quality standard to notify the Board and submit a report. This paragraph appears to place the burden on the Principal Permittee to undertake this task as part of the Storm Water Monitoring Report. There is no legal basis for imposing this obligation on the Principal Permittee as part of its voluntary agreement to prepare the Storm Water Monitoring Report.

Additionally, this paragraph appears to require a report each time there is an exceedance. Part 2 of the permit states that as long as a permittee has complied with the procedures of that paragraph, the permittee does not have to repeat the same procedure.

7. Recommendations for improvements ~~to the SQMP and~~ to the monitoring program ~~to address water quality exceedances and potential pollutant sources~~.

   The SQMP evaluation is redundant with Part I.A.3. The language for recommendations to the monitoring program is vague. It needs to describe how to evaluate the monitoring program and make recommendations for improvements in detail.

8. For each monitoring component, maps of all monitoring station locations and descriptions of each location.

9. All monitoring reports shall be submitted in both electronic and paper formats.

D. The Principal Permittee shall, not later than December 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the monitoring program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the ROWD.

Does the 2004-2005 annual monitoring report need to be submitted on August 15, 2005 in addition to the integrated report?

E. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

(Signature)_____(Title)_____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to EPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall mail the original of each annual report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to: 1) assessing compliance with this Order; 2) measuring and improving the effectiveness of the SQMPs; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality. Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives: 1) estimate the mass emissions from the MS4; 2) assess trends in the mass emissions over time; and 3) determine if the MS4 is contributing to exceedances of water quality objectives by comparing results to objectives in the Basin Plan, the Ocean Plan, the CTR, Title 22, and with emissions from other dischargers.

1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River[1]. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission

[1] Regional Board staff will work with the Principal Permittee to determine an appropriate location for the Santa Clara River station.

station shall also be analyzed. Sampling at all stations shall begin no later than (the effective date of this Order), except for sampling in the Santa Clara River, which will begin no later than (the following wet season).

2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall. Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[2], unless the Regional Board Executive Officer approves an alternate protocol.

5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 (?) sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

   There will be 15 and 10 station-events per station for wet weather and dry weather, respectively, during this permit period; therefore, the total station-events per station will be up to 25.

6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and

[2] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing. Specifically, *Ceriodaphnia dubia* (water flea) survival and *Strongylocentrotus purpuratus* (sea urchin) fertilization shall be used. Only *Ceriodaphnia dubia* shall be used for toxicity testing of samples from the Santa Clara mass emission station.

   Since the portion of the Santa Clara River watershed in LA County doesn't drain into the ocean directly, toxicity test with *Strongylocentrotus purpuratus* (sea urchin) is not necessary. During the 2001-2002 storm season, the first storm of the year may be missed because the storm season has already started before issuance of the permit.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall begin a Phase I TIE ~~immediately on all samples that are substantially toxic to either test species~~ on wet weather samples when three consecutive samples from the same monitoring station show substantial toxicity and on dry weather samples when three consecutive dry weather samples from the same monitoring station show substantial toxicity. If a sample is substantially toxic to both species, a TIE shall be performed for both species. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, *Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[3]

   The criterion for a TIE described above is not consistent with ones used in other studies. For example, the trigger to performing a TIE for the Long Beach study conducted in 2000-2001 was the presence of substantial toxicity for three consecutive samples at a given site.

3. Toxicity Reduction Evaluations (TRE)

   a) If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed. TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:

      (1) The potential sources of pollutant(s) causing toxicity;

[3] SCCRWP

~~(2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;~~

Once locations of the potential sources of pollutant(s) are identified, it is the Regional Board's role to identify municipalities that may have jurisdiction over the sources.

(3) Recommended BMPs to reduce the pollutant(s) causing toxicity;

(4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and

(5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

b) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

c) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

d) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (ie. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

e) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per WMA will be monitored, based on the schedule described below:

a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary,

subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.

b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a description and explanation of each proposed station location and a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

c) Monitoring shall begin at the following tributaries:

(1) Aliso Creek
(2) Bull Creek
~~(3) Compton Creek~~
(4) Rio Hondo Channel
(5) Burbank Western
(6) ~~Verdigo~~ Verdugo Wash

The site at Compton Creek and Greenleaf has security problems for sampling personnel. We recommend the Regional Board choose an alternative location.

2. Tributary monitoring shall begin (no later than the effective date of this Order).

3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[4], unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;

b) Indicator bacteria;

[4] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

c) All priority pollutants (Attachment U-1) for the first storm of the year;

d) All constituents for which the water body is impaired downstream of the monitoring station[5];

e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year. These constituents shall be listed in each Monitoring Report.

There is a need for more discussion about selection of the constituents described above.

~~f) Flow (flow may be estimated using EPA methods[6] at sites where flow measurement devices are not in place).~~

Measuring flow is not necessary to meet the objectives of this component.

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas[7], and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

   a) The eighteen established shoreline water quality stations listed in Attachment U-3 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project (SMBRP) and approval from the Regional Board Executive Officer;

   b) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat)[8]
Fecal coliform[9]	CFU or MPN/100 ml	6/week (Mon-Sat)[5]
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat)[5]

[5] The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

[6] NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

[7] California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765

[8] Samples will be collected on Sundays preceding Monday holidays

[9] *Escherichia Coli (E. Coli)* may be substituted for Fecal Coliform if chromogenic substrate test kits are used

c) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;

d) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).

e) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;

f) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas[10].

g) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the SMBRP regional program for the Santa Monica Bay.

~~E. Trash Monitoring~~

~~Permittees shall conduct trash monitoring to assess likely sources and to identify areas impaired for trash. The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to the CWC §13267 Request for Trash Monitoring, issued by the Regional Board on [date letter issued]. All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA §303(d) list for impairment for trash no later than October 15, 2003.~~

~~1. Either of the following formats for monitoring plans may be used:~~

~~a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.~~

[10] Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

~~b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing littler removal practices that the cities implement will remain in place, so that monitoring will evaluate how much trash is washed into the system under current practices. A structural, full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.~~

~~2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.~~

~~3. Following the first two years of data collection, Permittees shall calculate trash loading as a running three-year average (estimated total load discharged from 2003-2006, divided by three).~~

~~4. All trash collected shall be disposed of in compliance with all applicable regulations.~~

This section is inconsistent with the monitoring provisions of the newly adopted Trash TMDLs for the Los Angeles River and the Ballona Creek watersheds. The Trash TMDLs provide for baseline monitoring for two years. Thereafter, a compliance monitoring program is to be implemented. Compliance monitoring may be different than baseline monitoring. In contrast, this permit imposes the baseline monitoring procedures on the permittees for the entire 5-year period of the permit.

In addition, it is neither appropriate nor necessary to impose the same monitoring provisions on unimpaired watersheds commencing October 15, 2003. The monitoring program for trash in the unimpaired watersheds could cost as much as $5 million for those watersheds alone. Expenditure of this money for this purpose will leave no money for other monitoring programs.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and should complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertibrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit cycle. Sediment samples shall be taken at each station by means of a $0.1m^2$ ($1.1 ft^2$) modified Van Veen sediment grab sampler.

2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.

3. All samples shall be analyzed for the following:
   a) Sediment Chemistry (priority pollutants)
   b) Total Organic Carbon (TOC)
   c) Grain size
   d) Sediment Toxicity
      (1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.
      (2) Phase I TIEs of interstitial water, using Ceriodaphnia dubia and Strongylocentrotus purpuratus (sea urchin) fertilization, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.
   e) Benthic Macroinvertibrates
      (1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.

(2) The Principal Permittee shall identify all organisms to lowest possible taxon.

(3) The Principal Permittee shall determine the Total Biomass of:

(i) Mollusks
(ii) Echinoderms
(iii) Annelids/polychaetes
(iv) Crustaceans
(v) All other macroinvertebrates

(4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index[11].

4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation on the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed the State Board to complete this requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.

[11] Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.

3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.

4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Boar Executive Officer upon request.

5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.

6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional

Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)[12]. The following results and information shall be included in the annual Monitoring Report:

   a) All physical, chemical and biological data collected in the assessment;

   b) Photographs and GPS locations of all stations;

   c) Documentation of quality assurance and control procedures;

   d) Analysis that shall include calculation of the metrics used in the CSBP;

   e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;

   f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and

   g) Copies of all QA/AC documents from laboratories.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than 180 days from the date this Order is adopted. If appropriate,

[12] California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.

3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[13], unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS

b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.

c) Pathogen Indicators (Coliform)

d) PAHs

There is a need for more discussion about selection of the constituents described above.

e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place)

5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

~~The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.[14] The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed.~~ The Principal Permittee shall participate on the Stormwater Monitoring Coalition (SMC), and shall conduct exploratory assessment of peak flow control impact on erosion of natural stream channels and banks caused by urbanization. The study shall begin no later than (180 days from the effective date this Order).

[13] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.
[14] Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

1. Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.

2. Evaluate the requirements, feasibility and cost of maintenance for each BMP.

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]
   Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]
   The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

3. Monitoring and Records [40 CFR 122.21(j)(3)]
   Records of monitoring information shall include:

   a) The date, exact place, and time of sampling or measurements;

   b) The individual(s) who performed the sampling or measurements;

   c) The date(s) analyses were performed;

d) The individual(s) who performed the analyses;

e) The analytical techniques or methods used; and,

f) The results of such analyses.

4. Monitoring and Records [40 CFR 122.21(j)(4)]

All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by both.

6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California - 2000* (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Attachment U-2. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Appendix U-1 shall be used for all analyses, and the ML for these parameters shall be lower than or equal to the lowest applicable water quality criteria from the Basin Plan and/or the Ocean Plan.

8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

   a) An actual numerical value for sample results greater than or equal to the ML;

   b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

   c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]

    If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.

11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.

12. If no flow occurred during the reporting period, the Monitoring Report shall so state.

13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

    a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or

    b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date:

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

This form summarizes the requirements in Order No. 01-XXX. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Plan (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with order 01-XXX; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED *Do not leave any of the sections blank.*
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

Reporting Year 200__ - 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____
Title: _____
Address: _____
City: _____ Zip Code: _____
Phone: _____ Fax: _____

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C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary (Part 3.E.5)

1. Does your municipality have a storm water utility? Yes ☐ No ☐

If no, describe the funding source(s) used to implement the requirements of Order No. 01-XXX.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes ☐ No ☐

3. Complete Table 2, and report any supplemental dedicated budgets for the same categories on the lines below the table.

4. List any additional state/federally funded projects related to storm water.

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-XXX
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. ~~Capitol~~ Capital Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

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Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

F. Receiving Water Limitations (Part 2)

1. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes ☐ No ☐
2. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes ☐ No ☐
3. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
   a) A description of the pollutants that are in exceedance and an analysis of possible sources;
   b) A plan to comply with the RWL (Order 01-XXX, Part 2);
   c) Changes to the SQMP to eliminate water quality exceedances;
   d) Enhanced monitoring to demonstrate compliance; and
   e) Results of implementation.

G. Storm Water Quality Management Plan (SQMP) Implementation (Part 3)

1. Have you developed a SQMP specific to your city that incorporates the countywide SQMP, and identifies additional provisions intended to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes ☐ No ☐
2. Describe the status of SQMP implementation.

3. List the BMPs that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

4. Watershed Management Committees (WMCs)
   a) Which WMC are you in?
   b) Who is your designated representative to the WMC?
   c) How many WMC meetings did you participate in last year?
   d) Describe specific improvements to your storm water management program as a result of WMC meetings.

e) Attach any comments or suggestions regarding your WMC.

5. Storm Water Ordinance

a) Have you adopted a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of Order 01-XXX? Yes ☐ No ☐
If not, describe the status of adopting such an ordinance.

b) If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes ☐ No ☐
If not, please attach a copy to this Report.

c) Were any amendments made to your storm water ordinance during the last fiscal year? Yes ☐ No ☐
If yes, submit a copy of amendments to the Regional Board.

6. Discharge Prohibitions

a) List any non-storm water discharges you feel should be further regulated:

b) List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

II. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message (Part 4.B.1.a.)

a) How many storm drain inlets does your agency own?

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by November 29, 2003.

2. Reporting Hotline

b) Has your agency established its own hotline for reporting and for general storm water management information? Yes ☐ No ☐

b) If so, what is the number?

c) Is this information listed in the government pages of the telephone book? Yes ☐ No ☐

d) If no, is your agency coordinated with the countywide hotline? Yes ☐ No ☐

e) How many calls were received in the last fiscal year?

f) Do you keep record of the number of calls received and how they were responded to? Yes ☐ No ☐

g) Describe the process used to respond to hotline calls.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes ☐ No ☐

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (*Principal Permittee only)?* Yes ☐ No ☐

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. *(Principal Permittee only)*

b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes ☐ No ☐

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water management program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented *(Principal Permittee only).*

c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

d) Describe efforts your agency made to educate local schools on storm water pollution.

e) Did you, in cooperation with other Permittees, provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution *(Principal Permittee only)*? Yes ☐ No ☐

If not, explain why.

f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts *(Principal Permittee only)*.

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

g) What is the behavioral change target that was developed based on sociological data and other studies *(Principal Permittee only)?*

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

4. Pollutant-Specific Outreach

a) Attach a description of each watershed-specific outreach programs that your agency developed *(Principal Permittee only)*. All pollutants listed in Table 1 (Section B.1.d.) must be included.

b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes ☐ No ☐

c) Describe, or attach, the pollutant-specific material that was distributed.

d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains *(Principal Permittee only)*.

b) How many corporate managers did your agency reach last year?

c) What is the total number of corporations to be reached through this program?

d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years? Yes ☐ No ☐
If not, describe measures that will be taken to fully implement this requirement.

e) Has your agency developed and/or implemented a Business Assistance Program? Yes ☐ No ☐
If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes ☐ No ☐
How many media outlets were contacted?
Which newspapers or radio stations ran them?

Who was the audience?

7. Did you supplement the County's media purchase by funding additional media buys? Yes ☐ No ☐
   Estimated dollar value/in-kind contribution:
   Type of media purchased:
   Frequency of the buys:
   Did another agency help with the purchase? Yes ☐ No ☐
8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes ☐ No ☐
   If so, describe the type of advertising.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes ☐ No ☐
   Describe the materials that were distributed:

   Who were the key partners?
   Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes ☐ No ☐
    How many events did you attend?
11. Does your agency have a website that provides storm water pollution prevention information? Yes ☐ No ☐
    If so, what is the address?
12. Has awareness increased in your community regarding storm water pollution? Yes ☐ No ☐
    Do you feel that behaviors have changed? Yes ☐ No ☐
    Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

B. Industrial/Commercial Facilities Program

Did you (individually or jointly) update the Database for Critical Sources Identification? Yes ☐ No ☐

Comments/Explanation/Conclusion:

Inspection and Site Visit Program

Provide the reporting data as suggested in the following tables.

Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

R0005915

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)

Individual Annual Report Form

Initial Number of Facilities at the start of cycle proposed for site visit by categories (after the initial year, the updated number based on the new data)	Number of facilities site visited in the current reporting year	% Completed at the time of this report for this cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

Comments/Explanation/Conclusion:

BMPs Implementation

Provide the reporting data as suggested in the following table.

Number of facilities inspected/ site visited by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected/ site visited by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade

R0005916

Comments/Explanation/Conclusion:

Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number since permit adoption

Facilities by category	Number of enforcement actions by type (Warning letter)	Number of NOVs	Number of Referral	Number of Other

Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the

R0005917

knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective ☐ Somewhat Effective ☐ Non-effective ☐

Comments/Explanation/Conclusion:

You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

R0005918

C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes ☐ No ☐
   Attach a copy of your CEQA checklist, and any other examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.
2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:
   a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes ☐ No ☐
   b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes ☐ No ☐
   c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes ☐ No ☐
   d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes ☐ No ☐

   ~~Briefly describe each procedure and attach examples of how each was required in a priority development or redevelopment project.~~

   The details of the above requirements are already included in the Model Program.

3. Describe the status of the development or implementation of peak flow controls in natural drainage systems.
4. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

5. How many ~~of each of the following~~ projects did your agency review and condition to meet SUSMP requirements last year?

Due to complex review process among different divisions' involvement, SUSMP projects can not be tracked by types as required in the following.

~~a) Residential~~
~~b) Commercial~~
~~c) Industrial~~
~~d) Automotive service facilities~~
~~e) Retail gasoline outlets~~
~~f) Restaurants~~
~~g) Parking lots~~
~~h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area~~
~~i) Total number of permits issued to priority projects~~

6. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

~~7. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?~~

This is based on a requirement that doesn't currently exist and therefore shouldn't be included at this time.

~~After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?~~

8. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes ☐ No ☐

9. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes ☐ No ☐

If yes, attach a copy of your CEQA checklist.

If no, provide an explanation and an expected date of completion.

10. Did your agency update any of the following General Plan elements in the past year?

a)	Land Use	Yes ☐	No ☐
b)	Housing	Yes ☐	No ☐
c)	Conservation	Yes ☐	No ☐
d)	Open Space	Yes ☐	No ☐

If yes, please describe how watershed and storm water quality and quantity management considerations were included. Attach a copy of the amendment, if you have not already provided the Regional Board with a copy.

11. How many targeted staff were trained last year?
How many targeted staff are trained annually?
What percentage of total staff (listed on page 2) are trained annually? %

12. Has your agency developed and made available development planning guidelines? Yes ☐ No ☐
If no, what is the expected date that guidelines will be developed and available to developers?

13. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?
   a) Will result in soil disturbance of one acre or greater Yes ☐ No ☐
   b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes ☐ No ☐
   c) Is located in a hillside area Yes ☐ No ☐

   Attach one example of a local SWPPP

3. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

4. How many building/grading permits were issued to sites requiring Local SWPPPs last year?
5. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?
6. How many building/grading permits were issued to construction site less than one acre in size last year?
7. How many construction sites were inspected during the last wet season?

8. Complete the following table.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				

R0005922

Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

9. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

10. Describe the system that your agency uses to track the issuance of grading permits.

E. Public Agency Activities (Part 4.F)

1. Trash Receptacles
   a) Did your agency place trash receptacles at all transit stops within its jurisdiction and maintain the receptacles? Yes ☐ No ☐
   b) How many trash receptacles within your jurisdiction are near transit stops or commercial areas?

2. Sewage System Maintenance, Overflow, and Spill Prevention (*only applicable to agencies that own and/or operate a sanitary sewer system*)
   a) Did your jurisdiction submit its Sewage System Response Plan to the Regional Board? Yes ☐ No ☐
   b) How many sanitary sewer overflows occurred within your jurisdiction?
      How many did your agency respond to?
   c) Did your agency investigate all complaints received? Yes ☐ No ☐
   d) How many complaints were received?
   e) Upon notification, did your agency immediately respond to overflows by containment? Yes ☐ No ☐
   f) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes ☐ No ☐
   g) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes ☐ No ☐
      If so, describe the program:

   h) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes ☐ No ☐
      If so, describe the program:

3. Public Construction Activities Management

a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? Yes ☐ No ☐

Give an explanation for any sites greater than 5 acres that were not covered:

b) What is the total number of active public construction sites?

How many were 5 acres or greater in size?

c) (In March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes ☐ No ☐

4. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

b) Have you submitted a list to the Regional Board that includes contact person, location and telephone number for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

If not, explain why:

c) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

1) Good housekeeping practices
2) Material storage control
3) Vehicle leaks and spill control
4) Illicit discharge control

d) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes ☐ No ☐

If not, what is the status of implementing this requirement?

e) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above? Yes ☐ No ☐

5. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes ☐ No ☐

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes ☐ No ☐

If so, list them:

d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?

e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

f) How often are storage areas for fertilizers and pesticides inspected?

What BMPs are commonly implemented in storage areas?

6. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes ☐ No ☐

How many of each designation exist in your jurisdiction?

Priority A:
Priority B:
Priority C:

b) How many times were all Priority A basins cleaned last year?

c) How many times were all Priority B basins cleaned last year?

d) How many times were all Priority C basins cleaned last year?

e) How much total waste was collected in tons from catch basin clean-outs last year?

f) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.

g) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:

1) Provide for the proper management of trash and litter generated from the event? Yes ☐ No ☐

2) Arrange for temporary screens to be placed on catch basins? Yes ☐ No ☐

3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes ☐ No ☐

h) Has your Agency conducted an assessment of measures that can be implemented to reduce and/or prevent trash from entering the MS4 system? Yes ☐ No ☐

If yes, has this assessment been submitted to the Regional Board? Yes ☐ No ☐

If no, what is the status of conducting this assessment?

i) Did your agency inspect the legibility of the catch basin stencil or labels? Yes ☐ No ☐

What percentage of stencils were legible?

j) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes ☐ No ☐

k) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes ☐ No ☐

Is the prioritization attached? Yes ☐ No ☐

l) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes ☐ No ☐

What changes have been made?

m) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes ☐ No ☐

n) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

o) How much total waste was collected (in tons) by stream or channel segment from Permittee-owned open channels or other drainage structures?

p) Where was the removed material disposed of?

7. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes ☐ No ☐

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes ☐ No ☐

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes ☐ No ☐

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

Priority A – These streets and/or street segments shall be swept at least two times per month? Yes ☐ No ☐

Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes ☐ No ☐

Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes ☐ No ☐

c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes ☐ No ☐

d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes ☐ No ☐

e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes ☐ No ☐

f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes ☐ No ☐

2) Identify and select appropriate BMPs? Yes ☐ No ☐

8. Parking Facilities Management

a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes ☐ No ☐

b) Were any Permittee-owned parking lots cleaned less than once a month? Yes ☐ No ☐
How many?

9. Public Industrial Activities Management

a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes ☐ No ☐

b) Does your agency serve a population of less than 100,000 people? Yes ☐ No ☐

10. Emergency Procedures

a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes ☐ No ☐

b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes ☐ No ☐

11. Feasibility Study

a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes ☐ No ☐

b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes ☐ No ☐

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F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).

2. Attach a map of your storm drain system showing ~~all permitted connections, and~~ the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

As explained during our presentations, meetings and in our written comments on the previous drafts, the existing County's storm drain connections database is extremely large and mapping all permitted connections would be extremely costly because it requires the existence of a GIS storm drain file suited for analysis. Again, mapping illicit connections and illicit discharges should be the focus of this element.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

5. What is the total length of open channel that your agency owns and operates?
   What length was screened last year for illicit connections?
6. What is the total length of closed storm drain that your agency owns and operates?
   What length was screened last year for illicit connections?
7. Describe the method used to screen your storm drains.

8. Attach a copy of your agency's plan for proactive storm drain screening of priority areas (Part 4.G.2.b). If a plan has not been developed, describe the status of development.

9. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# not identified ???? What does this mean?
01/02							
02/03							
03/04							
04/05							
05/06							

10. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

a) Were all identified connections terminated within 180 days? Yes ☐ No ☐

b) If not, explain why.

11. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

12. What is the average response time after an illicit discharge is reported?
    a) Did any response times exceed 72 hours? Yes ☐ No ☐
    b) If yes, explain why.

13. Describe the your agency's spill response procedures.

14. What would you do differently to improve your agency's IC/ID Elimination Program?

15. Attach a list of all permitted connections to your storm sewer system.

III. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-XXX that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 3.

IV. Assessment of Program Effectiveness

F. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
3. A summary of the strengths and weaknesses of your agency's storm water management program;
4. A list of specific program highlights and accomplishments;
5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
6. Interagency coordination between cities to improve the storm water management program;
7. Future plans to improve your agency's storm water management program; and
8. Suggestions to improve the effectiveness of your program or the County model programs.

G. On a scale of 1 to 10, rate your municipality's level of compliance with Order No. 01-XXX.

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

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00070-0307; 01359-0105

November 6, 2001

Mr. Dennis Dickerson,
Executive Officer,
California Regional Water Quality Control Board –
Los Angeles Region
Attn: Xavier Swamikannu, Ph.D.
320 West 4th Street, Suite 200
Los Angeles, California 90013

2001 NOV -9 P 2:00

Re: **Initial Comments and Submission of Evidence of Financial and Economic Impacts of "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH"**

Dear Mr. Dickerson and Dr. Swamikannu:

By this letter, the Los Angeles County Economic Development Corporation ("LAEDC") and the Cities of Alhambra, Camarillo, Compton, El Segundo, Industry, Lawndale, Lomita, Moorpark, Santa Clarita and Torrance (the "Cities") submit evidence that compliance costs for storm water permit programs in Los Angeles County will exceed $50 billion. This evidence is directly relevant, and, as a matter of law, must be addressed in revisions to the "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS

ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" (the "Third Draft") and the accompanying document, "Tentative Draft – FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

Please list this letter as having been submitted by LAEDC and each of the respective cities. (It is not a comment letter of the firm of Burke, Williams & Sorensen, LLP, which has not taken a position in this matter. However, please continue to keep the undersigned on the list of interested persons in this matter.) This letter supplements the Cities' previous letters of July 19, 2001, and August 6, 2001, which offered comments on the Second Draft.

By this letter, the LAEDC and the Cities submit for your careful consideration and for you to address the following reports:

1. "Southern California Association of Governments Staff Report to Energy and Environment Committee dated August 23, 2001, Subject: Regional Solutions for Managing Stormwater Pollution" (the "SCAG Report");

2. "COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA" June, 1998, by Brown & Caldwell, prepared for California Department of Transportation; and

3. "Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area" presented to California Department of Transportation Environmental Program, Report I.D. #CTSWRT-98-72, November, 1998, by Stanley R. Hoffman Associates, (the "Caltrans Financial and Economic Impacts Study").

These studies and reports (to which I shall refer collectively as the "Storm Water Financial Impact Studies") are evidence to be considered and addressed by the Board and the Staff in the revision of the "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" and the "Tentative Draft – FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

The Storm Water Financial Impact Studies, which conclude that the cost of storm water compliance for the areas affected by storm water permits issued by the Board for Los Angeles County will exceed $50 Billion, must be taken into consideration in re-evaluating the requirements to be imposed on the co-permittees. This is because MS4 permits are issued under Section 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii). **That section** does not impose an absolute prohibition on the discharge of pollutants. Instead, the section **requires that:**

> **Permits for discharges from municipal storm sewers --**
>
> > **(iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable*,** including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (Emphasis added.)

Similarly, section 13263(a) of the California Water Code requires regional boards, when prescribing waste discharge requirements, to take into consideration the provisions of §§ 13241(c) and (d). Those sections require a balancing similar to that required by § 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii). **Among the factors regional boards must consider are**:

> (c) ***Water quality conditions that could reasonably be achieved*** through the coordinated control of all factors which affect water quality in the area.
>
> (d) ***Economic considerations***.

The balancing required by CWA § 402(p)(3)(B)(iii) and California Water Code §§ 13241(c) and (d) clearly require the Regional Board to consider, and to justify, the costs of permit compliance.

The LAEDC and the Cities fully support the objectives of the Clean Water Act. However, the magnitude of the compliance cost estimates referred to in the Storm Water Financial Impact Studies, over $50 Billion, would make it necessary for the Cities named above, and all other Cities in Los Angeles County, to ask the Congress and the California Legislature to appropriate nearly all of the funds estimated to be necessary for compliance. Given the current downturn in the economy and the priorities for funding Operation Enduring Freedom and Homeland Defense, Congress and the State Legislature may be unable to make necessary funds available.

The LAEDC and the Cities will expect the Board and Staff to give most careful consideration to the evidence submitted with this letter. We are not aware of any published studies, by any reputable and qualified persons, which rebut the studies submitted with this letter. We ask that this letter, and its enclosures, be included in the administrative record of this matter. The LAEDC and the Cities reserve the right to offer further comments.

Very truly yours,

RUFUS C. YOUNG, JR.
Of BURKE, WILLIAMS & SORENSEN, LLP

Encl.: "Southern California Association of Governments Staff Report to Energy and Environment Committee dated August 23, 2001, Subject: Regional Solutions for Managing Stormwater Pollution" (the "SCAG Report");

"Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area" presented to California Department of Transportation Environmental Program, Report I.D. #CTSWRT-98-72, November, 1998, by Stanley R. Hoffman Associates, (the "Caltrans Study"); and

"COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA" June, 1998, by Brown & Caldwell.

cc: Lee Herrington, President & CEO, LAEDC
Mayors, City Managers and City Attorneys of the
City of Alhambra,
City of Compton,
City of Camarillo
City of El Segundo,
City of Industry,
City of Lawndale,
City of Lomita,
City of Moorpark
City of Santa Clarita, and the
City of Torrance

REPORT

DATE: August 23, 2001

TO: Energy and Environment Committee

FROM: Daniel E. Griset, Sr. Planner, 213-236-1895, griset@scag.ca.gov

SUBJECT: Regional Solutions for Managing Stormwater Pollution

2001 NOV -9 P 2:00

RECOMMENDED ACTION:

Consider for policy direction.

BACKGROUND:

In the nearly 30 years since its enactment, the Clean Water Act has had its greatest success in improving water quality by regulating those sites that use water and discharge water into water bodies such as our rivers and oceans. Examples of these "point source" dischargers are industrial plants and sanitation agencies. Each discharger of this kind is required to obtain a permit for any discharges that will be made into a water body. The permit specifies the maximum level of pollutants that are allowed. Any excesses of this limit are illegal and subject to enforcement.

Only in the last 10 years have environmental regulators turned their attention to a much more challenging aspect of water quality in the urban setting: the "non-point" water pollution. Examples of "non-point" pollution are storm water and urban run-off. The challenge created by this kind of pollution is its general origins, its magnitude, and its complex constituents. As population growth occurs in the SCAG region, along with related new community development, the nature of storm weather flooding and runoff from impervious surfaces have become increasingly severe problems.

In response to these problems, water quality regulators in Los Angeles County have moved to establish new rules requiring the cities and County to take greater responsibility for managing storm water and dry weather run-off that flows through each locale. One great difficulty with this regulatory approach is the absence of larger-scale solutions for problems that are "everywhere" by location and that are often more affordable when rationalized over a larger area with varieties of terrain and open space. Without a larger-scale approach to this kind of pollution each city will struggle to meet mandates individually, inevitably duplicating efforts made by neighboring communities.

Studies conducted to estimate the cost of removing pollutants from Los Angeles County storm water indicate that capital plant alone needed for this mission will cost more than $50 billion. A price tag of this magnitude requires not only new thinking about financing urban environmental improvements, it also calls for new thinking about regional approaches and institutions for achieving water quality goals.

REPORT

Regional Solutions for Managing Stormwater Pollution (cont.)
September 6, 2001
Energy and Environment Committee

SUMMARY:

Ken Farfsing, City Manager of Signal Hill, will address the Committee on behalf of the Coalition for Practical Regulation. The Coalition is comprised of 35 Los Angeles County cities that are seeking new, regional approaches to "non-point" water pollution. The Coalition has taken its concerns to not only to the Los Angeles Regional Water Quality Control Board, it has appealed issues related to the Municipal Storm Water permit and to the Trash TMDLs to the State Water Resources Control Board.

Mr. Farfsing will bring to the Committee a variety of ideas for regional problem-solving, drawing on the models already in place for managing flooding and sanitation.

Attached to this report are three Coalition memorandums: the first two address the need for Regional/Subregional Programs; the third addresses inspection and enforcement activities mandated for cities by the proposed municipal storm water permit for Los Angeles County cities.

FISCAL IMPACT:

The fiscal impact on the region is substantial. The fiscal impact on SCAG is unknown.

Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area

Presented to:

California Department of Transportation Environmental Program

Report I.D. #CTSWRT-98-72

November 1998

R0005944

SRHA
Stanley R. Hoffman Associates

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SECTION 1
EXECUTIVE SUMMARY

This report evaluates the potential financial and economic impacts of implementing an enhanced storm water treatment program in the Los Angeles National Pollutant Discharge Elimination System (NPDES) Permit area as part of the Caltrans District 7 Storm Water Facilities Retrofit Evaluation. The full storm water treatment system would require about $53.6 billion in capital improvement costs which includes land and $198.9 million in annual operations and maintenance costs. Land requirements for the estimated 480 treatment facilities would total about 13,950 acres. The evaluation methodology applies the EPA Municipal Screener approach and other selected economic indicators.

1.1 Preliminary Municipal Screener Impacts

The EPA publication, Economic Guidance for Water Standards Workbook, describes a methodology for measuring economic impacts. One test in the described methodology is called the Preliminary Municipal Screener. According to the Workbook:

> "This guidance is presented to assist States and applicants in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted. To remove a designated use or obtain a variance, the State or discharger must demonstrate that attaining the designated use would result in substantial and widespread economic and social impacts."

The Municipal Screener test indicates whether a public entity will *not* incur any substantial economic impacts from the proposed pollution control program. This Screener is the estimated Total Annual Pollution Control Cost per Household as a percent of Median Household Income in the community deemed "affordable" by the United States Environmental Protection Agency (EPA). The test specifies that local pollution control costs between 1 percent and 2 percent of median household income constitute "Mid-Range" impacts and greater than 2 percent constitute "Large" impacts. The estimated cost for existing pollution controls plus the full storm water system is about $1,295 per household annually which results in impacts over 2 percent of median household income, therefore; this is judged to create a substantial economic impact. This total cost is comprised of the annual existing non-storm water pollution control cost of $554 per household plus the annual average storm water cost estimate of $741 per household.

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1.2 Secondary Municipal Screener Impacts

The EPA standards workbook also specifies that a secondary test must be done if the Municipal Screener is not clearly less than 1 percent of median household income. The secondary test is intended to characterize the community's ability to obtain financing and to indicate the socioeconomic health of the community. As applied to the Los Angeles area, this test generates a score that is within EPA's Mid-Range level of economic impacts.

The Secondary Test utilizes five indicators to form a composite assessment of the community's economic health and the financial impact of the pollution control project. Besides providing guidance on how to calculate each indicator, the Workbook supplies criteria for scoring each as 1-weak, 2-mid-

range or 3-strong. For each of the five indicators the community is rated as weak, mid-range, or strong, based on various thresholds that apply to specific indicators. For example, overall net debt is used as an indicator of a community's ability to meet debt obligations and its capacity to finance infrastructure. For example, if the Overall Net Debt Per Capita is greater than $3,000, the community would have less capacity to fund additional infrastructure and would therefore be rated weak with a rating of 1. However, if the debt per capita is less than $1,000 it would be considered strong and assigned a rating of 3. The indicators are then averaged to derive the Secondary Score.

The results from the Preliminary Municipal Screener and the Secondary Screener are measured jointly to determine whether the community would be expected to incur substantial impacts due to the proposed pollution control project. As shown on Table 1-1, for the Los Angeles area based on the secondary screener analysis, the score falls within the 1.5 to 2.5 range. When combined with an annualized cost greater than 2 percent of median household income, the joint score results in estimated substantial impacts, according to EPA's Substantial Impacts Matrix, as indicated by the "X" in Table 1-1.

1.3 Widespread Impacts

Based on the EPA methodology and other economic indicators presented below, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs. Other levels of treatment or funding sources may be considered to mitigate these impacts.

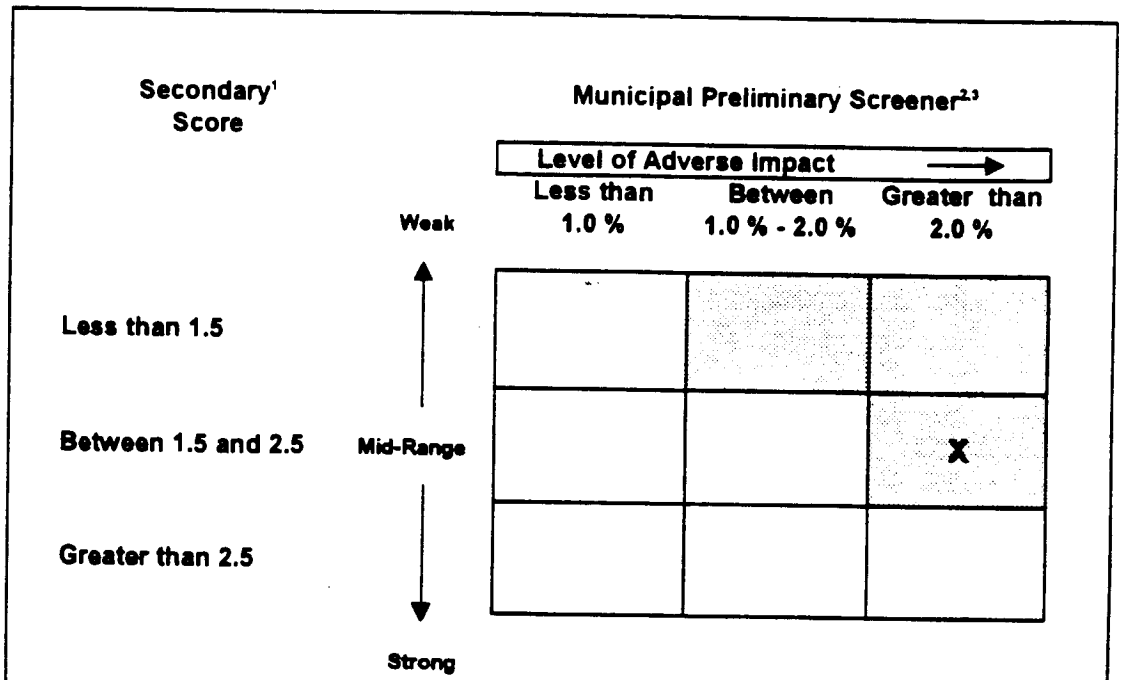
1.3.1 Property Tax Impacts

One measure of financial feasibility is the estimated impact on the property tax rate. The property tax rate for a single family unit is estimated to increase by 0.87 percentage points for the full system. When added to the median base property tax of 1.19 percent, this results in a total property tax of 2.06 percent, increasing the annual property tax bill by about 70 percent. Given the current economic climate in California, this estimated increase is clearly more than is likely to be absorbed by local single family households alone. For multi-family units, the estimated increase of 0.67 percentage points would also represent a potential sizable rental pass through.

1.3.2 Sales Tax Impacts

To compare the annualized storm water treatment costs to other economic indicators, a hypothetical increase of 6 percentage points above the present sales tax rate, to a level of about 12 percent, was estimated in lieu of increasing the property tax for the cost of full treatment. This impact is judged to be widespread and much higher than most households would consider acceptable.

Table 1-1
Financial and Economic Impacts of Storm Water Treatment
Assessment of Substantial Impacts Matrix
Los Angeles NPDES Area



Source: Stanley R. Hoffman Associates, Inc.
Economic Guidance for Water Quality Standards Workbook,
U.S. Environmental Protection Agency

1. The Secondary Score represents a weighted average based on a number of economic criteria described in the text.

2. The Municipal Preliminary Screener represents a percentage of median household income.

3. Shaded area denotes where substantial impacts are estimated to occur according to the EPA Preliminary and Secondary Municipal Screeners. The combined score for the Los Angeles NPDES area results in substantial impacts as shown in the figure by the "X."

1.3.3 Land Requirement and Displacement Impacts

Treatment facilities for storm water runoff are land intensive. The land and land cost requirements for the full system are about 13,950 acres and 6.1 billion dollars, requiring multiple treatment plants. About 67 percent of this acreage would be required for treatment Level 1 and the rest for treatment Level 2. While marginal or vacant parcels would initially be sought, potential displacement of many households and businesses as well as relocation and land acquisition costs would be required.

1.3.4 Employment Impacts

The Los Angeles area economy has been recovering from the deep recession of the early 1990s when the total County economy lost more than 400,000 jobs. The County is currently on a recovery path. The additional costs per household and per business are likely to slow this recovery and cause some businesses to relocate or expand elsewhere. Again, while specific estimates of impacts are not made, the burden of additional costs of a substantial nature is viewed as widespread because the potential treatment plants would be distributed throughout the Los Angeles drainage areas. Since specific locations are not identified, these displacement impacts are not quantified as part of this study.

As was indicated earlier, the average household share of the financing burden would amount to about a 73 percent increase in annual property taxes. For many households, such an increase in property taxes would cause a significant reduction in their consumption and savings. Over time, landowners would also pass forward tax increases to renters as increased rents which would produce a reduction in consumption by renters. Such potentially widespread reduction in consumption among households would likely cause loss of retailing and other local serving jobs.

1.3.5 Impacts on Outstanding Local Debt

According to California Municipal Statistics, Inc., there is an estimated $11.6 billion of outstanding local public debt in Los Angeles County. The estimated cost of $53.6 billion for full storm water treatment would represent almost a fivefold increase in debt. Even the Secondary Municipal Screener level of $5.3 billion of estimated capital costs represents about 46 percent of existing unpaid local public debt.

1.4 Estimated Non-Storm Water Pollution Control Costs

According to the EPA guidelines, the Municipal Screener approach provides an estimate of what is deemed "affordable" for pollution control programs. The present study first examined the incremental financial and economic burden of storm water treatment in the Los Angeles County NPDES Permit Area. However, other public pollution control programs also require funding and must be considered in setting expenditure priorities. According to the EPA Municipal Screener, the estimated incremental cost of any new pollution control program should be added to the existing and future costs for other types of pollution control programs, such as air quality, wastewater treatment, and solid and toxic waste disposal.

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In Section 10 of this report, estimates of existing and future non-storm water pollution controls are made which can be added to the incremental costs for storm water treatment by area to determine whether they exceed the 2 percent of median household income criteria prescribed by the EPA methodology. Two approaches were utilized to estimate the impacts of existing and future non-storm water pollution control costs in combination with estimated incremental storm water treatment costs: 1) analysis of estimated localized, direct costs in California; and 2) a literature review, including a 1990 comprehensive study by the EPA updated to 1998 dollars. Both methods result in estimated substantial impacts according to the EPA Municipal Screener methodology.

These additional annual pollution control costs per household were based on localized California costs of wastewater user fees, tire/oil disposal, automobile emissions testing and repairs, drinking water treatment and solid waste disposal. This amount was estimated to be about $554 annually per household for the Los Angeles area compared with $537 annually per household based on the nationwide EPA study.

1.5 Costs Limited by EPA Municipal Screeners

When the estimated amount of $703 per household at the Secondary Municipal Screener level of 1.6 percent of median household income level ($43,916), is reduced by the estimated cost of $554 for existing and future pollution controls, this results in a net amount of $149 per household for storm water treatment. If this annual amount of $149 is multiplied by the estimated 3,228,269 households in the Los Angeles County NPDES study area and is then capitalized using a 6 percent interest rate and a term of 20 years, this results in an estimated affordable capital cost of $5.3 billion. This represents about 9.9 percent of the estimated full storm water treatment cost of $53.6 billion.

SECTION 2
INTRODUCTION

2.1 Project Description and Purpose

This economic and financing analysis was prepared for the Los Angeles NPDES Permit Area as part of the Caltrans District 7 Storm Water Facilities Retrofit Evaluation. The analysis examines the economic and financial impacts that may arise for communities due to the increasing costs associated with successive levels of storm water treatment implementation. The project description and costs were defined by Brown and Caldwell. This included storm water treatment technologies designed to meet water quality standards and objectives for a one year return frequency 24 hour storm.

2.2 Project Area

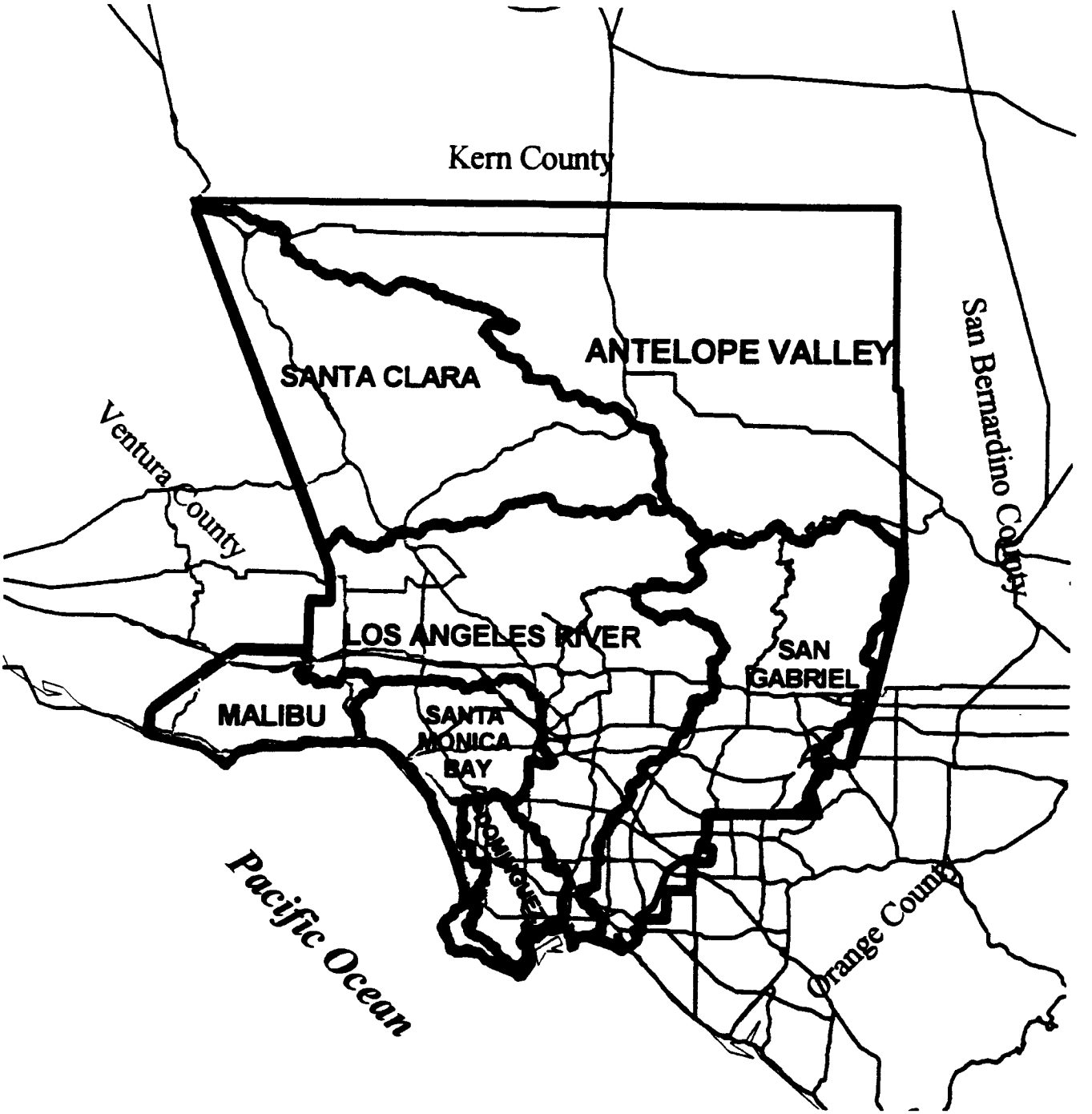
The study area was limited to the Caltrans District 7 areas that drain to the Pacific Ocean in Los Angeles County as shown on Figure 2-1. The Los Angeles NPDES Permit Area includes those areas within Los Angeles County and within the watershed defined by the Santa Susana Mountains, Simi Hills and San Gabriel Mountains. Los Angeles County areas not represented in the study include Avalon, Lancaster, Palmdale and unincorporated areas near these cities. The Los Angeles County NPDES Permit Area is divided into six drainage basins and consists of approximately 1,702,404 acres of land. A relatively small portion of the Santa Ana River Basin is aggregated with the San Gabriel River Basin. The drainage basins that cover this area include the following:

- Dominguez Channel
- Los Angeles River
- Malibu
- San Gabriel River
- Santa Clara River
- Santa Monica Bay

Land-use and acreage for this area were categorized into several classifications and formed the foundation for analysis along with basic demographic and financial data. Of the total acreage, almost 60 percent is open space, which represents the largest land use of the total NPDES area. The next most dominant land use is residential at about 22 percent. The remaining acreage covers other uses such as public, commercial and industrial.

Figure 2-1

Drainage Basins in LA County NPDES Permit Area



Stanley R. Hoffman and Associates, 1998

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2.3 Data Sources

To determine the impact on households, businesses and communities, data was analyzed based on several economic indicators. Examples of these indicators include the ability to pay as measured by the ratio of per household annualized storm water pollution costs to median household income, or the ability of local land uses to carry new debt. The following is a summary of the data sources used in preparing this analysis:

- Population, housing and employment data from the Southern California Association of Governments (SCAG), Regional Statistical Area Projections from 1994 to 2020.
- Land use acreages were provided through the SCAG Geographical Information System (GIS) Land Use database.
- City and County Summary Report of Population and Housing, Department of Finance (DOF), 1994 to 1998.
- Consumer Price Index (CPI) for Los Angeles, Anaheim, and Riverside areas, U.S. Bureau of Labor Statistics Data.
- Taxable Sales in California during 1996, California State Board of Equalization, and updated to 1998 using the CPI.
- The 1997-1998 Assessment Roll Release, Los Angeles County Assessor.

Basic demographic variables including median household income and housing value from the 1990 United States Census were updated to 1998 using the Consumer Price Index.

2.4 Organization of the Report

Sections organize the report in the following manner:

Section 3 – Environmental Protection Agency (EPA) Economic Guidelines: This section includes the project's key economic criteria based on EPA's guidelines.

Section 4 – Costs of Storm Water Retrofit: The estimated costs of storm water treatment retrofit for specified treatment levels for both capital and annual operations and maintenance cost is shown.

Section 5 – Los Angeles NPDES Permit Area Land Uses: A description of the study area land uses and their relationship to the analysis variables of population, housing and income.

Section 6 – Financing Approaches: Financing approaches to be considered are identified. Key issues include funding ability, practical means of implementation and political feasibility.

Section 7 – Financial Capacity of Local Jurisdictions: This includes the analysis of the ability of local communities to carry substantial new debt.

Section 8 – Assessment of Market Conditions: An assessment of the market conditions under which some combination of financing strategies may be implemented is presented.

Section 9 – Financial Spread of Costs: Presents the allocation of estimated capital and operations and maintenance costs of storm water retrofit among private sector land uses.

Section 10 - Estimated Non-Storm Water Pollution Control Costs: This section presents the estimated costs of other pollution control programs using two approaches. These include costs related to air quality regulations, drinking water treatment, solid waste disposal and wastewater treatment.

Section 11 – Evaluation of Financial Impacts: An evaluation of the financial impacts of implementing the costs of storm water treatment according to EPA's economic guidelines.

SECTION 3
ENVIRONMENTAL PROTECTION AGENCY (EPA) ECONOMIC GUIDELINES

The approach used to evaluate the economic impacts of the storm water runoff collection and treatment facilities under consideration is based upon the approach and methods presented by EPA's Economic Guidance for Water Quality Standards Workbook and summarized in Figure 3-1. This analysis has focused on incremental costs for existing storm water treatment for residential and non-residential land uses. The Workbook provides guidance to assist interested parties in determining whether attaining a specified water quality standard would result in "substantial and widespread economic and social impacts." The Workbook guidance "is not an exhaustive description of appropriate economic impact analyses," but it does describe "the types of information and analyses that should be considered."

The Workbook calls for a financial analysis to determine "if the capital and the operating and maintenance costs of pollution control will have a substantial impact." For public entities, the Workbook notes, "the households in the community will bear the cost either through an increase in user fees, an increase in taxes or a combination of both." Therefore, "the burden to households resulting from total annual pollution control costs must be estimated. In addition, the financial impact analysis must consider the community's ability to obtain financing and the general economic health of the community."

Demonstrating that substantial economic impacts would occur from implementing pollution control "is not sufficient reason to modify...or grant a variance from water quality standards" according to the Workbook. Rather, the analysis must also include consideration of whether or not "compliance would create widespread socioeconomic impacts on the affected community." Financial impacts are those "that could cause far reaching and serious impacts to the community." While the Workbook states that "there are no correct economic ratios or tests per se to evaluate socioeconomic impacts," it does say that each community must evaluate its own unique circumstances. The guidelines suggest the types of factors that should be considered, including changes in median household income, unemployment, and overall debt burden.

3.1 Step-by-Step Methodology

As shown on Figure 3-1, the Workbook identifies a five-step analysis to determine if the costs of a proposed project will likely result in substantial impacts.

1. Verify Project Costs and Calculate the Annual Cost of the Pollution Control[1]
2. Calculate Total Annualized Pollution Control Cost per Household
3. Calculate and Evaluate the Municipal Preliminary Screener Score
4. Apply the Secondary Test
5. Assess where the community falls in The Substantial Impacts Matrix

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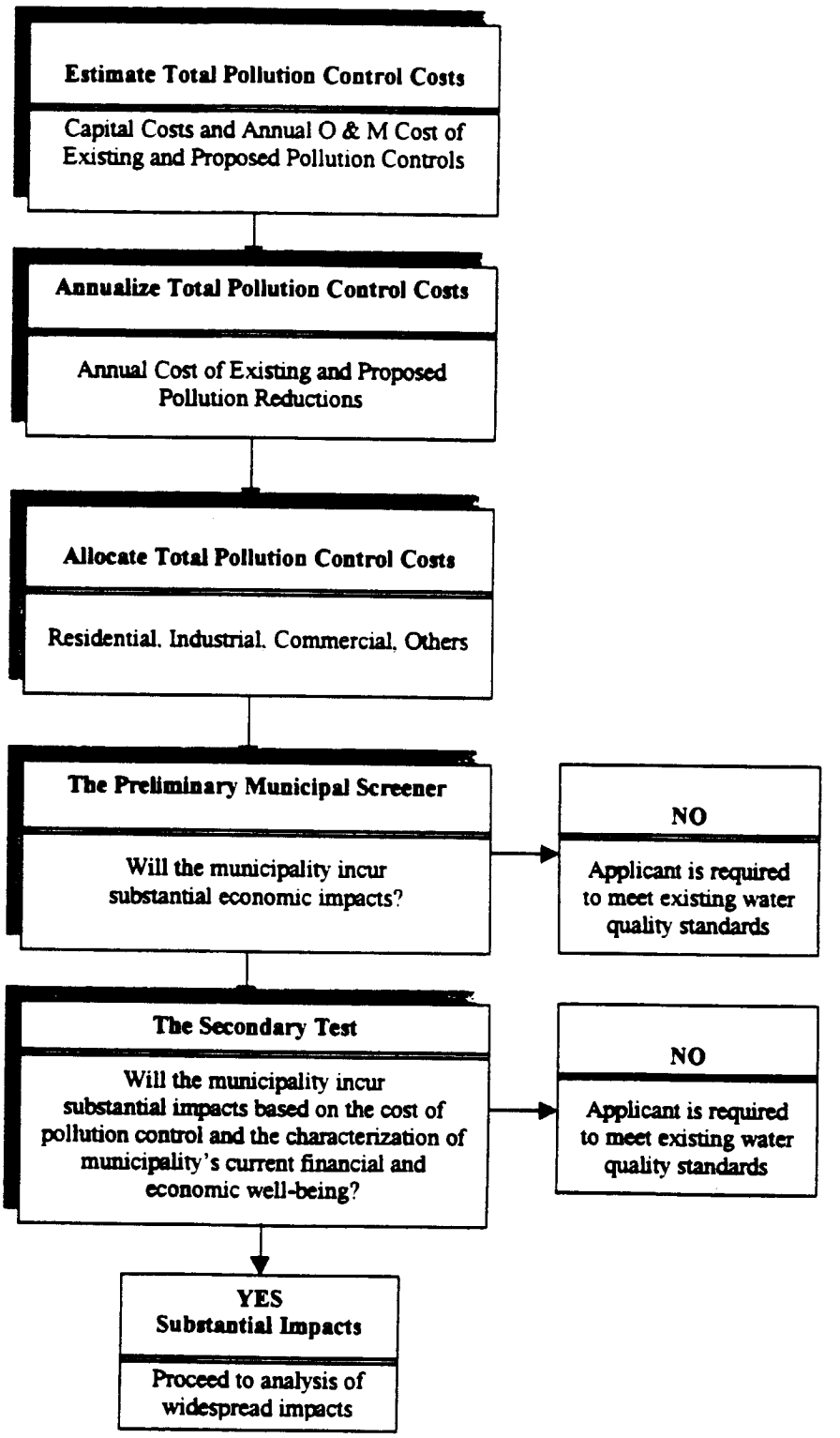
[1] The project costs were prepared by Brown and Caldwell and independently assessed by other reviewers.

Figure 3-1
EPA Economic Guidelines
Measuring Substantial Impacts (Public Entities)



Source: Stanley R. Hoffman Associates, Inc.
EPA Economic Guidance For Water Quality Standards
Note: Some text has been modified for presentation purposes.

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The *Municipal Preliminary Screener* (Step 3) is the estimated Total Annual Pollution Control Cost per Household as a percent of Median Household Income in the community. The Screener indicates whether a public entity will *not* incur any substantial economic impacts because of the proposed pollution control program. The Workbook identifies less than 1% as "Little Impact," 1% to 2% as "Mid-Range Impact" and greater than 2% as Large Impact. If the Preliminary Screener results in either a Mid-Range or Large Impact, then the analysis is to proceed to the Secondary Test.

3.2 The Secondary Test

The Secondary Test includes five to six indicators:

Initial Indicators Considered	Final Indicators Used
1. Bond Rating	1. Bond Rating
2. Overall net debt as percent of full market value of taxable property	2. Overall net debt per capita
3. Unemployment	3. Unemployment
4. Median Household Income	4. Median Household Income
5. Property tax collection rate	5. Property tax collection rate
6. Property tax revenues as a percent of full market value of taxable properties	6. Not applied

In states with property tax limitations such as California, the Workbook notes that two of the indicators may not be appropriate: Indicator #2 - Overall Net Debt as Percent of Full Market Value of Taxable Property; and Indicator #6 - Property Tax Revenue as a Percent of Full Market Value of Taxable Properties. The Workbook recommends that Overall Net Debt Per Capita be used in place of Indicator #2 - Overall Net Debt as Percent of Full Market Value of Taxable Property. Also, the Workbook recommends that for states where indicator #6 has no appropriate substitute, it can be dropped and the other five factors assigned equal weight.

The final five indicators are used to form a composite assessment of the community's economic health and the financial impact of the required project. In addition to guidance on how to calculate each indicator, the Workbook provides criteria for scoring each indicator as 1-weak, 2-mid-range or 3-strong. For each of the five indicators the community is rated as weak, mid-range, or strong, based on various thresholds that apply to that specific indicator. For example, overall net debt is used as an indicator of a community's ability to meet debt obligations and its capacity to fund infrastructure. If the Overall Net Debt Per Capita is greater than $3,000, the community would be rated weak in its capacity to fund additional infrastructure and assigned a rating of 1; however, if the debt per capita is less than $1,000 it would have relatively more funding capacity and would be assigned a rating of 3. The indicators are then averaged to derive the Secondary Score.

The results from the first two tests (Preliminary Municipal Screener and Secondary Test) are regarded jointly in the Assessment of Substantial Impacts Matrix to ascertain whether the

community would be expected to incur substantial impacts due to the proposed pollution control project.

3.3 Evaluating Widespread Impacts

The final test is the consideration of *Widespread Impacts*. This test must be done even if substantial impacts are likely to be determined based on earlier tests. This analysis will include both the quantitative indicators and a discussion of potential financial and economic ramifications throughout the community.

SECTION 4
COSTS OF STORM WATER RETROFIT

A cost analysis was prepared by Brown and Caldwell to determine the cost of treating storm water runoff to meet water quality objectives for the Los Angeles NPDES Permit area. The capital costs for the designated drainage basins, as estimated by Brown and Caldwell, have been used for this analysis. These estimates are for a specified number of treatment plants per drainage basin projected to treat storm water from a design storm conforming to a one year return frequency with a duration of 24 hours. The costs have been specified and estimated for three treatment levels plus collection costs as defined below and will be assumed to be incurred in 1998, the first year. The operations and maintenance costs are ongoing costs that will be much less than the capital costs, and can typically be funded on an annual basis rather than through debt financing.

4.1 Storm Water Treatment Levels

The costs for this study have been organized into three levels of increasingly higher costs according to treatment level. Three treatment levels were defined in the Brown and Caldwell June 1998 report, Cost of Storm Water Treatment for Los Angeles County NPDES Permit Area, and were established using the water quality objectives set forth in the Los Angeles RWQCB (Regional Water Quality Control Board) Basin Plan. As stated in this report, the division points between treatment levels are basically the ability to remove sediment and trash; the ability to remove or kill bacteria; and the ability to remove metals. In addition to the three levels described below, there is a cost component of additional collection piping and distribution, which allows collection for treatment before the water runoff enters the major water courses. The three treatment levels include:

Level 1: Detention and Screening
This is the most commonly used storm water treatment technology and is used to remove floating debris and settle solids picked up by storm water. Level 1 is a conventional storm water treatment technology and represents a treatment technology that could be implemented for a large drainage area. The level 1 detention facilities were sized to capture the design storm and hold it for twenty-four to seventy-two hours to allow the solids to settle and clarify the water. Level 1 will decrease pollutant concentrations but cannot meet all the objectives for beneficial use.

Level 2: Filtration and Disinfection
This cost level is cumulative with the preceding level, adding filtration and disinfection costs to level 1 costs of detention and screening facilities. Storm water runoff often contains coliform, which are bacterial indicator organisms used to determine sanitary conditions. The levels of coliform in urban storm water will generally cause the receiving water to exceed levels considered safe for recreational contact. Most waters in California are designated to have a recreational beneficial use and the coliform objective linked to the beneficial use will be exceeded by inflow of storm water. Filtration and disinfection will kill bacterial organisms and allow the objectives for the recreational beneficial use to be met. High rate filtration and chlorination were added to the discharge from the detention basins in level 1. Dechlorination was also provided to protect organisms in the receiving water from the toxicity of any residual chlorination. The flow through treatment units have been designed to treat the captured storm water over a seventy-two hour period following the storm. Level 2 will allow storm water to meet the requirements for the recreational beneficial uses.

Level 3: Advanced Treatment

This level of advanced treatment adds a highly sophisticated treatment process to remove very small concentrations of toxic materials that are often found in urban runoff. Many of the waters in California are designated as potential drinking water sources. The objectives for the beneficial use designation of municipal water supply may require advanced treatment. Even more restrictive than the drinking water standards, are the standards for toxicity as it relates to sensitive species that could potentially exist in the receiving waters. Most waters have beneficial use designations that describe the aquatic environment and have objectives to protect these beneficial uses. Meeting these objectives with structural treatment units will require advanced treatment beyond what is normally expected of water treatment facilities. Reverse osmosis is included as the typical technology representing advanced toxic removal to achieve the required low concentrations. Storm water treated to level 3 is free of almost all pollutants and is suitable for all beneficial uses.

4.2 Capital Costs

The capital costs represent the costs of land and facilities. The costs of the facilities were developed from representative designs then scaled up for the individual watersheds and are based on flow rates. The number of treatment plants required is estimated at 480. For the purposes of this analysis, construction and land purchase is assumed to take place at the beginning of the project in the first year and the annualized cost is assumed to stay constant over the life of the project.

Table 4-1 shows the estimated 1998 total capital costs of $53.6 billion. As indicated, the total capital costs include $12.5 billion in collection of flow costs, which are 23 percent of the total costs. The largest share of the cost is for treatment level 2 at $20.5 billion, or 38 percent of the total.

4.3 Operations & Maintenance Costs

Operations and Maintenance costs include those costs required to operate and maintain the facilities on an annual basis. These include labor, routine materials and supplies, electric power and chemical costs for storm water treatment. Labor costs for operating the facilities are based on crews going to the treatment sites for 12 hours during each storm. Table 4-1 indicates that the annual operations and maintenance costs increase with each treatment level to an annual total of $198.9 million. The largest amount is for treatment level 3 at $82.2 million per year or 41 percent of the total.

Table 4-1
1998 Estimated Capital and Annual Operations and Maintenance Costs
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Treatment Level	Capital Costs (in millions of $)	% to Total Capital Costs	Annual O & M Costs (in millions of $)	% to Total O & M Costs
Collection of Flows	$12,486	23%	10.4	5%
Level 1	20,453	38%	57.1	29%
Level 2	6,150	11%	49.1	25%
Level 3	14,516	27%	82.2	41%
	$53,605	100%	198.9	100%

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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4.4 Land Requirements and Cost

Land cost requirements for 480 treatment units are estimated at $6.1 billion as shown in Table 4-2. This represents a total of 13,950 acres, split over treatment levels 1 and 2 at 67 percent and 33 percent respectively. Land costs for properties that might accommodate treatment facilities were estimated at an average of $435,600 per acre based on discussion with appraiser, John J. Bihary, Jr.

Table 4-2
Land Acreage and Land Cost Requirements:
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

	Level 1	Level 2	Total
Land Requried (Acres)			
Los Angeles NPDES Permit Area	9,300	4,650	13,950
Land Cost @ $435,600/acre			
Los Angeles NPDES Permit Area	$4,051,080,000	$2,025,540,000	$6,076,620,000
Percentage by Level	67%	33%	100%

Note: Land costs for properties that might accommodate treatment facilities were estimated at an average of $435,600 per acre based on discussion with appraiser John J. Bihary, Jr.

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

SECTION 5
LOS ANGELES COUNTY NPDES PERMIT AREA: LAND USES

The land use classification used for this analysis was taken from the Southern California Association of Governments' (SCAG) 1994 land use classifications as shown on Table 5-1.

- Single family residential, including mobile homes
- Multi-family residential
- Commercial areas, including wholesale and retail trade and general services
- Public uses, including public facilities, educational, military, and transportation
- Light and heavy industrial uses
- Other urban areas not included under other categories
- Open spaces including parks and undeveloped lands
- Unknown, including acreage not elsewhere categorized and vacant land

5.1 Land Use Classification

The land use acreage breakdown from SCAG's Geographic Information System (GIS) database utilizes the following land-use classifications. The residential category includes single family, multi-family, mobile homes and trailer parks and mixed residential. Mixed residential refers to an area in which there are both single and multi-family uses but where no single use predominates. The commercial category includes general office use, retail stores and commercial services and mixed commercial and industrial. The public category includes public facilities, educational institutions, military and transportation uses. Light industrial includes manufacturing, assembly and industrial services but not manufacturing which consists of processing raw materials or discharging industrial waste products. The other urban category involves railroads, truck terminals, communication facilities, mixed urban uses and areas under construction. The Open space category consists of local and regional parks, golf courses, cemeteries, gardens and arboreta and other open space and recreation. The miscellaneous category entails unknown land use, which is acreage that cannot be classified elsewhere and vacant land. Agricultural land use and water, except beaches and harbor and marina facilities, were not included.

5.2 Design Flow

The design flow is the millions of gallons of runoff that would be generated by a representative design storm: a Los Angeles area rainstorm conforming to a one year return frequency with a duration of 24 hours. The runoff was developed by a coefficient of runoff that estimates the percentage of precipitation in the design storm that will become runoff based on the land use of the area and the imperviousness associated with that type of land use. Impervious areas are those areas where rainfall cannot be absorbed and thus surface runoff occurs. In areas of high urbanization, there are more areas such as roof surfaces on structures and paved surfaces that do not allow infiltration of storm water as compared to undeveloped open spaces. The imperviousness for each type of land use was based on the values reported by the Santa Monica Bay Restoration Project Report.

As shown in Table 5-1, residential use accounts for only 25.6 percent of the total land area but 33.6 percent of the total runoff. In contrast, open space accounts for 59.3 percent of total land uses but

Table 5-1
Land Uses and Design Flow
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Drainage Basin	Total Acres	Percent of Total Acres	Design Flow (mg)[1]	Percent of Design Flow
Single Family	378,494	22.2%	6,018	27.8%
Multi-Family	57,619	3.4%	1,192	5.5%
Commercial	59,427	3.5%	1,486	6.9%
Public	90,892	5.3%	2,079	9.6%
Industrial	75,391	4.4%	1,869	8.6%
Other Urban	18,618	1.1%	426	2.0%
Open	1,010,244	59.3%	8,514	39.3%
Miscellaneous	11,719	0.7%	99	0.5%
Total	**1,702,404**	**100%**	**21,683**	**100%**

[1] (mg): millions of gallons

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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only 39.3 percent of the total runoff flows. This illustrates the relationship of imperviousness to urbanization described above. Runoff is critical in determining costs because of the size of the facilities required to capture and treat storm water, and the concentrations of constituents of concern in the water. The Santa Monica Bay Restoration Project Report indicated that significant concentrations are coming from residential areas.

5.3 Variables for Land Use Analysis

The purpose of this study is to determine the potential economic and financial impact on entities within the Los Angeles Area NPDES Permit area because of storm water retrofit costs. The above discussion of land use and runoff indicates that a highly urbanized area will generate more runoff and a higher concentration of potential constituents of concern than less urbanized areas. Therefore, the costs for storm water management will be higher for communities in these areas. To determine the potential impact over various land uses, the following data was utilized:

- Population, housing, and employment statistics from the Southern California Association of Governments (SCAG)
- Household annual median and average income projections based on U.S. Census data, updated using the Consumer Price Index (CPI)
- Single and multi-family housing units and current population estimates from the California Department of Finance (DOF) to determine density and persons per household ratios

5.3.1Population, Housing and Employment

The 1994–1998 population, housing, and employment data from SCAG were tabulated for all the census tracts within the designated drainage areas as shown on Table 5-2. An estimate for 1998 was made based on the predicted average annual change from 1994 to 2000.The 1998 total population for the drainage basins of about 9.3 million is 97 percent of the total Los Angeles County population estimate of 9.6 million for 1998 based on DOF and is projected to increase annually at an average of about 1 percent from 1998 to 2020.

5.3.2Household Income

Estimates for 1998 for median household income were made based on 1990 United States Census data obtained from the 1989 survey, and updated using the 1989 to 1998 change in the CPI of 26.0 percent as shown on Table 5-3. Household income is used as an indicator with the EPA Municipal Screener described earlier in Section 3 to determine storm water facilities retrofit costs for single family and other land uses. The estimated 1998 median income for Los Angeles County is $43,916.

Table 5-2
Population, Housing, and Employment Estimates: SCAG 1994
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin/Area	1994	1998	2000	2010	2015	2020	1998 to 2020 Numerical Change	1998 to 2020 Percent Change	1998 to 2020 Average Annual Change
Population									
Dominguez	463,471	480,066	488,585	507,821	520,829	536,254	56,188	11.7%	0.5%
LA River	5,648,189	5,835,830	5,931,976	6,484,652	6,844,355	7,241,690	1,405,859	24.1%	1.0%
Malibu	73,433	77,607	79,782	92,349	98,087	105,865	28,258	36.4%	1.4%
San Gabriel	1,807,417	1,877,491	1,913,541	2,038,014	2,111,267	2,206,523	329,031	17.5%	0.7%
Santa Clara	163,411	203,921	227,800	355,558	425,876	508,649	304,728	149.4%	4.2%
Santa Monica Bay	777,445	784,835	788,556	798,228	804,657	811,703	26,868	3.4%	0.2%
Total	8,933,366	9,259,750	9,430,239	10,276,622	10,805,071	11,410,683	2,150,933	23.2%	1.0%
Households									
Dominguez	163,898	165,311	166,022	173,961	178,550	186,052	20,741	12.5%	0.5%
LA River	1,830,537	1,844,185	1,851,047	2,029,715	2,136,038	2,299,713	455,528	24.7%	1.0%
Malibu	27,063	27,225	27,306	31,742	34,236	37,512	10,287	37.8%	1.5%
San Gabriel	558,897	563,438	565,723	599,800	621,527	660,322	96,883	17.2%	0.7%
Santa Clara	52,279	56,650	58,971	97,105	125,301	150,606	93,956	165.9%	4.5%
Santa Monica Bay	570,266	571,461	572,059	578,772	582,798	588,494	17,033	3.0%	0.1%
Total	3,202,940	3,228,269	3,241,127	3,511,095	3,678,450	3,922,698	694,429	21.5%	0.9%
Employment									
Dominguez	302,572	319,728	328,667	365,853	382,749	403,893	84,165	26.3%	1.1%
LA River	2,465,071	2,612,887	2,690,087	3,018,081	3,140,993	3,276,112	663,224	25.4%	1.0%
Malibu	34,894	41,554	45,346	50,003	52,371	54,937	13,383	32.2%	1.3%
San Gabriel	611,803	655,842	679,037	807,746	855,785	899,348	243,505	37.1%	1.4%
Santa Clara	53,398	65,018	71,744	103,185	125,256	146,877	81,859	125.9%	3.8%
Santa Monica Bay	700,022	708,656	713,013	746,530	761,289	780,819	72,163	10.2%	0.4%
Total	4,167,760	4,403,684	4,527,893	5,091,398	5,318,442	5,561,985	1,158,301	26.3%	1.1%

Source: Stanley R. Hoffman Associates, Inc.
Southern California Association of Governments, Regional Statistical Area Projections, 1994.

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Table 5-3
1998 Estimated Median and Mean Household Income
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Jurisdiction	1998 Estimated Households	1989 Median HH Income	1998 Est. Median HH Income[1]	Estimated Total Household Income Based on Median
Los Angeles NPDES Permit Area	3,228,269	$34,965	$43,916	$141,772,790,536

1. 1998 median household income projected based on CPI inflation factor from 1989-1998: 1.26

Sources:Stanley R. Hoffman Associates, Inc.
United States Census 1990
Consumer Price Index, 1989 - 1998 Inflation Factor

1989 - 1998 CPI Inflation Factor: 1.26

2. Ratio of Median/Average Household Income: 0.740
(Based on Countywide Median Income)

Southern California Association of Governments, Regional Statistical Area Projections, 1994

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5.3.3Density

The 1994 land uses from the GIS data base and the 1994 housing units from the Department of Finance were used to determine density as to housing units per acre for single family and multi-family housing units as shown in Table 5-4. The Los Angeles River and Santa Monica Bay basins show the highest overall density at 8.35 and 9.30 units per acre. The Malibu basin has the lowest density at 2.71 units per acre. As shown in Table 5-4, the Los Angeles River and Santa Monica basins have the highest single and multi-family densities.

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Table 5-4
Density by Drainage Basin: 1994
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin	Housing Units: Single Family	Housing Units: Multi Family	Housing Units: Total	Population	Persons Per Housing Unit	Single Family Acres	SF Units Per Acre	Multi Family MF Acres	MF Units Per Acre	Total Acres	Total Units per Acre
Dominguez	106,393	61,131	167,524	463,471	2.77	27,567.74	3.86	5,554.15	11.01	33,121.88	5.06
LA River	868,583	771,061	1,639,644	5,648,189	3.44	171,130.61	5.08	25,161.62	30.64	196,292.23	8.35
Malibu	23,029	4,657	27,686	73,433	2.65	9,659.32	2.38	556.34	8.37	10,215.66	2.71
San Gabriel	429,288	164,364	593,652	1,807,417	3.04	91,923.24	4.67	8,658.99	18.98	100,582.22	5.90
Santa Clara	45,306	14,686	59,992	163,411	2.72	18,259.89	2.48	1,341.79	10.95	19,601.67	3.06
Santa Monica Bay	299,055	366,520	665,575	777,445	1.17	55,721.53	5.37	15,820.51	23.17	71,542.04	9.30
Total	**1,771,654**	**1,382,419**	**3,154,073**	**8,933,366**	**2.83**	**374,262.32**	**4.73**	**57,093.39**	**24.21**	**431,355.70**	**7.31**

Source: Stanley R. Hoffman Associates, Inc.
Dept. of Finance: Official State Estimates of Pop. and Housing May 1994
Southern California Association of Governments Population Estimates 1994

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SECTION 6
FINANCING APPROACHES

This section provides a brief overview of various sources and methods for financing the construction, operation and maintenance of the major storm water treatment facilities that would be required to meet water quality standards. While no financing strategy is recommended at this time, there is a range of financing approaches used in California. Typically, in California more than one financing approach is utilized for major projects, including a combination of local and outside sources.

6.1 Federal

The Federal government historically has played a leading role in financing various environmental enhancement programs. A Federal program to pay for all or a significant part of the costs of storm water runoff treatment facilities is currently not available nor expected in the near future. Currently, national attention is on balancing the Federal budget and on maintaining the long-term soundness of Social Security and Medicare, not on major new grant programs.

6.2 State

At the State level of government, a possible approach for financing part of the capital costs of storm water treatment would be through some form of State grants program or allocation of some state's current surplus after existing funding priorities have been completed. Such a grant program would require state legislative action and statewide voter approval since it would likely involve the issuance of general obligation bonds by the State. The State policy as established, both from the Department of Finance and the State Treasurer, is to keep the general fund debt ratio below 6 percent. In other words, the prudent maximum annual cost of servicing debt from the General Fund is by policy established at 6 percent.

Even if approved by the voters, it would be very unlikely to fund any sizable level of statewide storm water treatment costs. The State Department of Finance estimates that as of January 1, 1998, the total capacity for new general obligation bonds issuance over the next 10 years is $40 billion statewide. The $40 billion estimate does not include new bond measures taken to voters in 1998. For example, the November 1998 election ballot included a $9.2 billion school finance measure, which is the largest statewide General Obligation bond measure ever approved by California voters.

6.3 Local

The ability of local governments in California to finance public improvements has been increasingly circumscribed over the last 20 years. In June 1978, the voters of California amended the state constitution to limit the ability of local governments to impose property taxes. That amendment, commonly known as Proposition 13, added Article XIIIA to the state constitution that limits the maximum ad valorem tax on real property to one percent of the assessed value of that property. Proposition 13 also limited annual assessed value increases to 2 percent or the inflation rate, whichever is smaller, until a property is sold. Since the passage of Proposition 13, more than dozen other statewide propositions have been passed that further restrict how local revenues can be raised

or spent. In 1979, the voters passed Proposition 4, known as the Gann Initiative, which added Article XIIIB to the state constitution. This article limits the permitted growth in the rate of local government spending from general revenues to changes in population and inflation growth rates. Voter approval is required to increase spending limits. This vote must be reaffirmed every four years.

Proposition 46 in 1986 allowed local governments by a 2/3 majority vote to impose a property tax above the Proposition 13 one percent for the period required to finance new general obligation bonds. The proposition also restricted the use of general obligation bond proceeds to the purchase or improvement of real property.

While many other measures were passed during the late 1980's and early 1990's, the measure that has had the most widespread impact since Propositions 13 and 4, was passed in 1996 as Proposition 218. This measure adds Articles XIIIC and XIIID to the state constitution. The measure does the following:

1. Limits authority of local governments to impose taxes and property-related assessments, fees and charges. It requires that a majority of voters approve increases in general taxes and reiterates that two-thirds must approve a special tax.
2. Requires that assessments, fees, and charges must be submitted to property owners for approval or rejection, after notice and public hearing.
3. Limits the amount of an assessment on a property to the "special benefit" conferred on the property.
4. Limits fees and charges to the cost of providing the service and establishes that such fees and charges may not be imposed for general governmental services that are generally available to the public.

Within the restrictive context described above, the following are some financing mechanisms used by local governments to finance various public improvements in California:

- Community Facilities Districts
- Special Benefit Assessments
- General Obligation Bonds
- Local Option Sales Tax
- Fees and Charges
- Certificates of Participation, with lease payments from the General Fund
- Development impact fees
- Redevelopment Tax Increment Financing

Community Facility Districts. The Mello-Roos Community Facilities Act permits various local governments to establish a Community Facilities District to finance new facilities and/or to pay for operations and maintenance through the levying of a special tax. This Act plus Proposition 218 discussed earlier requires a two-thirds vote for approving the special tax in inhabited areas.

Special Benefit Assessments. Benefit assessments can be levied on real property by cities, counties and special districts to acquire, construct, operate and maintain public improvements that convey an

identifiable special benefit to the defined properties. As was discussed earlier, Proposition 218 establishes a strict requirement for formal landowner approval before such assessments can be put in place.

General Obligation Bonds (G.O. bonds). Cities, counties and certain other local government entities may issue G.O. Bonds to finance specific projects. Debt service for G.O. bonds is provided by an earmarked property tax above the one percent general property tax mandated by Proposition 13 (often called a "property tax override"). These overrides typically show up on the annual tax bill as "voted indebtedness." The proceeds from G.O. bonds can be used to finance the acquisition, construction and improvement of real property, but cannot be used to pay for equipment, supplies, operations or maintenance costs.

Local Option Sales Tax. Twenty-one counties impose a sales and use tax added onto the basic 6 percent rate. Los Angeles County imposes a sales tax of 8.25 percent. The local share of the basic sales tax is one percent. Local option sales taxes have been used for public safety, traffic, hospitals, education, earthquake recovery and other purposes. If such taxes are earmarked for a specific purpose or if a special district levies them, then they are deemed Special Taxes under Proposition 218 and require a two-thirds voter approval.

Fees and Charges. Local governments can levy various fees and charges to recover the cost of providing services. Under Proposition 218, many of these fees and charges that are "incident to property" are now also subject to landowner approval.

Certificates of Participation (COPs). A COP is a form of lease purchase agreement that does not constitute indebtedness under the state constitution and does not require voter or landowner approval. The lease payments typically are made from the local government's general fund.

Development Impact Fees. These are fees charged to new development to pay for facilities required to serve the new development. State law, and Federal case law, establishes a rigorous set of tests that such fees must meet to be valid. In short, these fees can only be used to pay for those facilities or portions of facilities required to serve new development. They cannot be used to correct existing problems or cure existing capital or operating and maintenance deficiencies.

Redevelopment Tax Increment Financing. A city or county can establish a redevelopment agency to undertake the revitalization of an area that it finds to be "blighted." The redevelopment agency may incur indebtedness to finance improvements needed to accomplish the goals of its redevelopment plan. The property tax base in the redevelopment area is "frozen," and increments in property taxes after the tax base is frozen go into the redevelopment fund to be used for the financing of improvements. Voter approval is not required for tax increment financing. Such financing may be used only for facilities to support the needs of redevelopment. Further, it usually takes many years before significant property tax increment, derived from new development, is available for financing.

6.4 Funding Assumptions

For purposes of this analysis, it was assumed that the financing would be based on the issuance of bonds with a 20-year life as suggested in the EPA Workbook. The tax-exempt interest rate for such

bonds was assumed to be 6 percent. Based on municipal bond rates over the past 10 to 20 years provided by the California Debt Advisory Commission, this is judged to be a reasonable rate for planning purposes. Funding costs of such bonds were assumed to be 12.5 percent of the total issue amount. Funding costs include the cost of debt issuance, underwriters discount, reserve fund and other related costs. These assumptions allow the total capital costs to be annualized and combined with the annual operations and maintenance costs.

SECTION 7
FINANCIAL CAPACITY OF LOCAL JURISDICTIONS

7.1 Overall Net Debt per Capita

Financial capacity of local jurisdictions means the ability of the local community to incur additional debt to pay for public improvements and services, here storm water retrofit facilities and annual operations and maintenance. In California, after the passage of Proposition 13 in 1978 and more recently Proposition 218, significant restrictions have been placed on any increases in property taxes or property related fees and charges. Also, the revenue potential of local jurisdictions to assume additional debt has been further constrained by the effects of the recession in the early 1990s.

Net debt per capita is one indicator of financial capacity of local jurisdictions. Each community, depending upon its infrastructure needs and level of development, will have a different mix of debt instruments, such as general obligation, special assessment or Mello-Roos bonds. Also, besides each community's direct debt, there is overlapping debt from other special purpose districts such as schools, water and sewer, fire protection and flood control. In evaluating the impact of existing debt per capita and the addition of new debt on a community, the EPA has suggested the use of following ranges:

- Greater than $3,000: weak = 1
- $1,000 - $3,000: mid-range = 2
- Less than $1,000: strong = 3

The overall debt per capita estimate of $1,207 for Los Angeles County is used subsequently in the evaluation of local financial and economic impacts. This estimate is based on total outstanding and direct and overlapping debt of about $11.6 billion for Los Angeles County provided by California Municipal Statistics, Inc. This debt per capita is already within the mid-range of $1,000 to $3,000 per capita as prescribed by the EPA. When the total net debt for full treatment of $5,788 per capita ($53.6 billion divided by the study area population of 9,259,750) is added to this debt, it results in $6,995 of debt per capita. This is above the weak range limit of $3,000. The total new net debt represents a 480 percent increase over the existing net debt per capita.

7.2 Analysis of Sample Property Tax Bills

In contrast to the more global overall net debt analysis, a summary of sample local property tax bills for several single family residential units in Los Angeles NPDES area is presented on Table 7-1. Three properties from each basin are shown and the payments through the property tax bill are divided into three categories: 1) the basic 1 percent local property tax rate established by Proposition 13; 2) voter approved bonded indebtedness; and 3) direct assessments. The voter-approved portion includes City, County, MWD, Flood Control and Unified School District debt payments. The direct assessments include annual payments for many purposes, including flood control, storm water, fire/paramedics, parks, lighting maintenance, emergency 911 and mosquito abatement.

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Table 7-1
1997 Summary of Sample Tax Bills for Single Family Homes
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin and Property		Assessed Value of Home	Voted Basic 1%	Voted Indebt.	Direct Assessments Flood	Direct Assessments Storm	Direct Assessments Other	Direct Assessments Total	Total Taxes	Total Taxes % of AV
Dominguez	Prop. 1	$112,731	$1,127.31	$27.84	$59.30	$0.00	$963.16	$1,022.46	$2,177.61	1.932%
	Prop. 2	516,241	5,162.41	141.42	73.95	0.00	1,043.59	1,117.54	6,421.37	1.244%
	Prop. 3	128,286	1,282.86	71.58	21.69	17.29	99.69	138.67	1,493.11	1.164%
LA River	Prop. 1	1,870,779	18,707.79	1,043.82	65.01	51.83	206.34	323.18	20,074.79	1.073%
	Prop. 2	106,259	1,062.59	59.29	62.80	50.56	113.19	226.55	1,348.43	1.269%
	Prop. 3	52,254	522.54	29.16	28.12	22.42	115.75	166.29	717.99	1.374%
Malibu	Prop. 1	5,275,000	52,750.00	1,138.40	2,732.42	0.00	1,388.96	4,121.38	58,009.78	1.100%
	Prop. 2	366,817	3,668.17	250.22	5.68	0.00	301.43	307.11	4,225.50	1.152%
	Prop. 3	304,000	3,040.00	55.20	15.19	0.00	100.63	115.82	3,211.02	1.056%
San Gabriel	Prop. 1	339,166	3,391.66	43.01	63.14	0.00	350.05	413.19	3,847.86	1.135%
	Prop. 2	235,271	2,352.71	29.83	35.42	0.00	124.79	160.21	2,542.75	1.081%
	Prop. 3	65,210	652.10	8.27	61.76	0.00	301.92	363.68	1,024.05	1.570%
Santa Clara	Prop. 1	500,947	5,009.47	362.92	56.74	0.00	568.93	625.67	5,998.06	1.197%
	Prop. 2	150,248	1,502.48	127.61	34.31	28.54	214.73	277.58	1,907.67	1.270%
	Prop. 3	78,592	785.92	66.75	53.09	44.16	219.18	316.43	1,169.10	1.488%
Santa Monica B	Prop. 1	950,000	9,500.00	335.81	36.77	0.00	35.38	72.15	9,907.96	1.043%
	Prop. 2	172,731	1,727.31	96.38	36.77	29.31	127.79	193.87	2,017.56	1.168%
	Prop. 3	$52,493	$524.93	$6.66	$32.84	$0.00	$131.19	$164.03	$695.62	1.325%
Median Property		$500,947	$5,009.47	$362.92	$56.74	$0.00	$568.93	$625.67	$5,998.06	1.197%

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor

The range of assessed value for these properties is broad, with a median of $500,947. The total taxes range from 1.043 percent to 1.932 percent of assessed value. Examining the median property, the total charges including the basic one-percent, voter-improved indebtedness, and direct assessments, account for about 1.197 percent of the total assessed value. A typical rule of thumb in municipal finance indicates that the upper limit for reasonable annual charges to a property should not exceed 2 percent.

7.3 EPA Municipal Preliminary Screener Approach

The U.S. Environmental Protection Agency (EPA) has prescribed a methodology, the Municipal Preliminary Screener, to establish whether a community is expected to incur "substantial" economic impacts due to the pollution control project costs. There are two tests with this Municipal Preliminary Screener to establish whether the community can clearly pay for the project without incurring any substantial impacts under the EPA guidelines. The screener is defined as follows:

$$\textit{Municipal Preliminary Screener} = \frac{\textit{Average Total Pollution Control Cost Per Household}}{\textit{Median Household Income}}$$

The EPA has established a lower threshold of below 1 percent of median household income as representing a cost that is not expected to impose a substantial economic hardship on households. A cost between 1 and 2 percent is considered a mid-range impact. If the cost is over 2 percent of median household income, then the project may create an unreasonable financial burden on many households within the community, according to the EPA methodology.

The estimates of 1, 1.5 and 2 percent of median household income are presented in Table 7-2 for the Los Angeles County area. They range from $439 per household to $878 per household annually. When this per household amount is multiplied by the estimated 3,228,269 households in the Los Angeles NPDES permit area, it generates a range of annual revenue potential of $1.4 to $2.8 billion. This revenue represents from about 29 to 58 percent of the total annualized cost for full storm water treatment.

The estimated cost for existing pollution controls plus the full storm water system is about $1,295 per household annually which results in impacts over 2 percent of median household income, therefore, this is judged to create a substantial economic impact. The total cost is comprised of the annualized average storm water cost estimate of $741 plus existing pollution control costs of $554 per household. Using the Preliminary Screener, the level of median household income required for the estimated total pollution control costs exceeds the 2 percent level indicating potentially a substantial economic hardship on households. The EPA guidelines now suggest proceeding to the Secondary Test.

Table 7-2
EPA Municipal Preliminary Screener Analysis
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Municipal Screener Categories[1]	Estimate
Households[2]	3,228,269
1998 Median Household Income	$43,916
1 Percent of Median HH Income	$439
1.5 Percent of Median HH Income	$659
2 Percent of Median HH Income	$878
Annual Revenue Potential @ 1 Percent	$1,417,726,614
Annual Revenue Potential @ 1.5 Percent	$2,126,589,921
Annual Revenue Potential @ 2 Percent	$2,835,453,228

1. EPA has suggested a Municipal Screener range of less than 1 percent for representing little impact, 1 to 2 percent for mid-range impact and over 2 percent for large impact.

2. Estimated households for Los Angeles NPDES Permit Area 1998.

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor

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7.4 The Secondary Test

According to the EPA, the Secondary Test builds upon the characterization of the financial burden identified in the Municipal Preliminary Screener. This test provides an indication of the community's ability to obtain financing and describes its socioeconomic health. According to the EPA Guidelines, the indicators describe precompliance debt and socioeconomic and financial management conditions in the community. In states, such as California, with statutory limits on property tax rates and where data on full market value of taxable property are not generally available, the indicator Overall Net Debt Per Capita can be substituted for other indicators that rely on full market value information. The following five indicators suggested by the EPA have been applied for the Secondary Test:

1. Debt Indicators
   - Bond Rating
   - Overall Net Debt Per Capita

2. Socioeconomic Indicators
   - Unemployment Rate
   - Median Household Income

3. Financial Management Indicators
   - Property Tax Collection Rate

The overall methodology, illustrated on Table 7-3, ranks each indicator on a scale from 1 to 3 and then calculates a simple average of the five indicators, where a score of 1 is Weak, 2 is Mid-Range and 3 is considered Strong. As shown in Table 7-3, the five indicators add to a total score of 11 and an average of 2.2 indicating that the Los Angeles NPDES Permit Area falls in the Mid-Range of the socioeconomic and financial management indicators. The Secondary Test shows a bond rating of Strong with ratings generally above BBB and a score of 3; an overall net debt per capita in the Mid-Range with a score of 2; an unemployment rate of 6.1 percent, or over 1.0 percent higher than the national rate of 4.7 percent, for a Weak ranking and a score of 1; a median household income of $43,916, which is roughly equivalent to the State median, for a mid-range ranking and a score of 2; and a generally Strong property tax collection rate for a score of 3. When this score of 2.2 is prorated across the 1 percent to 2 percent mid-range, it results in an estimated Secondary Test score of 1.6 percent and will be used later as part of the evaluation of substantial economic impacts.

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Table 7-3
EPA Municipal Screener: The Secondary Test
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Indicator	Secondary Indicators[1]			Value	Score
	Weak	Mid-Range	Strong		
Bond Rating	Below BBB (S&P) Below Baa (Moody's)	BBB (S&P)	Above BBB (S&P) BAA (Moody's)	Above BBB	3
Overall Net Debt per Capita	Greater than $3,000	Between $1,000 & $3,000	Less than $1,000	$1,207	2
Unemployment	More than 1% above National Average	National Average (4.7%, March 1998)	More than 1%below National Average	6.1%	1
Median Household Income	More than 10% below State median	State Median ($44,640)	More than 10% above State median	$43,916	2
Property Tax Collection Rate	Less than 94%	94% - 98%	Greater than 98%	98.2%	3

Notes: 1) A Weak rating is assigned a score of 1 point; a Mid-Range rating is assigned a score of 2 points; and 3) a Strong rating is assigned a score of 3 points.

SUM	11
AVERAGE	2.2

Source: Stanley R. Hoffman Associates, Inc.
EPA Economic Guidance for Water Quality Standards Workbook

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SECTION 8
ASSESSMENT OF MARKET CONDITIONS

The purpose of assessing market conditions is to determine the potential ability of the various land uses to absorb new taxes, assessments, fees or charges. Two measures used in this section for this purpose are the assessed valuation of property and the amount of taxable sales generated by a community. In addition to household income, these are both indicators of local financial strength and the ability to accommodate additional debt. Assessed value along with the property tax rate determines how much property tax revenue is generated each year. The maximum basic rate of property taxation is limited in California by Proposition 13 to 1 percent. The taxes available for financing debt exceeding the one-percent level now must be approved by a two-thirds vote of the local electorate.

8.1 Assessed Value Trends for Los Angeles County and the Los Angeles NPDES Permit Area

The recession in the early 1990s in California had a dramatic dampening effect on the rate of increase in assessed property valuation in Los Angeles County. This, in turn, constrained property tax revenues for many local jurisdictions. Table 8-1 shows the average annual growth of assessed value from 1989 to 1998 according to the Metropolitan Water District (MWD) for areas in Southern California in their jurisdiction, including Los Angeles County. This indicates an average annual percentage change in total assessed valuation from 1989 to 1998 of 4.7 percent. This growth rate has slowed considerably since 1993.

The assessed valuation from the 1996-1997 annual Los Angeles County Tax Roll was used to analyze the local ability of jurisdictions in the Los Angeles NPDES Permit Area to finance additional costs through property tax revenues. Assessed value and market value per acre of private sector land uses were estimated for use in the analysis. Table 8-2 summarizes assessed valuation for the County with estimates ranging from about $632,900 per acre for single family units to $1.2 million per acre for commercial/industrial land.

When the total estimated assessed valuation of about $457.3 billion for all three categories is averaged over approximately 564,654 acres of residential and commercial/industrial in the Los Angeles NPDES area, this results in an estimated assessed valuation of about $809,915 per acre.

8.2 Taxable Sales Trends

Taxable sales for Los Angeles County can indicate a local jurisdiction's ability to generate additional revenues. Since the passage of Proposition 13, the sales tax has become the preferred source of local government funding for ongoing operations and maintenance. However, some local jurisdictions have traded a share of their sales tax to fund public infrastructure that has attracted revenue generating commercial land uses.

Table 8-1
Assessed Valuation Trends: Metropolitan Water District
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Year	Total Assessed Valuation ($000)	% Growth
1989	596,900,000	
1990	671,600,000	12.5
1991	750,900,000	11.8
1992	820,824,301	9.3
1993	865,027,289	5.4
1994	882,326,828	2.0
1995	887,860,083	0.6
1996	879,101,879	-1.0
1997	879,272,307	0.0
1998	893,911,433	1.7
Average Growth 1989-1998		4.7

Source: **Stanley R. Hoffman Associates, Inc.**
Moody's Investors Service, Metropolitan Water District of Southern California
General Obligation Bond Rating, February 1998

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Table 8-2
Assessed Value for Los Angeles County NPDES Permit Area
Financing and Economic Impacts of Storm Water Treatment

	Single Family	Multi-Family	Commercial/Ind.
Assessed Value Per Acre Los Angeles County	$632,917	$1,063,242	$1,198,244
Los Angeles NPDES Area Assessed Value/Acre	$632,918	$1,063,250	$1,198,380
Total Acres	374,262	57,093	133,299
Estimated Total AV	$236,876,984,488	$60,704,111,495	$159,742,834,395
Estimated AV/Unit[1]	$133,809	$43,918	N/A

1. Units per Acre: Single Family 4.73
   Units per Acre: Multi Family 24.21

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor 1996-1997 Roll Release

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From 1990 to 1997, taxable retail sales for Los Angeles County, according to the California Board of Equalization, declined from $94.7 billion to an estimated $84.7 billion in 1998 inflation-adjusted dollars. This was a decline of approximately $10 billion in taxable sales. Per capita taxable sales are shown in Figure 8-1. The overall decline of per capita taxable sales for the 1990 to 1997 period is 17 percent, declining from $10,802 in 1990 to an estimated $8,925 in 1997. However, since 1993, real per capita taxable sales have been stable and even showed slight increases.

Estimated 1998 taxable sales for the Los Angeles NPDES Permit Area are shown in Table 8-3. The per capita range for communities in this area is quite large, with a low of $8,559 in the Los Angeles River Drainage Basin and a high of $13,336 for the Dominguez Drainage Basin. This indicates a large disparity in both locational selection of shopping and in the income levels of the population as well. The overall taxable sales per capita is $9,050 dollars for the Los Angeles County NPDES area.

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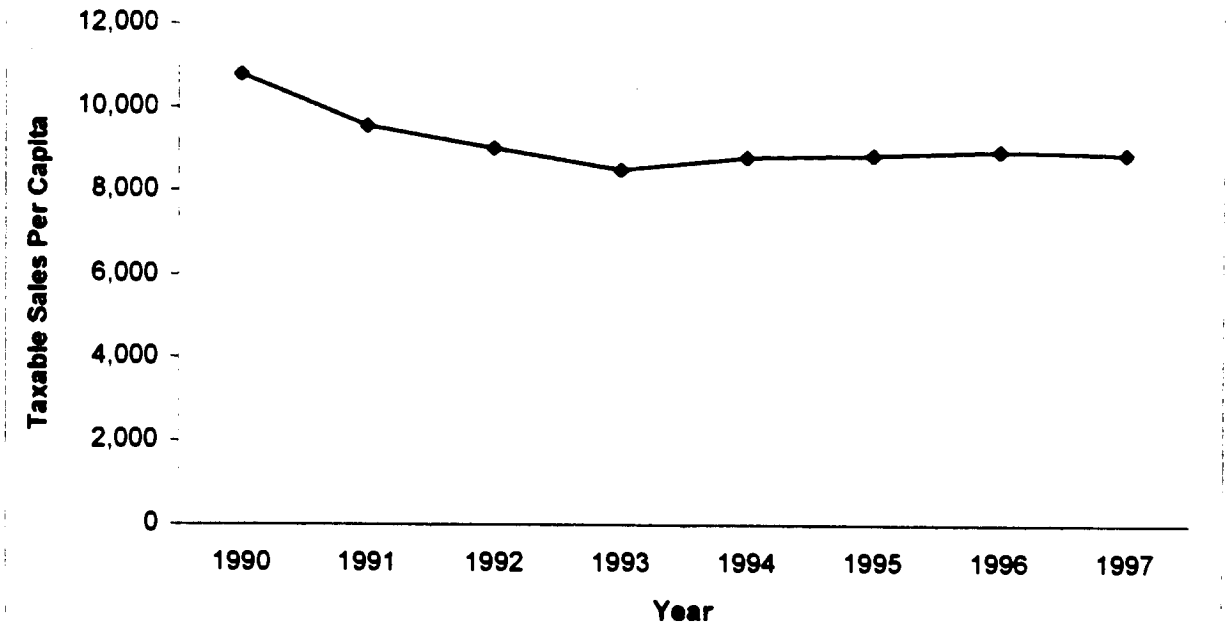
Figure 8-1
LOS ANGELES COUNTY PER CAPITA TAXABLE SALES
FINANCING & ECONOMIC IMPACTS OF STORM WATER TREATMENT
(In Constant 1998 Dollars)



Source: Stanley R. Hoffman Associates, Inc.
California State Board of Equalization

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Table 8-3
1998 Estimated Taxable Sales
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Jurisdiction	1998 Estimated Population[1]	1998 Taxable Sales Per Capita[2]	1998 Total Estimated Taxable Sales	1998 Est. Sales Tax at 1%
Dominguez	480,066	$13,336	$6,402,371,405	$64,023,714
Los Angeles River	5,835,830	8,559	49,950,619,719	499,506,197
Malibu	77,607	9,771	758,265,402	7,582,654
San Gabriel	1,877,491	9,205	17,282,511,179	172,825,112
Santa Clarita	203,921	10,788	2,199,944,611	21,999,446
Santa Monica Bay	784,835	9,179	7,204,283,006	72,042,830
Total	9,259,750	$9,050	$83,797,995,321	$837,979,953

1. Pop. projected based on 1994 - 2000 SCAG projections
2. Consumer Price Index Factor 1996-98: 1.03

Sources: Stanley R. Hoffman Associates, Inc.
California State Board of Equalization: Taxable Sales in California 1996
Southern California Association of Governments, Regional Statistical Area Projections, 1994
Consumer Price Index: U.S. Bureau of Labor Statistics

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SECTION 9
FINANCIAL SPREAD OF COSTS

This section analyzes the potential financing of the 1998 estimated storm water treatment costs for the Los Angeles County NPDES Permit Area under the following two scenarios:

1. Full Storm Water Retrofit Treatment
   - $53.6 billion capital costs; $198.9 million annual operations and maintenance

2. Debt capacity limited by EPA Preliminary & Secondary Screeners
   - $5.3 billion capital; $20.0 million annual operations and maintenance

The first scenario presents the financing of the full system including collection costs and all three levels of treatment. The second scenario reflects the EPA Preliminary and Secondary Municipal Screeners. This combines the revenue potential based on 1.6 percent of median household income to reflect the estimated average Secondary Test screener score, as discussed in Section 7.4, reduced by estimated existing non-storm water pollution control costs of $554 per household.

The financial analysis of the first scenario spreads capital and operations and maintenance costs to both residential and non-residential land uses. The spread is based on the proportionate share of flow from each type of privately owned land use. For example, single family residential land use generates an estimated 38.2 percent of the runoff flow while the commercial and industrial categories generate an estimated 21.3 percent of the flow. The capital costs spread by land use are then annualized assuming bond interest of 6.0 percent, a term of 20 years and estimated bond issuance costs of an additional 12.5 percent above the construction costs.

These annualized capital costs are then converted to a cost per unit basis for single or multi-family land uses or to a cost per acre basis for commercial, industrial and other urban land uses. It is further estimated that the "Open" land use includes about 55 percent privately owned open space. This estimate was based on a geographic information system entitled "GOVOWNERSHIP." It shows groupings of land ownership and was originally digitized by the Forest and Rangeland Resources Assessment Program of the California Department of Forestry. The annualized capital costs are added to the annual operations and maintenance costs to estimate a total annual cost per unit or acre.

The model can analyze the financial implications of outside funding, such as from the State or Federal levels, possible sales tax subventions or redevelopment agency contributions. However, these sources of funds are considered both limited and uncertain. Currently, there are no funding programs for storm water costs of this magnitude.

The basic assumption is that successful implementation is primarily a local responsibility and will require major financial commitments from local sources. In presenting the analysis, a residential land use category has been used for illustration. Each scenario will be discussed in detail, but in summary, the estimated annual storm water treatment cost for each scenario is as follows:

	Cost Per Residential Unit	Cost Per Single Family Unit	Cost Per Per Household
Scenario 1:	$741	$1,024	$1,509
Scenario 2:	$ 73	$ 101	$ 149

9.1 Scenario 1 – Full Storm Water Retrofit Treatment

Scenario 1, Table 9-1, presents the analysis for the full treatment costs of $53.6 billion, including $12.5 billion for storm water collection costs. The annual operations and maintenance costs are $198.9 million. The spread of costs to private sector land uses is based on the distribution of storm water runoff flow from the engineering analysis prepared by Brown and Caldwell.

Using this flow analysis and the single family dwelling unit for illustration, the total allocated capital cost was estimated at $10,062 per single family unit. This was annualized to about $987 and when added to the allocated share of annual operations and maintenance costs of about $37, resulted in $1,024 per single family unit for the full system costs. Based on the average assessed value per single family unit of $117,860 this would be an estimated increase in the property tax rate of 0.87 percentage points.

When the cost of $1,024 per single family unit is weighted with the cost of $309 per multi-family unit, this results in a per residential unit cost estimate of $741. Correspondingly, the cost is $1,509 when allocated on a per household basis. This estimate represents all costs allocated to households with no spread of costs to non-residential land uses. This is for the cost of full storm water treatment before accounting for existing pollution control costs of $554 per household.

9.2 Scenario 2 – Debt Capacity Limited by EPA Secondary Municipal Screener

Scenario 2 summary analysis is presented in Table 9-1 reflecting the Preliminary and Secondary Municipal Screener. For this analysis, it is estimated that the income potential is 1.6 percent of median household income ($703) based on the Secondary Screener. When the estimated amount of $703 per household at the Secondary Municipal Screener level of 1.6 percent of median household income level ($43,916) is reduced by the estimated cost of $554 for non-storm water pollution controls, this results in a net amount of $149 per household available for storm water treatment. If this annual amount of $149 is multiplied by the estimated 3,228,269 households in the Los Angeles County NPDES Permit area and is then capitalized using a 6 percent interest rate and a term of 20 years, this results in an estimated affordable capital cost of $5.3 billion. This represents about 9.9 percent of the estimated full storm water treatment cost of $53.6 billion. On a comparative basis, this yields an estimated cost of $73 per residential unit or $101 per single family unit.

Table 9-1
Detailed Financial Analysis
Financial and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Area

year	YEAR	1998	
capital costs			
collection of flows	23%	12,486	millions $
detention and screening	38%	20,453	millions $
filtration and disinfection	11%	6,150	millions $
advanced treatment	27%	14,516	millions $
total	100%	53,605	millions $
annual O & M costs	as % of const cost		
collection of flows	10 405	0 08%	% of Capital
detention and screening	57 148	0 28%	% of Capital
filtration and disinfection	49 146	0 80%	% of Capital
advanced treatment	82 178	0 57%	% of Capital
total	198 877	0 00%	
alternative allocations	area=1 flow =2		
collection of flows	flow	2	if function
detention and screening	flow	2	if function
filtration and disinfection	flow	2	if function
advanced treatment	flow	2	if function
financing assumptions			
bond terms		20	years
interest rate		6 00%	percent
bond funding costs @		12 50%	percent
estimated cost per EPA municipal screener			
number of households		3,228,269	households
median household income		$43,916	dollars/yr
est limit per secondary test	1 60% minus existing	0 34%	percent
estimated annual cost per household		$149	dollars/yr
estimated percent of annualized capital cost		9 85%	percent
estimated annualized revenues for capital expen		$4,872	millions $
estimated total capital costs covered (limited project)		$4,693	millions $
est total bond amount required (limited project)		$5,280	millions $
mitigation of cost using other funding sources			
Federal clean Water Act funds		0 0%	percent
Estimated Federal allocation		0	millions $
State subventions, applied to local share		0 00	percent
Estimated State allocation		0 00	millions $
Sales tax alternative,applied as mitigation # 1		0	
estimated taxable sales 1997		$81 9	billions of $
sales tax required as a percent of taxable sales		5 95%	percent
estimated sales tax revenue required		$4,872	md $ /yr
estimated annual increase in taxable sales		5 95%	percent
sales tax mitigation in yr 1998	0	0	md $ /yr
revenues from ad valorum tax			
year 1997 ad valorum value		462 382	billions of $
AV tax dollars per 100 dollars AV		$0 0	$/100$av
AV tax revenue		0	md $ /yr
estimated annual increase in AV		2 00%	percent
AV tax revenue in year 1998	0	0	md $ /yr
redevelopment agency alternatives			
negotiated pass thru as a % of frozen base		0 00%	percent
AV tax dollars per 100 dollars AV (0 rmoves rda)		$1 00	$/100$AV
AV tax revenue		4,824	md $ /yr
estimated increase in AV		3.00%	percent
AV tax revenue in year 1998	0	0	md $ /yr
escalators used in projected cost or fees			
ratio of market value to AV value		1 81	ratio
CPI growth rate		3 00%	percent
O & M applied yr 1997 1998	0	100 00%	percent
weighted escalator		1	
sizing of project limited by EPA screener			
full retrofit project capital cost (annualized		4674	millions $/yr
annual O & M		199	millions $/yr
total annual cost		4872	millions $/yr
Amount of annual cost per EPA screener		480	millions $/yr
project limited by screener		9 85%	percent
limited project capital cost		5,280	millions $
limited project annual O&M cost		20	millions $/yr

	2 single fam	3 multi-fam	4 commercial	5 public	6 industrial	7 other urban	8 open	9 misc	10 total
acres	378,494	57,619	59,427	90,892	75,391	18,618	1,010,244	11,719	1,702,404
percent allocated	100 00%	100 00%	100 00%	0 00%	100 00%	100 00%	55 00%	100 00%	
allocation acres	378,494	57,619	59,427	0	75,391	18,618	555,634	11,719	1,156 902
percent of total	32 72%	4 98%	5 14%	0 00%	6 52%	1 61%	48 03%	1 01%	1
avg density du/acre	5 37	23 17	1 00	1 00	1 00	1 00	1 00	1 00	
res dus/other acres	2,032,514	1,335,032	59,427	90,892	75,391	18,618	1,010,244	11,719	4,633 837
est AV year 1997 in billons	239 56	61 26	71 22	0 00	90 35	0 00	0 00	0 00	462
impervious factor	0 42	0 68	0 92	0 8	0 91	0 8	0	0 65	
acres impervious	158,968	39,181	54,673	72 714	68,608	14 894	0	7 617	416 652
runoff factor	0 42	0 68	0 92	0 8	0 91	0 8	0	0 65	5
runoff 1 4" storm mg	6,018	1,182	1,486	2,079	1,869	426	8,514	99	21 684
allocatonn flow mg	6017 53327	1192 43761	1485 5156	0	1869 1585	426 40965253	4682 89621	99 369801	15 773
acre feet per storm	18,474	3,661	4,561	0	5,738	1,309	14,376	305	48 424
design flow mgd	7,221	1,431	1,783	0	2,243	512	5,619	119	18 928
percent of flow (1)	38 15%	7 56%	9 42%	0 00%	11 85%	2 70%	29 69%	0 63%	100 00%

estimated capital cost in millions of dollars	single fam	multi-fam	commercial	public	industrial	urban	open	misc	total
collection of flows	$4 764	$944	$1 176	$0	$1 480	$338	$3 707	$79	$12 486
detention and screening	$7 803	$1 546	$1 926	$0	$2 424	$553	$6 072	$129	20452 74
filtration and disinfection	$2 346	$465	$579	$0	$729	$166	$1 826	$39	6150
advanced treatment	$5 538	$1 097	$1 367	$0	$1 720	$392	$4 310	$91	$14 516
total	$20,450	$4,052	$5,048	$0	$6,352	$1,449	$15,915	$338	$53,605

estimated dollars of capital cost / unit (per dwelling unit for residential or per acre for other)								
collection of flows	$2 343 88	$707 05	$19 788 02	$0 00	$19 626 17	$18 130 21	$3 669 42	$6 712 32
detention and screening	$3 838 98	$1,158 17	$32 413 19	$0 00	$32 148 08	$29 697 67	$6 010 58	$10 994 92
filtration and disinfection	$1 154 35	$348 25	$9 746 43	$0 00	$9 666 71	$8 929 89	$1 807 34	$3 306 10
advanced treatment	$2 724 64	$821 99	$23 004 74	$0 00	$22 816 58	$21 077 44	$4 265 91	$7 803 47
total	$10,061 80	$3,035 47	$84,952 37	$0 00	$84,257 53	$77,835 21	$15,753 26	$28,818 81

estimated annualized dollars of capital cost / unit (per dwelling unit for residential or per acre for other)								
collection of flows	$229 87	$69 35	$1 940 88	$0 00	$1 924 99	$1 778 26	$359 91	$658 36
detention and screening	$378 54	$113 80	$3 178 17	$0 00	$3 153 17	$2 912 83	$589 53	$1 078 41
filtration and disinfection	$113 22	$34 16	$955 88	$0 00	$948 14	$875 87	$177 27	$324 27
advanced treatment	$267 24	$80 62	$2 256 38	$0 00	$2 237 81	$2 067 33	$418 41	$765 38
total	$986 87	$297 73	$8,332 35	$0 00	$8,264 20	$7,634 28	$1,545 12	$2,826 43

estimated annual dollars cost of operations and maintenance/ unit (per dwelling unit for residential or per acre for other)								
collection of flows	$1 95	$0 58	$16 48	$0 00	$16 35	$15 11	$3 06	$5 59
detention and screening	$10 73	$3 24	$90 57	$0 00	$89 83	$82 98	$16 78	$30 72
filtration and disinfection	$9 22	$2 78	$77 89	$0 00	$77 25	$71 36	$14 44	$26 42
advanced treatment	$15 42	$4 65	$130 23	$0 00	$129 17	$119 32	$24 15	$44 18
total per unit or per acre	$37 33	$11 26	$315 18	$0 00	$312 60	$288 77	$58 45	$106 91

mitigations per dwelling unit or per acre								
federal funds	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00
statewide funds	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00
sales tax funds	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00
RDA funds	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00	$0 00

estimated annualized dollars of cost by level of treatment/ unit (per dwelling unit for residential or per acre for other)								
collection of flows	$232	$70	$1,957	$0	$1,941	$1,793	$363	$664
detention and screening	$387	$117	$3 270	$0	$3 243	$2 998	$606	$1 109
filtration and disinfection	$122	$37	$1 034	$0	$1 025	$947	$192	$351
advanced treatment	$283	$85	$2 387	$0	$2 367	$2 187	$443	$810
total	$1,024	$309	$8,648	$0	$8,577	$7,923	$1,604	$2,933

ad valorum tax required	single fam	multi-fam	commercial	public	industrial	urban	open	misc
$/du-ac/ yr 1998	$1,024	$309	$8,648	$0	$8,577	$7,923	$1,604	$2 933
tax as % of AV	0.87%	0.87%	0.72%		0.72%			

	Full Retrofit Treatment		Limited by EPA screener preliminary & secondary	
Capital Cost	$53,605	millions $	$5,280	millions $
Annual O&M cost	199	millions $/yr	20	millions $/yr
Total Annual Cost	4,872	millions $/yr	480	millions $/yr
Allocated cost per SFD home	$1,024	dollars	$101	dollars
Allocated cost / acre Com/Ind	8,577	dollars	845	dollars
If funded by Sales Tax increase	5.95%	percent	0.59%	percent
Percent of current outstanding debt	477%	percent	47%	percent
cost per household	$1,509	dollars	$149	dollars

Source Stanley R Hoffman Associates, Inc
Don Owen & Associates

Note (1) The estimated percentage of water runoff flow by land use is used as the basis for the capital cost allocation

SECTION 10
ESTIMATED NON-STORM WATER POLLUTION CONTROL COSTS

So far his report has only examined the incremental costs of storm water treatment and has not included the costs of other non-storm water pollution control programs. In this section, estimates of existing and future non-storm water pollution control costs per household were added to the estimated incremental costs for storm water treatment in the Los Angeles County NPDES permit area. The estimated costs to households of other pollution control measures cover the following:

- Air Quality Regulations
- Drinking Water Treatment
- Solid Waste Disposal
- Wastewater Treatment

The analysis in this section represents a preliminary examination of this issue, as a comprehensive study would require a major commitment of resources. When estimating existing or future pollution control costs, there is a wide range of pollution programs for consideration which would require extensive research. In developing the estimated initial costs, two approaches were utilized: 1) analysis of estimated localized, direct costs in California; and 2) a literature review including a 1990 comprehensive study by the EPA updated to 1998 dollars. Because of the widespread effects of pollution controls on the economy and the difficulty of calculating the full effects as they ripple through it, these two approaches likely underestimate the total level of pollution control costs.

10.1 Summary

According to the EPA Municipal Screener, the estimated incremental cost of any new pollution control program should be added to the existing pollution control costs. Therefore, the per household cost estimates of existing pollution control made in this study are added to the incremental costs for storm water treatment by area to determine whether they exceed the 2 percent of median household income criteria prescribed by the EPA municipal screener methodology. The approaches used to estimate the impacts of existing and future pollution control costs in combination with estimated incremental storm water treatment costs are described in this section and summarized below:

1) Localized estimate: $554 annually per household
2) EPA nationwide study estimate: $537 annually per household

10.2 Localized Estimates for Existing Non-Storm Water Pollution Control Costs

Estimates were made for the additional annual pollution control costs per household unit based on localized costs for the Los Angeles area of wastewater user fees, tire/oil disposal, automobile emissions and repairs, drinking water treatment and solid waste disposal. This amount was estimated to be about $554 annually per household for the Los Angeles area as shown on Table 10-1.

Data was compiled using several sources in order to determine the existing residential costs of non-storm water pollution control programs in the Los Angeles area. These costs are analyzed by three

Table 10-1
Financial and Economic Impacts of Storm Water Treatment
Estimated Annual Localized Non-Storm Water Pollution Control Costs Per Household
Los Angeles Area

Description of Localized Cost	Estimated Annual Cost
Annual Wastewater User Charge[1]	$194
Other Localized Pollution Control Costs	
Automobile Tire/Oil Disposal[2]	$8
Average Emissions Costs[3]	$74
Drinking Water[4]	$144
Solid Waste	$134
Total Other Costs	$360
Total Estimated Localized Pollution Costs	**$554**

[1] This estimate is based on the California Environmental Agency's, Wastewater User Charge Survey Report, Fiscal Year 1997-98.

[2] Based on oil disposal costs of $5 and tire disposal costs of $3 per year.

[3] Based on average emissions cost calculations as shown below:

Annual Median smog inspection fee	$14.00
Annual Median smog certificate	$5.00
Annual Average emissions repairs	$55.00
	$74.00

[4] Estimated Water treatment cost based on Metropolitan Water District (MWD) jurisdictions as shown on Table 10-3 has been applied as an average cost to the Los Angeles area.

Sources: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau
Wastewater user Charge Survey Report, Fiscal Year 1997-98, California Environmental Protection Agency
Metropolitan Water District of Southern California, 1998

Notes:			Per Household Annual Estimated Charges
Calculations are based on the following estimates:			
Tires changed @ 50,000 miles or 2 tires/yr.at $1.50 each			$3.00
Oil changed @ $1.00	4.86	times per yr.	$5.00
Annual Median smog inspection fee			$14.00
Annual Median smog certificate			$5.00
Annual Average emissions repairs			$55.00
Per Capita Vehicle Miles Travelled			8,635
Annual VMT per household			17,270

primary environmental media: air, land and water. The detailed annual cost estimates per residential unit for each of these categories, as shown on Table 10-1, include annual wasterwater user charges plus other costs. The estimated other localized pollution costs include: tire/oil disposal fees, smog check and related emissions repairs, drinking water treatment and solid waste disposal and are about $360 per household for the Southern California area.

These total costs are then added to the estimated annual wastewater user charge to arrive at a total estimated annual localized pollution control cost per household. When this total localized amount of $554 is added to the incremental cost of storm water treatment, it represents the total amount that a household is estimated to pay for pollution control on an annual basis if the full storm water treatment system was implemented.

The cost estimates for the air category include costs related to meeting the requirements for automobile smog check, smog certificate, and related emissions repairs every two years. These costs were derived based on estimates received from the California Bureau of Automotive Repairs (BAR) and then annualized on a per household basis. Smog activity is reviewed statewide each month by BAR. Table 10-2 summarizes the emissions related repair costs from July 1997 through March 1998 plus other smog control related costs. The annualized amount was calculated based on the California regulation that automobiles must pass smog certification every two years.

The land category includes costs related to solid waste disposal, as well as those for automobile oil and waste tires. The estimates for solid waste in dollars per household were presented in the EPA study. The costs for tire and oil disposal were derived based on estimates provided by the Integrated Waste Management Board of California. The calculations used in the analysis are referenced on Table 10-1.

The water category includes those costs related to the treatment of drinking water and user fees for wastewater. The costs for the treatment of drinking water were calculated based on the Southern California Metropolitan Water District's (MWD) price schedule for areas within their jurisdiction. A summary of these water treatment costs is shown on Table 10-3. The estimated annual wastewater costs were based on the California Environmental Protection Agency's report, Wastewater User Charge Survey Report, Fiscal Year 1997-98.

10.3 Pollution Control Cost Estimates Based on EPA Study

This approach utilizes a 1990 study by the EPA, Environmental Investments: The Cost of a Clean Environment, which estimates the direct costs of public and private pollution control activities in the United States. Although this report was prepared in 1990, it represents an extensive analysis of environmental costs by economic sector and environmental medium. The study also includes a projection to the year 2000 of what EPA estimated at the time to be the cost of full compliance with existing regulations. According to the report, overall there is expected to be a significant increase in the real costs of pollution control on local government which will require significant additional capital investments and increases in rates charged to customers for expanded environmental services.

Table 10-2
Financial and Economic Impacts of Storm Water Treatment
Statewide Summary of Emissions Related Repair Costs Per Vehicle
Los Angeles Area

	Month	Number of Vehicles	Average Cost Per Vehicle	Annualized Average Cost[1]
Vehicle Repair Costs	Mar-98	31,803	$117	
	Feb-98	33,791	111	
	Jan-98	37,464	111	
	Dec-97	34,447	105	
	Nov-97	35,490	106	
	Oct-97	41,312	105	
	Sep-97	39,881	110	
	Aug-97	41,376	107	
	Jul-97	43,316	$109	
		338,880	$109	$55
Annual Average Estimated Inspection Fee				$14
Annual Average Estimated Smog Certificate Fee				$5
Total Annual Average Estimated Emissions				$74

Source: Stanley R. Hoffman Associates, Inc.
California State Bureau of Automotive Repairs

[1] A Smog check is assumed to be conducted once every two years

Note: includes only costs related to repairs required to pass smog check certification. As of March 1998, repair costs are no longer reported to the BAR. Costs are likely to increase because of the new requirements to control NO_x

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Table 10-3
Financial and Economic Impacts of Storm Water Treatment
Water Treatment Costs
Los Angeles Area

	MWD Service Area 1998 $
Estimated Existing Water Treatment Costs	
Water Rates ($ Per acre foot)	
Basic Treated Water	$431
Basic Untreated Water	$349
Cost of Water Treatment	$82
Estimated Future Water Treatment Costs	
Treatment costs ($ Per acre foot)	
Oxidation Retrofit Program[1]	$25
Other Treatment Technologies[2]	$180
Estimated Annual Cost Per Acre foot	$287
Estimated Annual Per Household Costs	
Annual Water Usage ($ Per acre foot)	0.50
Estimated Water Treatment Cost	$144

Notes:
1. This program is currently underway by MWD and will include ozone treatment of water at $50 per acre foot. It is assumed that 50 % of the area would incur this cost, or an average of $25 per acre foot.
2. Advanced technologies for ground water treatment are more expensive and average about $360 per acre foot. It is assumed that 50 % of the MWD service area would incur this cost, or $180 per acre foot.

Source: Stanley R. Hoffman Associates, Inc.
Metropolitan Water District of Southern California, 1998.

R0005997

10.3.1 Overall Costs of Environmental Protection

Based on the EPA study, the estimated future annual cost of pollution controls per household in 1998 dollars would be about $537. These costs are shown in detail on Tables 10-4 and 10-5 and would likely be higher if the effects of more recent pollution control legislation were included. The estimated costs include pollution abatement, control and prevention expenditures. Only the direct costs associated with implementing control measures and compliance activities are included in the analysis.

The report presents data on environmental pollution control costs from 1972 through 1987 and projects those costs for each year through 2000 under various assumptions related to full compliance with existing regulations. The report presents the results in a variety of ways including by type of cost (capital, operating, etc.), by medium (land, air, water), by program and by economic sector which directly bears the cost of the control (public versus private). The report is based upon surveys of spending conducted by the Department of Commerce, EPA Regulatory Impact Analyses and an earlier EPA study, The Municipal Sector Study: Impacts of Environmental Regulations on Municipalities (September 1988).

The EPA study found that in the year 2000, total annualized costs for all pollution control activities in the nation would likely be in the range of $171 billion to $185 billion (in constant 1990 dollars). These costs would represent 2.6 to 2.8 percent of Gross National Product.

The largest share of pollution control costs – 61 percent – is directly borne by the private sector. The second largest share – 23 percent – is directly borne by local governments. Local government costs relate mostly to wastewater, drinking water, sewage sludge and solid waste. According to the report, "...it is projected that over the next several years real pollution control burdens on municipalities will increase dramatically and result in large increases in the fees charged to consumers for locally-provided environmental services."

10.3.2 Estimated Costs per Household

While the EPA report provides a comprehensive analysis of pollution control costs and does estimate which sector initially bears the costs, it does not attempt to estimate how much of these costs are ultimately passed on to households, businesses, and other entities. However, the Municipal Sector Study found that households in smaller communities will pay an average of 0.7 percent of their incomes for environmental services while those in larger communities will pay on average 0.5 percent.

Tables 10-4 and 10-5 show selected annualized cost estimates for mobile source and other selected pollution control programs. This is derived from the EPA report, when combined, results in an estimated cost of $537 per household. The cost estimates in Table 10-4 were projected by the EPA as local government's share in the year 2000. This assumes full compliance with national standards for water quality point sources, drinking water and solid waste.

Table 10-4
Financial and Economic Impacts of Storm Water Treatment
Annualized Environmental Control Costs in the Year 2000
Selected Programs - Local Government Portion[1]

Area	In Millions of 1986 Dollars[2]	In Millions of 1998 Dollars	Cost per Household in 1998 Dollars
Water Quality-Point Sources	$16,589	$23,888	$232
Drinking Water	5,079	7,314	71
Solid Waste	9,681	13,941	135
Total Water & Solid Waste	31,349	45,143	438
Total Households (thousands)			103,058
Estimated Costs per household			$438

1. Air quality regulation costs for local governments were not included as part of this study

2. CPI LA-Ana-Riv:All Items - All Urban Consumers
   Change 1986-1998 1.44

Source: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau

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Table 10-5
Financial and Economic Impacts of Storm Water Treatment
Annualized Environmental Control Costs in the Year 2000
Mobile Sources Air Pollution

Area	In Millions of 1986 Dollars[1]	In Millions of 1998 Dollars	Cost per Household in 1998 Dollars
Capital Costs	$10,786	$15,532	$151
Operating Costs	$3,354	$4,830	$47
Total	$14,140	$20,362	$198
Estimated Household Allocation[2]	$7,070	$10,181	$99
Total Households (thousands)			103,058
Estimated Costs per household			$99

[1] CPI LA-Ana-Riv:All Items - All Urban Consumers
Change 1986-1998 1.44

[2] Assumed allocation to households at 50%

Source: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau

Table 10-5 presents estimated air pollution control costs for mobile sources. The EPA study annualized the estimated capital costs using a 7 percent annual amortization rate for capital expenditures and combined them with annual operations and maintenance costs. The first data column shows the cost estimates in 1986 dollars. The second data column converts the cost estimates to 1998 dollars using an adjustment based on the Consumer Price Index. The third column shows the cost per household based on the Census Bureau's forecast of households for 2000 (Series 2) of approximately 103.1 million.

Cost estimates are presented for the three programs with the largest local government financial responsibility. In order to avoid double counting with the incremental storm water treatment cost estimates, EPA estimated non-point source water quality control costs were not included in the table. No attempt was made by EPA to estimate either how much of these costs would be passed back to the consumers of municipally provided environmental services in the form of periodic fees or how much of such fees would be borne by households, businesses and other entities. Such user fees are common for wastewater treatment, drinking water supply and solid waste collection and disposal. Conversely, no attempt was made to include the costs of private providers of the same services. Some drinking water and solid waste collection and disposal services, for example, are provided by private companies who charge user fees in the same manner as municipal providers.

The total annual local cost for local government programs in the year 2000 is projected at about $45.1 billion as shown on Table 10-4. This would be the equivalent of $438 per household based on the Census Bureau's projection of 103,058 million households. The total annual cost of mobile source air pollution controls is shown on Table 10-5 and is projected to be $10.18 billion. Assuming one half of this is for commercial vehicles and the other half is for vehicles owned by households, then the average annual cost per household is estimated at $99. This is considered a conservative assumption since slightly less than one third of the total registered vehicles in California are commercial. When these two estimates are combined, a total cost per household of $537 results.

SECTION 11
EVALUATION OF FINANCIAL IMPACTS

This section discusses the findings of potential financial and economic impacts on the Los Angeles NPDES Permit Area. The EPA Municipal Screener methodology and other selected socioeconomic indicators are used in this evaluation. A set of summary indicators are presented in Table 11-1 for the two scenarios: 1) Full retrofit treatment; 2) Retrofit expenditures limited by the Preliminary and Secondary Screener. The cost of full storm water treatment is first evaluated followed by an evaluation of costs as limited by the Secondary Screener test.

11.1 Widespread Impacts

The financial and economic inpacts are first evaluated for the cost of full storm water retrofit treatment. Based on the EPA methodology and other economic indicators presented below, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs as summarized on Table 11-2.

11.1.1 Property Tax Impacts

One measure of financial feasibility is the estimated impact on the property tax rate. The property tax rate for a single-family unit is estimated to increase by about 0.87 percentage points for the full system as shown previously on Table 9-1. When added to the median base property tax of 1.19 percent, this results in a total property tax of 2.06 percent, an increase of about 73 percent in the annual property tax bill. Given the current economic climate in California, this estimated total rate of 2.06 percent is clearly more than is likely to be absorbed by local single family households alone. For multi-family units, the estimated increase of 0.67 percentage points would also represent a sizable increase if translated into a potential rental pass through.

11.1.2 Sales Tax Impacts

To compare the annualized storm water treatment costs to other economic indicators, a hypothetical increase in the sales current tax rate of 8.25 percent was estimated in lieu of increasing the property tax for the cost of full treatment. For the cost of full treatment, the sales tax increase was estimated at about 6.0 percentage points. This impact, on top of the current rate, is judged to be both widespread and probably far higher than most households would consider acceptable.

11.1.3 Land Requirement and Displacement Impacts

Treatment facilities for storm water runoff are land intensive. The land acreage and cost requirements for the full system are about 13,950 acres and $6.1 billion, requiring multiple treatment plants per drainage basin. The land cost estimate was included in the full treatment costs of $53.6 billion. About 67 percent of this acreage would be required for treatment Level 1 with the remaining 33 percent for treatment Level 2. While marginal or vacant parcels would be initially sought, this still would require potential displacement of many households and businesses in addition to relocation and land costs.

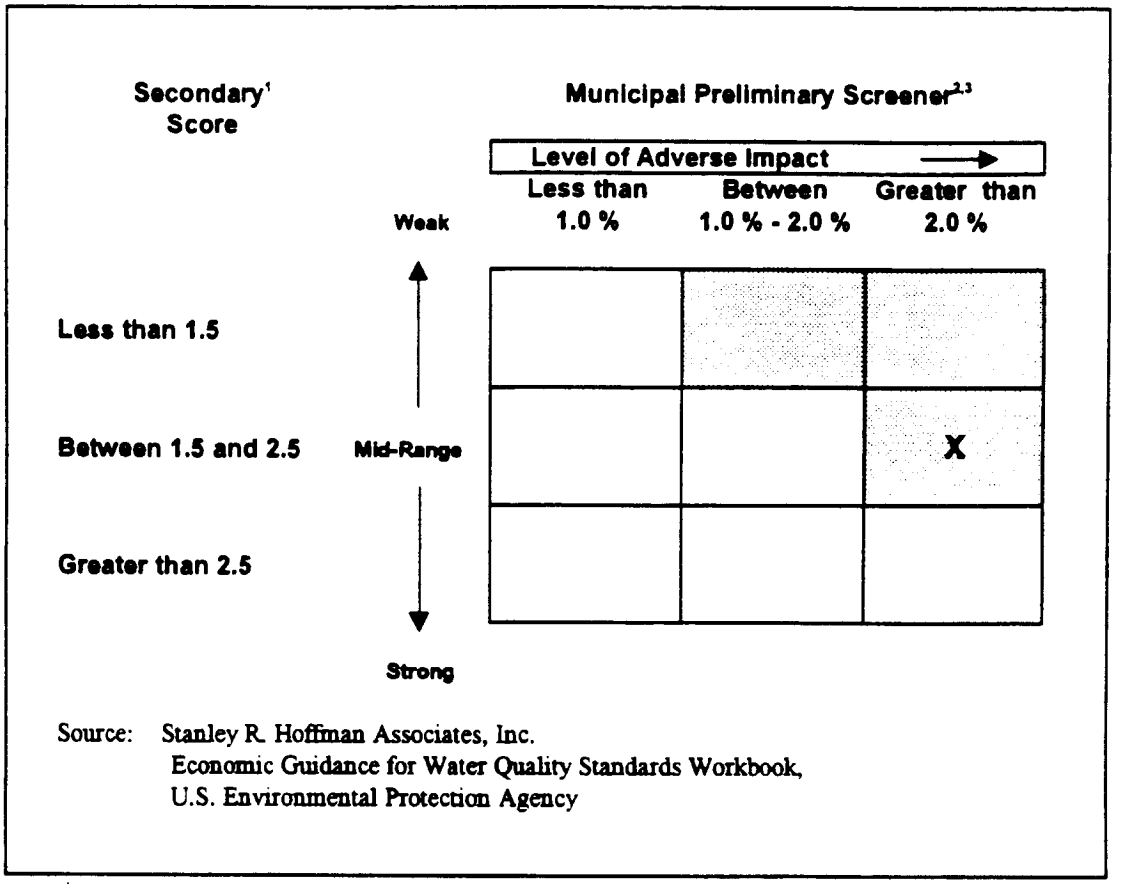
Table 11-1
Summary of Evaluation Indicators
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Indicators	Full Retrofit Treatment		Limited by EPA screener: preliminary & secondary	
Capital Cost	53,605	millions $	5,280	millions $
Annual O&M cost	199	millions $/yr	20	millions $/yr
Total Annual Cost	4,872	millions $/yr	480	millions $/yr
Allocated cost per SFD	$1,024	dollars	$101	dollars
Allocated cost / acre Com/Ind	8,577	dollars	845	dollars
If funded only by Sales Tax increase	5.95%	percent	0.59%	percent
Percent of current outstanding debt	477%	percent	47%	percent
Cost per household	$1,509	dollars	$149	dollars

Source: Stanley R. Hoffman Associates, Inc.
Don Owen & Associates

R0006003

Table 11-2
Financial and Economic Impacts of Storm Water Treatment
Assessment of Substantial Impacts Matrix
Los Angeles NPDES Area



Source: Stanley R. Hoffman Associates, Inc.
Economic Guidance for Water Quality Standards Workbook,
U.S. Environmental Protection Agency

1. The Secondary Score represents a weighted average based on a number of economic criteria described in the text.

2. The Municipal Preliminary Screener represents a percentage of median household income.

3. Shaded area denotes where substantial impacts are estimated to occur according to the EPA Preliminary and Secondary Municipal Screeners. The combined score for the Los Angeles NPDES area results in substantial impacts as shown in the figure by the "X."

R0006004

11.1.4 Employment Impacts

The Los Angeles area economy has been recovering from the deep recession of the early 1990s when the total County economy lost more than 400,000 jobs. The County is currently on a recovery path. The additional costs per household and per business would likely slow economic growth and cause some businesses to relocate or expand elsewhere. Again, while specific estimates of impacts are not made, the burden of additional costs of a substantial nature is viewed as widespread because the potential treatment plants would be distributed throughout the Los Angeles drainage areas. Since specific locations are not identified, these displacement impacts are not quantified as part of this study.

Employment trends for Los Angeles County are summarized in Table 11-3 based on estimated projections from 1994 to 2000 from the Southern California Association of Governments (SCAG). According to these projections, the overall County employment is growing at an average annual rate of about 1.4 percent.

As was indicated earlier, the average household share of the financing burden would amount to about a 73 percent increase of annual property taxes for a single family unit. For many households, this increase would cause a significant reduction in their consumption and savings potential. Over time, landowners would pass forward these tax increases in the form of higher rents which would result in consumption reduction. Such potential widespread reduced consumption among households would likely cause loss of retail and other local serving jobs.

Based on the EPA methodology and the other economic indicators presented, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs.

11.1.5 Impacts on Outstanding Local Debt

According to California Municipal Statistics, Inc., there is an estimated $11.6 billion of outstanding local public debt in Los Angeles County. The estimated cost of $53.6 billion for full storm water treatment represents almost a fivefold increase in existing debt. This level of debt increase would be not only considered extremely large but would foreclose capital funding for other non-storm water projects.

11.2 Costs Limited by EPA Screeners

When the estimated costs of storm water treatment are limited by the EPA Preliminary and Secondary Municipal Screeners, this results in an estimated fundable capital cost of about $5.3 billion. This is based on a cost of $149 per household calculated by taking the estimated Secondary Screener amount of 1.6 percent of median household income ($43,916) or $703 per household and reducing it by the estimated existing and future non-storm water pollution control costs of $554 per household. While this amount is estimated to be affordable based on the EPA Preliminary and Secondary Screener methodology, it is likely that it would still be considered too high if directly charged to most households on an annual basis over the bond period of 20 years or longer.

Table 11-3
Financial and Economic Impacts of Storm Water Treatment
Employment Trends for Los Angeles County NPDES Permit Area: 1994 - 2000

Basin/Area	1994	1998	2000	1994 to 2000		
				Numerical Change	Percent Change	Average Annual Change
Dominguez	302,572	319,728	328,667	26,095	8.6%	1.4%
LA River	2,465,071	2,612,887	2,690,087	225,016	9.1%	1.5%
Malibu	34,894	41,554	45,346	10,452	30.0%	4.5%
San Gabriel	611,803	655,842	679,037	67,234	11.0%	1.8%
Santa Clara	53,398	65,018	71,744	18,346	34.4%	5.0%
Santa Monica Bay	700,022	708,656	713,013	12,991	1.9%	0.3%
Total	4,167,760	4,403,684	4,527,893	360,133	8.6%	1.4%

Sources: Stanley R. Hoffman Associates, Inc.
Southern California Association of Governements, Regional Statistical Area Projections, 1994.

R0006006

SECTION 12
BIBLIOGRAPHY

Brown and Caldwell, prepared for California Department of Transportation, *Cost of Storm Water Treatment for Los Angeles NPDES Permit Area*, June 1998

Stenstrom, Michael K., Department of Civil and Environmental Engineering: University of California at Los Angeles, and Eric W. Strecker Woodward-Clyde Consultants, *Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay, Volume1: Annual Pollutants Loadings to Santa Monica Bay from Storm Water Runoff*, May 1993.

United States Environmental Protection Agency, Economics and Statistical Analysis Branch, Office of Science and Technology, Office of Water, *Interim Economic Guidance for Water Quality Standards Workbook*, March 1995.

United States Environmental Protection Agency, Policy, Planning, And Evaluation, *Environmental Investments: The Cost of a Clean Environment*, December 1990.

United States Environmental Protection Agency, *The Municipal Sector Study: Impacts of Environmental Regulations on Municipalities*, September 1988.

Wilchfort, Orit et. al., Center for Environmental and Water Resources Engineering, Department of Civil and Environmental Engineering: University of California at Davis, *An Economic Valuation of Storm Water Quality Improvement for Ballona Creek, California*, May 1997.



COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA

June 1998

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R0006008

COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA

An analysis was performed to determine the cost of treating storm water runoff in the Los Angeles County watershed. Treatment costs were developed based upon different treatment levels required to meet water quality objectives. The costs in this report were prepared as a basis for a further analysis of the economic impact of storm water treatment on the community. The costs in this report are intended to be used in the economic analysis and will be refined as the economic impact analysis progresses and the data needs are refined.

All costs for treatment were calculated in the same manner as the treatment costs in the *Caltrans Storm Water Facilities Retrofit Evaluation* (1). That report described the evaluation of the costs of treating storm water runoff from Caltrans facilities in the Los Angeles area.

DESIGN STORM CHARACTERISTICS

The design storm selected for this study is the one-year storm for a 24-hour period in most of the Los Angeles area. The selected storm allows the storm water treatment facilities to capture most of the runoff for a normal rainfall year. The capacity will be exceeded only when storms greater than the one-year return frequency are experienced. On a long term, several year basis, the design storm will result in treatment of 80 to 90 percent of the runoff. The storm represents a compromise between the cost of attempting to design for a higher intensity storm and desire to maximize pollutant capture. The one year, 24-hour storm is the minimum rainfall with a statistical probability of reoccurring one or more times per year. Rainfall varies depending on the Los Angeles terrain and averages approximately 1.25 inches for the area included in this study.

Treatment systems in this report are designed to contain all of the flow generated by the design storm, and treat and release this volume within a 24-hour period. Therefore, to calculate the average release rate, the volume of water generated by the design storm in 24-hours is calculated and then divided by 24-hours. A treatment period of 24-hours was chosen rather than a longer treatment period such as 72-hours to permit the collection and treatment of two consecutive storms.

The design storm concept is similar to storm water design assumptions made by flood control agencies within Los Angeles County, California. However, flood control designs use longer return frequency storms and greater quantities of runoff. This approach incorporates input from the Caltrans/UCD/CSUS Oversight Committee provided on the previous Retrofit Evaluation.

SIZE OF DRAINAGE AREA WITHIN LOS ANGELES COUNTY

The entire urban Los Angeles County watershed that drains directly to the Pacific Ocean measures approximately 1,702,404 acres. The area has been divided into seven drainage basins and the areas for each obtained from the Southern California Area Governments (SCAG) GIS Land Use Data Base. The size and descriptive name of each basin is listed below:

Table 1. Los Angeles Drainage Basins

Drainage Basin Description	Drainage Area, acres
Dominguez	69,091
Los Angeles River	522,061
Malibu	98,729
San Gabriel	370,468
Santa Ana (Part)	15,680
Santa Clara	491,947
Santa Monica Bay	134,429
Total	**1,702,404**

STORM WATER RUNOFF

The volume of storm water runoff was developed using a modified coefficient of runoff. The runoff coefficient estimates the percentage of the precipitation that will become runoff based on the land use and the imperviousness associated with each land use. This method is similar to the method described in the *California Storm Water Best Management Handbook, Municipal Volume* (5) The modified runoff coefficient predicts 90 percent of the precipitation will runoff from impervious area and 15 percent from the pervious area as described in the Handbook.. Below is the formula used to calculate the modified runoff coefficient.

$$Runoff\ Coefficient = 0.90 \times (impervious\ fraction) + 0.15 \times (1\text{-}impervious\ fraction)$$

In addition, the first 0.06 inches of precipitation was assumed to pond in localized depressions and not be available as runoff. The runoff coefficients and formula above can be found in Appendix D of the *California Storm Water Best Management Handbook, Municipal Volume.* The imperviousness for each type of land use was assumed to be similar to the values reported by the *Santa Monica Bay Restoration Project* (4). Listed below are assumed imperviousness and land uses:

Table 2. Runoff Coefficients by Land Use

Land Use	Impervious	Runoff Coefficient
Single family residential	42 %	0.46
Multi family residential	68 %	0.66
Commercial	92 %	0.84
Public	80 %	0.75
Industrial	91 %	0.83
Other urban	80 %	0.75
Vacant Developable	0 %	0.15
Open	0 %	0.15
Unknown	65 %	0.63

Based on a land use pattern in Los Angeles County, the runoff coefficient for each drainage basin was determined. In turn, this coefficient is used to determine the amount of storm water runoff as related to precipitation.

Table 3. Runoff Coefficient by Basin

Drainage Basin Description	Runoff Coefficient
Dominguez	0.599
Los Angeles River	0.452
Malibu	0.299
San Gabriel	0.403
Santa Ana	0.423
Santa Clara	0.294
Santa Monica Bay	0.504

DESIGN STORM WATER QUALITY

In addition to the storm water quantity, typical storm water quality is an important consideration in determining the types of appropriate treatment. Design storm water quality values were developed by examining the storm water quality data generated from Los Angeles County monitoring and Caltrans statewide sampling which contained a significant amount of Los Angeles area data. Treatment processes were developed from water quality objectives.

The following table shows the typical water quality objectives for Los Angeles and the range of sampling data for various constituents.

Table 4. Water Quality Objectives and Monitoring Results

CONSTITUENT	WATER QUALITY OBJECTIVES (mg/L or MPN/100 mL)					RAINFALL MONITORING DATA (mg/L or MPN/100mL)		
	1-Hour Toxicity (Aquatic Life)			Municipal	Other	Caltrans Statewide[h] 1997	LA Co. DPW[i] 1/3/95 - 4/17/96	
	Inland[b]	Estuarine	Oceanic[c]	Supply*	Use	Range	Min	Max
GENERAL QUALITY								
Total Dis. Solids				500	250	<10-20,000	26	1760
Total Sus. Solids			75%**			<4-1,410	4	8728
Turbidity			225			17-1,300	0.9	1800
Hardness	b					11.3-96	10	930
Chloride				250	10	<1.0-52.8	1.98	147
Nitrate-NO_3				45		0.39-42.5	1.03	42.2
Sulfate				500	30	<1-94	2.54	758
Oil & Grease			75		No Film	<0.11-48	1	17.8
Ammonia	25		6			0.5-9.2	0.83	4.47
Coliform, fecal	d	d	d		200[d]	27-160,000	80	16,000,000
Coliform, total	e	e	e		70[e]	80-300,000	340	16,000,000
METALS								
Antimony				0.006		<0.015-0.090	0.007	0.049
Arsenic	0.360	0.069	0.032	0.05		<0.004-0.033	0.011	0.028
Barium				1		<0.001-2.01	0.101	0.723
Cadmium	0.009	0.043	0.004	0.005		<0.003-0.015	0.031	0.048
Chromium III	3.064			33		<0.002-0.102	0.01	0.364
Chromium VI	0.016	1.100	0.008	0.05				
Copper	0.034	0.003	0.012	1.3[g]		<0.01-0.48	0.011	0.639
Lead	0.197	0.140	0.008	0.015[g]		<0.001-0.45	0.01	0.188
Mercury	0.002	0.002	0.0002	0.002		<0.0002-0.21	0.001	0.085
Nickel	2.549	0.075	0.020	0.1		<0.002-0.136	0.01	20
Selenium	0.005	0.300	0.060	0.05		<0.001-0.036	0.01	20
Zinc	0.211	0.095	0.080	5[f]		<0.005-3.88	0.051	0.876

(b) Calculated metals values are based on 200 mg/L hardness (SWRCB 1993).
(c) Oceanic limits are daily maximum allowed (SWRCB 1990).
(d) Based on recreational use for whole-body water contact (REC1).
(e) Based on food consumption limitations (SHELL).
(f) Based on secondary drinking water standards (22 CAC 64449.1; Table 64449-A).
(g) Based on primary drinking water standards (22 CAC 64672.3a-b).
(h) From Caltrans, 1997 Summary of Water Quality Data Associated with Run-Off from Caltrans Highways and Freeways.
(i) From LA Co. DPW, 1997 Summary of Database of Sampling Results obtained from M. Ramos, LA Co. DPW.

* Based on Los Angeles Basin Plan, Table 3-5 (RWQCB 1994), unless otherwise noted.
** Infers a required minimum of 75% solids removal from waste stream.

There are several constituents indicated that would potentially violate the water quality objectives. Treatment systems discussed in this report have been developed to treat storm water to meet the objectives.

The monitoring values were then combined to obtain a typical constituent concentration expected in County of Los Angeles runoff. These water quality values were considered in developing levels of treatment which meet the water quality objectives of the receiving water body. The design storm water quality values in the table below are typical urban runoff in Los Angeles County. The values are the average values from a database of county storm water monitoring from 1988 to 1995.

Table 5. Typical Storm Water Runoff Quality

Constituent	Typical Value, mg/L
Total suspended solids	510
Total dissolved solids	285
Biochemical oxidation demand	50
Nitrate	1.9
Phosphate	0.5
Cadmium	0.001
Copper	0.03
Lead	0.04
Zinc	0.19
Oil & grease	2
Fecal coliform, MPN/100 mL	180,000
Total coliform, MPN/100 mL	750,000

The quality data shows that storm water treatment should address suspended solids, which is basically the dirt picked up during runoff, the high levels of bacteria indicated by the coliform tests and the variable levels of metals. The coliform indicates a high potential for contamination by disease carrying bacteria. Metals requirements are especially difficult because of the large variation in sampling results, the stringent requirements that are both existing and proposed and the high cost of removing small concentrations of metals from large quantities of water.

STORM WATER TREATMENT

Storm water treatment was developed to meet the basic requirements of the *Los Angeles Basin Water Quality Control Plan* (6). Three progressive levels of potential treatment are proposed to meet higher levels of water quality objectives required to preserve potential beneficial uses of receiving waters. Beneficial uses of receiving waters are further discussed in the Basin Plan.

Presented in the table below are water quality objectives achieved by each progressive treatment level.

Table 6. Treatment Objectives

Treatment Level	Objective of Treatment
Level 1 Treatment	Settle and remove suspended solids and particulate pollutants
Level 2 Treatment	Filter and disinfect to remove biological contamination
Level 3 Treatment	Remove small concentrations of toxics and heavy metals

Level 1 treatment includes screening and detention of storm water to remove floating debris and settle solids that were picked up by the storm water. Level 1 is a traditional storm water treatment technology and represents a treatment technology that could be implemented for a large drainage area. The level 1 detention facilities were sized to capture the design storm and hold it for twenty-four hours to allow the solids to settle and clarify the water. Level 1 will decrease pollutant concentrations but cannot meet all the objectives for beneficial use.

Level 2 treatment adds filtration and disinfection to level 1 detention facilities. Storm water runoff is contaminated with coliform, which are bacterial indicator organisms used to determine sanitary conditions. The levels of coliform in urban storm water will generally cause the receiving water to exceed levels considered safe for recreational contact. Most waters in California are designated to have a recreational beneficial use and the coliform objective linked to the beneficial use will be exceeded by inflow of storm water. Filtration and disinfection will kill bacterial organisms and allow the objectives for the recreational beneficial use to be met. High rate filtration and chlorination were added to the discharge from the detention basins in level 1. Dechlorination was also provided to protect organisms in the receiving water from the toxicity of any residual chlorination. Level 2 will allow storm water to meet the requirements for the recreational beneficial uses.

Level 3 treatment adds a highly sophisticated treatment process to remove very small concentrations of toxic materials that are normally found in urban runoff. Many of the waters in California are designated as potential drinking water sources. The objectives for the beneficial use designation of municipal water supply may require advanced treatment. Even more restrictive than the drinking water standards, are the standards for toxicity as it relates to sensitive species that could potentially exist in the receiving waters. Most waters have a beneficial use designation that describes the aquatic environment and have objectives to protect that beneficial use. Meeting these objectives with structural treatment units will require advanced treatment beyond what is normally expected of water treatment facilities. Reverse osmosis is included as the typical technology representing advanced toxics removal to achieve the required low concentrations. Storm water treated to level 3 is free of almost all pollutants and is suitable for all beneficial uses.

RUNOFF QUANTITY AND TREATMENT FACILITY SIZE

Drainage from each basin within Los Angeles County is based a 24-hour, one-year storm equaling 1.25-inch and the modified runoff coefficient described above. The total runoff from each drainage basin is shown on the following table.

Table 7. Storm Water Runoff by Drainage Area

Drainage Basin Description	Drainage Area, acres	Total Runoff, Million Gallons
Dominguez	69,091	1,337
Upper Los Angeles River	522,061	7,572
Malibu	98,729	956
San Gabriel	370,468	4,774
Santa Ana	15,680	214
Santa Clara	491,947	4,641
Santa Monica Bay	134,429	2,190
Total	1,702,404	21,684

Considering the economy of scale that is evident in the construction of treatment facilities, building numerous small treatment facilities is not as cost effective as the construction of a few large regional treatment plants. Although political or land use requirements may require some smaller facilities, the economics favor larger plants. Therefore, treatment selection, design and cost estimates are based upon the assumption that a few large regional treatment plants will be built. The capacity and number of treatment plants is shown on the following table:

Table 8. Storm Water Treatment Plant Capacity

Location and Description	Size and Number Million Gallons (MG)
Dominguez	
Total Runoff to be Treated, MG	1,337
Number of Treatment Plants Required	27
Los Angeles River	
Total Runoff to be Treated, MG	7,572
Number of Treatment Plants Required	173
Malibu	
Total Runoff to be Treated, MG	956
Number of Treatment Plants Required	20
San Gabriel	
Total Runoff to be Treated, MG	4,774
Number of Treatment Plants Required	107
Santa Ana	
Total Runoff to be Treated, MG	214
Number of Treatment Plants Required	5
Santa Clara	
Total Runoff to be Treated, MG	4,641
Number of Treatment Plants Required	104
Santa Monica Bay	
Total Runoff to be Treated, MG	2,190
Number of Treatment Plants Required	44
Entire Los Angeles Area	
Total Runoff, MG	21,684
Number of Treatment Plants	480

The maximum size of any individual treatment plant is assumed to be 500 million gallons.

ESTIMATED COSTS FOR STORM WATER TREATMENT IN LOS ANGELES

The treatment cost estimate for the entire Los Angeles area was done by preparing composite cost curves to represent relative cost savings for construction of a few large treatment plants versus construction of small treatment plants. The cost curves were developed by using the cost determined from the Van Nuys quadrangle study area contained in *the Caltrans District 7 Storm Water Retrofit Plan (1).*

The total flow within the Los Angeles County drainage area is significantly larger than the flow from the Van Nuys quadrangle study area. There are no existing costs available for large storm water treatment facilities which would be required for the larger drainage area, so it was necessary develop new cost curves based upon the cost curves used in the Van Nuys study area. The new treatment cost curves are intended for estimating the cost of treatment for capacities ranging from 10 to 500 million gallons. As a comparison, to test the accuracy of the new cost curves for Los Angeles County, storm water treatment costs were compared with other similar treatment systems. This comparison was done by using the cost estimating curves developed for the City of San Diego *(San Diego Wastewater Programs Managers Technical Advisory Board San Diego Metropolitan Sewerage System Preliminary Cost Estimating Curves, December 8, 1988)* (8). All costs estimate are based upon an ENR Index of 6710 (7).

The costs of the treatment facilities were developed from representative designs and then scaled up for the watershed. Simplifying assumptions were made that part time staff would be available during storm events by drawing municipal labor forces, means for disposal of residual solids would be available through municipal landfills and wastewater plants, and the large land needs for the sites could be accomplished through purchase. These simplifying assumptions may lead to lower costs than would be possible for a large scale treatment project but should not compromise cost estimate for undertaking a storm water treatment program. These are planning level costs and the accuracy is reflective of the preliminary nature of the designs and the general assumptions made. Shown in the table below are capital and operation and maintenance (O & M) costs for each drainage basin within Los Angeles County. Costs were prepared which include and exclude collection costs.

Separate costs estimates were prepared including and excluding collection costs. This was done because of an uncertainty in the locations of large treatment plants proposed.

Costs without collection represent a system where large treatment plants are located at the downstream discharge of major drainage areas. The existing conveyance system is used to bring storm water to the treatment locations. Some of the conveyance systems are actually local channels and waterways that will not receive the benefits of treatment.

Costs with collection represent an effort to parallel important tributary streams and channels with collection systems to protect them from storm water pollution. The parallel collection systems would divert flow to the treatment locations. Obviously, building parallel storm water collection systems is expensive.

Table 9. Treatment Costs by Drainage Area

Dominguez	Cost without Collection, ($1,000,000)	Cost with Collection, ($1,000,000)
Capital Costs		
Collection System		$628
Level 1	$1,234	$1,861
Level 2	$1,950	$2,578
Level 3	$3,643	$4,271
O & M Costs		
Collection System		$0.5
Level 1	$3.5	$4.0
Level 2	$6.4	$7.0
Level 3	$11.4	$11.9
Los Angeles	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$4,098
Level 1	$7,386	$11,484
Level 2	$11,679	$15,777
Level 3	$21,810	$25,908
O & M Costs		
Collection System		$3.5
Level 1	$20.3	$23.8
Level 2	$37.9	$41.4
Level 3	$67.6	$71.1
Malibu	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$634
Level 1	$894	$1,529
Level 2	$1,414	$2,048
Level 3	$2,641	$3,276
O & M Costs		
Collection System		$0.5
Level 1	$2.5	$3.0
Level 2	$4.7	$5.2
Level 3	$8.3	$8.8

San Gabriel	Cost without Collection, ($1,000,000)	Cost with Collection, ($1,000,000)
Capital Costs		
Collection System		$2,755
Level 1	$4,441	$7,166
Level 2	$6,975	$9,730
Level 3	$13,028	$15,783
O & M Costs		
Collection System		$2.3
Level 1	$12.4	$14.8
Level 2	$23.0	$25.3
Level 3	$40.8	$43.1
Santa Ana	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$120
Level 1	$210	$329
Level 2	$331	$ 450
Level 3	$619	$739
O & M Costs		
Collection System		$0.1
Level 1	$0.6	$0.7
Level 2	$1.1	$1.2
Level 3	$1.9	$2.0
Santa Clara	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$3,130
Level 1	$4,301	$7,431
Level 2	$6,801	$9,931
Level 3	$12,703	$15,833
O & M Costs		
Collection System		$2.6
Level 1	$12.1	$14.7
Level 2	$22.5	$25.1
Level 3	$39.8	$42.4

Santa Monica Bay	Cost without Collection, ($1,000,000)	Cost with Collection, ($1,000,000)
Capital Costs		
Collection System		$1,121
Level 1	$2,017	$3,138
Level 2	$3,189	$4,310
Level 3	$5,956	$7,077
O & M Costs		
Collection System		$0.9
Level 1	$5.7	$6.6
Level 2	$10.5	$11.5
Level 3	$18.7	$19.6
Entire Los Angeles Area	**Cost without, Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$12,500
Level 1	$20,400	$32,900
Level 2	$32,300	$44,800
Level 3	$60,400	$72,900
O & M Costs		
Collection System		$10.4
Level 1	$57.2	$67.6
Level 2	$106.3	$116.7
Level 3	$188.5	$198.9

The construction and land purchase was assumed to take place at the beginning of the project in year one and the annual cost was assumed to stay constant over the life of the project. All costs are based upon the 1998 calendar year. The capital costs for the project levels include 100 acres for each 500 million gallon level 1 treatment facility at an average cost of approximately $900,000 per acre. The level 2, 500 million gallon facility includes an additional 100 acres at the same unit cost. Level 3 is assumed to not require additional land. Land use for smaller treatment plants is assumed to be proportional to capacity.

The background for the cost estimates is included in the attachments. Attachment 1 is the design basis for a typical 500 million gallon facility and includes a schematic layout. Attachment 2 is the design basis for a typical 200 million gallon facility. Attachment 3 includes the standardized cost estimation curves for storm water treatment facilities. Attachment 4 includes the standardized cost estimation curves for wastewater treatment facilities to 10 million gallons.

DISCUSSION

The cost estimates developed in this analysis include several assumptions needed to build the capital cost estimates and develop the operating and maintenance costs. Historical data for the costs is based on municipal utility construction projects which have not been developed specifically for storm water treatment. The assumptions and general municipal background of the estimates result in costs that are potentially low for the storm water treatment project. Potential concerns are:

- Storm facilities will be operated intermittently and seasonally. Treatment levels 2 and 3 require operators skilled in treatment equipment; however, they are only needed for storm events. The availability of these operators is difficult to arrange since they would have to have other more full time positions within the managing municipality or utility. The cost of labor would be higher because of inefficiencies. Level 1 also requires intermittent operation but it may be able to be contracted out to the private construction industry.

- Power costs are relatively more expensive on an intermittent basis and the utility's cost of supplying the seasonal loads imposed by pumps and the equipment in levels 2 and 3 will have to recovered in higher per energy unit costs. Chemical costs will also be higher do to seasonal purchasing needs and the need to not store some chemicals, such as chlorine, during the dry season. There are also risks with chemical storage and delivery in residential and commercial neighborhoods that must be mitigated.

- Land costs have been assumed to represent an average cost in the Los Angeles area. However, a storm water treatment project would need to acquire large tracts of contiguous land to build the facilities. No matter how much community support there is for clean water, residents always want the facilities somewhere away from their property and certainly do not want their land taken. Acquisition of the necessary land would be difficult and expensive. More numerous smaller facilities would increase the number of impacted communities and residents. The treatment units simply cannot be built without land and there is not much available land in metropolitan Los Angeles.

- As indicated in the cost analysis, the protection of the drainage channels and natural waterways that are currently used to convey storm water from storm water pollutants would either require a vast number of small treatment units at every discharge or a parallel collection system for the design storm. The numerous facilities sacrifice the economy of scale found in larger units and the alternative parallel collection system is very expensive. Decisions would have to be made as to where parallel systems were needed based on the streams to be protected.

- The analysis assumes conventional costs for the removal of residual products such as solids and brine. Again they would be seasonal and would require the additional costs of setting up disposal procedures for only seasonal use. In addition there may be the potential requirements for the disposal of hazardous waste.

Although the costs may be conservatively low, they are relatively large. The following table summarizes the Los Angeles area costs with a limited amount of collection facilities.

SUMMARY

Capital Costs

Level 1 - Detention and settling including limited collection	33 billion dollars
Level 2 - Filtration and disinfection in addition to Level 1	45 billion dollars
Level 3 - Advanced treatment for toxics in addition to Level 2	73 billion dollars

Land Required

9,300 to 18,600 acres depending on treatment level

Operating and Maintenance Costs

Level 1 - Detention and settling including limited collection	68 million dollars per year
Level 2 - Filtration and disinfection in addition to Level 1	117 million dollars per year
Level 3 - Advanced treatment for toxics in addition to Level 2	199 million dollars per year

REFERENCES

1. Storm Water Facilities Retrofit Evaluation, Volume 1 & 2, May 13, 1997, Draft Report. Brown and Caldwell.

2. An Economic Valuation of Stormwater Quality Improvements for Ballona Creek, California, May 1997. Final Report. Center for Environmental and Water Resources Engineering, Department of Civil and Environmental Engineering, University of California, Davis. Ms. Orit Wilchfort, Prof. Jay R. Lund, Mr. Dan Lew, Prof. Douglas M. Larson.

3. NPDES No. CA0061654. Waste Discharge Requirements Stormwater / Urban Runoff Discharge for Los Angeles County and Co-Permittees. California Regional Water Quality Control Board, Los Angeles Region.

4. Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay, Volume I Annual Pollutants Loading Santa Monica Bay Restoration Project, May 1993.

5. California Storm Water Best Management Handbooks, Municipal. California Stormwater Quality Task Force, March 1993.

6. Water Quality Control Plan – Los Angeles Region – Watersheds of Los Angeles and Ventura Counties, June 13, 1994. California Regional Water Quality Control Board, Los Angeles Region.

7. Engineering News Record – First Quarterly Cost Report. March 30, 1998. McGraw Hill.

8. San Diego Wastewater Programs Managers Technical Advisory Board San Diego Metropolitan Sewerage System Preliminary Cost Estimating Curves, December 8, 1988. City of San Diego, California. James M. Montgomery and Brown and Caldwell.

ATTACHMENT 1

DESIGN BASIS FOR A TYPICAL 500 MILLION GALLON FACILITY

Definitions and Abbreviations Contained in Cost Estimates:

LF – Linear feet
INCH – Inches of rainfall
MGD / mgd – Million gallons per day
LS – Lump sum
SF – Square feet
MG – Million gallons
AC – Acres
gpm – Gallons per minute
CFS / cfs – Cubic feet per second
RO – Reverse osmosis
ft. - Feet
kWh – Kilowatt per hour
MWh – Megawatt per hour
fps – Feet per second
mg/L – Milligram per liter
O & M – Operation and maintenance
sq. – square
mi – miles
Quad – Quadrangle

LOS ANGELES COUNTY SITE SPECIFIC DESIGN PARAMETERS		
ITEM	**VALUE**	**COMMENTS**
Site Details		
Type : Typical 500 MG Plant		
Name : Prototype 500 MG Plant		Exact location of treatment plant is unknown.
Address : Los Angeles County		
Existing Storm Drain Facilities :Use existing Los Angeles County Collection System		
Size Specifications		
Drainage Area		
Acres	38,400	
Square Feet	1,672,704,000	
Approximate Percent Impervious	48%	Estimated - refer to design write-up
Weighted runoff coefficient	0.51	((%Impervious)*0.90)+((1-(%IMP))*0.15)
		Assumed 90% runoff from impervious surfaces and 15% runoff from pervious surfaces.
Rainfall Details		
Total Rainfall		
One year, 24 hour Storm, inches	1.00	Derived from 50 years of rainfall data. Typical for Greater Los Angeles area.

R0006026

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Stormwater Runoff Volume		Assumed 0.06 inches of rain loss due to local ponding
Cubic Feet	66,825,000	
Million Gallons	500	
Peak Rainfall Intensity		
inches/hour	1.41	
Peak Flow		Rational Formula Q = C*I*A (Runoff coeff*Peak rainfall intensity*Drainage area) from Caltrans Hydraulics Design Manual
Cubic feet per second (cfs)	13,000	
Million gallons per day (mgd)	8,400	Assume a 50% reduction in peak flow because of delay in intensity due to size of drainage area.
Treatment Plant Site Details		
Site Characteristics		
Acres	201	Size required to fit treatment units.
Percentage of land used for treatment versus drainage area	0.52%	
Approximate shape of site	rectangular	Shape - triangle, rectangle etc.
Length of site, ft.	2500	
Width of site, ft.	3500	
Approximate Slope of Site Terrain	Level	

R0006027

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Existing Land Use	Unkown	
Existing Owner	Unknown	
Distance from Collection Point to Treatment Plant Site, ft.	1,500	Assumes construction next to existing river.
Treatment Processes		
Level 1		Bar Screens plus detention basins
Level 2		Gravity filtration with disinfection
Level 3		Advanced treatment, with Reverse Osmosis
Design Criteria		
Collection system inlet pipe, rectangular		
Width, ft.	20.0	
Height, ft.	20.0	
Number of inlet pipes	4	
Capacity, cfs	16,000	Capacity based upon 10 fps max. flow
Velocity, fps	8.1	
Bar Screens	2-inch spacing	Screens located at enterance to detention basin pumping station inlets

R0006028

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Detention Basin		
Minimum volume in gallons	499,851,000	Assume vertical walls for detention basin
Number of required detention basins	4	Ingnore capacity of sloped basin sides
Length of detention basin (ft)	2,400	Includes 1.5' freeboard.
Width of detention basin (ft)	300	
Depth of detention basin (ft)	25	
Actual capacity of detention basin, gallons	506,314,000	
Capacity, cubic feet per sec	67,680,000	Calculated based on detention basin dimensions
Time to Drain Detention Basin		
Hours (All levels)	24	
Pump Rate		
Gallons per minute (gpm)	347,119	Runoff Volume (gal.)/hr. det./ 60 min.
Million gallons per day (mgd)	500	
Capacity, (cfs)	773	
Number of pumping stations	4	Provide one pumping station per detention basin
Capacity of pump stations, gpm	86,780	
Capacity of pump stations, cfs	193	
Level 2 and 3 Treatment Plant Avg. Capacity, mgd	500	
Max surface loading, @ 7200 gpd/sf (5 gpm/sf)		
Required filter size, square feet	69,424	

R0006029

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Rectangular filters		
Filter size, ft./ ft.	63	
Number of filters, including two back-up filter	20	
Width of filter, ft.	55	
Length of filter, ft.	72	
Filter surface area per filter, square feet	3960	
Total filter surface area, square feet	71,280	
Wash Water Volume		
Backwash time, minutes/cycle	20	Use two tanks for redundancy
Backwash rate, gpm/sf	25	
Minimum volume, gallons	1,980,000	
Tank diameter, ft.	110	
Tank, height. ft.	32	
Actual tank capacity, gallons	2,274,647	
Number of tanks	2	
Total backwash water capacity, gallons	4,549,294	
Disinfection		
Hypochlorite criteria		
Hypochlorite concentration, percent	6%	Alternatively, chlorine gas might be used
Hypochlorite available Cl2, pounds/gal	0.5	
Chlorine dosage rate, mg/L	30	
Feed rate, gallons per day (gpd)	250,125	
Feed rate, gallons per minute (gpm)	174	

R0006030

ITEM	VALUE	COMMENTS
Hypochlorite tank capacity		
Number of design storms	3	
Hypochlorite tank capacity, gallons	750,376	
Actual tank capacity, gallons	800,000	
Volume of Contact Tank		
Contact detention time, minutes	60	
Volume of contact tank, gallons	20,827,125	
Length of tank, feet.	720	
Width of tank	360	
Depth of tank, feet	12	
Actual volume of tank, gallons	23,268,902	
Dechlorination		
Sodium Bisulfite criteria		
Sodium Bisulfite available SO, pounds/gal	2.5	
Sodium Bisulfite rate, mg/L	15	
Feed rate, gallons per day (gpd)	25,013	
Sodium Bisulfite tank capacity		
Storage capacity, number of design storms	3	
Hypochlorite tank capacity	75,038	
Actual tank capacity, gallons	80,000	
Reverse Osmosis		Provide building.
Req. capacity of RO units, gpm	260,339	50% bypass around filters
Number of RO units	135	Provide 5 additional RO units for backwash
Capacity of individual RO units, gpm	2,000	

R0006031

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Capacity of RO treatment system, gpm	260,000	
Power requirements for RO units, kWh	93,722	6 kWh per 1000 gal. (Water Treatment Design, Robert L. Sanks)
Plant's total power requirements, MWh	103	Assume 10% higher than RO unit
Brine Storage Basin		
Minimum Volume, gallons	10,152,000	Storage for 3 storm events at 5% per storm
Minimum Volume, cubic feet	1,357,038	
Storage Basin , length, ft.	1,000.0	
Storage Basin , length, ft.	400.0	
Tank depth, feet	3.5	Annual evaporation rate, 42-inches per year.
Actual Tank Capacity, cubic feet	1,400,000	Remaining water will be discharged to sewer
Length of final effluent discharge pipe, feet	1,000	Effluent discharge to River
Dimensions of outlet pipe, rectangular	12.0	
Number of outlet pipes	1	
Width of outlet pipe, ft.	10	
Height of outlet pipe, ft.	10	
Velocity in outlet pipe, fps	8	Maximum velocity, 10 fps

R0006032

CALTRANS FACILITY COST SPREAD SHEET

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level I Treatment									
Existing River bypass structure (inflatable dam)	1	LS		$100,000	$1,000				$1,000
Gravity to detention basin 4 (20' x 20')	1500	LF	3,000	4,500,000	$45,000				$45,000
Treatment plant discharge piping									
Discharge piping	1000	LF	1,000	1,000,000					
Level I Detention Basin & Influent Pump									
Detention Basin and Pump Station	500	MG	360,000	179,968,511	1,799,685	2,841	17,049		$1,819,575
Pump Operation	500	mgd			461,735	29,979		115,434	$607,148
Level I - Site Work									
Paving	15,000	SF	$1.50	$22,500					
Maintenance and storage building	2,500	SF	$100	$250,000	50,000	12,500	$5,000		$67,500
Land / easements	100	AC	$914,760	91,476,000					
Outside piping			5%	8,998,426					
Subtotal				286,315,437					
Level I - Miscellaneous									
Construction Contingency			30%	85,894,631					
Subtotal				372,210,068					
Engineering/Legal/Administrative			20%	74,442,014					
Level I Total				446,652,081					$2,540,224

R0006033

CALTRANS FACILITY COST SPREAD SHEET

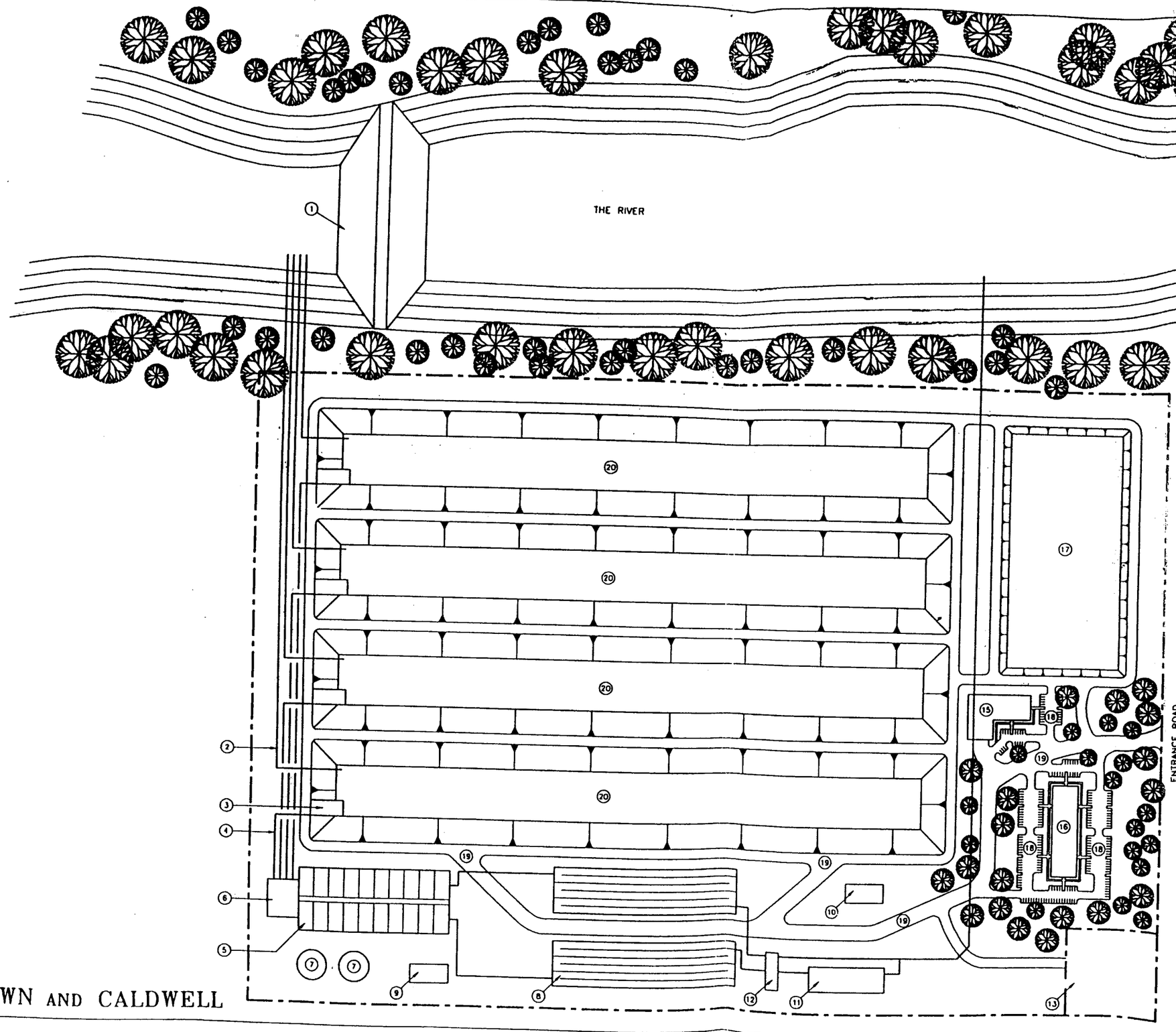
ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 2 - Pressure Filtration									
Filter	500	MG	33,000	$165,474,461	$1,654,745	$74,987		$827,372	$2,557,104
Level 2 - Disinfection and Dechlorination									
Disinfection and dechlorination	500	MG	3,500	$1,819,188			$172,608		$172,608
Level 2 - [illegible]									
Paving	25,000	SF	$1.50	$37,500					
Building	6,000	SF	$100	$600,000					
Outside piping			5%	$8,364,682					
Subtotal				176,295,831					
Level 3 - [illegible]									
Construction Contingency			30%	$52,888,749					
Subtotal				$229,184,581					
Engineering / legal / administrative			20%	$45,836,916					
Subtotal				$275,021,497					
Land / easements	100	AC	$914,760	$91,476,000					
Level 2 Total				$366,497,497					$2,729,712

R0006034

CALTRANS FACILITY COST SPREAD SHEET

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 3 -- Advanced Treatment, Reverse Osmosis									
Reverse osmosis (power costs assumes 15 storm a year)	375	MG	$1,500,000	$562,500,000	$2,812,500	$2,969,480	$21,825	$1,406,250	$7,210,055
Level 3 -- site work									
Paving	25,000	SF	$1.50	$37,500					
Building	200,000	SF	$100	$20,000,000					
Outside piping			5%	$29,126,875					
Subtotal				$611,664,375					
Level 3 -- miscellaneous									
Construction Contingency			30%	$183,499,313					
Subtotal				$795,163,688					
Engineering / legal / administrative			20%	$159,032,738					
Subtotal				$954,196,425					
Land / easements				none					
Level 3 --Total				$954,196,425					$7,210,055

R0006035



LEGEND

1. RIVER DIVERSION STRUCTURE
2. INLET STRUCTURE (40'X21'), TYP OF 4
3. BOOSTER PUMPING STATION, TYP OF 4
4. FILTER INLET PIPE, TYP OF 4
5. GRAVITY FILTERS, TOTAL OF 20
6. FILTER DIVERSION STRUCTURE
7. BACKWASH WATER SUPPLY TANKS
8. CHLORINE CONTACT TANK
9. SODIUM HYPOCHLORITE TANK FARM AND FEED BUILDING
10. SODIUM BISULFITE TANK FARM AND FEED BUILDING
11. REVERSE OSMOSIS TREATMENT BUILDING WITH 100 REVERSE OSMOSIS UNITS
12. DIVERSION STRUCTURE
13. 75 MW POWER SUBSTATION
14. BLENDING AND OUTFALL STRUCTURE
15. ADMINISTRATION AND LABORATORY BUILDING
16. MAITENANCE BUILDING
17. BRINE DRYING BEDS
18. PARKING
19. ACCESS ROAD
20. STORAGE STRUCTURE, 385 AC-FT

NOTE:
BACKWASH WATER FROM FILTER IS DISCHARGED TO SANITARY SEWER FOR TREATMENT.

Proposed Site Plan

Typical 500 MG Stormwater Treatment Facility

BROWN AND CALDWELL

3387SITE 04-10-80 Dwgs

R0006036

ATTACHMENT 2

DESIGN BASIS FOR A TYPICAL 200 MILLION GALLON FACILITY

LOS ANGELES COUNTY SITE SPECIFIC DESIGN PARAMETERS		
ITEM	**VALUE**	**COMMENTS**
Site Details		
Type : Typical 200 MG Plant		
Name : Prototype 200 MG Plant		Exact location of treatment plant is unknown.
Address : Los Angeles County		
Existing Storm Drain Facilities :Use existing Los Angeles County Collection System		
Site Specifications		
Drainage Area		
Acres	15,400	
Square Feet	670,824,000	
Approximate Percent Impervious	48%	Estimated - refer to design write-up
Weighted runoff coefficient	0.51	((%Impervious)*0.90)+((1-(%IMP))*0.15) Assumed 90% runoff from impervious surfaces and 15% runoff from pervious surfaces.
Rainfall Details		
Total Rainfall		
One year, 24 hour Storm, inches	1.00	Derived from 50 years of rainfall data. Typical for Greater Los Angeles area.

R0006038

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Stormwater Runoff Volume		
Cubic Feet	26,799,000	Assumed 0.06 inches of rain loss due to local ponding
Million Gallons	200	
Peak Rainfall Intensity		
inches/hour	1.40	Refer to Appendix-C of 6/17/96 Summary of Task 2
Peak Flow		
Cubic feet per second (cfs)	5,200	Rational Formula Q = C*I*A (Runoff coeff*Peak rainfall intensity*Drainage area) from Caltrans Hydraulics Design Manual
Million gallons per day (mgd)	3,400	Assume a 50% reduction in peak flow because of delay in intensity due to size of drainage area.
Treatment Plant Site Details		
Site Characteristics		
Acres	72	Size required to fit treatment units.
Percentage of land used for treatment versus drainage area	0.47%	
Approximate shape of site	rectangular	Shape - triangle, rectangle etc.
Length of site, ft.	1500	
Width of site, ft.	2100	
Approximate Slope of Site Terrain	Level	

R0006039

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Existing Land Use	Unknown	
Existing Owner	Unknown	
Distance from Collection Point to Treatment Plant Site, ft.	1,500	Assumes construction next to existing river.
Treatment Processes		
Level 1		Bar Screens plus detention basins
Level 2		Gravity filtration with disinfection
Level 3		Advanced treatment, with Reverse Osmosis
Design Criteria		
Collection system inlet pipe, rectangular		
Width, ft.	15.0	
Height, ft.	10.0	
Number of inlet pipes	4	
Capacity, cfs	6,000	Capacity based upon 10 fps max. flow
Velocity, fps	8.7	
Bar Screens	2-inch spacing	Screens located at enterance to detention basin pumping station inlets

R0006040

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Detention Basin		
Minimum volume in gallons	200,457,000	Assume vertical walls for detention basin
Number of required detention basins	4	Ingnore capacity of sloped basin sides
Length of detention basin (ft)	1,200	Includes 1.5' freeboard.
Width of detention basin (ft)	240	
Depth of detention basin (ft)	25	
Actual capacity of detention basin, gallons	202,526,000	
Capacity, cubic feet per sec	27,072,000	Calculated based on detention basin dimensions
Time to Drain Detention Basin		
Hours (All levels)	24	
Pump Rate		
Gallons per minute (gpm)	139,206	Runoff Volume (gal.)/hr. det./ 60 min.
Million gallons per day (mgd)	200	
Capacity, (cfs)	310	
Number of pumping stations	4	Provide one pumping station per detention basin
Capacity of each pump stations, gpm	34,802	
Capacity of pump stations, cfs	77.5	
Level 2 and 3 Treatment Plant Avg. Capacity, mgd	200	
Max surface loading, @ 7200 gpd/sf (5 gpm/sf)		
Required filter size, square feet	27,800	

R0006041

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Rectangular filters		
Number of filters, including two back-up filter	20	
Width of filter, ft.	40	
Length of filter, ft.	40	
Filter surface area per filter, square feet	1,600	
Total filter surface area, square feet	28,800	
Wash Water Volume		
Backwash time, minutes/cycle	20	Use two tanks for redundancy
Backwash rate, gpm/sf	25	
Minimum volume, gallons	800,000	
Tank diameter, ft.	92	
Tank, height. ft.	24	
Actual tank capacity, gallons	1,193,300	
Number of tanks	2	
Total backwash water capacity, gallons	2,386,600	
Disinfection		
Hypochlorite criteria		
Hypochlorite concentration, percent	6%	Alternatively, chlorine gas might be used
Hypochlorite available Cl2, pounds/gal	0.5	
Chlorine dosage rate, mg/L	30	
Feed rate, gallons per day (gpd)	100,309	
Feed rate, gallons per minute (gpm)	70	

R0006042

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Hypochlorite tank capacity		
Number of design storms	3	
Hypochlorite tank capacity, gallons	300,926	
Actual tank capacity, gallons	325,000	Mulitple tanks will be used
Volume of Contact Tank		
Contact detention time, minutes	60	
Volume of contact tank, gallons	8,352,375	
Length of tank, feet.	460	
Width of tank	205	
Depth of tank, feet	12.0	
Actual volume of tank, gallons	8,465,500	
Dechlorination		
Sodium Bisulfite criteria		
Sodium Bisulfite available SO, pounds/gal	2.5	
Sodium Bisulfite rate, mg/L	15	
Feed rate, gallons per day (gpd)	10,031	
Sodium Bisulfite tank capacity		
Storage capacity, number of design storms	3	
Hypochlorite tank capacity	30,093	
Actual tank capacity, gallons	35,000	Multiple tanks used
Reverse Osmosis		Provide building.
Req. capacity of RO units, gpd	150,342,750	25% bypass around filters
Capacity of RO units (racks), gpd	1,000,000	Unit capacity 1,000,000 gpd

R0006043

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Capacity of RO treatment system, gpd	150,000,000	Unit are 40' in length, 1.5' in dia. Each
Number of RO units	170	Allow 20 for backwashing
Building size for RO units, sq. ft.	85,000	Each unit with access area 500 sq. ft.
Power requirements for RO units, kWh	37,586	6 kWh per 1000 gal. (Water Treatment Design, Robert L. Sanks)
Plant's total power requirements, MWh	41.3	Assume 10% higher than RO unit
Brine Storage Basin (Water not Recovered by RO)		
Minimum Volume, gallons	5,414,400	Storage for 1 storm event at 20% per storm
Minimum Volume, cubic feet	723,754	
Storage Basin , length, ft.	500.0	
Storage Basin , length, ft.	420.0	
Tank depth, feet	3.5	Annual evaporation rate, 42-inches per year.
Actual Tank Capacity, cubic feet	735,000	Remaining water will be discharged to sewer
Length of final effluent discharge pipe, feet	1,000	Effluent discharge to River
Number of outlet pipes	1	
Diameter of pipe, ft.	8.0	Use circular pipe

R0005044

PROTOTYPE 200 MGD TREATMENT PLANT

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 1 Treatment									
Existing River bypass structure (inflatable dam)	1	LS		$100,000	$1,000				$1,000
Gravity to detention basin 4 (15' x 10')	1500	LF	1,500	$2,250,000	$22,500				$22,500
Annual Maintenance Cost			1.00%						
Treatment plant discharge piping									
Discharge piping	1000	LF	300	$300,000					
Level 1 Detention Basin & Influent Pump									
Detention Basin and Pumping Station	200	MG	360,000	$72,165,475	#########	$2,686	$16,115	$180,414	$920,870
Pump Operation	200	MGD			$258,522	$11,924		$64,630	$335,076
Level 1 Site Work									
Paving	10,000	SF	$1.50	$15,000					
Maintenance and storage building	1,000	SF	$100	$100,000	$20,000	$5,000	$2,000		$27,000
Land / easements	40	AC	$914,760	$36,590,400					
Outside piping			5%	$3,608,274					
Subtotal				$115,129,149					$1,306,446
Level 1 Miscellaneous									
Construction Contingency			30%	$34,538,745					
Subtotal				$149,667,893					
Engineering/Legal/Administrative			20%	$29,933,579					
Level 1 Total				$179,601,472					$1,306,446

R0006045

PROTOTYPE 200 MGD TREATMENT PLANT

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 2 - Filtration									
Filter	200	MG	33,000	$42,714,092	$427,141	$30,069		$213,570	$670,780
Level 2 - Disinfection and Dechlorination									
Disinfection and dechlorination	200	MG	3,500	$1,266,830			$69,213		$69,213
Level 2 - Site Work									
Paving	10,000	SF	$1.50	$15,000					
Building	2,500	SF	$100	$250,000					
Outside piping			5%	$2,199,046					
Subtotal				$46,444,968					
Level 2 - Miscellaneous									
Construction Contingency			30%	$13,933,490					
Subtotal				$60,378,458					
Engineering / legal / administrative			20%	$12,075,692					
Subtotal				$72,454,150					
Land / easements	40	AC	$914,760	$36,590,400					
Level 2 Total				$109,044,550					$739,993

R0006046

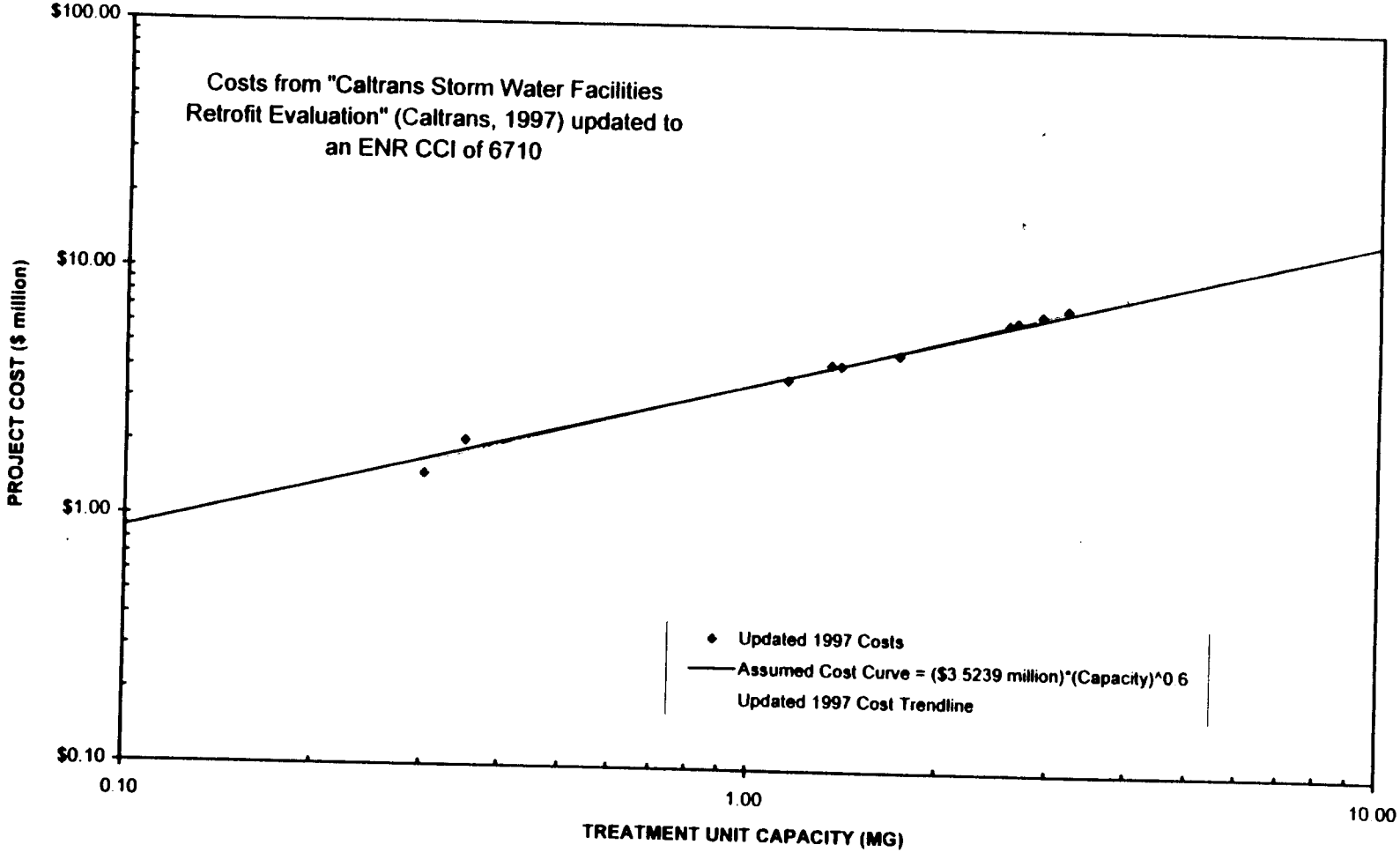
PROTOTYPE 200 MGD TREATMENT PLANT

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 3 -- Advanced Treatment									
Reverse osmosis (power costs assumes 15 storm a	150	MG	$1,500,000	$225,000,000	$1,125,000	$1,190,730	$8,730	$562,500	$2,886,960
Level 3 -- site work									
Paving	10,000	SF	$1 50	$15,000					
Building	85,000	SF	$100	$8,500,000					
Outside piping			5%	$11,675,750					
Subtotal				$245,190,750					
Level 3 -- [illegible]									
Construction Contingency			30%	$73,557,225					
Subtotal				$318,747,975					
Engineering / legal / administrative			20%	$63,749,595					
Subtotal				$382,497,570					
Land / easements				none					
Level 3 --Total				$382,497,570					$2,886,960

R0006047

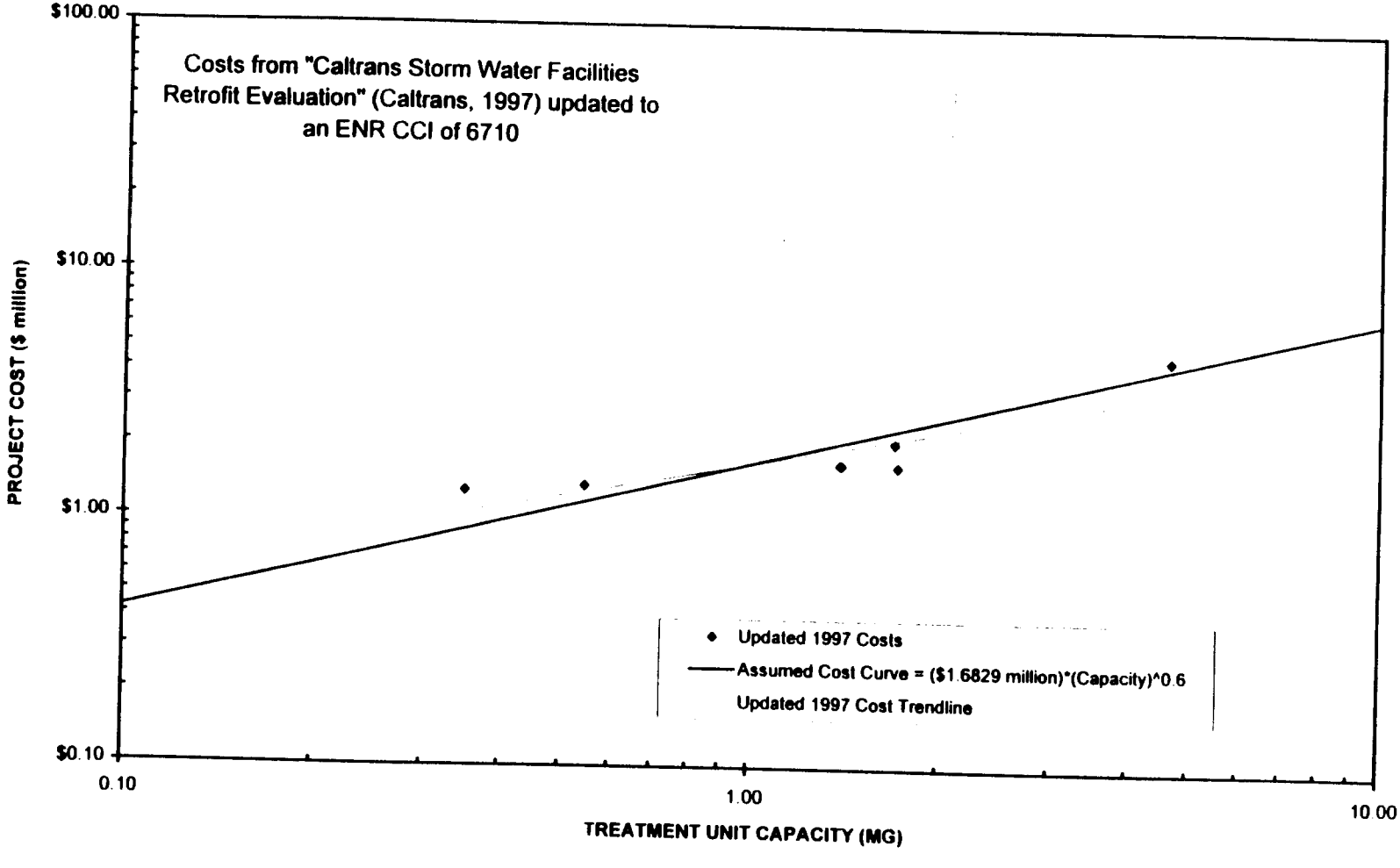
ATTACHMENT 3

STANDARDIZED COST ESTIMATION CURVES FOR TREATMENT PLANTS



R0006049

Level 1 Treatment Project Costs



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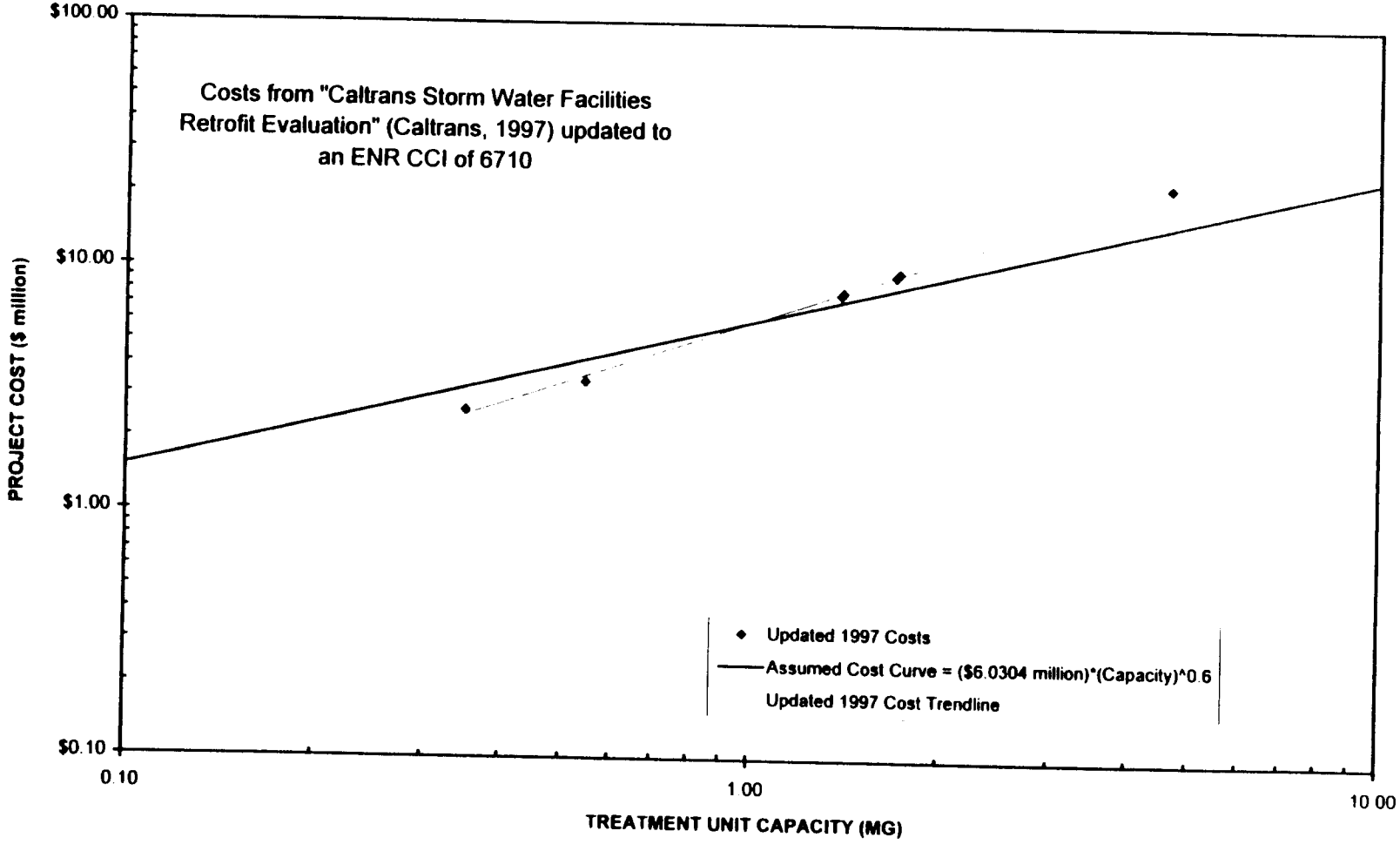
Level 2 Treatment Incremental Project Costs

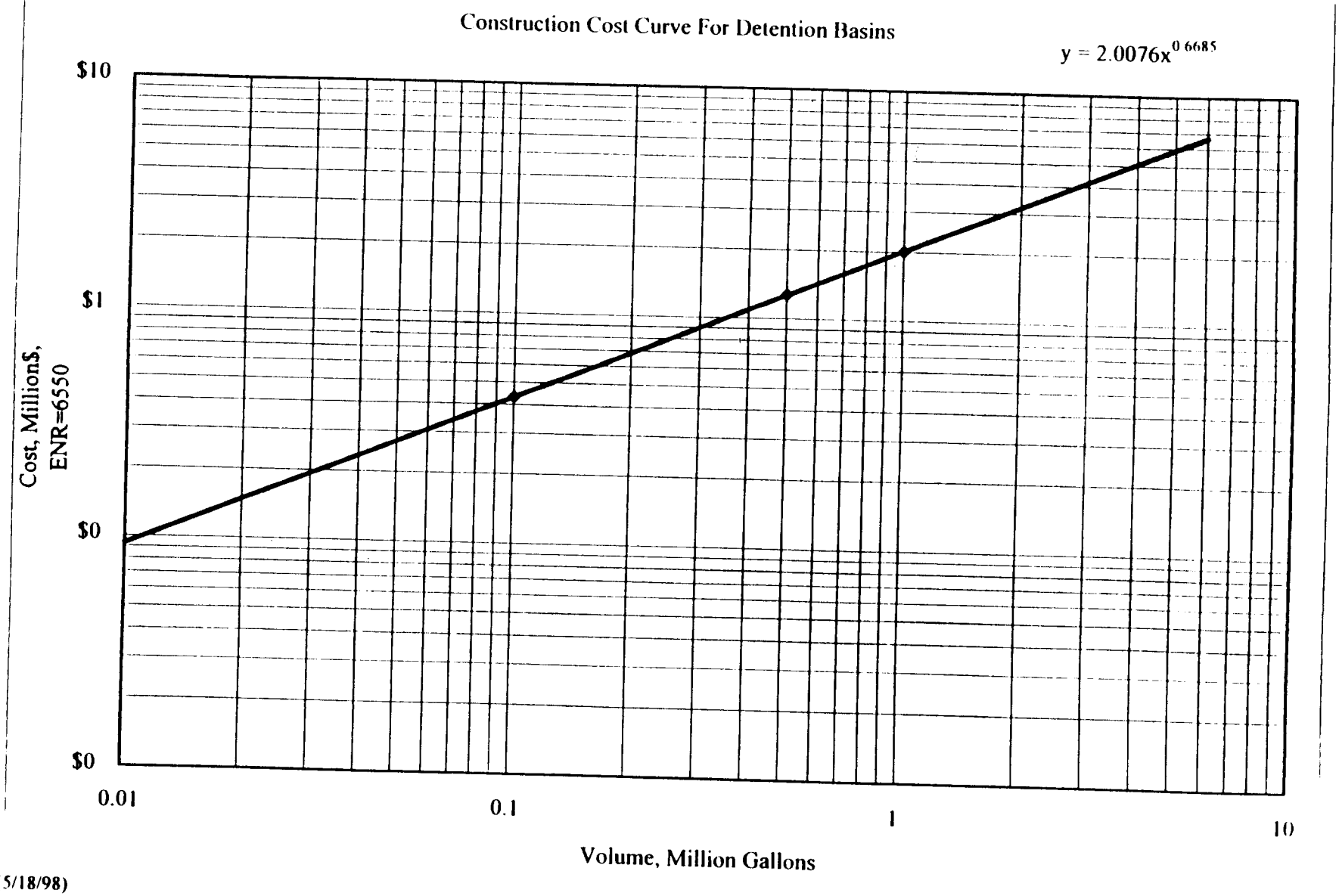


R0006051

Level 3 Treatment Incremental Project Costs

ATTACHMENT 4

STANDARDIZED COST ESTIMATION CURVES FOR TREATMENT PLANT SIZES TO 10 MILLION GALLONS



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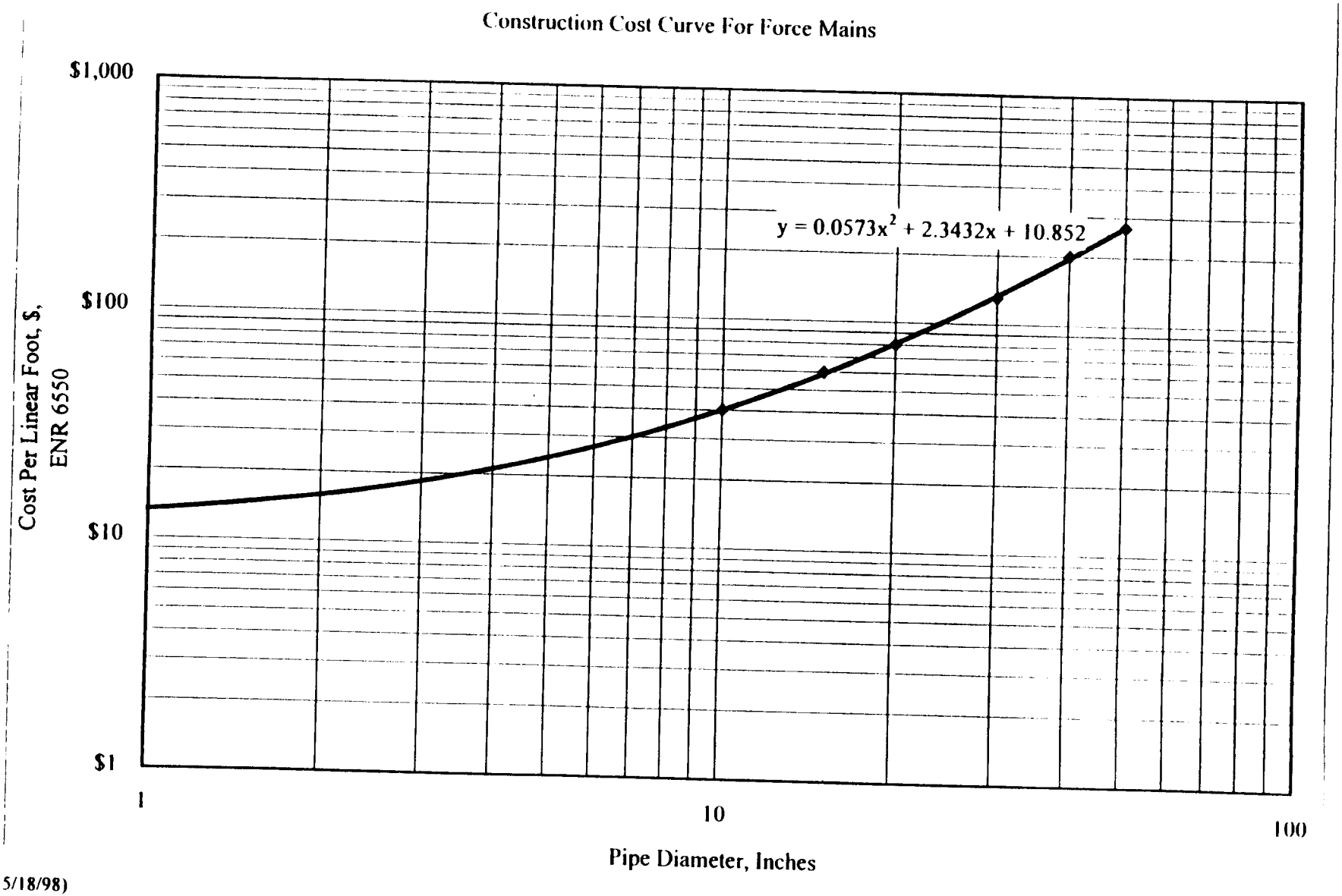

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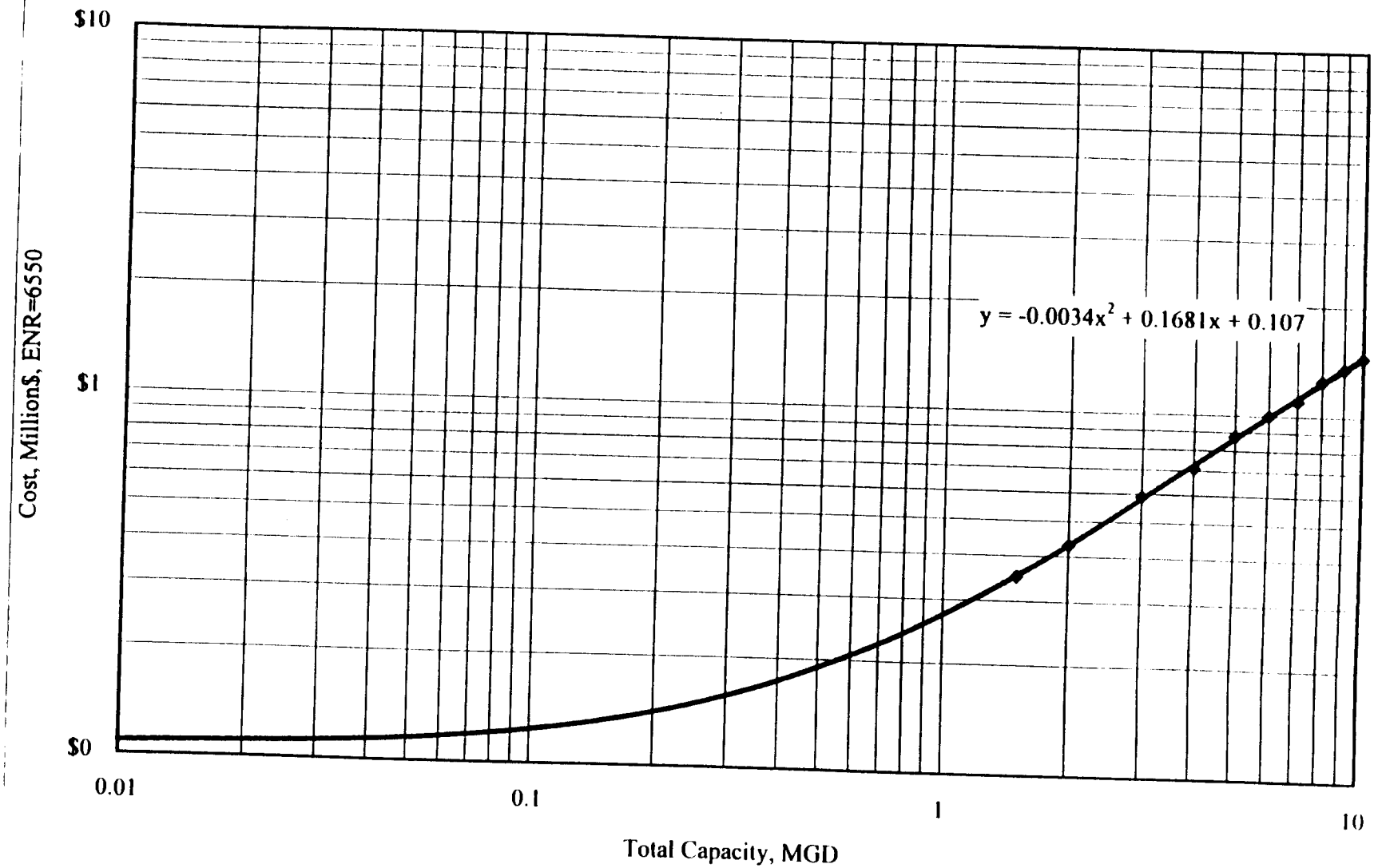
Construction Cost Curve For Submersible Storm Water Pumping Stations



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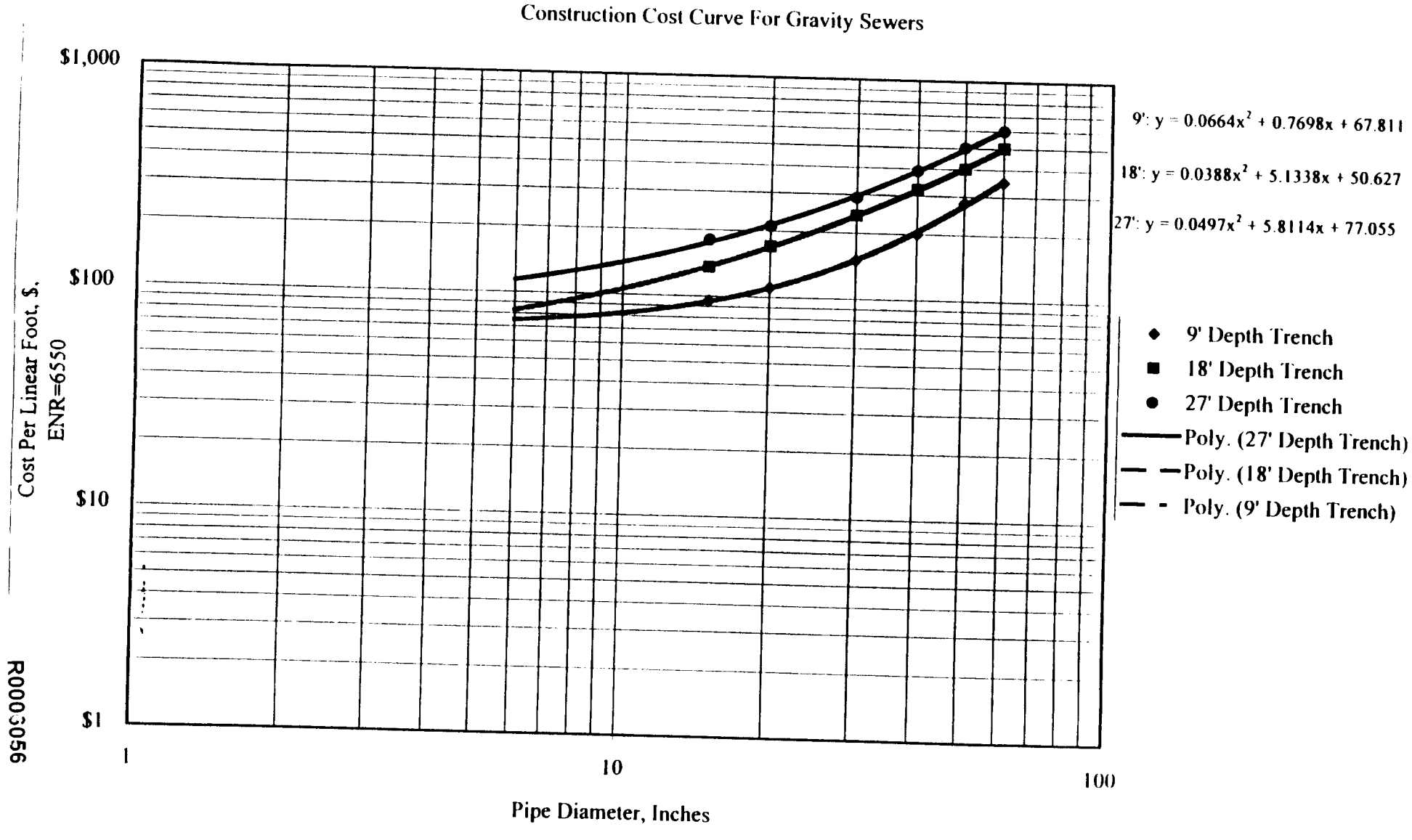

R0003056

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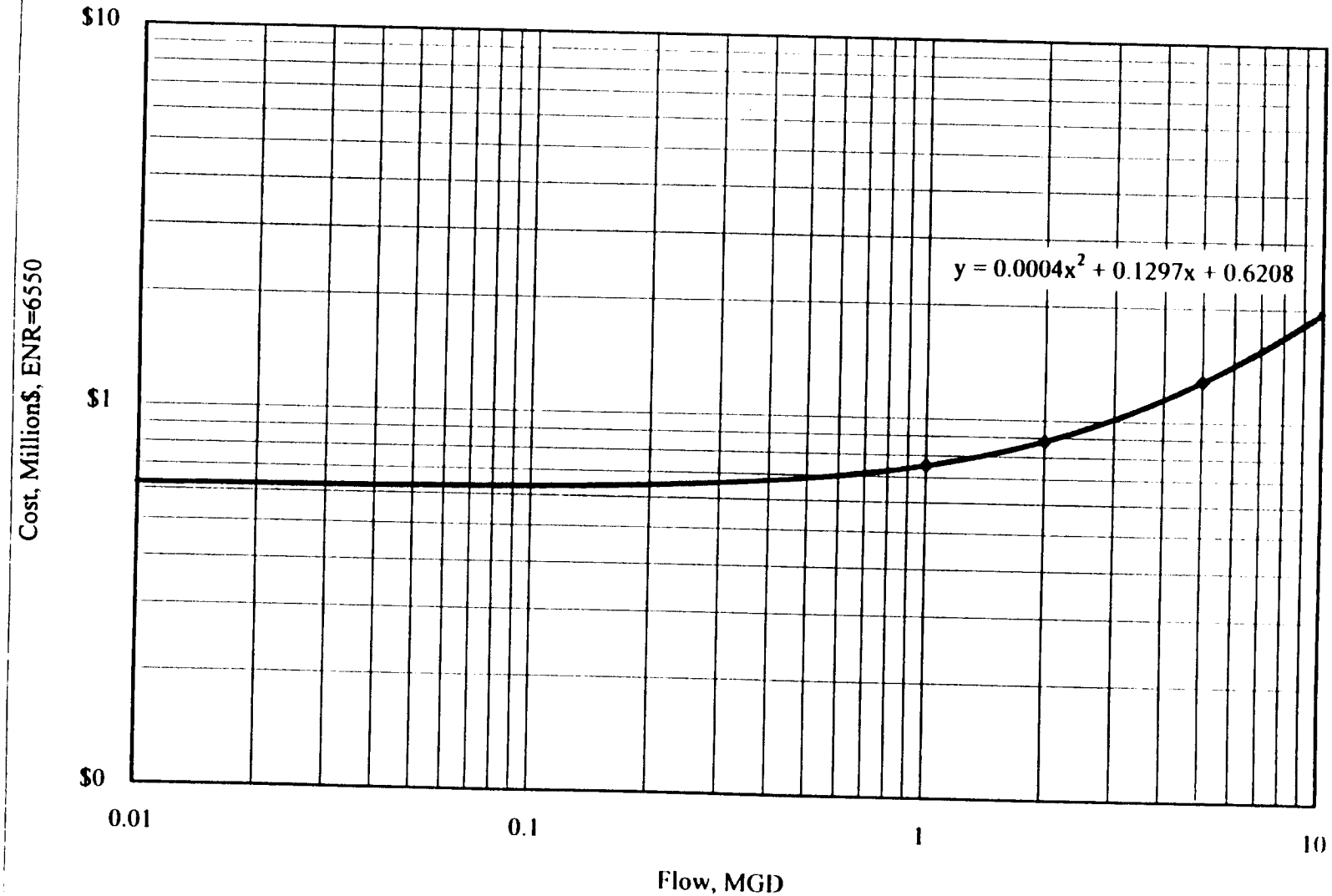
Construction Cost Curve For Pressure Filtration



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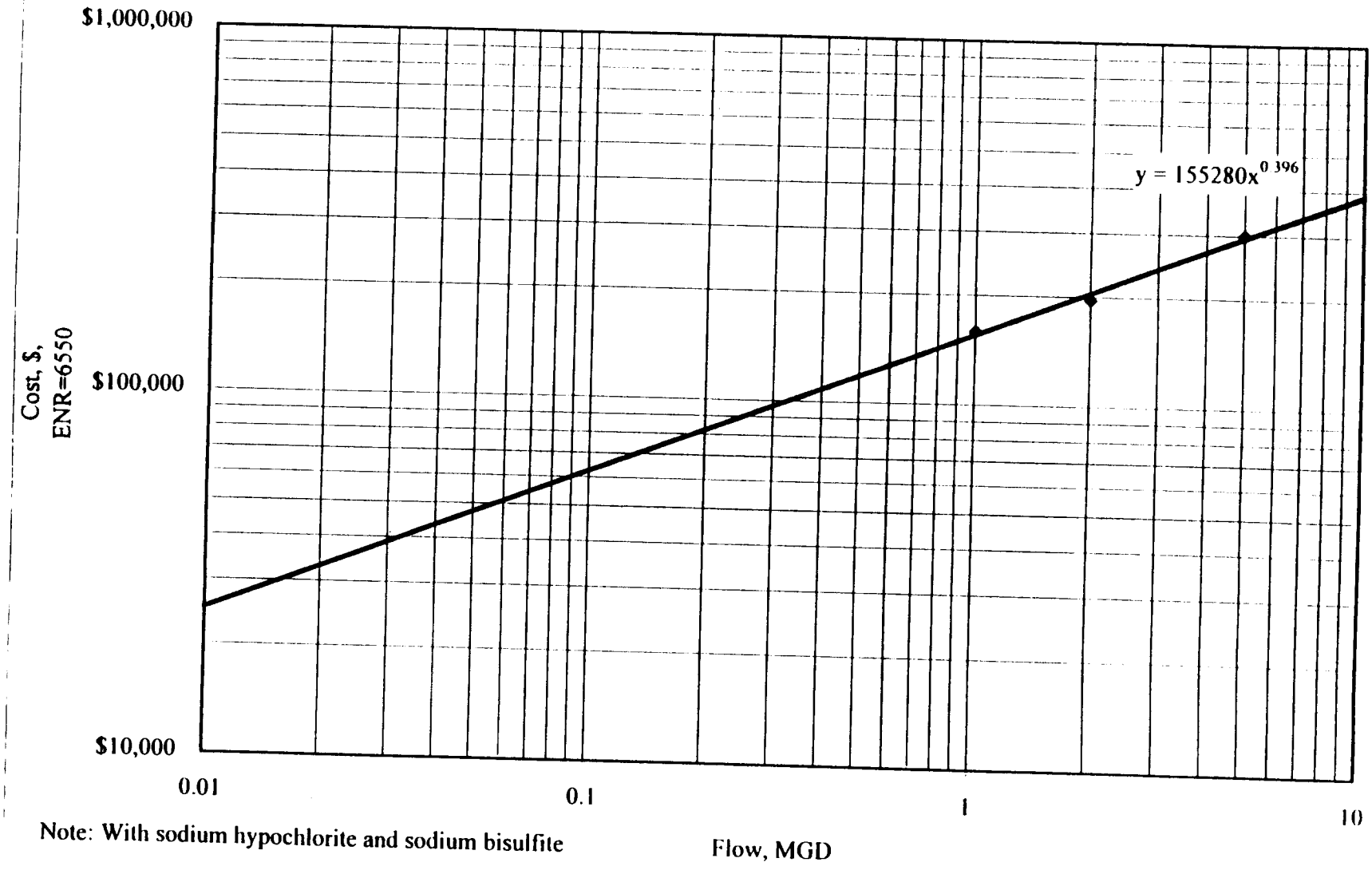
R0006057

Construction Cost Curve For Disinfection and Dechlorination



Note: With sodium hypochlorite and sodium bisulfite

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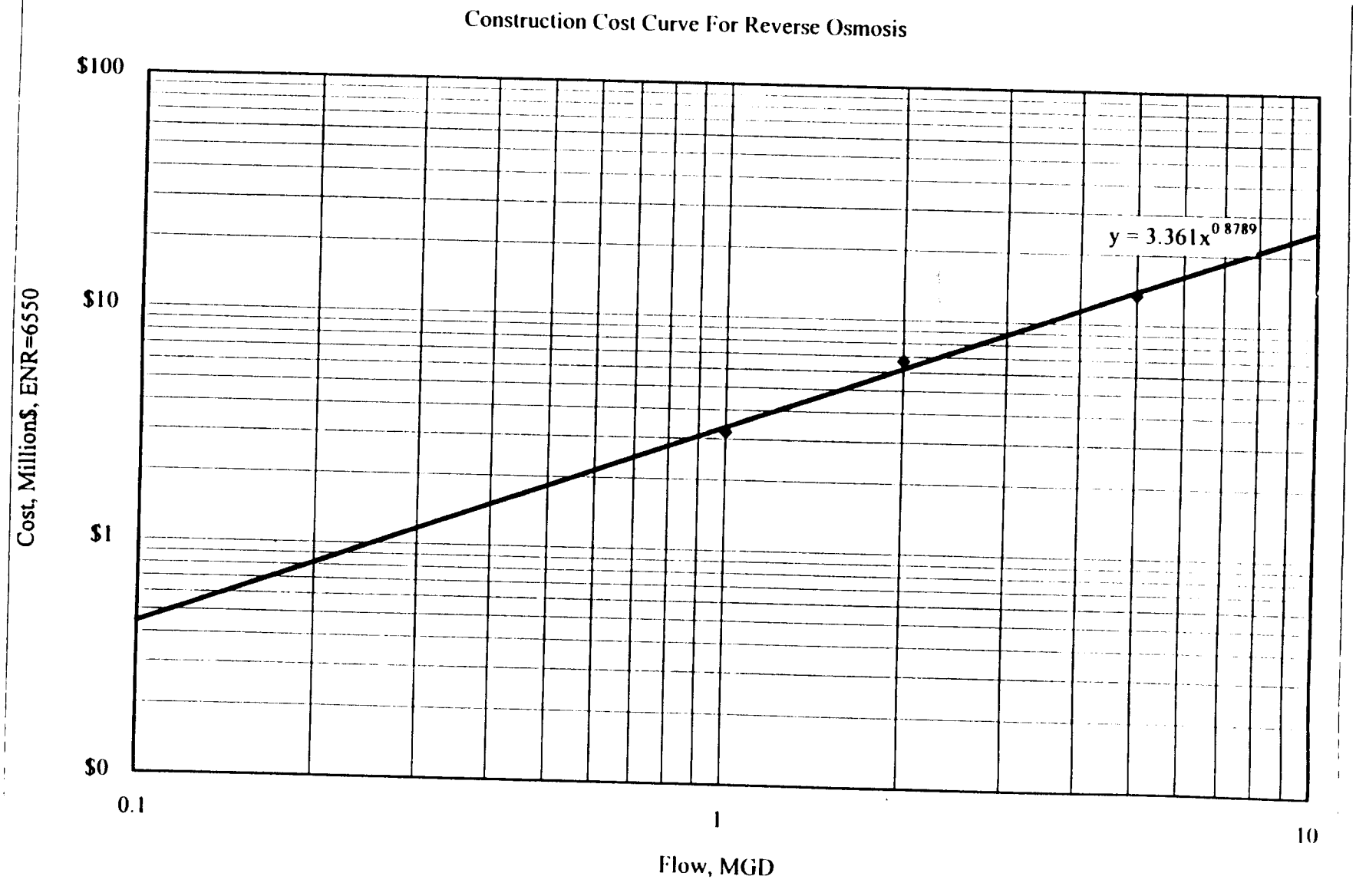

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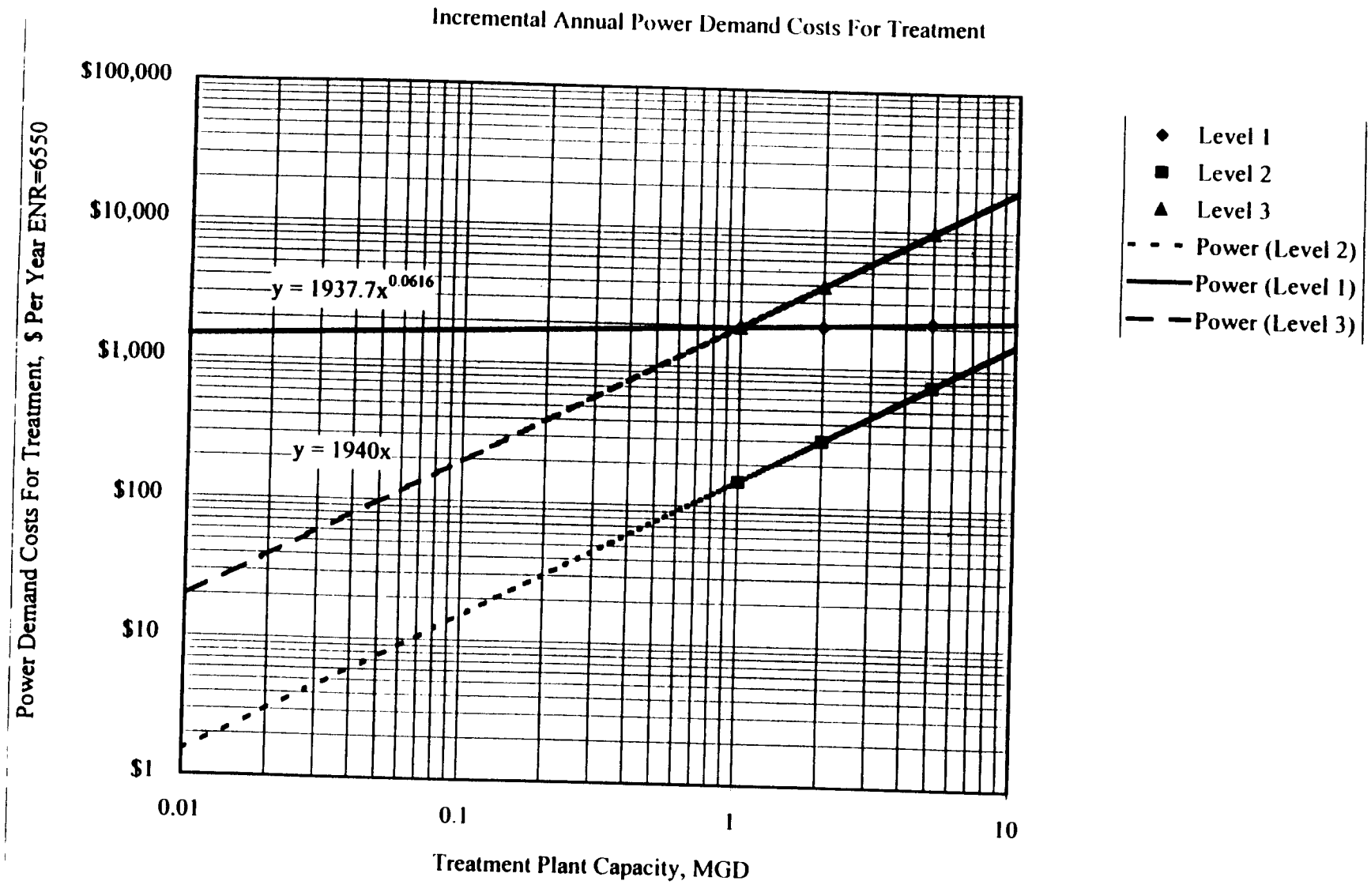

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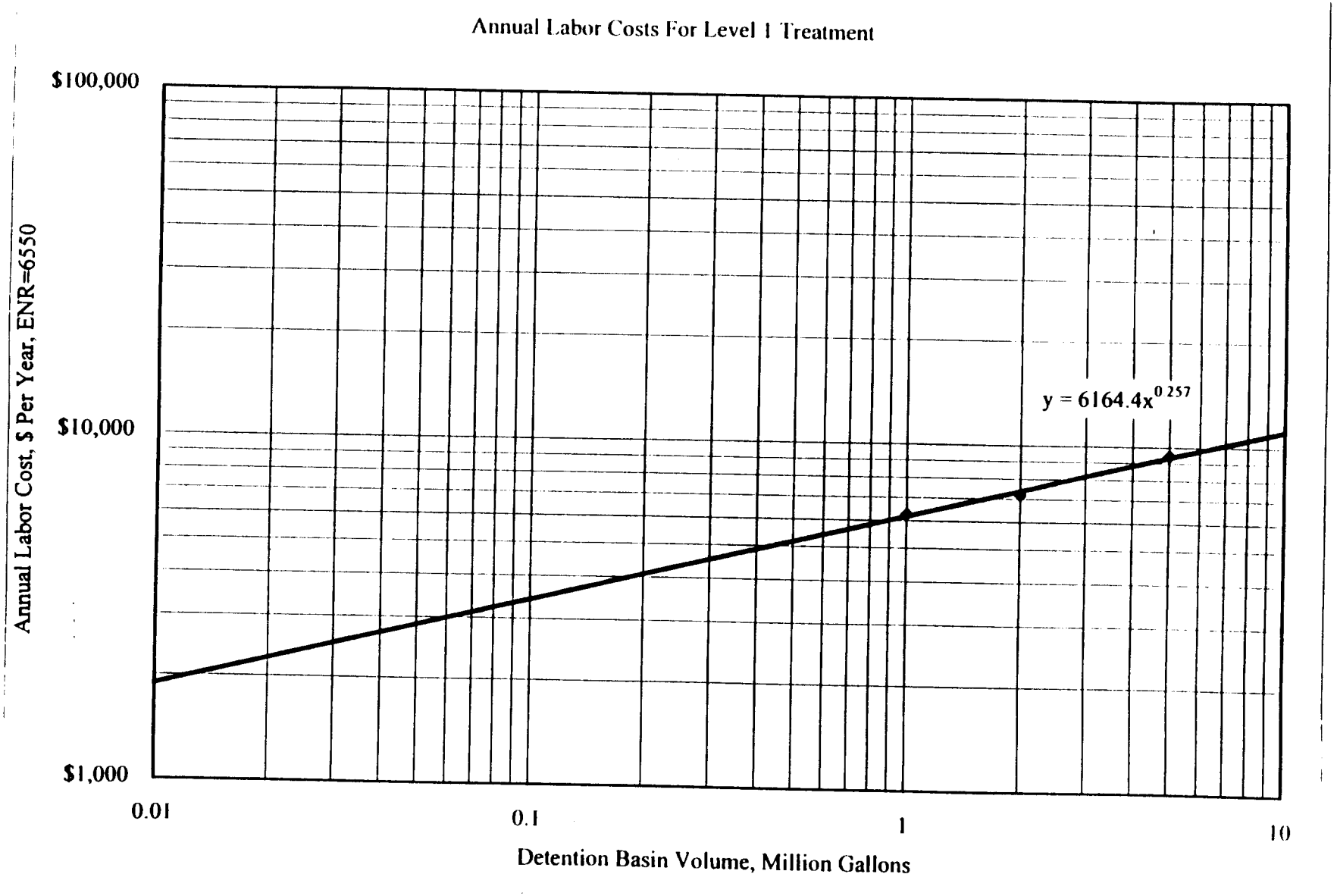

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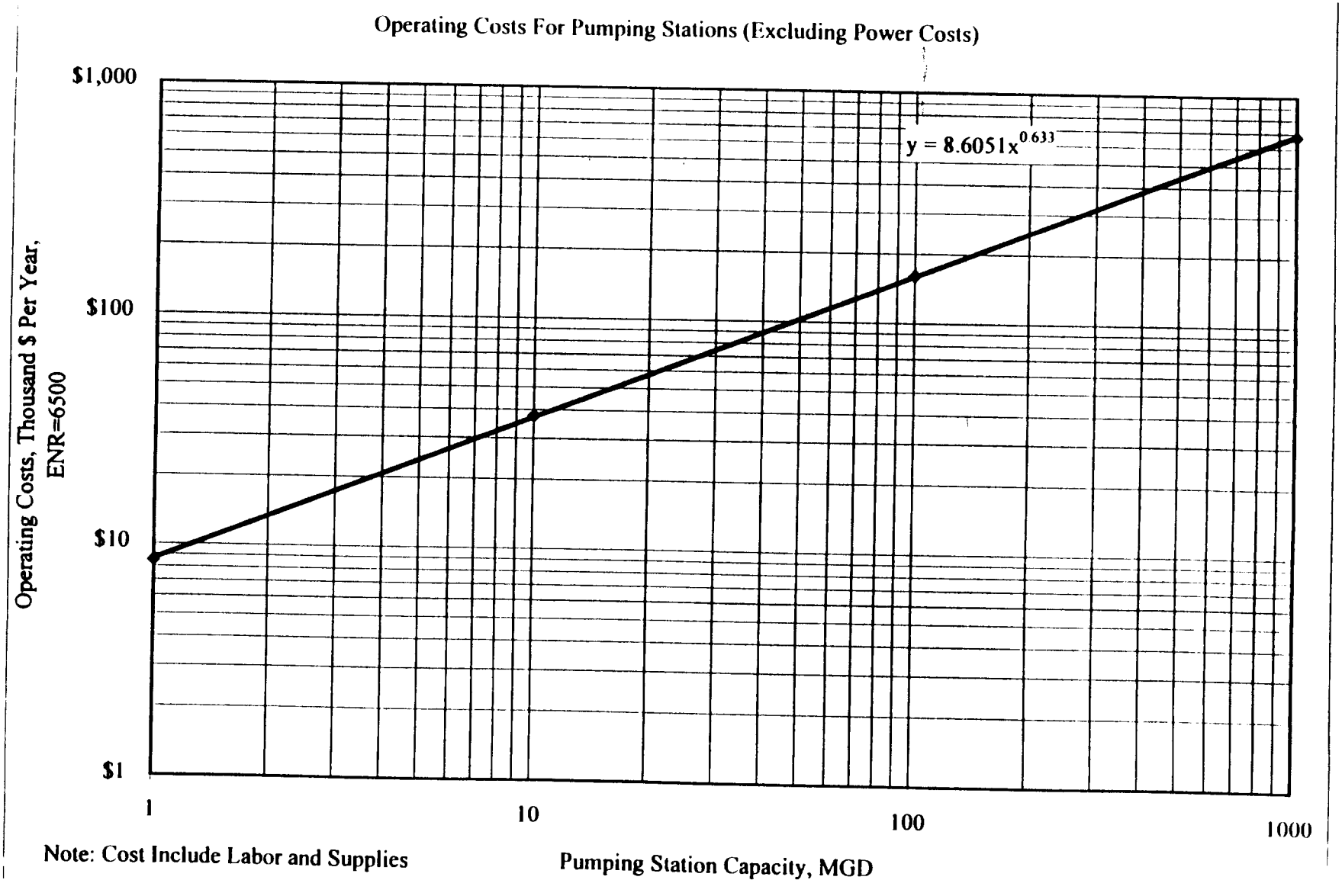

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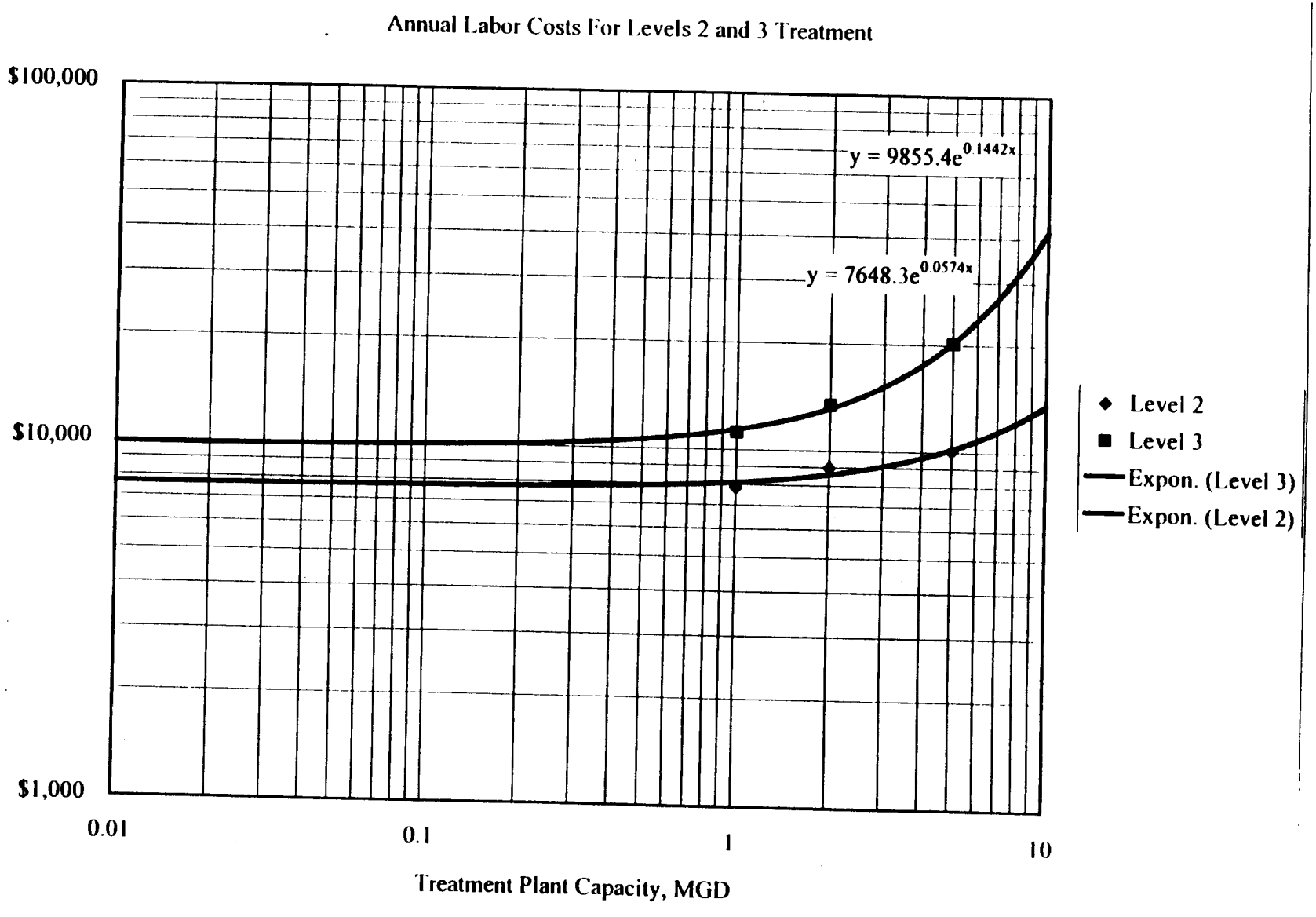

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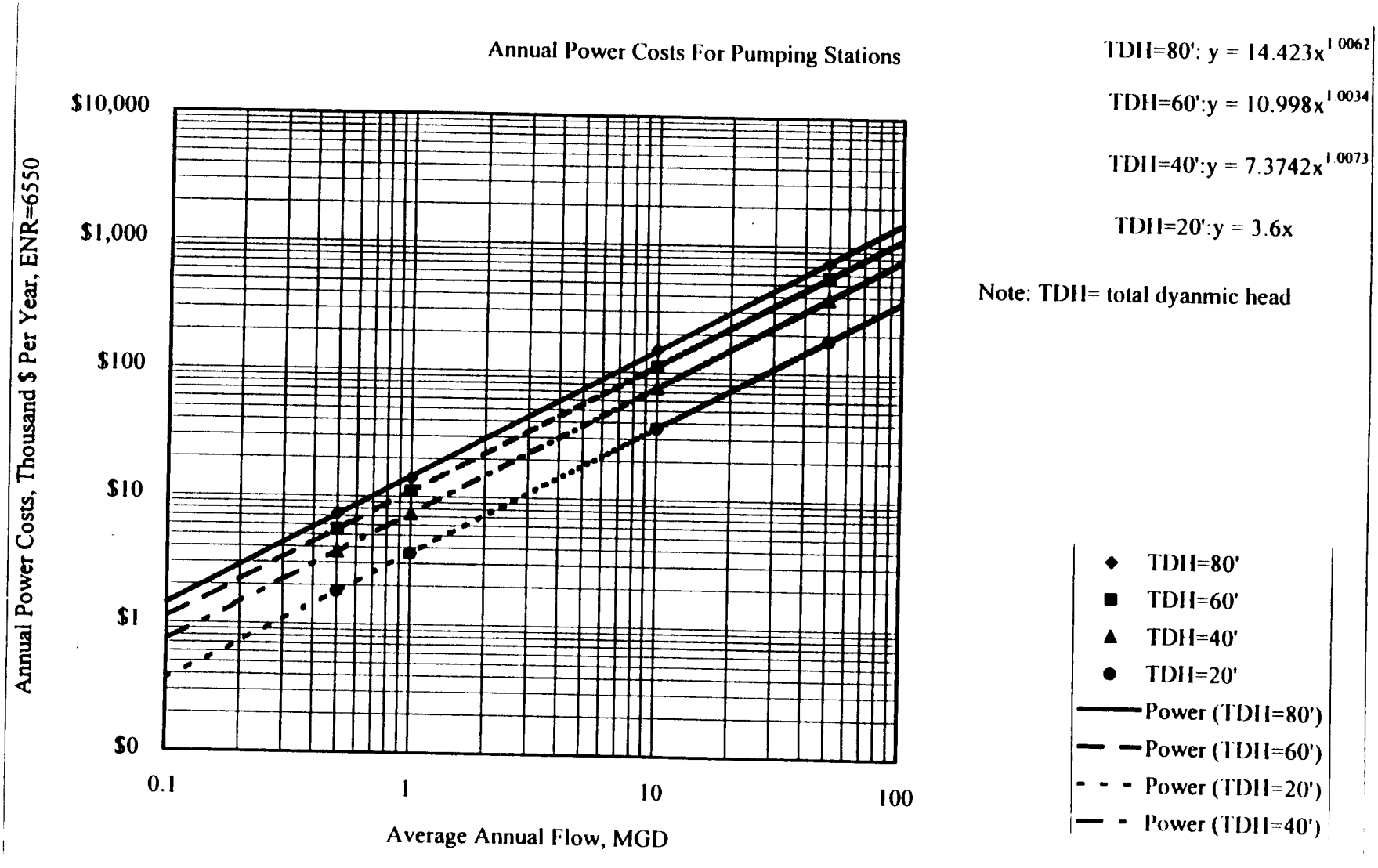

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(Pump-pwr Chart 2)

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November 6, 2001

Mr. Dennis Dickerson,
Executive Officer,
California Regional Water Quality Control Board –
Los Angeles Region
Attn: Xavier Swamikannu, Ph.D.
320 West 4th Street, Suite 200
Los Angeles, California 90013

2001 NOV -9 P 2:00

Re: **Initial Comments and Submission of Evidence of Financial and Economic Impacts of "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH"**

Dear Mr. Dickerson and Dr. Swamikannu:

By this letter, the Los Angeles County Economic Development Corporation ("LAEDC") and the Cities of Alhambra, Camarillo, Compton, El Segundo, Industry, Lawndale, Lomita, Moorpark, Santa Clarita and Torrance (the "Cities") submit evidence that compliance costs for storm water permit programs in Los Angeles County will exceed $50 billion. This evidence is directly relevant, and, as a matter of law, must be addressed in revisions to the "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS

ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" (the "Third Draft") and the accompanying document, "Tentative Draft – FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

Please list this letter as having been submitted by LAEDC and each of the respective cities. (It is not a comment letter of the firm of Burke, Williams & Sorensen, LLP, which has not taken a position in this matter. However, please continue to keep the undersigned on the list of interested persons in this matter.) This letter supplements the Cities' previous letters of July 19, 2001, and August 6, 2001, which offered comments on the Second Draft.

By this letter, the LAEDC and the Cities submit for your careful consideration and for you to address the following reports:

1. "Southern California Association of Governments Staff Report to Energy and Environment Committee dated August 23, 2001, Subject: Regional Solutions for Managing Stormwater Pollution" (the "SCAG Report");

2. "COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA" June, 1998, by Brown & Caldwell, prepared for California Department of Transportation; and

3. "Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area" presented to California Department of Transportation Environmental Program, Report I.D. #CTSWRT-98-72, November, 1998, by Stanley R. Hoffman Associates, (the "Caltrans Financial and Economic Impacts Study").

These studies and reports (to which I shall refer collectively as the "Storm Water Financial Impact Studies") are evidence to be considered and addressed by the Board and the Staff in the revision of the "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" and the "Tentative Draft – FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

The Storm Water Financial Impact Studies, which conclude that the cost of storm water compliance for the areas affected by storm water permits issued by the Board for Los Angeles County will exceed $50 Billion, must be taken into consideration in re-evaluating the requirements to be imposed on the co-permittees. This is because MS4 permits are issued under Section 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii). **That section** does not impose an absolute prohibition on the discharge of pollutants. Instead, the section **requires that:**

> **Permits for discharges from municipal storm sewers --**
>
> > **(iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable*,** including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (Emphasis added.)

Similarly, section 13263(a) of the California Water Code requires regional boards, when prescribing waste discharge requirements, to take into consideration the provisions of §§ 13241(c) and (d). Those sections require a balancing similar to that required by § 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii). **Among the factors regional boards must consider are:**

> (c) ***Water quality conditions that could reasonably be achieved*** through the coordinated control of all factors which affect water quality in the area.
>
> (d) ***Economic considerations***.

The balancing required by CWA § 402(p)(3)(B)(iii) and California Water Code §§ 13241(c) and (d) clearly require the Regional Board to consider, and to justify, the costs of permit compliance.

The LAEDC and the Cities fully support the objectives of the Clean Water Act. However, the magnitude of the compliance cost estimates referred to in the Storm Water Financial Impact Studies, over $50 Billion, would make it necessary for the Cities named above, and all other Cities in Los Angeles County, to ask the Congress and the California Legislature to appropriate nearly all of the funds estimated to be necessary for compliance. Given the current downturn in the economy and the priorities for funding Operation Enduring Freedom and Homeland Defense, Congress and the State Legislature may be unable to make necessary funds available.

The LAEDC and the Cities will expect the Board and Staff to give most careful consideration to the evidence submitted with this letter. We are not aware of any published studies, by any reputable and qualified persons, which rebut the studies submitted with this letter. We ask that this letter, and its enclosures, be included in the administrative record of this matter. The LAEDC and the Cities reserve the right to offer further comments.

Very truly yours,

RUFUS C. YOUNG, JR.
Of BURKE, WILLIAMS & SORENSEN, LLP

Encl.: "Southern California Association of Governments Staff Report to Energy and Environment Committee dated August 23, 2001, Subject: Regional Solutions for Managing Stormwater Pollution" (the "SCAG Report");

"Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area" presented to California Department of Transportation Environmental Program, Report I.D. #CTSWRT-98-72, November, 1998, by Stanley R. Hoffman Associates, (the "Caltrans Study"); and

"COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA" June, 1998, by Brown & Caldwell.

cc: Lee Herrington, President & CEO, LAEDC
Mayors, City Managers and City Attorneys of the
City of Alhambra,
City of Compton,
City of Camarillo
City of El Segundo,
City of Industry,
City of Lawndale,
City of Lomita,
City of Moorpark
City of Santa Clarita, and the
City of Torrance

REPORT

DATE: August 23, 2001

TO: Energy and Environment Committee

FROM: Daniel E. Griset, Sr. Planner, 213-236-1895, griset@scag.ca.gov

SUBJECT: Regional Solutions for Managing Stormwater Pollution

2001 NOV -9 P 2:00

RECOMMENDED ACTION:

Consider for policy direction.

BACKGROUND:

In the nearly 30 years since its enactment, the Clean Water Act has had its greatest success in improving water quality by regulating those sites that use water and discharge water into water bodies such as our rivers and oceans. Examples of these "point source" dischargers are industrial plants and sanitation agencies. Each discharger of this kind is required to obtain a permit for any discharges that will be made into a water body. The permit specifies the maximum level of pollutants that are allowed. Any excesses of this limit are illegal and subject to enforcement.

Only in the last 10 years have environmental regulators turned their attention to a much more challenging aspect of water quality in the urban setting: the "non-point" water pollution. Examples of "non-point" pollution are storm water and urban run-off. The challenge created by this kind of pollution is its general origins, its magnitude, and its complex constituents. As population growth occurs in the SCAG region, along with related new community development, the nature of storm weather flooding and runoff from impervious surfaces have become increasingly severe problems.

In response to these problems, water quality regulators in Los Angeles County have moved to establish new rules requiring the cities and County to take greater responsibility for managing storm water and dry weather run-off that flows through each locale. One great difficulty with this regulatory approach is the absence of larger-scale solutions for problems that are "everywhere" by location and that are often more affordable when rationalized over a larger area with varieties of terrain and open space. Without a larger-scale approach to this kind of pollution each city will struggle to meet mandates individually, inevitably duplicating efforts made by neighboring communities.

Studies conducted to estimate the cost of removing pollutants from Los Angeles County storm water indicate that capital plant alone needed for this mission will cost more than $50 billion. A price tag of this magnitude requires not only new thinking about financing urban environmental improvements, it also calls for new thinking about regional approaches and institutions for achieving water quality goals.

Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area

Presented to:

California Department of Transportation Environmental Program

Report I.D. #CTSWRT-98-72

November 1998

R0006070

SRHA
Stanley R. Hoffman Associates

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SECTION 1
EXECUTIVE SUMMARY

This report evaluates the potential financial and economic impacts of implementing an enhanced storm water treatment program in the Los Angeles National Pollutant Discharge Elimination System (NPDES) Permit area as part of the Caltrans District 7 Storm Water Facilities Retrofit Evaluation. The full storm water treatment system would require about $53.6 billion in capital improvement costs which includes land and $198.9 million in annual operations and maintenance costs. Land requirements for the estimated 480 treatment facilities would total about 13,950 acres. The evaluation methodology applies the EPA Municipal Screener approach and other selected economic indicators.

1.1 Preliminary Municipal Screener Impacts

The EPA publication, Economic Guidance for Water Standards Workbook, describes a methodology for measuring economic impacts. One test in the described methodology is called the Preliminary Municipal Screener. According to the Workbook:

> "This guidance is presented to assist States and applicants in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted. To remove a designated use or obtain a variance, the State or discharger must demonstrate that attaining the designated use would result in substantial and widespread economic and social impacts."

The Municipal Screener test indicates whether a public entity will *not* incur any substantial economic impacts from the proposed pollution control program. This Screener is the estimated Total Annual Pollution Control Cost per Household as a percent of Median Household Income in the community deemed "affordable" by the United States Environmental Protection Agency (EPA). The test specifies that local pollution control costs between 1 percent and 2 percent of median household income constitute "Mid-Range" impacts and greater than 2 percent constitute "Large" impacts. The estimated cost for existing pollution controls plus the full storm water system is about $1,295 per household annually which results in impacts over 2 percent of median household income, therefore; this is judged to create a substantial economic impact. This total cost is comprised of the annual existing non-storm water pollution control cost of $554 per household plus the annual average storm water cost estimate of $741 per household.

1.2 Secondary Municipal Screener Impacts

The EPA standards workbook also specifies that a secondary test must be done if the Municipal Screener is not clearly less than 1 percent of median household income. The secondary test is intended to characterize the community's ability to obtain financing and to indicate the socioeconomic health of the community. As applied to the Los Angeles area, this test generates a score that is within EPA's Mid-Range level of economic impacts.

The Secondary Test utilizes five indicators to form a composite assessment of the community's economic health and the financial impact of the pollution control project. Besides providing guidance on how to calculate each indicator, the Workbook supplies criteria for scoring each as 1-weak, 2-mid-

range or 3-strong. For each of the five indicators the community is rated as weak, mid-range, or strong, based on various thresholds that apply to specific indicators. For example, overall net debt is used as an indicator of a community's ability to meet debt obligations and its capacity to finance infrastructure. For example, if the Overall Net Debt Per Capita is greater than $3,000, the community would have less capacity to fund additional infrastructure and would therefore be rated weak with a rating of 1. However, if the debt per capita is less than $1,000 it would be considered strong and assigned a rating of 3. The indicators are then averaged to derive the Secondary Score.

The results from the Preliminary Municipal Screener and the Secondary Screener are measured jointly to determine whether the community would be expected to incur substantial impacts due to the proposed pollution control project. As shown on Table 1-1, for the Los Angeles area based on the secondary screener analysis, the score falls within the 1.5 to 2.5 range. When combined with an annualized cost greater than 2 percent of median household income, the joint score results in estimated substantial impacts, according to EPA's Substantial Impacts Matrix, as indicated by the "X" in Table 1-1.

1.3 Widespread Impacts

Based on the EPA methodology and other economic indicators presented below, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs. Other levels of treatment or funding sources may be considered to mitigate these impacts.

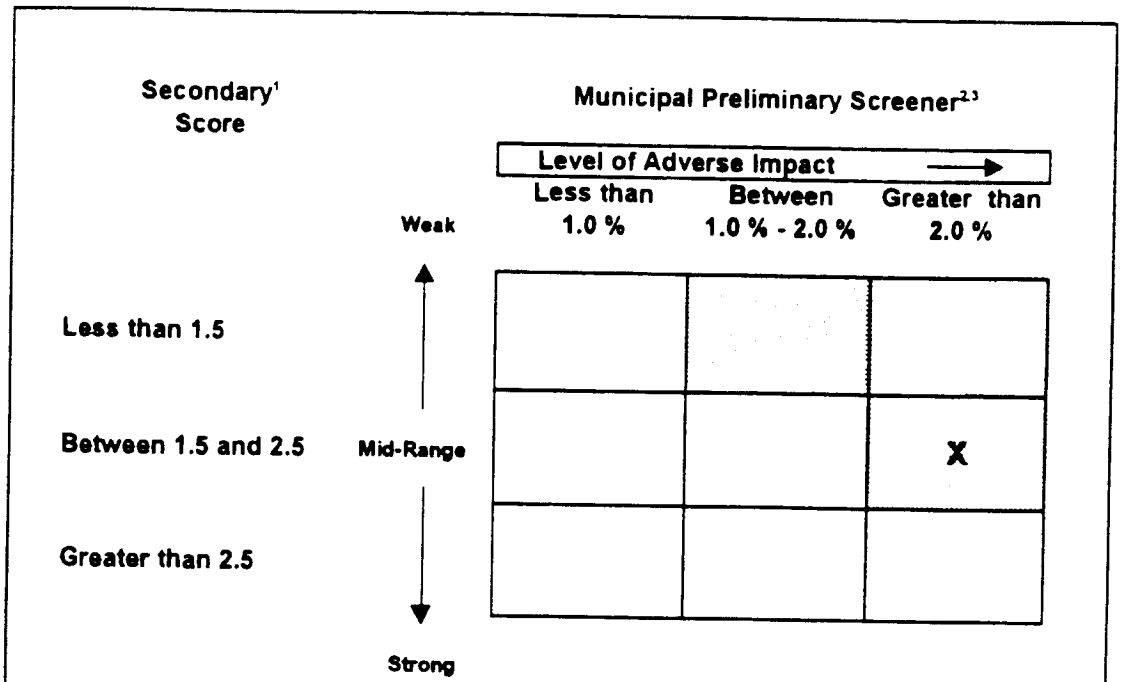
1.3.1 Property Tax Impacts

One measure of financial feasibility is the estimated impact on the property tax rate. The property tax rate for a single family unit is estimated to increase by 0.87 percentage points for the full system. When added to the median base property tax of 1.19 percent, this results in a total property tax of 2.06 percent, increasing the annual property tax bill by about 70 percent. Given the current economic climate in California, this estimated increase is clearly more than is likely to be absorbed by local single family households alone. For multi-family units, the estimated increase of 0.67 percentage points would also represent a potential sizable rental pass through.

1.3.2 Sales Tax Impacts

To compare the annualized storm water treatment costs to other economic indicators, a hypothetical increase of 6 percentage points above the present sales tax rate, to a level of about 12 percent, was estimated in lieu of increasing the property tax for the cost of full treatment. This impact is judged to be widespread and much higher than most households would consider acceptable.

Table 1-1
Financial and Economic Impacts of Storm Water Treatment
Assessment of Substantial Impacts Matrix
Los Angeles NPDES Area



Source: Stanley R. Hoffman Associates, Inc.
Economic Guidance for Water Quality Standards Workbook,
U.S. Environmental Protection Agency

1. The Secondary Score represents a weighted average based on a number of economic criteria described in the text.

2. The Municipal Preliminary Screener represents a percentage of median household income.

3. Shaded area denotes where substantial impacts are estimated to occur according to the EPA Preliminary and Secondary Municipal Screeners. The combined score for the Los Angeles NPDES area results in substantial impacts as shown in the figure by the "X."

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1.3.3 Land Requirement and Displacement Impacts

Treatment facilities for storm water runoff are land intensive. The land and land cost requirements for the full system are about 13,950 acres and 6.1 billion dollars, requiring multiple treatment plants. About 67 percent of this acreage would be required for treatment Level 1 and the rest for treatment Level 2. While marginal or vacant parcels would initially be sought, potential displacement of many households and businesses as well as relocation and land acquisition costs would be required.

1.3.4 Employment Impacts

The Los Angeles area economy has been recovering from the deep recession of the early 1990s when the total County economy lost more than 400,000 jobs. The County is currently on a recovery path. The additional costs per household and per business are likely to slow this recovery and cause some businesses to relocate or expand elsewhere. Again, while specific estimates of impacts are not made, the burden of additional costs of a substantial nature is viewed as widespread because the potential treatment plants would be distributed throughout the Los Angeles drainage areas. Since specific locations are not identified, these displacement impacts are not quantified as part of this study.

As was indicated earlier, the average household share of the financing burden would amount to about a 73 percent increase in annual property taxes. For many households, such an increase in property taxes would cause a significant reduction in their consumption and savings. Over time, landowners would also pass forward tax increases to renters as increased rents which would produce a reduction in consumption by renters. Such potentially widespread reduction in consumption among households would likely cause loss of retailing and other local serving jobs.

1.3.5 Impacts on Outstanding Local Debt

According to California Municipal Statistics, Inc., there is an estimated $11.6 billion of outstanding local public debt in Los Angeles County. The estimated cost of $53.6 billion for full storm water treatment would represent almost a fivefold increase in debt. Even the Secondary Municipal Screener level of $5.3 billion of estimated capital costs represents about 46 percent of existing unpaid local public debt.

1.4 Estimated Non-Storm Water Pollution Control Costs

According to the EPA guidelines, the Municipal Screener approach provides an estimate of what is deemed "affordable" for pollution control programs. The present study first examined the incremental financial and economic burden of storm water treatment in the Los Angeles County NPDES Permit Area. However, other public pollution control programs also require funding and must be considered in setting expenditure priorities. According to the EPA Municipal Screener, the estimated incremental cost of any new pollution control program should be added to the existing and future costs for other types of pollution control programs, such as air quality, wastewater treatment, and solid and toxic waste disposal.

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In Section 10 of this report, estimates of existing and future non-storm water pollution controls are made which can be added to the incremental costs for storm water treatment by area to determine whether they exceed the 2 percent of median household income criteria prescribed by the EPA methodology. Two approaches were utilized to estimate the impacts of existing and future non-storm water pollution control costs in combination with estimated incremental storm water treatment costs: 1) analysis of estimated localized, direct costs in California; and 2) a literature review, including a 1990 comprehensive study by the EPA updated to 1998 dollars. Both methods result in estimated substantial impacts according to the EPA Municipal Screener methodology.

These additional annual pollution control costs per household were based on localized California costs of wastewater user fees, tire/oil disposal, automobile emissions testing and repairs, drinking water treatment and solid waste disposal. This amount was estimated to be about $554 annually per household for the Los Angeles area compared with $537 annually per household based on the nationwide EPA study.

1.5 Costs Limited by EPA Municipal Screeners

When the estimated amount of $703 per household at the Secondary Municipal Screener level of 1.6 percent of median household income level ($43,916), is reduced by the estimated cost of $554 for existing and future pollution controls, this results in a net amount of $149 per household for storm water treatment. If this annual amount of $149 is multiplied by the estimated 3,228,269 households in the Los Angeles County NPDES study area and is then capitalized using a 6 percent interest rate and a term of 20 years, this results in an estimated affordable capital cost of $5.3 billion. This represents about 9.9 percent of the estimated full storm water treatment cost of $53.6 billion.

SECTION 2
INTRODUCTION

2.1 Project Description and Purpose

This economic and financing analysis was prepared for the Los Angeles NPDES Permit Area as part of the Caltrans District 7 Storm Water Facilities Retrofit Evaluation. The analysis examines the economic and financial impacts that may arise for communities due to the increasing costs associated with successive levels of storm water treatment implementation. The project description and costs were defined by Brown and Caldwell. This included storm water treatment technologies designed to meet water quality standards and objectives for a one year return frequency 24 hour storm.

2.2 Project Area

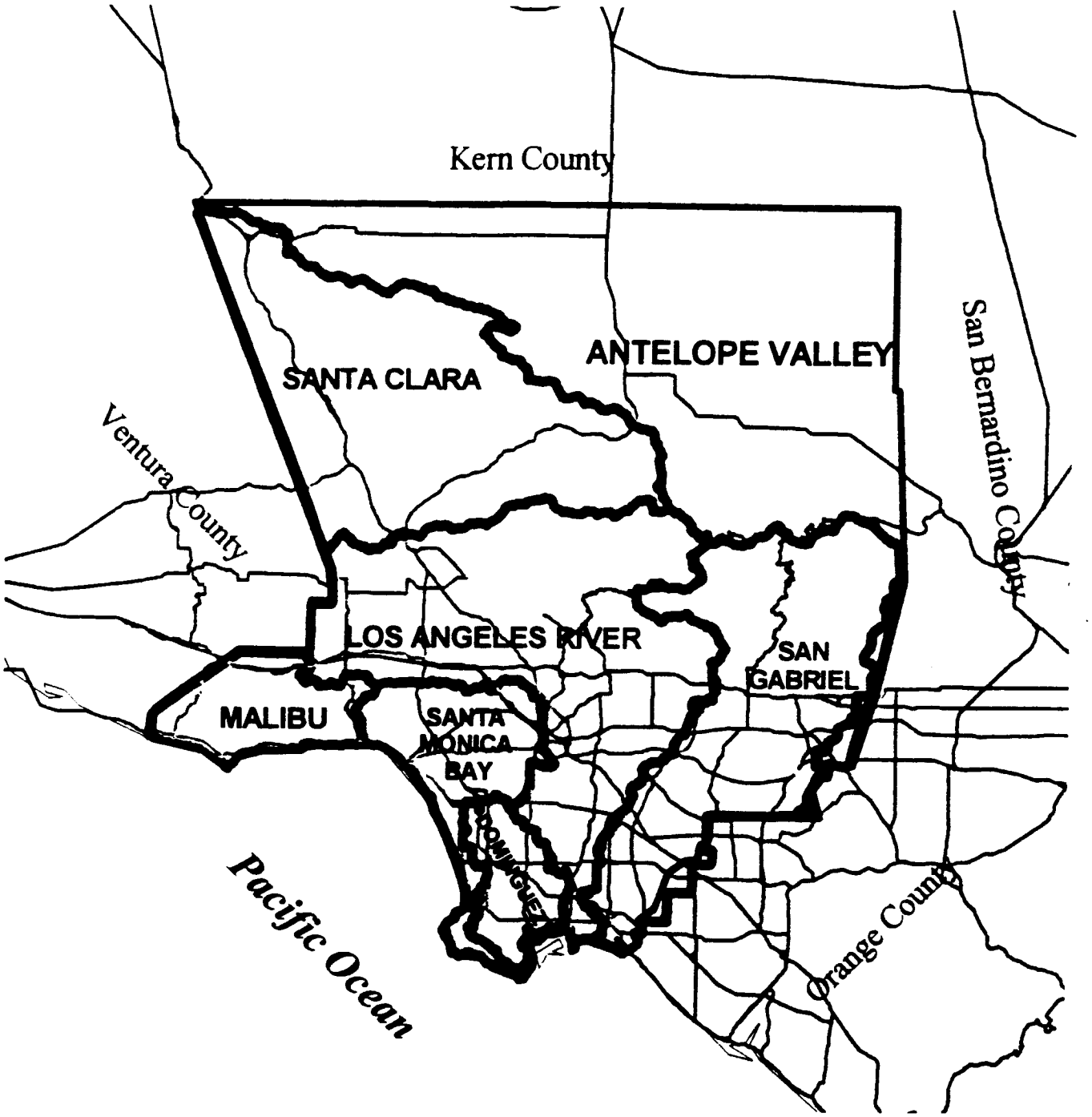
The study area was limited to the Caltrans District 7 areas that drain to the Pacific Ocean in Los Angeles County as shown on Figure 2-1. The Los Angeles NPDES Permit Area includes those areas within Los Angeles County and within the watershed defined by the Santa Susana Mountains, Simi Hills and San Gabriel Mountains. Los Angeles County areas not represented in the study include Avalon, Lancaster, Palmdale and unincorporated areas near these cities. The Los Angeles County NPDES Permit Area is divided into six drainage basins and consists of approximately 1,702,404 acres of land. A relatively small portion of the Santa Ana River Basin is aggregated with the San Gabriel River Basin. The drainage basins that cover this area include the following:

- Dominguez Channel
- Los Angeles River
- Malibu
- San Gabriel River
- Santa Clara River
- Santa Monica Bay

Land-use and acreage for this area were categorized into several classifications and formed the foundation for analysis along with basic demographic and financial data. Of the total acreage, almost 60 percent is open space, which represents the largest land use of the total NPDES area. The next most dominant land use is residential at about 22 percent. The remaining acreage covers other uses such as public, commercial and industrial.

Figure 2-1

Drainage Basins in LA County NPDES Permit Area



Stanley R. Hoffman and Associates, 1998

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2.3 Data Sources

To determine the impact on households, businesses and communities, data was analyzed based on several economic indicators. Examples of these indicators include the ability to pay as measured by the ratio of per household annualized storm water pollution costs to median household income, or the ability of local land uses to carry new debt. The following is a summary of the data sources used in preparing this analysis:

- Population, housing and employment data from the Southern California Association of Governments (SCAG), Regional Statistical Area Projections from 1994 to 2020.
- Land use acreages were provided through the SCAG Geographical Information System (GIS) Land Use database.
- City and County Summary Report of Population and Housing, Department of Finance (DOF), 1994 to 1998.
- Consumer Price Index (CPI) for Los Angeles, Anaheim, and Riverside areas, U.S. Bureau of Labor Statistics Data.
- Taxable Sales in California during 1996, California State Board of Equalization, and updated to 1998 using the CPI.
- The 1997-1998 Assessment Roll Release, Los Angeles County Assessor.

Basic demographic variables including median household income and housing value from the 1990 United States Census were updated to 1998 using the Consumer Price Index.

2.4 Organization of the Report

Sections organize the report in the following manner:

Section 3 – Environmental Protection Agency (EPA) Economic Guidelines: This section includes the project's key economic criteria based on EPA's guidelines.

Section 4 – Costs of Storm Water Retrofit: The estimated costs of storm water treatment retrofit for specified treatment levels for both capital and annual operations and maintenance cost is shown.

Section 5 – Los Angeles NPDES Permit Area Land Uses: A description of the study area land uses and their relationship to the analysis variables of population, housing and income.

Section 6 – Financing Approaches: Financing approaches to be considered are identified. Key issues include funding ability, practical means of implementation and political feasibility.

Section 7 – Financial Capacity of Local Jurisdictions: This includes the analysis of the ability of local communities to carry substantial new debt.

Section 8 – Assessment of Market Conditions: An assessment of the market conditions under which some combination of financing strategies may be implemented is presented.

Section 9 – Financial Spread of Costs: Presents the allocation of estimated capital and operations and maintenance costs of storm water retrofit among private sector land uses.

Section 10 - Estimated Non-Storm Water Pollution Control Costs: This section presents the estimated costs of other pollution control programs using two approaches. These include costs related to air quality regulations, drinking water treatment, solid waste disposal and wastewater treatment.

Section 11 – Evaluation of Financial Impacts: An evaluation of the financial impacts of implementing the costs of storm water treatment according to EPA's economic guidelines.

SECTION 3
ENVIRONMENTAL PROTECTION AGENCY (EPA) ECONOMIC GUIDELINES

The approach used to evaluate the economic impacts of the storm water runoff collection and treatment facilities under consideration is based upon the approach and methods presented by EPA's Economic Guidance for Water Quality Standards Workbook and summarized in Figure 3-1. This analysis has focused on incremental costs for existing storm water treatment for residential and non-residential land uses. The Workbook provides guidance to assist interested parties in determining whether attaining a specified water quality standard would result in "substantial and widespread economic and social impacts." The Workbook guidance "is not an exhaustive description of appropriate economic impact analyses," but it does describe "the types of information and analyses that should be considered."

The Workbook calls for a financial analysis to determine "if the capital and the operating and maintenance costs of pollution control will have a substantial impact." For public entities, the Workbook notes, "the households in the community will bear the cost either through an increase in user fees, an increase in taxes or a combination of both." Therefore, "the burden to households resulting from total annual pollution control costs must be estimated. In addition, the financial impact analysis must consider the community's ability to obtain financing and the general economic health of the community."

Demonstrating that substantial economic impacts would occur from implementing pollution control "is not sufficient reason to modify...or grant a variance from water quality standards" according to the Workbook. Rather, the analysis must also include consideration of whether or not "compliance would create widespread socioeconomic impacts on the affected community." Financial impacts are those "that could cause far reaching and serious impacts to the community." While the Workbook states that "there are no correct economic ratios or tests per se to evaluate socioeconomic impacts," it does say that each community must evaluate its own unique circumstances. The guidelines suggest the types of factors that should be considered, including changes in median household income, unemployment, and overall debt burden.

3.1 Step-by-Step Methodology

As shown on Figure 3-1, the Workbook identifies a five-step analysis to determine if the costs of a proposed project will likely result in substantial impacts.

1. Verify Project Costs and Calculate the Annual Cost of the Pollution Control[1]
2. Calculate Total Annualized Pollution Control Cost per Household
3. Calculate and Evaluate the Municipal Preliminary Screener Score
4. Apply the Secondary Test
5. Assess where the community falls in The Substantial Impacts Matrix

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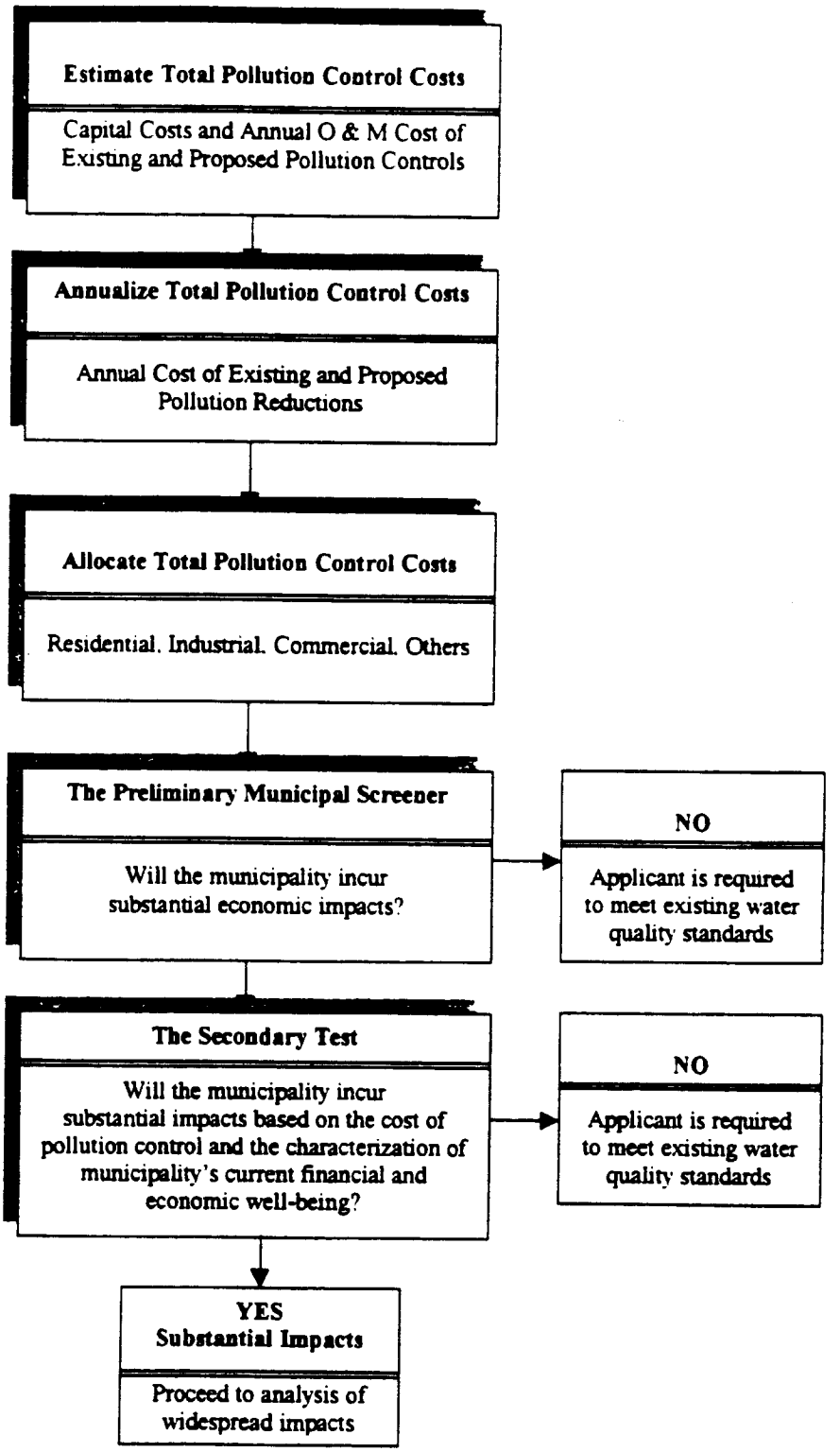
[1] The project costs were prepared by Brown and Caldwell and independently assessed by other reviewers.

Figure 3-1
EPA Economic Guidelines
Measuring Substantial Impacts (Public Entities)



Source: Stanley R. Hoffman Associates, Inc.
EPA Economic Guidance For Water Quality Standards
Note: Some text has been modified for presentation purposes.

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The *Municipal Preliminary Screener* (Step 3) is the estimated Total Annual Pollution Control Cost per Household as a percent of Median Household Income in the community. The Screener indicates whether a public entity will *not* incur any substantial economic impacts because of the proposed pollution control program. The Workbook identifies less than 1% as "Little Impact," 1% to 2% as "Mid-Range Impact" and greater than 2% as Large Impact. If the Preliminary Screener results in either a Mid-Range or Large Impact, then the analysis is to proceed to the Secondary Test.

3.2 The Secondary Test

The Secondary Test includes five to six indicators:

Initial Indicators Considered	Final Indicators Used
1. Bond Rating	1. Bond Rating
2. Overall net debt as percent of full market value of taxable property	2. Overall net debt per capita
3. Unemployment	3. Unemployment
4. Median Household Income	4. Median Household Income
5. Property tax collection rate	5. Property tax collection rate
6. Property tax revenues as a percent of full market value of taxable properties	6. Not applied

In states with property tax limitations such as California, the Workbook notes that two of the indicators may not be appropriate: Indicator #2 - Overall Net Debt as Percent of Full Market Value of Taxable Property; and Indicator #6 - Property Tax Revenue as a Percent of Full Market Value of Taxable Properties. The Workbook recommends that Overall Net Debt Per Capita be used in place of Indicator #2 - Overall Net Debt as Percent of Full Market Value of Taxable Property. Also, the Workbook recommends that for states where indicator #6 has no appropriate substitute, it can be dropped and the other five factors assigned equal weight.

The final five indicators are used to form a composite assessment of the community's economic health and the financial impact of the required project. In addition to guidance on how to calculate each indicator, the Workbook provides criteria for scoring each indicator as 1-weak, 2-mid-range or 3-strong. For each of the five indicators the community is rated as weak, mid-range, or strong, based on various thresholds that apply to that specific indicator. For example, overall net debt is used as an indicator of a community's ability to meet debt obligations and its capacity to fund infrastructure. If the Overall Net Debt Per Capita is greater than $3,000, the community would be rated weak in its capacity to fund additional infrastructure and assigned a rating of 1; however, if the debt per capita is less than $1,000 it would have relatively more funding capacity and would be assigned a rating of 3. The indicators are then averaged to derive the Secondary Score.

The results from the first two tests (Preliminary Municipal Screener and Secondary Test) are regarded jointly in the Assessment of Substantial Impacts Matrix to ascertain whether the

community would be expected to incur substantial impacts due to the proposed pollution control project.

3.3 Evaluating Widespread Impacts

The final test is the consideration of *Widespread Impacts*. This test must be done even if substantial impacts are likely to be determined based on earlier tests. This analysis will include both the quantitative indicators and a discussion of potential financial and economic ramifications throughout the community.

SECTION 4
COSTS OF STORM WATER RETROFIT

A cost analysis was prepared by Brown and Caldwell to determine the cost of treating storm water runoff to meet water quality objectives for the Los Angeles NPDES Permit area. The capital costs for the designated drainage basins, as estimated by Brown and Caldwell, have been used for this analysis. These estimates are for a specified number of treatment plants per drainage basin projected to treat storm water from a design storm conforming to a one year return frequency with a duration of 24 hours. The costs have been specified and estimated for three treatment levels plus collection costs as defined below and will be assumed to be incurred in 1998, the first year. The operations and maintenance costs are ongoing costs that will be much less than the capital costs, and can typically be funded on an annual basis rather than through debt financing.

4.1 Storm Water Treatment Levels

The costs for this study have been organized into three levels of increasingly higher costs according to treatment level. Three treatment levels were defined in the Brown and Caldwell June 1998 report, Cost of Storm Water Treatment for Los Angeles County NPDES Permit Area, and were established using the water quality objectives set forth in the Los Angeles RWQCB (Regional Water Quality Control Board) Basin Plan. As stated in this report, the division points between treatment levels are basically the ability to remove sediment and trash; the ability to remove or kill bacteria; and the ability to remove metals. In addition to the three levels described below, there is a cost component of additional collection piping and distribution, which allows collection for treatment before the water runoff enters the major water courses. The three treatment levels include:

Level 1: Detention and Screening
This is the most commonly used storm water treatment technology and is used to remove floating debris and settle solids picked up by storm water. Level 1 is a conventional storm water treatment technology and represents a treatment technology that could be implemented for a large drainage area. The level 1 detention facilities were sized to capture the design storm and hold it for twenty-four to seventy-two hours to allow the solids to settle and clarify the water. Level 1 will decrease pollutant concentrations but cannot meet all the objectives for beneficial use.

Level 2: Filtration and Disinfection
This cost level is cumulative with the preceding level, adding filtration and disinfection costs to level 1 costs of detention and screening facilities. Storm water runoff often contains coliform, which are bacterial indicator organisms used to determine sanitary conditions. The levels of coliform in urban storm water will generally cause the receiving water to exceed levels considered safe for recreational contact. Most waters in California are designated to have a recreational beneficial use and the coliform objective linked to the beneficial use will be exceeded by inflow of storm water. Filtration and disinfection will kill bacterial organisms and allow the objectives for the recreational beneficial use to be met. High rate filtration and chlorination were added to the discharge from the detention basins in level 1. Dechlorination was also provided to protect organisms in the receiving water from the toxicity of any residual chlorination. The flow through treatment units have been designed to treat the captured storm water over a seventy-two hour period following the storm. Level 2 will allow storm water to meet the requirements for the recreational beneficial uses.

Level 3: Advanced Treatment

This level of advanced treatment adds a highly sophisticated treatment process to remove very small concentrations of toxic materials that are often found in urban runoff. Many of the waters in California are designated as potential drinking water sources. The objectives for the beneficial use designation of municipal water supply may require advanced treatment. Even more restrictive than the drinking water standards, are the standards for toxicity as it relates to sensitive species that could potentially exist in the receiving waters. Most waters have beneficial use designations that describe the aquatic environment and have objectives to protect these beneficial uses. Meeting these objectives with structural treatment units will require advanced treatment beyond what is normally expected of water treatment facilities. Reverse osmosis is included as the typical technology representing advanced toxic removal to achieve the required low concentrations. Storm water treated to level 3 is free of almost all pollutants and is suitable for all beneficial uses.

4.2 Capital Costs

The capital costs represent the costs of land and facilities. The costs of the facilities were developed from representative designs then scaled up for the individual watersheds and are based on flow rates. The number of treatment plants required is estimated at 480. For the purposes of this analysis, construction and land purchase is assumed to take place at the beginning of the project in the first year and the annualized cost is assumed to stay constant over the life of the project.

Table 4-1 shows the estimated 1998 total capital costs of $53.6 billion. As indicated, the total capital costs include $12.5 billion in collection of flow costs, which are 23 percent of the total costs. The largest share of the cost is for treatment level 2 at $20.5 billion, or 38 percent of the total.

4.3 Operations & Maintenance Costs

Operations and Maintenance costs include those costs required to operate and maintain the facilities on an annual basis. These include labor, routine materials and supplies, electric power and chemical costs for storm water treatment. Labor costs for operating the facilities are based on crews going to the treatment sites for 12 hours during each storm. Table 4-1 indicates that the annual operations and maintenance costs increase with each treatment level to an annual total of $198.9 million. The largest amount is for treatment level 3 at $82.2 million per year or 41 percent of the total.

Table 4-1
1998 Estimated Capital and Annual Operations and Maintenance Costs
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Treatment Level	Capital Costs (in millions of $)	% to Total Capital Costs	Annual O & M Costs (in millions of $)	% to Total O & M Costs
Collection of Flows	$12,486	23%	10.4	5%
Level 1	20,453	38%	57.1	29%
Level 2	6,150	11%	49.1	25%
Level 3	14,516	27%	82.2	41%
	$53,605	100%	198.9	100%

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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4.4 Land Requirements and Cost

Land cost requirements for 480 treatment units are estimated at $6.1 billion as shown in Table 4-2. This represents a total of 13,950 acres, split over treatment levels 1 and 2 at 67 percent and 33 percent respectively. Land costs for properties that might accommodate treatment facilities were estimated at an average of $435,600 per acre based on discussion with appraiser, John J. Bihary, Jr.

Table 4-2
Land Acreage and Land Cost Requirements:
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

	Level 1	Level 2	Total
Land Requried (Acres)			
Los Angeles NPDES Permit Area	9,300	4,650	13,950
Land Cost @ $435,600/acre			
Los Angeles NPDES Permit Area	$4,051,080,000	$2,025,540,000	$6,076,620,000
Percentage by Level	67%	33%	100%

Note: Land costs for properties that might accommodate treatment facilities were estimated at an average of $435,600 per acre based on discussion with appraiser John J. Bihary, Jr.

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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SECTION 5
LOS ANGELES COUNTY NPDES PERMIT AREA: LAND USES

The land use classification used for this analysis was taken from the Southern California Association of Governments' (SCAG) 1994 land use classifications as shown on Table 5-1.

- Single family residential, including mobile homes
- Multi-family residential
- Commercial areas, including wholesale and retail trade and general services
- Public uses, including public facilities, educational, military, and transportation
- Light and heavy industrial uses
- Other urban areas not included under other categories
- Open spaces including parks and undeveloped lands
- Unknown, including acreage not elsewhere categorized and vacant land

5.1 Land Use Classification

The land use acreage breakdown from SCAG's Geographic Information System (GIS) database utilizes the following land-use classifications. The residential category includes single family, multi-family, mobile homes and trailer parks and mixed residential. Mixed residential refers to an area in which there are both single and multi-family uses but where no single use predominates. The commercial category includes general office use, retail stores and commercial services and mixed commercial and industrial. The public category includes public facilities, educational institutions, military and transportation uses. Light industrial includes manufacturing, assembly and industrial services but not manufacturing which consists of processing raw materials or discharging industrial waste products. The other urban category involves railroads, truck terminals, communication facilities, mixed urban uses and areas under construction. The Open space category consists of local and regional parks, golf courses, cemeteries, gardens and arboreta and other open space and recreation. The miscellaneous category entails unknown land use, which is acreage that cannot be classified elsewhere and vacant land. Agricultural land use and water, except beaches and harbor and marina facilities, were not included.

5.2 Design Flow

The design flow is the millions of gallons of runoff that would be generated by a representative design storm: a Los Angeles area rainstorm conforming to a one year return frequency with a duration of 24 hours. The runoff was developed by a coefficient of runoff that estimates the percentage of precipitation in the design storm that will become runoff based on the land use of the area and the imperviousness associated with that type of land use. Impervious areas are those areas where rainfall cannot be absorbed and thus surface runoff occurs. In areas of high urbanization, there are more areas such as roof surfaces on structures and paved surfaces that do not allow infiltration of storm water as compared to undeveloped open spaces. The imperviousness for each type of land use was based on the values reported by the Santa Monica Bay Restoration Project Report.

As shown in Table 5-1, residential use accounts for only 25.6 percent of the total land area but 33.6 percent of the total runoff. In contrast, open space accounts for 59.3 percent of total land uses but

Table 5-1
Land Uses and Design Flow
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Drainage Basin	Total Acres	Percent of Total Acres	Design Flow (mg)[1]	Percent of Design Flow
Single Family	378,494	22.2%	6,018	27.8%
Multi-Family	57,619	3.4%	1,192	5.5%
Commercial	59,427	3.5%	1,486	6.9%
Public	90,892	5.3%	2,079	9.6%
Industrial	75,391	4.4%	1,869	8.6%
Other Urban	18,618	1.1%	426	2.0%
Open	1,010,244	59.3%	8,514	39.3%
Miscellaneous	11,719	0.7%	99	0.5%
Total	**1,702,404**	**100%**	**21,683**	**100%**

[1] (mg): millions of gallons

Source: Stanley R. Hoffman Associates, Inc.
Brown and Caldwell

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only 39.3 percent of the total runoff flows. This illustrates the relationship of imperviousness to urbanization described above. Runoff is critical in determining costs because of the size of the facilities required to capture and treat storm water, and the concentrations of constituents of concern in the water. The Santa Monica Bay Restoration Project Report indicated that significant concentrations are coming from residential areas.

5.3 Variables for Land Use Analysis

The purpose of this study is to determine the potential economic and financial impact on entities within the Los Angeles Area NPDES Permit area because of storm water retrofit costs. The above discussion of land use and runoff indicates that a highly urbanized area will generate more runoff and a higher concentration of potential constituents of concern than less urbanized areas. Therefore, the costs for storm water management will be higher for communities in these areas. To determine the potential impact over various land uses, the following data was utilized:

- Population, housing, and employment statistics from the Southern California Association of Governments (SCAG)
- Household annual median and average income projections based on U.S. Census data, updated using the Consumer Price Index (CPI)
- Single and multi-family housing units and current population estimates from the California Department of Finance (DOF) to determine density and persons per household ratios

5.3.1Population, Housing and Employment

The 1994–1998 population, housing, and employment data from SCAG were tabulated for all the census tracts within the designated drainage areas as shown on Table 5-2. An estimate for 1998 was made based on the predicted average annual change from 1994 to 2000.The 1998 total population for the drainage basins of about 9.3 million is 97 percent of the total Los Angeles County population estimate of 9.6 million for 1998 based on DOF and is projected to increase annually at an average of about 1 percent from 1998 to 2020.

5.3.2Household Income

Estimates for 1998 for median household income were made based on 1990 United States Census data obtained from the 1989 survey, and updated using the 1989 to 1998 change in the CPI of 26.0 percent as shown on Table 5-3. Household income is used as an indicator with the EPA Municipal Screener described earlier in Section 3 to determine storm water facilities retrofit costs for single family and other land uses. The estimated 1998 median income for Los Angeles County is $43,916.

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Table 5-2
Population, Housing, and Employment Estimates: SCAG 1994
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin/Area	1994	1998	2000	2010	2015	2020	1998 to 2020 Numerical Change	1998 to 2020 Percent Change	1998 to 2020 Average Annual Change
Population									
Dominguez	463,471	480,066	488,585	507,821	520,829	536,254	56,188	11.7%	0.5%
LA River	5,648,189	5,835,830	5,931,976	6,484,652	6,844,355	7,241,690	1,405,859	24.1%	1.0%
Malibu	73,433	77,607	79,782	92,349	98,087	105,865	28,258	36.4%	1.4%
San Gabriel	1,807,417	1,877,491	1,913,541	2,038,014	2,111,267	2,206,523	329,031	17.5%	0.7%
Santa Clara	163,411	203,921	227,800	355,558	425,876	508,649	304,728	149.4%	4.2%
Santa Monica Bay	777,445	784,835	788,556	798,228	804,657	811,703	26,868	3.4%	0.2%
Total	8,933,366	9,259,750	9,430,239	10,276,622	10,805,071	11,410,683	2,150,933	23.2%	1.0%
Households									
Dominguez	163,898	165,311	166,022	173,961	178,550	186,052	20,741	12.5%	0.5%
LA River	1,830,537	1,844,185	1,851,047	2,029,715	2,136,038	2,299,713	455,528	24.7%	1.0%
Malibu	27,063	27,225	27,306	31,742	34,236	37,512	10,287	37.8%	1.5%
San Gabriel	558,897	563,438	565,723	599,800	621,527	660,322	96,883	17.2%	0.7%
Santa Clara	52,279	56,650	58,971	97,105	125,301	150,606	93,956	165.9%	4.5%
Santa Monica Bay	570,266	571,461	572,059	578,772	582,798	588,494	17,033	3.0%	0.1%
Total	3,202,940	3,228,269	3,241,127	3,511,095	3,678,450	3,922,698	694,429	21.5%	0.9%
Employment									
Dominguez	302,572	319,728	328,667	365,853	382,749	403,893	84,165	26.3%	1.1%
LA River	2,465,071	2,612,887	2,690,087	3,018,081	3,140,993	3,276,112	663,224	25.4%	1.0%
Malibu	34,894	41,554	45,346	50,003	52,371	54,937	13,383	32.2%	1.3%
San Gabriel	611,803	655,842	679,037	807,746	855,785	899,348	243,505	37.1%	1.4%
Santa Clara	53,398	65,018	71,744	103,185	125,256	146,877	81,859	125.9%	3.8%
Santa Monica Bay	700,022	708,656	713,013	746,530	761,289	780,819	72,163	10.2%	0.4%
Total	4,167,760	4,403,684	4,527,893	5,091,398	5,318,442	5,561,985	1,158,301	26.3%	1.1%

Source: Stanley R. Hoffman Associates, Inc.
Southern California Association of Governments, Regional Statistical Area Projections, 1994.

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Table 5-3
1998 Estimated Median and Mean Household Income
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Jurisdiction	1998 Estimated Households	1989 Median HH Income	1998 Est. Median HH Income[1]	Estimated Total Household Income Based on Median
Los Angeles NPDES Permit Area	3,228,269	$34,965	$43,916	$141,772,790,536

1. 1998 median household income projected based on CPI inflation factor from 1989-1998: 1.26

Sources: Stanley R. Hoffman Associates, Inc.
United States Census 1990
Consumer Price Index, 1989 - 1998 Inflation Factor

1989 - 1998 CPI Inflation Factor: 1.26

2. Ratio of Median/Average Household Income: 0.740
(Based on Countywide Median Income)

Southern California Association of Governments, Regional Statistical Area Projections, 1994

5.3.3Density

The 1994 land uses from the GIS data base and the 1994 housing units from the Department of Finance were used to determine density as to housing units per acre for single family and multi-family housing units as shown in Table 5-4. The Los Angeles River and Santa Monica Bay basins show the highest overall density at 8.35 and 9.30 units per acre. The Malibu basin has the lowest density at 2.71 units per acre. As shown in Table 5-4, the Los Angeles River and Santa Monica basins have the highest single and multi-family densities.

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Table 5-4
Density by Drainage Basin: 1994
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin	Housing Units: Single Family	Housing Units: Multi Family	Housing Units: Total	Population	Persons Per Housing Unit	Single Family Acres	SF Units Per Acre	Multi Family MF Acres	MF Units Per Acre	Total Acres	Total Units per Acre
Dominguez	106,393	61,131	167,524	463,471	2.77	27,567.74	3.86	5,554.15	11.01	33,121.88	5.06
LA River	868,583	771,061	1,639,644	5,648,189	3.44	171,130.61	5.08	25,161.62	30.64	196,292.23	8.35
Malibu	23,029	4,657	27,686	73,433	2.65	9,659.32	2.38	556.34	8.37	10,215.66	2.71
San Gabriel	429,288	164,364	593,652	1,807,417	3.04	91,923.24	4.67	8,658.99	18.98	100,582.22	5.90
Santa Clara	45,306	14,686	59,992	163,411	2.72	18,259.89	2.48	1,341.79	10.95	19,601.67	3.06
Santa Monica Bay	299,055	366,520	665,575	777,445	1.17	55,721.53	5.37	15,820.51	23.17	71,542.04	9.30
Total	**1,771,654**	**1,382,419**	**3,154,073**	**8,933,366**	**2.83**	**374,262.32**	**4.73**	**57,093.39**	**24.21**	**431,355.70**	**7.31**

Source: Stanley R. Hoffman Associates, Inc.
Dept. of Finance: Official State Estimates of Pop. and Housing May 1994
Southern California Association of Governments Population Estimates 1994

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SECTION 6
FINANCING APPROACHES

This section provides a brief overview of various sources and methods for financing the construction, operation and maintenance of the major storm water treatment facilities that would be required to meet water quality standards. While no financing strategy is recommended at this time, there is a range of financing approaches used in California. Typically, in California more than one financing approach is utilized for major projects, including a combination of local and outside sources.

6.1 Federal

The Federal government historically has played a leading role in financing various environmental enhancement programs. A Federal program to pay for all or a significant part of the costs of storm water runoff treatment facilities is currently not available nor expected in the near future. Currently, national attention is on balancing the Federal budget and on maintaining the long-term soundness of Social Security and Medicare, not on major new grant programs.

6.2 State

At the State level of government, a possible approach for financing part of the capital costs of storm water treatment would be through some form of State grants program or allocation of some state's current surplus after existing funding priorities have been completed. Such a grant program would require state legislative action and statewide voter approval since it would likely involve the issuance of general obligation bonds by the State. The State policy as established, both from the Department of Finance and the State Treasurer, is to keep the general fund debt ratio below 6 percent. In other words, the prudent maximum annual cost of servicing debt from the General Fund is by policy established at 6 percent.

Even if approved by the voters, it would be very unlikely to fund any sizable level of statewide storm water treatment costs. The State Department of Finance estimates that as of January 1, 1998, the total capacity for new general obligation bonds issuance over the next 10 years is $40 billion statewide. The $40 billion estimate does not include new bond measures taken to voters in 1998. For example, the November 1998 election ballot included a $9.2 billion school finance measure, which is the largest statewide General Obligation bond measure ever approved by California voters.

6.3 Local

The ability of local governments in California to finance public improvements has been increasingly circumscribed over the last 20 years. In June 1978, the voters of California amended the state constitution to limit the ability of local governments to impose property taxes. That amendment, commonly known as Proposition 13, added Article XIIIA to the state constitution that limits the maximum ad valorem tax on real property to one percent of the assessed value of that property. Proposition 13 also limited annual assessed value increases to 2 percent or the inflation rate, whichever is smaller, until a property is sold. Since the passage of Proposition 13, more than dozen other statewide propositions have been passed that further restrict how local revenues can be raised

or spent. In 1979, the voters passed Proposition 4, known as the Gann Initiative, which added Article XIIIB to the state constitution. This article limits the permitted growth in the rate of local government spending from general revenues to changes in population and inflation growth rates. Voter approval is required to increase spending limits. This vote must be reaffirmed every four years.

Proposition 46 in 1986 allowed local governments by a 2/3 majority vote to impose a property tax above the Proposition 13 one percent for the period required to finance new general obligation bonds. The proposition also restricted the use of general obligation bond proceeds to the purchase or improvement of real property.

While many other measures were passed during the late 1980's and early 1990's, the measure that has had the most widespread impact since Propositions 13 and 4, was passed in 1996 as Proposition 218. This measure adds Articles XIIIC and XIIID to the state constitution. The measure does the following:

1. Limits authority of local governments to impose taxes and property-related assessments, fees and charges. It requires that a majority of voters approve increases in general taxes and reiterates that two-thirds must approve a special tax.
2. Requires that assessments, fees, and charges must be submitted to property owners for approval or rejection, after notice and public hearing.
3. Limits the amount of an assessment on a property to the "special benefit" conferred on the property.
4. Limits fees and charges to the cost of providing the service and establishes that such fees and charges may not be imposed for general governmental services that are generally available to the public.

Within the restrictive context described above, the following are some financing mechanisms used by local governments to finance various public improvements in California:

- Community Facilities Districts
- Special Benefit Assessments
- General Obligation Bonds
- Local Option Sales Tax
- Fees and Charges
- Certificates of Participation, with lease payments from the General Fund
- Development impact fees
- Redevelopment Tax Increment Financing

Community Facility Districts. The Mello-Roos Community Facilities Act permits various local governments to establish a Community Facilities District to finance new facilities and/or to pay for operations and maintenance through the levying of a special tax. This Act plus Proposition 218 discussed earlier requires a two-thirds vote for approving the special tax in inhabited areas.

Special Benefit Assessments. Benefit assessments can be levied on real property by cities, counties and special districts to acquire, construct, operate and maintain public improvements that convey an

identifiable special benefit to the defined properties. As was discussed earlier, Proposition 218 establishes a strict requirement for formal landowner approval before such assessments can be put in place.

General Obligation Bonds (G.O. bonds). Cities, counties and certain other local government entities may issue G.O. Bonds to finance specific projects. Debt service for G.O. bonds is provided by an earmarked property tax above the one percent general property tax mandated by Proposition 13 (often called a "property tax override"). These overrides typically show up on the annual tax bill as "voted indebtedness." The proceeds from G.O. bonds can be used to finance the acquisition, construction and improvement of real property, but cannot be used to pay for equipment, supplies, operations or maintenance costs.

Local Option Sales Tax. Twenty-one counties impose a sales and use tax added onto the basic 6 percent rate. Los Angeles County imposes a sales tax of 8.25 percent. The local share of the basic sales tax is one percent. Local option sales taxes have been used for public safety, traffic, hospitals, education, earthquake recovery and other purposes. If such taxes are earmarked for a specific purpose or if a special district levies them, then they are deemed Special Taxes under Proposition 218 and require a two-thirds voter approval.

Fees and Charges. Local governments can levy various fees and charges to recover the cost of providing services. Under Proposition 218, many of these fees and charges that are "incident to property" are now also subject to landowner approval.

Certificates of Participation (COPs). A COP is a form of lease purchase agreement that does not constitute indebtedness under the state constitution and does not require voter or landowner approval. The lease payments typically are made from the local government's general fund.

Development Impact Fees. These are fees charged to new development to pay for facilities required to serve the new development. State law, and Federal case law, establishes a rigorous set of tests that such fees must meet to be valid. In short, these fees can only be used to pay for those facilities or portions of facilities required to serve new development. They cannot be used to correct existing problems or cure existing capital or operating and maintenance deficiencies.

Redevelopment Tax Increment Financing. A city or county can establish a redevelopment agency to undertake the revitalization of an area that it finds to be "blighted." The redevelopment agency may incur indebtedness to finance improvements needed to accomplish the goals of its redevelopment plan. The property tax base in the redevelopment area is "frozen," and increments in property taxes after the tax base is frozen go into the redevelopment fund to be used for the financing of improvements. Voter approval is not required for tax increment financing. Such financing may be used only for facilities to support the needs of redevelopment. Further, it usually takes many years before significant property tax increment, derived from new development, is available for financing.

6.4 Funding Assumptions

For purposes of this analysis, it was assumed that the financing would be based on the issuance of bonds with a 20-year life as suggested in the EPA Workbook. The tax-exempt interest rate for such

bonds was assumed to be 6 percent. Based on municipal bond rates over the past 10 to 20 years provided by the California Debt Advisory Commission, this is judged to be a reasonable rate for planning purposes. Funding costs of such bonds were assumed to be 12.5 percent of the total issue amount. Funding costs include the cost of debt issuance, underwriters discount, reserve fund and other related costs. These assumptions allow the total capital costs to be annualized and combined with the annual operations and maintenance costs.

SECTION 7
FINANCIAL CAPACITY OF LOCAL JURISDICTIONS

7.1 Overall Net Debt per Capita

Financial capacity of local jurisdictions means the ability of the local community to incur additional debt to pay for public improvements and services, here storm water retrofit facilities and annual operations and maintenance. In California, after the passage of Proposition 13 in 1978 and more recently Proposition 218, significant restrictions have been placed on any increases in property taxes or property related fees and charges. Also, the revenue potential of local jurisdictions to assume additional debt has been further constrained by the effects of the recession in the early 1990s.

Net debt per capita is one indicator of financial capacity of local jurisdictions. Each community, depending upon its infrastructure needs and level of development, will have a different mix of debt instruments, such as general obligation, special assessment or Mello-Roos bonds. Also, besides each community's direct debt, there is overlapping debt from other special purpose districts such as schools, water and sewer, fire protection and flood control. In evaluating the impact of existing debt per capita and the addition of new debt on a community, the EPA has suggested the use of following ranges:

- Greater than $3,000: weak = 1
- $1,000 - $3,000: mid-range = 2
- Less than $1,000: strong = 3

The overall debt per capita estimate of $1,207 for Los Angeles County is used subsequently in the evaluation of local financial and economic impacts. This estimate is based on total outstanding and direct and overlapping debt of about $11.6 billion for Los Angeles County provided by California Municipal Statistics, Inc. This debt per capita is already within the mid-range of $1,000 to $3,000 per capita as prescribed by the EPA. When the total net debt for full treatment of $5,788 per capita ($53.6 billion divided by the study area population of 9,259,750) is added to this debt, it results in $6,995 of debt per capita. This is above the weak range limit of $3,000. The total new net debt represents a 480 percent increase over the existing net debt per capita.

7.2 Analysis of Sample Property Tax Bills

In contrast to the more global overall net debt analysis, a summary of sample local property tax bills for several single family residential units in Los Angeles NPDES area is presented on Table 7-1. Three properties from each basin are shown and the payments through the property tax bill are divided into three categories: 1) the basic 1 percent local property tax rate established by Proposition 13; 2) voter approved bonded indebtedness; and 3) direct assessments. The voter-approved portion includes City, County, MWD, Flood Control and Unified School District debt payments. The direct assessments include annual payments for many purposes, including flood control, storm water, fire/paramedics, parks, lighting maintenance, emergency 911 and mosquito abatement.

Table 7-1
1997 Summary of Sample Tax Bills for Single Family Homes
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Basin and Property		Assessed Value of Home	Voted Basic 1%	Voted Indebt.	Direct Assessments Flood	Direct Assessments Storm	Direct Assessments Other	Direct Assessments Total	Total Taxes Total Taxes	Total Taxes % of AV
Dominguez	Prop. 1	$112,731	$1,127.31	$27.84	$59.30	$0.00	$963.16	$1,022.46	**$2,177.61**	**1.932%**
	Prop. 2	516,241	5,162.41	141.42	73.95	0.00	1,043.59	1,117.54	**6,421.37**	**1.244%**
	Prop. 3	128,286	1,282.86	71.58	21.69	17.29	99.69	138.67	**1,493.11**	**1.164%**
LA River	Prop. 1	1,870,779	18,707.79	1,043.82	65.01	51.83	206.34	323.18	**20,074.79**	**1.073%**
	Prop. 2	106,259	1,062.59	59.29	62.80	50.56	113.19	226.55	**1,348.43**	**1.269%**
	Prop. 3	52,254	522.54	29.16	28.12	22.42	115.75	166.29	**717.99**	**1.374%**
Malibu	Prop. 1	5,275,000	52,750.00	1,138.40	2,732.42	0.00	1,388.96	4,121.38	**58,009.78**	**1.100%**
	Prop. 2	366,817	3,668.17	250.22	5.68	0.00	301.43	307.11	**4,225.50**	**1.152%**
	Prop. 3	304,000	3,040.00	55.20	15.19	0.00	100.63	115.82	**3,211.02**	**1.056%**
San Gabriel	Prop. 1	339,166	3,391.66	43.01	63.14	0.00	350.05	413.19	**3,847.86**	**1.135%**
	Prop. 2	235,271	2,352.71	29.83	35.42	0.00	124.79	160.21	**2,542.75**	**1.081%**
	Prop. 3	65,210	652.10	8.27	61.76	0.00	301.92	363.68	**1,024.05**	**1.570%**
Santa Clara	Prop. 1	500,947	5,009.47	362.92	56.74	0.00	568.93	625.67	**5,998.06**	**1.197%**
	Prop. 2	150,248	1,502.48	127.61	34.31	28.54	214.73	277.58	**1,907.67**	**1.270%**
	Prop. 3	78,592	785.92	66.75	53.09	44.16	219.18	316.43	**1,169.10**	**1.488%**
Santa Monica B	Prop. 1	950,000	9,500.00	335.81	36.77	0.00	35.38	72.15	**9,907.96**	**1.043%**
	Prop. 2	172,731	1,727.31	96.38	36.77	29.31	127.79	193.87	**2,017.56**	**1.168%**
	Prop. 3	$52,493	$524.93	$6.66	$32.84	$0.00	$131.19	$164.03	**$695.62**	**1.325%**
Median Property		$500,947	$5,009.47	$362.92	$56.74	$0.00	$568.93	$625.67	**$5,998.06**	**1.197%**

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor

The range of assessed value for these properties is broad, with a median of $500,947. The total taxes range from 1.043 percent to 1.932 percent of assessed value. Examining the median property, the total charges including the basic one-percent, voter-improved indebtedness, and direct assessments, account for about 1.197 percent of the total assessed value. A typical rule of thumb in municipal finance indicates that the upper limit for reasonable annual charges to a property should not exceed 2 percent.

7.3 EPA Municipal Preliminary Screener Approach

The U.S. Environmental Protection Agency (EPA) has prescribed a methodology, the Municipal Preliminary Screener, to establish whether a community is expected to incur "substantial" economic impacts due to the pollution control project costs. There are two tests with this Municipal Preliminary Screener to establish whether the community can clearly pay for the project without incurring any substantial impacts under the EPA guidelines. The screener is defined as follows:

$$\textit{Municipal Preliminary Screener} = \frac{\textit{Average Total Pollution Control Cost Per Household}}{\textit{Median Household Income}}$$

The EPA has established a lower threshold of below 1 percent of median household income as representing a cost that is not expected to impose a substantial economic hardship on households. A cost between 1 and 2 percent is considered a mid-range impact. If the cost is over 2 percent of median household income, then the project may create an unreasonable financial burden on many households within the community, according to the EPA methodology.

The estimates of 1, 1.5 and 2 percent of median household income are presented in Table 7-2 for the Los Angeles County area. They range from $439 per household to $878 per household annually. When this per household amount is multiplied by the estimated 3,228,269 households in the Los Angeles NPDES permit area, it generates a range of annual revenue potential of $1.4 to $2.8 billion. This revenue represents from about 29 to 58 percent of the total annualized cost for full storm water treatment.

The estimated cost for existing pollution controls plus the full storm water system is about $1,295 per household annually which results in impacts over 2 percent of median household income, therefore, this is judged to create a substantial economic impact. The total cost is comprised of the annualized average storm water cost estimate of $741 plus existing pollution control costs of $554 per household. Using the Preliminary Screener, the level of median household income required for the estimated total pollution control costs exceeds the 2 percent level indicating potentially a substantial economic hardship on households. The EPA guidelines now suggest proceeding to the Secondary Test.

Table 7-2
EPA Municipal Preliminary Screener Analysis
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Municipal Screener Categories[1]	Estimate
Households[2]	3,228,269
1998 Median Household Income	$43,916
1 Percent of Median HH Income	$439
1.5 Percent of Median HH Income	$659
2 Percent of Median HH Income	$878
Annual Revenue Potential @ 1 Percent	$1,417,726,614
Annual Revenue Potential @ 1.5 Percent	$2,126,589,921
Annual Revenue Potential @ 2 Percent	$2,835,453,228

1. EPA has suggested a Municipal Screener range of less than 1 percent for representing little impact, 1 to 2 percent for mid-range impact and over 2 percent for large impact.

2. Estimated households for Los Angeles NPDES Permit Area 1998.

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor

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7.4 The Secondary Test

According to the EPA, the Secondary Test builds upon the characterization of the financial burden identified in the Municipal Preliminary Screener. This test provides an indication of the community's ability to obtain financing and describes its socioeconomic health. According to the EPA Guidelines, the indicators describe precompliance debt and socioeconomic and financial management conditions in the community. In states, such as California, with statutory limits on property tax rates and where data on full market value of taxable property are not generally available, the indicator Overall Net Debt Per Capita can be substituted for other indicators that rely on full market value information. The following five indicators suggested by the EPA have been applied for the Secondary Test:

1. Debt Indicators
   - Bond Rating
   - Overall Net Debt Per Capita

2. Socioeconomic Indicators
   - Unemployment Rate
   - Median Household Income

3. Financial Management Indicators
   - Property Tax Collection Rate

The overall methodology, illustrated on Table 7-3, ranks each indicator on a scale from 1 to 3 and then calculates a simple average of the five indicators, where a score of 1 is Weak, 2 is Mid-Range and 3 is considered Strong. As shown in Table 7-3, the five indicators add to a total score of 11 and an average of 2.2 indicating that the Los Angeles NPDES Permit Area falls in the Mid-Range of the socioeconomic and financial management indicators. The Secondary Test shows a bond rating of Strong with ratings generally above BBB and a score of 3; an overall net debt per capita in the Mid-Range with a score of 2; an unemployment rate of 6.1 percent, or over 1.0 percent higher than the national rate of 4.7 percent, for a Weak ranking and a score of 1; a median household income of $43,916, which is roughly equivalent to the State median, for a mid-range ranking and a score of 2; and a generally Strong property tax collection rate for a score of 3. When this score of 2.2 is prorated across the 1 percent to 2 percent mid-range, it results in an estimated Secondary Test score of 1.6 percent and will be used later as part of the evaluation of substantial economic impacts.

Table 7-3
EPA Municipal Screener: The Secondary Test
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Indicator	Secondary Indicators[1]			Value	Score
	Weak	Mid-Range	Strong		
Bond Rating	Below BBB (S&P) Below Baa (Moody's)	BBB (S&P)	Above BBB (S&P) BAA (Moody's)	Above BBB	3
Overall Net Debt per Capita	Greater than $3,000	Between $1,000 & $3,000	Less than $1,000	$1,207	2
Unemployment	More than 1% above National Average	National Average (4.7%, March 1998)	More than 1%below National Average	6.1%	1
Median Household Income	More than 10% below State median	State Median ($44,640)	More than 10% above State median	$43,916	2
Property Tax Collection Rate	Less than 94%	94% - 98%	Greater than 98%	98.2%	3

Notes: 1) A Weak rating is assigned a score of 1 point; a Mid-Range rating is assigned a score of 2 points; and 3) a Strong rating is assigned a score of 3 points.

SUM	11
AVERAGE	2.2

Source: Stanley R. Hoffman Associates, Inc.
EPA Economic Guidance for Water Quality Standards Workbook

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SECTION 8
ASSESSMENT OF MARKET CONDITIONS

The purpose of assessing market conditions is to determine the potential ability of the various land uses to absorb new taxes, assessments, fees or charges. Two measures used in this section for this purpose are the assessed valuation of property and the amount of taxable sales generated by a community. In addition to household income, these are both indicators of local financial strength and the ability to accommodate additional debt. Assessed value along with the property tax rate determines how much property tax revenue is generated each year. The maximum basic rate of property taxation is limited in California by Proposition 13 to 1 percent. The taxes available for financing debt exceeding the one-percent level now must be approved by a two-thirds vote of the local electorate.

8.1 Assessed Value Trends for Los Angeles County and the Los Angeles NPDES Permit Area

The recession in the early 1990s in California had a dramatic dampening effect on the rate of increase in assessed property valuation in Los Angeles County. This, in turn, constrained property tax revenues for many local jurisdictions. Table 8-1 shows the average annual growth of assessed value from 1989 to 1998 according to the Metropolitan Water District (MWD) for areas in Southern California in their jurisdiction, including Los Angeles County. This indicates an average annual percentage change in total assessed valuation from 1989 to 1998 of 4.7 percent. This growth rate has slowed considerably since 1993.

The assessed valuation from the 1996-1997 annual Los Angeles County Tax Roll was used to analyze the local ability of jurisdictions in the Los Angeles NPDES Permit Area to finance additional costs through property tax revenues. Assessed value and market value per acre of private sector land uses were estimated for use in the analysis. Table 8-2 summarizes assessed valuation for the County with estimates ranging from about $632,900 per acre for single family units to $1.2 million per acre for commercial/industrial land.

When the total estimated assessed valuation of about $457.3 billion for all three categories is averaged over approximately 564,654 acres of residential and commercial/industrial in the Los Angeles NPDES area, this results in an estimated assessed valuation of about $809,915 per acre.

8.2 Taxable Sales Trends

Taxable sales for Los Angeles County can indicate a local jurisdiction's ability to generate additional revenues. Since the passage of Proposition 13, the sales tax has become the preferred source of local government funding for ongoing operations and maintenance. However, some local jurisdictions have traded a share of their sales tax to fund public infrastructure that has attracted revenue generating commercial land uses.

Table 8-1
Assessed Valuation Trends: Metropolitan Water District
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Year	Total Assessed Valuation ($000)	% Growth
1989	596,900,000	
1990	671,600,000	12.5
1991	750,900,000	11.8
1992	820,824,301	9.3
1993	865,027,289	5.4
1994	882,326,828	2.0
1995	887,860,083	0.6
1996	879,101,879	-1.0
1997	879,272,307	0.0
1998	893,911,433	1.7
Average Growth 1989-1998		4.7

Source: **Stanley R. Hoffman Associates, Inc.**
Moody's Investors Service, Metropolitan Water District of Southern California
General Obligation Bond Rating, February 1998

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Table 8-2
Assessed Value for Los Angeles County NPDES Permit Area
Financing and Economic Impacts of Storm Water Treatment

	Single Family	Multi-Family	Commercial/Ind.
Assessed Value Per Acre Los Angeles County	$632,917	$1,063,242	$1,198,244
Los Angeles NPDES Area			
Assessed Value/Acre	$632,918	$1,063,250	$1,198,380
Total Acres	374,262	57,093	133,299
Estimated Total AV	$236,876,984,488	$60,704,111,495	$159,742,834,395
Estimated AV/Unit[1]	$133,809	$43,918	N/A

1. Units per Acre: Single Family 4.73
   Units per Acre: Multi Family 24.21

Source: Stanley R. Hoffman Associates, Inc.
Los Angeles County Assessor 1996-1997 Roll Release

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From 1990 to 1997, taxable retail sales for Los Angeles County, according to the California Board of Equalization, declined from $94.7 billion to an estimated $84.7 billion in 1998 inflation-adjusted dollars. This was a decline of approximately $10 billion in taxable sales. Per capita taxable sales are shown in Figure 8-1. The overall decline of per capita taxable sales for the 1990 to 1997 period is 17 percent, declining from $10,802 in 1990 to an estimated $8,925 in 1997. However, since 1993, real per capita taxable sales have been stable and even showed slight increases.

Estimated 1998 taxable sales for the Los Angeles NPDES Permit Area are shown in Table 8-3. The per capita range for communities in this area is quite large, with a low of $8,559 in the Los Angeles River Drainage Basin and a high of $13,336 for the Dominguez Drainage Basin. This indicates a large disparity in both locational selection of shopping and in the income levels of the population as well. The overall taxable sales per capita is $9,050 dollars for the Los Angeles County NPDES area.

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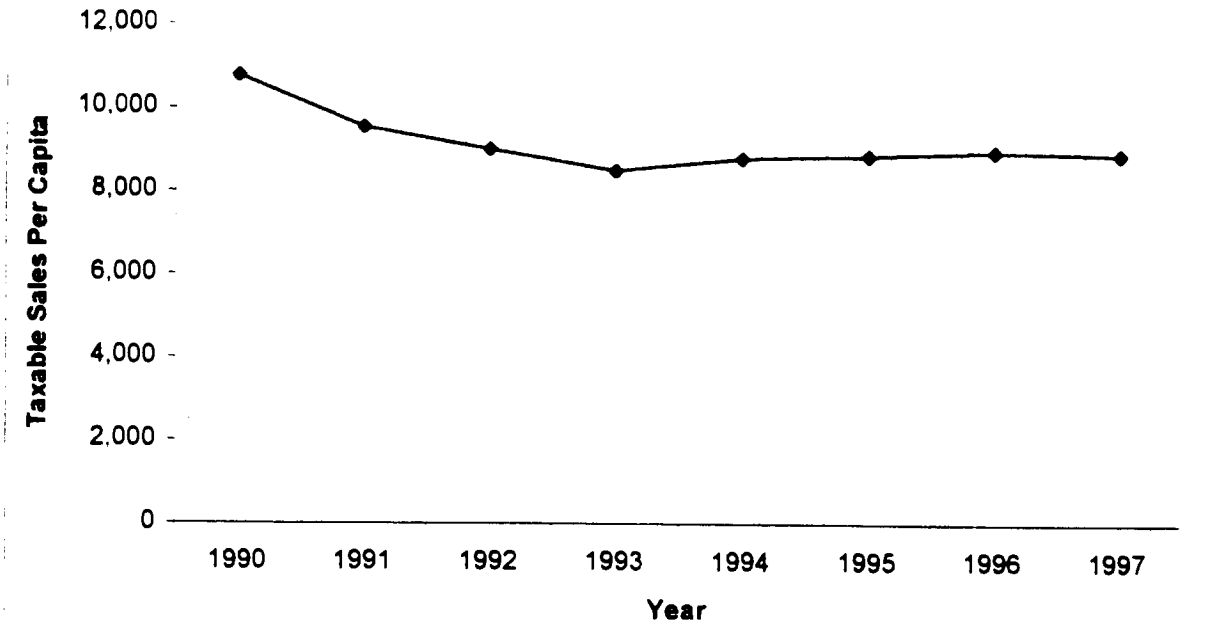
Figure 8-1
LOS ANGELES COUNTY PER CAPITA TAXABLE SALES
FINANCING & ECONOMIC IMPACTS OF STORM WATER TREATMENT
(In Constant 1998 Dollars)



Source: Stanley R. Hoffman Associates, Inc.
California State Board of Equalization

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Table 8-3
1998 Estimated Taxable Sales
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Jurisdiction	1998 Estimated Population[1]	1998 Taxable Sales Per Capita[2]	1998 Total Estimated Taxable Sales	1998 Est. Sales Tax at 1%
Dominguez	480,066	$13,336	$6,402,371,405	$64,023,714
Los Angeles River	5,835,830	8,559	49,950,619,719	499,506,197
Malibu	77,607	9,771	758,265,402	7,582,654
San Gabriel	1,877,491	9,205	17,282,511,179	172,825,112
Santa Clarita	203,921	10,788	2,199,944,611	21,999,446
Santa Monica Bay	784,835	9,179	7,204,283,006	72,042,830
Total	9,259,750	$9,050	$83,797,995,321	$837,979,953

1. Pop. projected based on 1994 - 2000 SCAG projections
2. Consumer Price Index Factor 1996-98: 1.03

Sources: Stanley R. Hoffman Associates, Inc.
California State Board of Equalization: Taxable Sales in California 1996
Southern California Association of Governments, Regional Statististical Area Projections, 1994
Consumer Price Index: U.S. Bureau of Labor Statistics

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SECTION 9
FINANCIAL SPREAD OF COSTS

This section analyzes the potential financing of the 1998 estimated storm water treatment costs for the Los Angeles County NPDES Permit Area under the following two scenarios:

1. Full Storm Water Retrofit Treatment
   - $53.6 billion capital costs; $198.9 million annual operations and maintenance

2. Debt capacity limited by EPA Preliminary & Secondary Screeners
   - $5.3 billion capital; $20.0 million annual operations and maintenance

The first scenario presents the financing of the full system including collection costs and all three levels of treatment. The second scenario reflects the EPA Preliminary and Secondary Municipal Screeners. This combines the revenue potential based on 1.6 percent of median household income to reflect the estimated average Secondary Test screener score, as discussed in Section 7.4, reduced by estimated existing non-storm water pollution control costs of $554 per household.

The financial analysis of the first scenario spreads capital and operations and maintenance costs to both residential and non-residential land uses. The spread is based on the proportionate share of flow from each type of privately owned land use. For example, single family residential land use generates an estimated 38.2 percent of the runoff flow while the commercial and industrial categories generate an estimated 21.3 percent of the flow. The capital costs spread by land use are then annualized assuming bond interest of 6.0 percent, a term of 20 years and estimated bond issuance costs of an additional 12.5 percent above the construction costs.

These annualized capital costs are then converted to a cost per unit basis for single or multi-family land uses or to a cost per acre basis for commercial, industrial and other urban land uses. It is further estimated that the "Open" land use includes about 55 percent privately owned open space. This estimate was based on a geographic information system entitled "GOVOWNERSHIP." It shows groupings of land ownership and was originally digitized by the Forest and Rangeland Resources Assessment Program of the California Department of Forestry. The annualized capital costs are added to the annual operations and maintenance costs to estimate a total annual cost per unit or acre.

The model can analyze the financial implications of outside funding, such as from the State or Federal levels, possible sales tax subventions or redevelopment agency contributions. However, these sources of funds are considered both limited and uncertain. Currently, there are no funding programs for storm water costs of this magnitude.

The basic assumption is that successful implementation is primarily a local responsibility and will require major financial commitments from local sources. In presenting the analysis, a residential land use category has been used for illustration. Each scenario will be discussed in detail, but in summary, the estimated annual storm water treatment cost for each scenario is as follows:

	Cost Per Residential Unit	Cost Per Single Family Unit	Cost Per Per Household
Scenario 1:	$741	$1,024	$1,509
Scenario 2:	$ 73	$ 101	$ 149

9.1 Scenario 1 – Full Storm Water Retrofit Treatment

Scenario 1, Table 9-1, presents the analysis for the full treatment costs of $53.6 billion, including $12.5 billion for storm water collection costs. The annual operations and maintenance costs are $198.9 million. The spread of costs to private sector land uses is based on the distribution of storm water runoff flow from the engineering analysis prepared by Brown and Caldwell.

Using this flow analysis and the single family dwelling unit for illustration, the total allocated capital cost was estimated at $10,062 per single family unit. This was annualized to about $987 and when added to the allocated share of annual operations and maintenance costs of about $37, resulted in $1,024 per single family unit for the full system costs. Based on the average assessed value per single family unit of $117,860 this would be an estimated increase in the property tax rate of 0.87 percentage points.

When the cost of $1,024 per single family unit is weighted with the cost of $309 per multi-family unit, this results in a per residential unit cost estimate of $741. Correspondingly, the cost is $1,509 when allocated on a per household basis. This estimate represents all costs allocated to households with no spread of costs to non-residential land uses. This is for the cost of full storm water treatment before accounting for existing pollution control costs of $554 per household.

9.2 Scenario 2 – Debt Capacity Limited by EPA Secondary Municipal Screener

Scenario 2 summary analysis is presented in Table 9-1 reflecting the Preliminary and Secondary Municipal Screener. For this analysis, it is estimated that the income potential is 1.6 percent of median household income ($703) based on the Secondary Screener. When the estimated amount of $703 per household at the Secondary Municipal Screener level of 1.6 percent of median household income level ($43,916) is reduced by the estimated cost of $554 for non-storm water pollution controls, this results in a net amount of $149 per household available for storm water treatment. If this annual amount of $149 is multiplied by the estimated 3,228,269 households in the Los Angeles County NPDES Permit area and is then capitalized using a 6 percent interest rate and a term of 20 years, this results in an estimated affordable capital cost of $5.3 billion. This represents about 9.9 percent of the estimated full storm water treatment cost of $53.6 billion. On a comparative basis, this yields an estimated cost of $73 per residential unit or $101 per single family unit.

Table 9-1
Detailed Financial Analysis
Financial and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Area

year		YEAR	1998	
capital costs				
collection of flows		23%	12.486	millions $
detention and screening		38%	20.453	millions $
filtration and disinfection		11%	6.150	millions $
advanced treatment		27%	14.516	millions $
total		100%	53.605	millions $
annual O & M costs	as % of const cost			
collection of flows		10.405	0.08%	% of Capital
detention and screening		$7.148	0.28%	% of Capital
filtration and disinfection		49.146	0.80%	% of Capital
advanced treatment		82.178	0.57%	% of Capital
total		188.877	0.00%	
alternative allocations	area=1 flow =2			
collection of flows	flow		2	if function
detention and screening	flow		2	if function
filtration and disinfection	flow		2	if function
advanced treatment	flow		2	if function
financing assumptions				
bond terms			20	years
interest rate			6.00%	percent
bond funding costs @			12.50%	percent
estimated cost per EPA municipal screener				
number of households			3.228.269	households
median household income			$43.916	dollars/yr
est limit per secondary test	1.60% minus existing		0.34%	percent
estimated annual cost per household			$149	dollars/yr
estimated percent of annualized capital cost			9.85%	percent
estimated annualized revenues for capital expen			$4.872	millions $
estimated total capital costs covered (limited project)			$4.693	millions $
est total bond amount required (limited project)			$5.280	millions $
mitigation of cost using other funding sources				
Federal clean Water Act funds			0.0%	percent
Estimated Federal allocation			0	millions $
State subventions, applied to local share			0.00	percent
Estimated State allocation			0.00	millions $
Sales tax alternative,applied as mitigation if 1			0	
estimated taxable sales 1997			$81.9	billions of $
sales tax required as a percent of taxable sales			5.95%	percent
estimated sales tax revenue required			$4.872	mil $ /yr
estimated annual increase in taxable sales			5.95%	percent
sales tax mitigation in yr	1998	0	0	mil $ /yr
revenues from ad valorum tax				
year 1997 ad valorum value			462.382	billions of $
AV tax dollars per 100 dollars AV			$0.0	$/100$av
AV tax revenue			0	mil $ /yr
estimated annual increase in AV			2.00%	percent
AV tax revenue in year	1998	0	0	mil $ /yr
redevelopment agency alternatives				
negotiated pass thru as a % of frozen base			0.00%	percent
AV tax dollars per 100 dollars AV (0 rmoves rda)			$1.00	$/100$AV
AV tax revenue			4.624	mil $ /yr
estimated increase in AV			3.00%	percent
AV tax revenue in year	1998	0	0	mil $ /yr
escalators used in projected cost or fees				
ratio of market value to AV value			1.81	ratio
CPI growth rate			3.00%	percent
O & M applied yr 1997	1998	0	100.00%	percent
weighted escalator			1	
sizing of project limited by EPA screener				
full retrofit project capital cost (annualized			4674	millions $/yr
annual O & M			199	millions $/yr
total annual cost			4872	millions $/yr
Amount of annual cost per EPA screener			480	millions $/yr
project limited by screener			9.85%	percent
limited project capital cost			5.280	millions $
limited project annual O&M cost			20	millions $/yr

	2	3	4	5	6	7	8	9	10
	single fam	multi-fam	commercial	public	industrial	other urban	open	misc	total
acres	378.494	57.619	59.427	90.892	75.391	18.618	1.010.244	11.719	1.702.404
percent allocated	100.00%	100.00%	100.00%	0.00%	100.00%	100.00%	55.00%	100.00%	
allocation acres	378.494	57.619	59.427	0	75.391	18.618	555.634	11.719	1.156.902
percent of total	32.72%	4.98%	5.14%	0.00%	6.52%	1.61%	48.03%	1.01%	1
avg density du/acre	5.37	23.17	1.00	1.00	1.00	1.00	1.00	1.00	
res dus/other acres	2.032.514	1.335.032	59.427	90.892	75.391	18.618	1.010.244	11.719	4.633.837
est AV year 1997 in billions	239.56	61.26	71.22	0.00	90.35	0.00	0.00	0.00	462
impervious factor	0.42	0.68	0.92	0.8	0.91	0.8	0	0.65	
acres impervious	158.968	39.181	54.673	72.714	68.606	14.894	0	7.617	416.652
runoff factor	0.42	0.68	0.92	0.8	0.91	0.8	0	0.65	5
runoff 1.4" storm mg	6.018	1.192	1.486	2.078	1.869	426	8.514	99	21.684
allocationn flow mg	6017.53327	1192.43761	1485.5156	0	1869.1585	426.40865253	4682.89621	99.3698801	15.773
acre feet per storm	18.474	3.661	4.561	0	5.738	1.309	14.378	305	48.424
design flow mgd	7.221	1.431	1.783	0	2.243	512	5.619	119	18.928
percent of flow (1)	38.15%	7.56%	9.42%	0.00%	11.85%	2.70%	29.69%	0.63%	100.00%

	single fam	multi-fam	commercial	public	industrial	urban	open	misc	total
estimated capital cost in millions of dollars									
collection of flows	$4.784	$944	$1.176	$0	$1.480	$338	$3.707	$79	$12.486
detention and screening	$7.803	$1.546	$1.926	$0	$2.424	$553	$6.072	$129	20452.74
filtration and disinfection	$2.346	$465	$579	$0	$729	$166	$1.826	$39	6150
advanced treatment	$5.538	$1.097	$1.367	$0	$1.720	$392	$4.310	$91	$14.516
total	$20.450	$4.052	$5.048	$0	$6.352	$1.449	$15.915	$338	$53.605
estimated dollars of capital cost / unit (per dwelling unit for residential or per acre for other)									
collection of flows	$2.343.66	$707.05	$19.788.02	$0.00	$19.626.17	$18.130.21	$3.669.42	$6.712.32	
detention and screening	$3.838.98	$1.158.17	$32.413.18	$0.00	$32.148.06	$29.697.67	$6.010.58	$10.994.92	
filtration and disinfection	$1.154.35	$348.25	$9.786.43	$0.00	$9.888.71	$8.929.89	$1.807.34	$3.306.10	
advanced treatment	$2.724.64	$821.98	$23.004.74	$0.00	$22.818.58	$21.077.44	$4.265.91	$7.803.47	
total	$10.061.60	$3.035.47	$84.852.37	$0.00	$84.257.53	$77.835.21	$15.753.26	$28.816.81	
estimated annualized dollars of capital cost / unit (per dwelling unit for residential or per acre for other)									
collection of flows	$229.87	$69.35	$1.940.86	$0.00	$1.924.99	$1.778.26	$359.91	$658.36	
detention and screening	$376.54	$113.60	$3.178.17	$0.00	$3.153.17	$2.912.83	$589.53	$1.078.41	
filtration and disinfection	$113.22	$34.16	$955.98	$0.00	$948.14	$875.87	$177.27	$324.27	
advanced treatment	$267.24	$80.62	$2.256.38	$0.00	$2.237.91	$2.067.33	$418.41	$765.38	
total	$986.87	$297.73	$8.332.35	$0.00	$8.264.20	$7.634.28	$1.545.12	$2.826.43	
estimated annual dollars cost of operations and maintenance/ unit (per dwelling unit for residential or per acre for other)									
collection of flows	$1.95	$0.59	$16.49	$0.00	$16.35	$15.11	$3.06	$5.59	
detention and screening	$10.73	$3.24	$90.57	$0.00	$88.83	$82.96	$16.78	$30.72	
filtration and disinfection	$9.22	$2.78	$77.89	$0.00	$77.25	$71.36	$14.44	$26.42	
advanced treatment	$15.42	$4.65	$130.23	$0.00	$128.17	$119.32	$24.15	$44.18	
total per unit or per acre	$37.33	$11.26	$315.18	$0.00	$312.60	$288.77	$58.45	$106.91	

mitigations per dwelling unit or per acre								
federal funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
statewide funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
sales tax funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
RDA funds	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
estimated annualized dollars of cost by level of treatment/ unit (per dwelling unit for residential or per acre for other)								
collection of flows	$232	$70	$1.957	$0	$1.941	$1.793	$363	$664
detention and screening	$387	$117	$3.270	$0	$3.243	$2.996	$606	$1.109
filtration and disinfection	$122	$37	$1.034	$0	$1.025	$947	$192	$351
advanced treatment	$283	$85	$2.387	$0	$2.367	$2.187	$443	$810
total	$1.024	$309	$8.648	$0	$8.577	$7.923	$1.604	$2.933

ad valorum tax required	single fam	multi-fam	commercial	public	industrial	urban	open	misc
$/du-ac/ yr 1998	$1.024	$309	$8.648	$0	$8.577	$7.923	$1.604	$2.933
tax as % of AV	0.87%	0.67%	0.72%		0.72%			

	Full Retrofit Treatment		Limited by EPA screener preliminary & secondary	
Capital Cost	$53.605	millions $	5.280	millions $
Annual O&M cost	199	millions $/yr	20	millions $/yr
Total Annual Cost	4.872	millions $/yr	480	millions $/yr
Allocated cost per SFD home	$1.024	dollars	$101	dollars
Allocated cost / acre /yr/nd	8.577	dollars	845	dollars
If funded by Sales Tax increase	5.95%	percent	0.59%	percent
Percent of current outstanding debt	477%	percent	47%	percent
cost per household	$1.509	dollars	$149	dollars

Source Stanley R Hoffman Associates, Inc
Don Owen & Associates

Note (1) The estimated percentage of water runoff flow by land use is used as the basis for the capital cost allocation

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SECTION 10
ESTIMATED NON-STORM WATER POLLUTION CONTROL COSTS

So far his report has only examined the incremental costs of storm water treatment and has not included the costs of other non-storm water pollution control programs. In this section, estimates of existing and future non-storm water pollution control costs per household were added to the estimated incremental costs for storm water treatment in the Los Angeles County NPDES permit area. The estimated costs to households of other pollution control measures cover the following:

- Air Quality Regulations
- Drinking Water Treatment
- Solid Waste Disposal
- Wastewater Treatment

The analysis in this section represents a preliminary examination of this issue, as a comprehensive study would require a major commitment of resources. When estimating existing or future pollution control costs, there is a wide range of pollution programs for consideration which would require extensive research. In developing the estimated initial costs, two approaches were utilized: 1) analysis of estimated localized, direct costs in California; and 2) a literature review including a 1990 comprehensive study by the EPA updated to 1998 dollars. Because of the widespread effects of pollution controls on the economy and the difficulty of calculating the full effects as they ripple through it, these two approaches likely underestimate the total level of pollution control costs.

10.1 Summary

According to the EPA Municipal Screener, the estimated incremental cost of any new pollution control program should be added to the existing pollution control costs. Therefore, the per household cost estimates of existing pollution control made in this study are added to the incremental costs for storm water treatment by area to determine whether they exceed the 2 percent of median household income criteria prescribed by the EPA municipal screener methodology. The approaches used to estimate the impacts of existing and future pollution control costs in combination with estimated incremental storm water treatment costs are described in this section and summarized below:

1) Localized estimate: $554 annually per household
2) EPA nationwide study estimate: $537 annually per household

10.2 Localized Estimates for Existing Non-Storm Water Pollution Control Costs

Estimates were made for the additional annual pollution control costs per household unit based on localized costs for the Los Angeles area of wastewater user fees, tire/oil disposal, automobile emissions and repairs, drinking water treatment and solid waste disposal. This amount was estimated to be about $554 annually per household for the Los Angeles area as shown on Table 10-1.

Data was compiled using several sources in order to determine the existing residential costs of non-storm water pollution control programs in the Los Angeles area. These costs are analyzed by three

Table 10-1
Financial and Economic Impacts of Storm Water Treatment
Estimated Annual Localized Non-Storm Water Pollution Control Costs Per Household
Los Angeles Area

Description of Localized Cost	Estimated Annual Cost
Annual Wastewater User Charge[1]	$194
Other Localized Pollution Control Costs	
Automobile Tire/Oil Disposal[2]	$8
Average Emissions Costs[3]	$74
Drinking Water[4]	$144
Solid Waste	$134
Total Other Costs	$360
Total Estimated Localized Pollution Costs	**$554**

[1] This estimate is based on the California Environmental Agency's, Wastewater User Charge Survey Report, Fiscal Year 1997-98.

[2] Based on oil disposal costs of $5 and tire disposal costs of $3 per year.

[3] Based on average emissions cost calculations as shown below:

Annual Median smog inspection fee	$14.00
Annual Median smog certificate	$5.00
Annual Average emissions repairs	$55.00
	$74.00

[4] Estimated Water treatment cost based on Metropolitan Water District (MWD) jurisdictions as shown on Table 10-3 has been applied as an average cost to the Los Angeles area.

Sources: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau
Wastewater user Charge Survey Report, Fiscal Year 1997-98, California Environmental Protection Agency
Metropolitan Water District of Southern California, 1998

Notes:			Per Household Annual Estimated Charges
Calculations are based on the following estimates:			
Tires changed @ 50,000 miles or 2 tires/yr.at $1.50 each			$3.00
Oil changed @ $1.00	4.86	times per yr.	$5.00
Annual Median smog inspection fee			$14.00
Annual Median smog certificate			$5.00
Annual Average emissions repairs			$55.00
Per Capita Vehicle Miles Travelled			8,635
Annual VMT per household			17,270

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primary environmental media: air, land and water. The detailed annual cost estimates per residential unit for each of these categories, as shown on Table 10-1, include annual wasterwater user charges plus other costs. The estimated other localized pollution costs include: tire/oil disposal fees, smog check and related emissions repairs, drinking water treatment and solid waste disposal and are about $360 per household for the Southern California area.

These total costs are then added to the estimated annual wastewater user charge to arrive at a total estimated annual localized pollution control cost per household. When this total localized amount of $554 is added to the incremental cost of storm water treatment, it represents the total amount that a household is estimated to pay for pollution control on an annual basis if the full storm water treatment system was implemented.

The cost estimates for the air category include costs related to meeting the requirements for automobile smog check, smog certificate, and related emissions repairs every two years. These costs were derived based on estimates received from the California Bureau of Automotive Repairs (BAR) and then annualized on a per household basis. Smog activity is reviewed statewide each month by BAR. Table 10-2 summarizes the emissions related repair costs from July 1997 through March 1998 plus other smog control related costs. The annualized amount was calculated based on the California regulation that automobiles must pass smog certification every two years.

The land category includes costs related to solid waste disposal, as well as those for automobile oil and waste tires. The estimates for solid waste in dollars per household were presented in the EPA study. The costs for tire and oil disposal were derived based on estimates provided by the Integrated Waste Management Board of California. The calculations used in the analysis are referenced on Table 10-1.

The water category includes those costs related to the treatment of drinking water and user fees for wastewater. The costs for the treatment of drinking water were calculated based on the Southern California Metropolitan Water District's (MWD) price schedule for areas within their jurisdiction. A summary of these water treatment costs is shown on Table 10-3. The estimated annual wastewater costs were based on the California Environmental Protection Agency's report, Wastewater User Charge Survey Report, Fiscal Year 1997-98.

10.3 Pollution Control Cost Estimates Based on EPA Study

This approach utilizes a 1990 study by the EPA, Environmental Investments: The Cost of a Clean Environment, which estimates the direct costs of public and private pollution control activities in the United States. Although this report was prepared in 1990, it represents an extensive analysis of environmental costs by economic sector and environmental medium. The study also includes a projection to the year 2000 of what EPA estimated at the time to be the cost of full compliance with existing regulations. According to the report, overall there is expected to be a significant increase in the real costs of pollution control on local government which will require significant additional capital investments and increases in rates charged to customers for expanded environmental services.

Table 10-2
Financial and Economic Impacts of Storm Water Treatment
Statewide Summary of Emissions Related Repair Costs Per Vehicle
Los Angeles Area

	Month	Number of Vehicles	Average Cost Per Vehicle	Annualized Average Cost[1]
Vehicle Repair Costs	Mar-98	31,803	$117	
	Feb-98	33,791	111	
	Jan-98	37,464	111	
	Dec-97	34,447	105	
	Nov-97	35,490	106	
	Oct-97	41,312	105	
	Sep-97	39,881	110	
	Aug-97	41,376	107	
	Jul-97	43,316	$109	
		338,880	$109	$55
Annual Average Estimated Inspection Fee				$14
Annual Average Estimated Smog Certificate Fee				$5
Total Annual Average Estimated Emissions				$74

Source: Stanley R. Hoffman Associates, Inc.
California State Bureau of Automotive Repairs

[1] A Smog check is assumed to be conducted once every two years

Note: includes only costs related to repairs required to pass smog check certification. As of March 1998, repair costs are no longer reported to the BAR. Costs are likely to increase because of the new requirements to control NO_x

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Table 10-3
Financial and Economic Impacts of Storm Water Treatment
Water Treatment Costs
Los Angeles Area

	MWD Service Area 1998 $
Estimated Existing Water Treatment Costs	
Water Rates ($ Per acre foot)	
Basic Treated Water	$431
Basic Untreated Water	$349
Cost of Water Treatment	$82
Estimated Future Water Treatment Costs	
Treatment costs ($ Per acre foot)	
Oxidation Retrofit Program[1]	$25
Other Treatment Technologies[2]	$180
Estimated Annual Cost Per Acre foot	$287
Estimated Annual Per Household Costs	
Annual Water Usage ($ Per acre foot)	0.50
Estimated Water Treatment Cost	$144

Notes:
1. This program is currently underway by MWD and will include ozone treatment of water at $50 per acre foot. It is assumed that 50 % of the area would incur this cost, or an average of $25 per acre foot.

2. Advanced technologies for ground water treatment are more expensive and average about $360 per acre foot. It is assumed that 50 % of the MWD service area would incur this cost, or $180 per acre foot.

Source: Stanley R. Hoffman Associates, Inc.
Metropolitan Water District of Southern California, 1998.

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10.3.1 Overall Costs of Environmental Protection

Based on the EPA study, the estimated future annual cost of pollution controls per household in 1998 dollars would be about $537. These costs are shown in detail on Tables 10-4 and 10-5 and would likely be higher if the effects of more recent pollution control legislation were included. The estimated costs include pollution abatement, control and prevention expenditures. Only the direct costs associated with implementing control measures and compliance activities are included in the analysis.

The report presents data on environmental pollution control costs from 1972 through 1987 and projects those costs for each year through 2000 under various assumptions related to full compliance with existing regulations. The report presents the results in a variety of ways including by type of cost (capital, operating, etc.), by medium (land, air, water), by program and by economic sector which directly bears the cost of the control (public versus private). The report is based upon surveys of spending conducted by the Department of Commerce, EPA Regulatory Impact Analyses and an earlier EPA study, The Municipal Sector Study: Impacts of Environmental Regulations on Municipalities (September 1988).

The EPA study found that in the year 2000, total annualized costs for all pollution control activities in the nation would likely be in the range of $171 billion to $185 billion (in constant 1990 dollars). These costs would represent 2.6 to 2.8 percent of Gross National Product.

The largest share of pollution control costs – 61 percent – is directly borne by the private sector. The second largest share – 23 percent – is directly borne by local governments. Local government costs relate mostly to wastewater, drinking water, sewage sludge and solid waste. According to the report, "...it is projected that over the next several years real pollution control burdens on municipalities will increase dramatically and result in large increases in the fees charged to consumers for locally-provided environmental services."

10.3.2 Estimated Costs per Household

While the EPA report provides a comprehensive analysis of pollution control costs and does estimate which sector initially bears the costs, it does not attempt to estimate how much of these costs are ultimately passed on to households, businesses, and other entities. However, the Municipal Sector Study found that households in smaller communities will pay an average of 0.7 percent of their incomes for environmental services while those in larger communities will pay on average 0.5 percent.

Tables 10-4 and 10-5 show selected annualized cost estimates for mobile source and other selected pollution control programs. This is derived from the EPA report, when combined, results in an estimated cost of $537 per household. The cost estimates in Table 10-4 were projected by the EPA as local government's share in the year 2000. This assumes full compliance with national standards for water quality point sources, drinking water and solid waste.

Table 10-4
Financial and Economic Impacts of Storm Water Treatment
Annualized Environmental Control Costs in the Year 2000
Selected Programs - Local Government Portion[1]

Area	In Millions of 1986 Dollars[2]	In Millions of 1998 Dollars	Cost per Household in 1998 Dollars
Water Quality-Point Sources	$16,589	$23,888	$232
Drinking Water	5,079	7,314	71
Solid Waste	9,681	13,941	135
Total Water & Solid Waste	31,349	45,143	438
Total Households (thousands)			103,058
Estimated Costs per household			$438

1. Air quality regulation costs for local governments were not included as part of this study

2. CPI LA-Ana-Riv:All Items - All Urban Consumers
   Change 1986-1998 1.44

Source: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau

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Table 10-5
Financial and Economic Impacts of Storm Water Treatment
Annualized Environmental Control Costs in the Year 2000
Mobile Sources Air Pollution

Area	In Millions of 1986 Dollars[1]	In Millions of 1998 Dollars	Cost per Household in 1998 Dollars
Capital Costs	$10,786	$15,532	$151
Operating Costs	$3,354	$4,830	$47
Total	$14,140	$20,362	$198
Estimated Household Allocation[2]	$7,070	$10,181	$99
Total Households (thousands)			103,058
Estimated Costs per household			$99

[1] CPI LA-Ana-Riv:All Items - All Urban Consumers
Change 1986-1998 1.44

[2] Assumed allocation to households at 50%

Source: Stanley R. Hoffman Associates, Inc.
EPA, Environmental Investments, 1990; US Census Bureau

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Table 10-5 presents estimated air pollution control costs for mobile sources. The EPA study annualized the estimated capital costs using a 7 percent annual amortization rate for capital expenditures and combined them with annual operations and maintenance costs. The first data column shows the cost estimates in 1986 dollars. The second data column converts the cost estimates to 1998 dollars using an adjustment based on the Consumer Price Index. The third column shows the cost per household based on the Census Bureau's forecast of households for 2000 (Series 2) of approximately 103.1 million.

Cost estimates are presented for the three programs with the largest local government financial responsibility. In order to avoid double counting with the incremental storm water treatment cost estimates, EPA estimated non-point source water quality control costs were not included in the table. No attempt was made by EPA to estimate either how much of these costs would be passed back to the consumers of municipally provided environmental services in the form of periodic fees or how much of such fees would be borne by households, businesses and other entities. Such user fees are common for wastewater treatment, drinking water supply and solid waste collection and disposal. Conversely, no attempt was made to include the costs of private providers of the same services. Some drinking water and solid waste collection and disposal services, for example, are provided by private companies who charge user fees in the same manner as municipal providers.

The total annual local cost for local government programs in the year 2000 is projected at about $45.1 billion as shown on Table 10-4. This would be the equivalent of $438 per household based on the Census Bureau's projection of 103.058 million households. The total annual cost of mobile source air pollution controls is shown on Table 10-5 and is projected to be $10.18 billion. Assuming one half of this is for commercial vehicles and the other half is for vehicles owned by households, then the average annual cost per household is estimated at $99. This is considered a conservative assumption since slightly less than one third of the total registered vehicles in California are commercial. When these two estimates are combined, a total cost per household of $537 results.

SECTION 11
EVALUATION OF FINANCIAL IMPACTS

This section discusses the findings of potential financial and economic impacts on the Los Angeles NPDES Permit Area. The EPA Municipal Screener methodology and other selected socioeconomic indicators are used in this evaluation. A set of summary indicators are presented in Table 11-1 for the two scenarios: 1) Full retrofit treatment; 2) Retrofit expenditures limited by the Preliminary and Secondary Screener. The cost of full storm water treatment is first evaluated followed by an evaluation of costs as limited by the Secondary Screener test.

11.1 Widespread Impacts

The financial and economic inpacts are first evaluated for the cost of full storm water retrofit treatment. Based on the EPA methodology and other economic indicators presented below, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs as summarized on Table 11-2.

11.1.1 Property Tax Impacts

One measure of financial feasibility is the estimated impact on the property tax rate. The property tax rate for a single-family unit is estimated to increase by about 0.87 percentage points for the full system as shown previously on Table 9-1. When added to the median base property tax of 1.19 percent, this results in a total property tax of 2.06 percent, an increase of about 73 percent in the annual property tax bill. Given the current economic climate in California, this estimated total rate of 2.06 percent is clearly more than is likely to be absorbed by local single family households alone. For multi-family units, the estimated increase of 0.67 percentage points would also represent a sizable increase if translated into a potential rental pass through.

11.1.2 Sales Tax Impacts

To compare the annualized storm water treatment costs to other economic indicators, a hypothetical increase in the sales current tax rate of 8.25 percent was estimated in lieu of increasing the property tax for the cost of full treatment. For the cost of full treatment, the sales tax increase was estimated at about 6.0 percentage points. This impact, on top of the current rate, is judged to be both widespread and probably far higher than most households would consider acceptable.

11.1.3 Land Requirement and Displacement Impacts

Treatment facilities for storm water runoff are land intensive. The land acreage and cost requirements for the full system are about 13,950 acres and $6.1 billion, requiring multiple treatment plants per drainage basin. The land cost estimate was included in the full treatment costs of $53.6 billion. About 67 percent of this acreage would be required for treatment Level 1 with the remaining 33 percent for treatment Level 2. While marginal or vacant parcels would be initially sought, this still would require potential displacement of many households and businesses in addition to relocation and land costs.

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Table 11-1
Summary of Evaluation Indicators
Financing and Economic Impacts of Storm Water Treatment
Los Angeles County NPDES Permit Area

Indicators	Full Retrofit Treatment		Limited by EPA screener: preliminary & secondary	
Capital Cost	53,605	millions $	5,280	millions $
Annual O&M cost	199	millions $/yr	20	millions $/yr
Total Annual Cost	4,872	millions $/yr	480	millions $/yr
Allocated cost per SFD	$1,024	dollars	$101	dollars
Allocated cost / acre Com/Ind	8,577	dollars	845	dollars
If funded only by Sales Tax increase	5.95%	percent	0.59%	percent
Percent of current outstanding debt	477%	percent	47%	percent
Cost per household	$1,509	dollars	$149	dollars

Source: Stanley R. Hoffman Associates, Inc.
Don Owen & Associates

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Table 11-2
Financial and Economic Impacts of Storm Water Treatment
Assessment of Substantial Impacts Matrix
Los Angeles NPDES Area

Secondary[1] Score		Municipal Preliminary Screener[2,3] Level of Adverse Impact →		
		Less than 1.0 %	Between 1.0 % - 2.0 %	Greater than 2.0 %
	Weak			
Less than 1.5				
Between 1.5 and 2.5	Mid-Range			X
Greater than 2.5				
	Strong			

Source: Stanley R. Hoffman Associates, Inc.
Economic Guidance for Water Quality Standards Workbook,
U.S. Environmental Protection Agency

1. The Secondary Score represents a weighted average based on a number of economic criteria described in the text.

2. The Municipal Preliminary Screener represents a percentage of median household income.

3. Shaded area denotes where substantial impacts are estimated to occur according to the EPA Preliminary and Secondary Municipal Screeners. The combined score for the Los Angeles NPDES area results in substantial impacts as shown in the figure by the "X."

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11.1.4 Employment Impacts

The Los Angeles area economy has been recovering from the deep recession of the early 1990s when the total County economy lost more than 400,000 jobs. The County is currently on a recovery path. The additional costs per household and per business would likely slow economic growth and cause some businesses to relocate or expand elsewhere. Again, while specific estimates of impacts are not made, the burden of additional costs of a substantial nature is viewed as widespread because the potential treatment plants would be distributed throughout the Los Angeles drainage areas. Since specific locations are not identified, these displacement impacts are not quantified as part of this study.

Employment trends for Los Angeles County are summarized in Table 11-3 based on estimated projections from 1994 to 2000 from the Southern California Association of Governments (SCAG). According to these projections, the overall County employment is growing at an average annual rate of about 1.4 percent.

As was indicated earlier, the average household share of the financing burden would amount to about a 73 percent increase of annual property taxes for a single family unit. For many households, this increase would cause a significant reduction in their consumption and savings potential. Over time, landowners would pass forward these tax increases in the form of higher rents which would result in consumption reduction. Such potential widespread reduced consumption among households would likely cause loss of retail and other local serving jobs.

Based on the EPA methodology and the other economic indicators presented, the economic impacts are judged to be both substantial and widespread for the full system storm water treatment costs.

11.1.5 Impacts on Outstanding Local Debt

According to California Municipal Statistics, Inc., there is an estimated $11.6 billion of outstanding local public debt in Los Angeles County. The estimated cost of $53.6 billion for full storm water treatment represents almost a fivefold increase in existing debt. This level of debt increase would be not only considered extremely large but would foreclose capital funding for other non-storm water projects.

11.2 Costs Limited by EPA Screeners

When the estimated costs of storm water treatment are limited by the EPA Preliminary and Secondary Municipal Screeners, this results in an estimated fundable capital cost of about $5.3 billion. This is based on a cost of $149 per household calculated by taking the estimated Secondary Screener amount of 1.6 percent of median household income ($43,916) or $703 per household and reducing it by the estimated existing and future non-storm water pollution control costs of $554 per household. While this amount is estimated to be affordable based on the EPA Preliminary and Secondary Screener methodology, it is likely that it would still be considered too high if directly charged to most households on an annual basis over the bond period of 20 years or longer.

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Table 11-3
Financial and Economic Impacts of Storm Water Treatment
Employment Trends for Los Angeles County NPDES Permit Area: 1994 - 2000

Basin/Area	1994	1998	2000	1994 to 2000		
				Numerical Change	Percent Change	Average Annual Change
Dominguez	302,572	319,728	328,667	26,095	8.6%	1.4%
LA River	2,465,071	2,612,887	2,690,087	225,016	9.1%	1.5%
Malibu	34,894	41,554	45,346	10,452	30.0%	4.5%
San Gabriel	611,803	655,842	679,037	67,234	11.0%	1.8%
Santa Clara	53,398	65,018	71,744	18,346	34.4%	5.0%
Santa Monica Bay	700,022	708,656	713,013	12,991	1.9%	0.3%
Total	4,167,760	4,403,684	4,527,893	360,133	8.6%	1.4%

Sources: Stanley R. Hoffman Associates, Inc.
Southern California Association of Governments, Regional Statistical Area Projections, 1994.

SECTION 12
BIBLIOGRAPHY

Brown and Caldwell, prepared for California Department of Transportation, *Cost of Storm Water Treatment for Los Angeles NPDES Permit Area*, June 1998

Stenstrom, Michael K., Department of Civil and Environmental Engineering: University of California at Los Angeles, and Eric W. Strecker Woodward-Clyde Consultants, *Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay, Volume1: Annual Pollutants Loadings to Santa Monica Bay from Storm Water Runoff*, May 1993.

United States Environmental Protection Agency, Economics and Statistical Analysis Branch, Office of Science and Technology, Office of Water, *Interim Economic Guidance for Water Quality Standards Workbook*, March 1995.

United States Environmental Protection Agency, Policy, Planning, And Evaluation, *Environmental Investments: The Cost of a Clean Environment*, December 1990.

United States Environmental Protection Agency, *The Municipal Sector Study: Impacts of Environmental Regulations on Municipalities*, September 1988.

Wilchfort, Orit et. al., Center for Environmental and Water Resources Engineering, Department of Civil and Environmental Engineering: University of California at Davis, *An Economic Valuation of Storm Water Quality Improvement for Ballona Creek, California*, May 1997.



COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA

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COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA

An analysis was performed to determine the cost of treating storm water runoff in the Los Angeles County watershed. Treatment costs were developed based upon different treatment levels required to meet water quality objectives. The costs in this report were prepared as a basis for a further analysis of the economic impact of storm water treatment on the community. The costs in this report are intended to be used in the economic analysis and will be refined as the economic impact analysis progresses and the data needs are refined.

All costs for treatment were calculated in the same manner as the treatment costs in the *Caltrans Storm Water Facilities Retrofit Evaluation* (1). That report described the evaluation of the costs of treating storm water runoff from Caltrans facilities in the Los Angeles area.

DESIGN STORM CHARACTERISTICS

The design storm selected for this study is the one-year storm for a 24-hour period in most of the Los Angeles area. The selected storm allows the storm water treatment facilities to capture most of the runoff for a normal rainfall year. The capacity will be exceeded only when storms greater than the one-year return frequency are experienced. On a long term, several year basis, the design storm will result in treatment of 80 to 90 percent of the runoff. The storm represents a compromise between the cost of attempting to design for a higher intensity storm and desire to maximize pollutant capture. The one year, 24-hour storm is the minimum rainfall with a statistical probability of reoccurring one or more times per year. Rainfall varies depending on the Los Angeles terrain and averages approximately 1.25 inches for the area included in this study.

Treatment systems in this report are designed to contain all of the flow generated by the design storm, and treat and release this volume within a 24-hour period. Therefore, to calculate the average release rate, the volume of water generated by the design storm in 24-hours is calculated and then divided by 24-hours. A treatment period of 24-hours was chosen rather than a longer treatment period such as 72-hours to permit the collection and treatment of two consecutive storms.

The design storm concept is similar to storm water design assumptions made by flood control agencies within Los Angeles County, California. However, flood control designs use longer return frequency storms and greater quantities of runoff. This approach incorporates input from the Caltrans/UCD/CSUS Oversight Committee provided on the previous Retrofit Evaluation.

SIZE OF DRAINAGE AREA WITHIN LOS ANGELES COUNTY

The entire urban Los Angeles County watershed that drains directly to the Pacific Ocean measures approximately 1,702,404 acres. The area has been divided into seven drainage basins and the areas for each obtained from the Southern California Area Governments (SCAG) GIS Land Use Data Base. The size and descriptive name of each basin is listed below:

Table 1. Los Angeles Drainage Basins

Drainage Basin Description	Drainage Area, acres
Dominguez	69,091
Los Angeles River	522,061
Malibu	98,729
San Gabriel	370,468
Santa Ana (Part)	15,680
Santa Clara	491,947
Santa Monica Bay	134,429
Total	**1,702,404**

STORM WATER RUNOFF

The volume of storm water runoff was developed using a modified coefficient of runoff. The runoff coefficient estimates the percentage of the precipitation that will become runoff based on the land use and the imperviousness associated with each land use. This method is similar to the method described in the *California Storm Water Best Management Handbook, Municipal Volume* (5) The modified runoff coefficient predicts 90 percent of the precipitation will runoff from impervious area and 15 percent from the pervious area as described in the Handbook.. Below is the formula used to calculate the modified runoff coefficient.

$$Runoff\ Coefficient = 0.90 \times (impervious\ fraction) + 0.15 \times (1\text{-}impervious\ fraction)$$

In addition, the first 0.06 inches of precipitation was assumed to pond in localized depressions and not be available as runoff. The runoff coefficients and formula above can be found in Appendix D of the *California Storm Water Best Management Handbook, Municipal Volume*. The imperviousness for each type of land use was assumed to be similar to the values reported by the *Santa Monica Bay Restoration Project* (4). Listed below are assumed imperviousness and land uses:

Table 2. Runoff Coefficients by Land Use

Land Use	Impervious	Runoff Coefficient
Single family residential	42 %	0.46
Multi family residential	68 %	0.66
Commercial	92 %	0.84
Public	80 %	0.75
Industrial	91 %	0.83
Other urban	80 %	0.75
Vacant Developable	0 %	0.15
Open	0 %	0.15
Unknown	65 %	0.63

Based on a land use pattern in Los Angeles County, the runoff coefficient for each drainage basin was determined. In turn, this coefficient is used to determine the amount of storm water runoff as related to precipitation.

Table 3. Runoff Coefficient by Basin

Drainage Basin Description	Runoff Coefficient
Dominguez	0.599
Los Angeles River	0.452
Malibu	0.299
San Gabriel	0.403
Santa Ana	0.423
Santa Clara	0.294
Santa Monica Bay	0.504

DESIGN STORM WATER QUALITY

In addition to the storm water quantity, typical storm water quality is an important consideration in determining the types of appropriate treatment. Design storm water quality values were developed by examining the storm water quality data generated from Los Angeles County monitoring and Caltrans statewide sampling which contained a significant amount of Los Angeles area data. Treatment processes were developed from water quality objectives.

The following table shows the typical water quality objectives for Los Angeles and the range of sampling data for various constituents.

Table 4. Water Quality Objectives and Monitoring Results

CONSTITUENT	WATER QUALITY OBJECTIVES (mg/L or MPN/100 mL)					RAINFALL MONITORING DATA (mg/L or MPN/100mL)		
	1-Hour Toxicity (Aquatic Life)			Municipal	Other	Caltrans Statewide[h] 1997	LA Co. DPW[i] 1/3/95 - 4/17/96	
	Inland[b]	Estuarine	Oceanic[c]	Supply*	Use	Range	Min	Max
GENERAL QUALITY								
Total Dis. Solids				500	250	<10-20,000	26	1760
Total Sus. Solids			75%**			<4-1,410	4	8728
Turbidity			225			17-1,300	0.9	1800
Hardness	[b]					11.3-96	10	930
Chloride				250	10	<1.0-52.8	1.98	147
Nitrate-NO_3				45		0.39-42.5	1.03	42.2
Sulfate				500	30	<1-94	2.54	758
Oil & Grease			75		No Film	<0.11-48	1	17.8
Ammonia	25		6			0.5-9.2	0.83	4.47
Coliform, fecal	[d]	[d]	[d]		200[d]	27-160,000	80	16,000,000
Coliform, total	[e]	[e]	[e]		70[e]	80-300,000	340	16,000,000
METALS								
Antimony				0.006		<0.015-0.090	0.007	0.049
Arsenic	0.360	0.069	0.032	0.05		<0.004-0.033	0.011	0.028
Barium				1		<0.001-2.01	0.101	0.723
Cadmium	0.009	0.043	0.004	0.005		<0.003-0.015	0.031	0.048
Chromium III	3.064			33		<0.002-0.102	0.01	0.364
Chromium VI	0.016	1.100	0.008	0.05				
Copper	0.034	0.003	0.012	1.3[g]		<0.01-0.48	0.011	0.639
Lead	0.197	0.140	0.008	0.015[g]		<0.001-0.45	0.01	0.188
Mercury	0.002	0.002	0.0002	0.002		<0.0002-0.21	0.001	0.085
Nickel	2.549	0.075	0.020	0.1		<0.002-0.136	0.01	20
Selenium	0.005	0.300	0.060	0.05		<0.001-0.036	0.01	20
Zinc	0.211	0.095	0.080	5[f]		<0.005-3.88	0.051	0.876

(b) Calculated metals values are based on 200 mg/L hardness (SWRCB 1993).
(c) Oceanic limits are daily maximum allowed (SWRCB 1990).
(d) Based on recreational use for whole-body water contact (REC1).
(e) Based on food consumption limitations (SHELL).
(f) Based on secondary drinking water standards (22 CAC 64449.1; Table 64449-A).
(g) Based on primary drinking water standards (22 CAC 64672.3a-b).
(h) From Caltrans, 1997 Summary of Water Quality Data Associated with Run-Off from Caltrans Highways and Freeways.
(i) From LA Co. DPW, 1997 Summary of Database of Sampling Results obtained from M. Ramos, LA Co. DPW.

* Based on Los Angeles Basin Plan, Table 3-5 (RWQCB 1994), unless otherwise noted.
** Infers a required minimum of 75% solids removal from waste stream.

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There are several constituents indicated that would potentially violate the water quality objectives. Treatment systems discussed in this report have been developed to treat storm water to meet the objectives.

The monitoring values were then combined to obtain a typical constituent concentration expected in County of Los Angeles runoff. These water quality values were considered in developing levels of treatment which meet the water quality objectives of the receiving water body. The design storm water quality values in the table below are typical urban runoff in Los Angeles County. The values are the average values from a database of county storm water monitoring from 1988 to 1995.

Table 5. Typical Storm Water Runoff Quality

Constituent	Typical Value, mg/L
Total suspended solids	510
Total dissolved solids	285
Biochemical oxidation demand	50
Nitrate	1.9
Phosphate	0.5
Cadmium	0.001
Copper	0.03
Lead	0.04
Zinc	0.19
Oil & grease	2
Fecal coliform, MPN/100 mL	180,000
Total coliform, MPN/100 mL	750,000

The quality data shows that storm water treatment should address suspended solids, which is basically the dirt picked up during runoff, the high levels of bacteria indicated by the coliform tests and the variable levels of metals. The coliform indicates a high potential for contamination by disease carrying bacteria. Metals requirements are especially difficult because of the large variation in sampling results, the stringent requirements that are both existing and proposed and the high cost of removing small concentrations of metals from large quantities of water.

STORM WATER TREATMENT

Storm water treatment was developed to meet the basic requirements of the *Los Angeles Basin Water Quality Control Plan* (6). Three progressive levels of potential treatment are proposed to meet higher levels of water quality objectives required to preserve potential beneficial uses of receiving waters. Beneficial uses of receiving waters are further discussed in the Basin Plan.

RUNOFF QUANTITY AND TREATMENT FACILITY SIZE

Drainage from each basin within Los Angeles County is based a 24-hour, one-year storm equaling 1.25-inch and the modified runoff coefficient described above. The total runoff from each drainage basin is shown on the following table.

Table 7. Storm Water Runoff by Drainage Area

Drainage Basin Description	Drainage Area, acres	Total Runoff, Million Gallons
Dominguez	69,091	1,337
Upper Los Angeles River	522,061	7,572
Malibu	98,729	956
San Gabriel	370,468	4,774
Santa Ana	15,680	214
Santa Clara	491,947	4,641
Santa Monica Bay	134,429	2,190
Total	1,702,404	21,684

Considering the economy of scale that is evident in the construction of treatment facilities, building numerous small treatment facilities is not as cost effective as the construction of a few large regional treatment plants. Although political or land use requirements may require some smaller facilities, the economics favor larger plants. Therefore, treatment selection, design and cost estimates are based upon the assumption that a few large regional treatment plants will be built. The capacity and number of treatment plants is shown on the following table:

Table 8. Storm Water Treatment Plant Capacity

Location and Description	Size and Number Million Gallons (MG)
Dominguez	
Total Runoff to be Treated, MG	1,337
Number of Treatment Plants Required	27
Los Angeles River	
Total Runoff to be Treated, MG	7,572
Number of Treatment Plants Required	173
Malibu	
Total Runoff to be Treated, MG	956
Number of Treatment Plants Required	20
San Gabriel	
Total Runoff to be Treated, MG	4,774
Number of Treatment Plants Required	107
Santa Ana	
Total Runoff to be Treated, MG	214
Number of Treatment Plants Required	5
Santa Clara	
Total Runoff to be Treated, MG	4,641
Number of Treatment Plants Required	104
Santa Monica Bay	
Total Runoff to be Treated, MG	2,190
Number of Treatment Plants Required	44
Entire Los Angeles Area	
Total Runoff, MG	21,684
Number of Treatment Plants	480

The maximum size of any individual treatment plant is assumed to be 500 million gallons.

ESTIMATED COSTS FOR STORM WATER TREATMENT IN LOS ANGELES

The treatment cost estimate for the entire Los Angeles area was done by preparing composite cost curves to represent relative cost savings for construction of a few large treatment plants versus construction of small treatment plants. The cost curves were developed by using the cost determined from the Van Nuys quadrangle study area contained in *the Caltrans District 7 Storm Water Retrofit Plan (1).*

The total flow within the Los Angeles County drainage area is significantly larger than the flow from the Van Nuys quadrangle study area. There are no existing costs available for large storm water treatment facilities which would be required for the larger drainage area, so it was necessary develop new cost curves based upon the cost curves used in the Van Nuys study area. The new treatment cost curves are intended for estimating the cost of treatment for capacities ranging from 10 to 500 million gallons. As a comparison, to test the accuracy of the new cost curves for Los Angeles County, storm water treatment costs were compared with other similar treatment systems. This comparison was done by using the cost estimating curves developed for the City of San Diego *(San Diego Wastewater Programs Managers Technical Advisory Board San Diego Metropolitan Sewerage System Preliminary Cost Estimating Curves, December 8, 1988)* (8). All costs estimate are based upon an ENR Index of 6710 (7).

The costs of the treatment facilities were developed from representative designs and then scaled up for the watershed. Simplifying assumptions were made that part time staff would be available during storm events by drawing municipal labor forces, means for disposal of residual solids would be available through municipal landfills and wastewater plants, and the large land needs for the sites could be accomplished through purchase. These simplifying assumptions may lead to lower costs than would be possible for a large scale treatment project but should not compromise cost estimate for undertaking a storm water treatment program. These are planning level costs and the accuracy is reflective of the preliminary nature of the designs and the general assumptions made. Shown in the table below are capital and operation and maintenance (O & M) costs for each drainage basin within Los Angeles County. Costs were prepared which include and exclude collection costs.

Separate costs estimates were prepared including and excluding collection costs. This was done because of an uncertainty in the locations of large treatment plants proposed.

Costs without collection represent a system where large treatment plants are located at the downstream discharge of major drainage areas. The existing conveyance system is used to bring storm water to the treatment locations. Some of the conveyance systems are actually local channels and waterways that will not receive the benefits of treatment.

Costs with collection represent an effort to parallel important tributary streams and channels with collection systems to protect them from storm water pollution. The parallel collection systems would divert flow to the treatment locations. Obviously, building parallel storm water collection systems is expensive.

Table 9. Treatment Costs by Drainage Area

Dominguez	Cost without Collection, ($1,000,000)	Cost with Collection, ($1,000,000)
Capital Costs		
Collection System		$628
Level 1	$1,234	$1,861
Level 2	$1,950	$2,578
Level 3	$3,643	$4,271
O & M Costs		
Collection System		$0.5
Level 1	$3.5	$4.0
Level 2	$6.4	$7.0
Level 3	$11.4	$11.9
Los Angeles	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$4,098
Level 1	$7,386	$11,484
Level 2	$11,679	$15,777
Level 3	$21,810	$25,908
O & M Costs		
Collection System		$3.5
Level 1	$20.3	$23.8
Level 2	$37.9	$41.4
Level 3	$67.6	$71.1
Malibu	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$634
Level 1	$894	$1,529
Level 2	$1,414	$2,048
Level 3	$2,641	$3,276
O & M Costs		
Collection System		$0.5
Level 1	$2.5	$3.0
Level 2	$4.7	$5.2
Level 3	$8.3	$8.8

San Gabriel	Cost without Collection, ($1,000,000)	Cost with Collection, ($1,000,000)
Capital Costs		
Collection System		$2,755
Level 1	$4,441	$7,166
Level 2	$6,975	$9,730
Level 3	$13,028	$15,783
O & M Costs		
Collection System		$2.3
Level 1	$12.4	$14.8
Level 2	$23.0	$25.3
Level 3	$40.8	$43.1
Santa Ana	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$120
Level 1	$210	$329
Level 2	$331	$ 450
Level 3	$619	$739
O & M Costs		
Collection System		$0.1
Level 1	$0.6	$0.7
Level 2	$1.1	$1.2
Level 3	$1.9	$2.0
Santa Clara	**Cost without Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$3,130
Level 1	$4,301	$7,431
Level 2	$6,801	$9,931
Level 3	$12,703	$15,833
O & M Costs		
Collection System		$2.6
Level 1	$12.1	$14.7
Level 2	$22.5	$25.1
Level 3	$39.8	$42.4

Santa Monica Bay	Cost without Collection, ($1,000,000)	Cost with Collection, ($1,000,000)
Capital Costs		
Collection System		$1,121
Level 1	$2,017	$3,138
Level 2	$3,189	$4,310
Level 3	$5,956	$7,077
O & M Costs		
Collection System		$0.9
Level 1	$5.7	$6.6
Level 2	$10.5	$11.5
Level 3	$18.7	$19.6
Entire Los Angeles Area	**Cost without, Collection, ($1,000,000)**	**Cost with Collection, ($1,000,000)**
Capital Costs		
Collection System		$12,500
Level 1	$20,400	$32,900
Level 2	$32,300	$44,800
Level 3	$60,400	$72,900
O & M Costs		
Collection System		$10.4
Level 1	$57.2	$67.6
Level 2	$106.3	$116.7
Level 3	$188.5	$198.9

The construction and land purchase was assumed to take place at the beginning of the project in year one and the annual cost was assumed to stay constant over the life of the project. All costs are based upon the 1998 calendar year. The capital costs for the project levels include 100 acres for each 500 million gallon level 1 treatment facility at an average cost of approximately $900,000 per acre. The level 2, 500 million gallon facility includes an additional 100 acres at the same unit cost. Level 3 is assumed to not require additional land. Land use for smaller treatment plants is assumed to be proportional to capacity.

The background for the cost estimates is included in the attachments. Attachment 1 is the design basis for a typical 500 million gallon facility and includes a schematic layout. Attachment 2 is the design basis for a typical 200 million gallon facility. Attachment 3 includes the standardized cost estimation curves for storm water treatment facilities. Attachment 4 includes the standardized cost estimation curves for wastewater treatment facilities to 10 million gallons.

DISCUSSION

The cost estimates developed in this analysis include several assumptions needed to build the capital cost estimates and develop the operating and maintenance costs. Historical data for the costs is based on municipal utility construction projects which have not been developed specifically for storm water treatment. The assumptions and general municipal background of the estimates result in costs that are potentially low for the storm water treatment project. Potential concerns are:

- Storm facilities will be operated intermittently and seasonally. Treatment levels 2 and 3 require operators skilled in treatment equipment; however, they are only needed for storm events. The availability of these operators is difficult to arrange since they would have to have other more full time positions within the managing municipality or utility. The cost of labor would be higher because of inefficiencies. Level 1 also requires intermittent operation but it may be able to be contracted out to the private construction industry.

- Power costs are relatively more expensive on an intermittent basis and the utility's cost of supplying the seasonal loads imposed by pumps and the equipment in levels 2 and 3 will have to recovered in higher per energy unit costs. Chemical costs will also be higher do to seasonal purchasing needs and the need to not store some chemicals, such as chlorine, during the dry season. There are also risks with chemical storage and delivery in residential and commercial neighborhoods that must be mitigated.

- Land costs have been assumed to represent an average cost in the Los Angeles area. However, a storm water treatment project would need to acquire large tracts of contiguous land to build the facilities. No matter how much community support there is for clean water, residents always want the facilities somewhere away from their property and certainly do not want their land taken. Acquisition of the necessary land would be difficult and expensive. More numerous smaller facilities would increase the number of impacted communities and residents. The treatment units simply cannot be built without land and there is not much available land in metropolitan Los Angeles.

- As indicated in the cost analysis, the protection of the drainage channels and natural waterways that are currently used to convey storm water from storm water pollutants would either require a vast number of small treatment units at every discharge or a parallel collection system for the design storm. The numerous facilities sacrifice the economy of scale found in larger units and the alternative parallel collection system is very expensive. Decisions would have to be made as to where parallel systems were needed based on the streams to be protected.

- The analysis assumes conventional costs for the removal of residual products such as solids and brine. Again they would be seasonal and would require the additional costs of setting up disposal procedures for only seasonal use. In addition there may be the potential requirements for the disposal of hazardous waste.

Although the costs may be conservatively low, they are relatively large. The following table summarizes the Los Angeles area costs with a limited amount of collection facilities.

SUMMARY

Capital Costs

Level 1 - Detention and settling including limited collection	33 billion dollars
Level 2 - Filtration and disinfection in addition to Level 1	45 billion dollars
Level 3 - Advanced treatment for toxics in addition to Level 2	73 billion dollars

Land Required

9,300 to 18,600 acres depending on treatment level

Operating and Maintenance Costs

Level 1 - Detention and settling including limited collection	68 million dollars per year
Level 2 - Filtration and disinfection in addition to Level 1	117 million dollars per year
Level 3 - Advanced treatment for toxics in addition to Level 2	199 million dollars per year

REFERENCES

1. Storm Water Facilities Retrofit Evaluation, Volume 1 & 2, May 13, 1997, Draft Report. Brown and Caldwell.

2. An Economic Valuation of Stormwater Quality Improvements for Ballona Creek, California, May 1997. Final Report. Center for Environmental and Water Resources Engineering, Department of Civil and Environmental Engineering, University of California, Davis. Ms. Orit Wilchfort, Prof. Jay R. Lund, Mr. Dan Lew, Prof. Douglas M. Larson.

3. NPDES No. CA0061654. Waste Discharge Requirements Stormwater / Urban Runoff Discharge for Los Angeles County and Co-Permittees. California Regional Water Quality Control Board, Los Angeles Region.

4. Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay, Volume I Annual Pollutants Loading Santa Monica Bay Restoration Project, May 1993.

5. California Storm Water Best Management Handbooks, Municipal. California Stormwater Quality Task Force, March 1993.

6. Water Quality Control Plan – Los Angeles Region – Watersheds of Los Angeles and Ventura Counties, June 13, 1994. California Regional Water Quality Control Board, Los Angeles Region.

7. Engineering News Record – First Quarterly Cost Report. March 30, 1998. McGraw Hill.

8. San Diego Wastewater Programs Managers Technical Advisory Board San Diego Metropolitan Sewerage System Preliminary Cost Estimating Curves, December 8, 1988. City of San Diego, California. James M. Montgomery and Brown and Caldwell.

ATTACHMENT 1

DESIGN BASIS FOR A TYPICAL 500 MILLION GALLON FACILITY

Definitions and Abbreviations Contained in Cost Estimates:

LF – Linear feet
INCH – Inches of rainfall
MGD / mgd – Million gallons per day
LS – Lump sum
SF – Square feet
MG – Million gallons
AC – Acres
gpm – Gallons per minute
CFS / cfs – Cubic feet per second
RO – Reverse osmosis
ft. - Feet
kWh – Kilowatt per hour
MWh – Megawatt per hour
fps – Feet per second
mg/L – Milligram per liter
O & M – Operation and maintenance
sq. – square
mi – miles
Quad – Quadrangle

LOS ANGELES COUNTY SITE SPECIFIC DESIGN PARAMETERS		
ITEM	**VALUE**	**COMMENTS**
Site Details		
Type : Typical 500 MG Plant		
Name : Prototype 500 MG Plant		Exact location of treatment plant is unknown.
Address : Los Angeles County		
Existing Storm Drain Facilities :Use existing Los Angeles County Collection System		
SW2 Specifications		
Drainage Area		
Acres	38,400	
Square Feet	1,672,704,000	
Approximate Percent Impervious	48%	Estimated - refer to design write-up
Weighted runoff coefficient	0.51	((%Impervious)*0.90)+((1-(%IMP))*0.15) Assumed 90% runoff from impervious surfaces and 15% runoff from pervious surfaces.
Rainfall Details		
Total Rainfall		
One year, 24 hour Storm, inches	1.00	Derived from 50 years of rainfall data. Typical for Greater Los Angeles area.

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500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Stormwater Runoff Volume		Assumed 0.06 inches of rain loss due to local ponding
Cubic Feet	66,825,000	
Million Gallons	500	
Peak Rainfall Intensity		
inches/hour	1.41	
Peak Flow		Rational Formula Q = C*I*A (Runoff coeff*Peak rainfall intensity*Drainage area) from Caltrans Hydraulics Design Manual
Cubic feet per second (cfs)	13,000	
Million gallons per day (mgd)	8,400	Assume a 50% reduction in peak flow because of delay in intensity due to size of drainage area.
Treatment Plant Site Details		
Site Characteristics		
Acres	201	Size required to fit treatment units.
Percentage of land used for treatment versus drainage area	0.52%	
Approximate shape of site	rectangular	Shape - triangle, rectangle etc.
Length of site, ft.	2500	
Width of site, ft.	3500	
Approximate Slope of Site Terrain	Level	

R0006152

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Existing Land Use	Unkown	
Existing Owner	Unknown	
Distance from Collection Point to Treatment Plant Site, ft.	1,500	Assumes construction next to existing river.
Treatment Process		
Level 1		Bar Screens plus detention basins
Level 2		Gravity filtration with disinfection
Level 3		Advanced treatment, with Reverse Osmosis
Design Criteria		
Collection system inlet pipe, rectangular		
Width, ft.	20.0	
Height, ft.	20.0	
Number of inlet pipes	4	
Capacity, cfs	16,000	Capacity based upon 10 fps max. flow
Velocity, fps	8.1	
Bar Screens	2-inch spacing	Screens located at enterance to detention basin pumping station inlets

R0006153

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Detention Basin		
Minimum volume in gallons	499,851,000	Assume vertical walls for detention basin
Number of required detention basins	4	
Length of detention basin (ft)	2,400	Ingnore capacity of sloped basin sides
Width of detention basin (ft)	300	Includes 1.5' freeboard.
Depth of detention basin (ft)	25	
Actual capacity of detention basin, gallons	506,314,000	
Capacity, cubic feet per sec	67,680,000	Calculated based on detention basin dimensions
Time to Drain Detention Basin		
Hours (All levels)	24	
Pump Rate		
Gallons per minute (gpm)	347,119	Runoff Volume (gal.)/hr. det./ 60 min.
Million gallons per day (mgd)	500	
Capacity, (cfs)	773	
Number of pumping stations	4	Provide one pumping station per detention basin
Capacity of pump stations, gpm	86,780	
Capacity of pump stations, cfs	193	
Level 2 and 3 Treatment Plant Avg. Capacity, mgd	500	
Max surface loading, @ 7200 gpd/sf (5 gpm/sf)		
Required filter size, square feet	69,424	

R0006154

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Rectangular filters		
Filter size, ft./ ft.	63	
Number of filters, including two back-up filter	20	
Width of filter, ft.	55	
Length of filter, ft.	72	
Filter surface area per filter, square feet	3960	
Total filter surface area, square feet	71,280	
Wash Water Volume		
Backwash time, minutes/cycle	20	Use two tanks for redundancy
Backwash rate, gpm/sf	25	
Minimum volume, gallons	1,980,000	
Tank diameter, ft.	110	
Tank, height. ft.	32	
Actual tank capacity, gallons	2,274,647	
Number of tanks	2	
Total backwash water capacity, gallons	4,549,294	
Disinfection		
Hypochlorite criteria		
Hypochlorite concentration, percent	6%	Alternatively, chlorine gas might be used
Hypochlorite available Cl2, pounds/gal	0.5	
Chlorine dosage rate, mg/L	30	
Feed rate, gallons per day (gpd)	250,125	
Feed rate, gallons per minute (gpm)	174	

R0006155

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Hypochlorite tank capacity		
Number of design storms	3	
Hypochlorite tank capacity, gallons	750,376	
Actual tank capacity, gallons	800,000	
Volume of Contact Tank		
Contact detention time, minutes	60	
Volume of contact tank, gallons	27,125	
Length of tank, feet.	720	
Width of tank	360	
Depth of tank, feet	12	
Actual volume of tank, gallons	23,268,902	
Dechlorination		
Sodium Bisulfite criteria		
Sodium Bisulfite available SO, pounds/gal	2.5	
Sodium Bisulfite rate, mg/L	15	
Feed rate, gallons per day (gpd)	25,013	
Sodium Bisulfite tank capacity		
Storage capacity, number of design storms	3	
Hypochlorite tank capacity	75,038	
Actual tank capacity, gallons	80,000	
Reverse Osmosis		
		Provide building.
Req. capacity of RO units, gpm	260,339	50% bypass around filters
Number of RO units	135	Provide 5 additional RO units for backwash
Capacity of individual RO units, gpm	2,000	

R0006156

500 MG Treatment Plant

ITEM	VALUE	COMMENTS
Capacity of RO treatment system, gpm	260,000	
Power requirements for RO units, kWh	93,722	6 kWh per 1000 gal. (Water Treatment Design, Robert L. Sanks)
Plant's total power requirements, MWh	103	Assume 10% higher than RO unit
Brine Storage Basin		
Minimum Volume, gallons	10,152,000	Storage for 3 storm events at 5% per storm
Minimum Volume, cubic feet	1,357,038	
Storage Basin , length, ft.	1,000.0	
Storage Basin , length, ft.	400.0	
Tank depth, feet	3.5	Annual evaporation rate, 42-inches per year.
Actual Tank Capacity, cubic feet	1,400,000	Remaining water will be discharged to sewer
Length of final effluent discharge pipe, feet	1,000	Effluent discharge to River
Dimensions of outlet pipe, rectangular	12.0	
Number of outlet pipes	1	
Width of outlet pipe, ft.	10	
Height of outlet pipe, ft.	10	
Velocity in outlet pipe, fps	8	Maximum velocity, 10 fps

R0006157

CALTRANS FACILITY COST SPREAD SHEET

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level I Treatment									
Existing River bypass structure (inflatable dam)	1	LS		$100,000	$1,000				$1,000
Gravity to detention basin 4 (20' x 20')	1500	LF	3,000	4,500,000	$45,000				$45,000
Treatment plant discharge piping									
Discharge piping	1000	LF	1,000	1,000,000					
Level II Detention Basin & Inflow Pump									
Detention Basin and Pump Station	500	MG	360,000	179,968,511	1,799,685	2,841	17,049		$1,819,575
Pump Operation	500	mgd			461,735	29,979		115,434	$607,148
Level I - Site Work									
Paving	15,000	SF	$1.50	$22,500					
Maintenance and storage building	2,500	SF	$100	$250,000	50,000	12,500	$5,000		$67,500
Land / easements	100	AC	$914,760	91,476,000					
Outside piping			5%	8,998,426					
Subtotal				286,315,437					
Level I - Administrative									
Construction Contingency			30%	85,894,631					
Subtotal				372,210,068					
Engineering/Legal/Administrative			20%	74,442,014					
Level I Total				446,652,081					$2,540,224

R0006158

CALTRANS FACILITY COST SPREAD SHEET

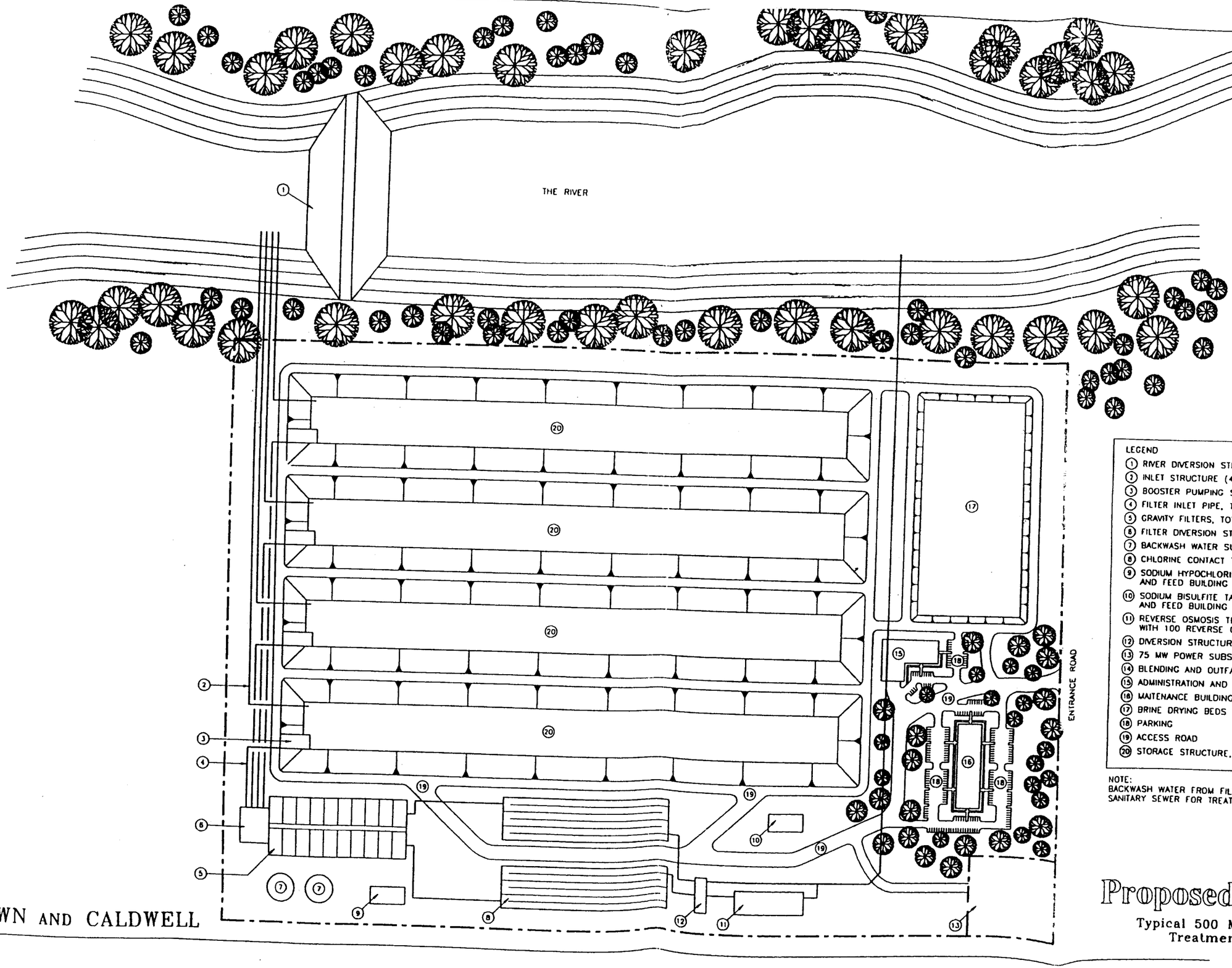
ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 2 - Pressure Filtration									
Filter	500	MG	33,000	$165,474,461	$1,654,745	$74,987		$827,372	$2,557,104
Level 2 - Disinfection and Dechlorination									
Disinfection and dechlorination	500	MG	3,500	$1,819,188			$172,608		$172,608
Level 2 - site work									
Paving	25,000	SF	$1.50	$37,500					
Building	6,000	SF	$100	$600,000					
Outside piping			5%	$8,364,682					
Subtotal				176,295,831					
Level 2 - miscellaneous									
Construction Contingency			30%	$52,888,749					
Subtotal				$229,184,581					
Engineering / legal / administrative			20%	$45,836,916					
Subtotal				$275,021,497					
Land / easements	100	AC	$914,760	$91,476,000					
Level 2 Total				$366,497,497					$2,729,712

R0006159

CALTRANS FACILITY COST SPREAD SHEET

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	LABOR $	ANNUAL OPERATION AND MAINTENANCE COST			
						POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 3 -- Advanced Treatment, Reverse Osmosis									
Reverse osmosis (power costs assumes 15 storm a year)	375	MG	$1,500,000	$562,500,000	$2,812,500	$2,969,480	$21,825	$1,406,250	$7,210,055
Level 3 -- site work									
Paving	25,000	SF	$1.50	$37,500					
Building	200,000	SF	$100	$20,000,000					
Outside piping			5%	$29,126,875					
Subtotal				$611,664,375					
Level 3 -- miscellaneous									
Construction Contingency			30%	$183,499,313					
Subtotal				$795,163,688					
Engineering / legal / administrative			20%	$159,032,738					
Subtotal				$954,196,425					
Land / easements				none					
Level 3 --Total				$954,196,425					$7,210,055

R0006160



LEGEND

1. RIVER DIVERSION STRUCTURE
2. INLET STRUCTURE (40'X21'), TYP OF 4
3. BOOSTER PUMPING STATION, TYP OF 4
4. FILTER INLET PIPE, TYP OF 4
5. GRAVITY FILTERS, TOTAL OF 20
6. FILTER DIVERSION STRUCTURE
7. BACKWASH WATER SUPPLY TANKS
8. CHLORINE CONTACT TANK
9. SODIUM HYPOCHLORITE TANK FARM AND FEED BUILDING
10. SODIUM BISULFITE TANK FARM AND FEED BUILDING
11. REVERSE OSMOSIS TREATMENT BUILDING WITH 100 REVERSE OSMOSIS UNITS
12. DIVERSION STRUCTURE
13. 75 MW POWER SUBSTATION
14. BLENDING AND OUTFALL STRUCTURE
15. ADMINISTRATION AND LABORATORY BUILDING
16. MAITENANCE BUILDING
17. BRINE DRYING BEDS
18. PARKING
19. ACCESS ROAD
20. STORAGE STRUCTURE, 385 AC-FT

NOTE:
BACKWASH WATER FROM FILTER IS DISCHARGED TO SANITARY SEWER FOR TREATMENT.

BROWN AND CALDWELL

Proposed Site Plan

Typical 500 MG Stormwater Treatment Facility

R0006161

ATTACHMENT 2

DESIGN BASIS FOR A TYPICAL 200 MILLION GALLON FACILITY

LOS ANGELES COUNTY SITE SPECIFIC DESIGN PARAMETERS		
ITEM	**VALUE**	**COMMENTS**
Site Details		
Type : Typical 200 MG Plant		
Name : Prototype 200 MG Plant		Exact location of treatment plant is unknown.
Address : Los Angeles County		
Existing Storm Drain Facilities :Use existing Los Angeles County Collection System		
Site Specifications		
Drainage Area		
Acres	15,400	
Square Feet	670,824,000	
Approximate Percent Impervious	48%	Estimated - refer to design write-up
Weighted runoff coefficient	0.51	((%Impervious)*0.90)+((1-(%IMP))*0.15) Assumed 90% runoff from impervious surfaces and 15% runoff from pervious surfaces.
Rainfall Details		
Total Rainfall		
One year, 24 hour Storm, inches	1.00	Derived from 50 years of rainfall data. Typical for Greater Los Angeles area.

R0006163

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Stormwater Runoff Volume		
Cubic Feet	26,799,000	Assumed 0.06 inches of rain loss due to local ponding
Million Gallons	200	
Peak Rainfall Intensity		
inches/hour	1.40	Refer to Appendix-C of 6/17/96 Summary of Task 2
Peak Flow		Rational Formula Q = C*I*A (Runoff coeff*Peak rainfall intensity*Drainage area) from Caltrans Hydraulics Design Manual
Cubic feet per second (cfs)	5,200	
Million gallons per day (mgd)	3,400	Assume a 50% reduction in peak flow because of delay in intensity due to size of drainage area.
Treatment Plant Site Details		
Site Characteristics		
Acres	72	Size required to fit treatment units.
Percentage of land used for treatment versus drainage area	0.47%	
Approximate shape of site	rectangular	Shape - triangle, rectangle etc.
Length of site, ft.	1500	
Width of site, ft.	2100	
Approximate Slope of Site Terrain	Level	

R0006164

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Existing Land Use	Unknown	
Existing Owner	Unknown	
Distance from Collection Point to Treatment Plant Site, ft.	1,500	Assumes construction next to existing river.
Treatment Processes		
Level 1		Bar Screens plus detention basins
Level 2		Gravity filtration with disinfection
Level 3		Advanced treatment, with Reverse Osmosis
Design Criteria		
Collection system inlet pipe, rectangular		
Width, ft.	15.0	
Height, ft.	10.0	
Number of inlet pipes	4	
Capacity, cfs	6,000	Capacity based upon 10 fps max. flow
Velocity, fps	8.7	
Bar Screens	2-inch spacing	Screens located at enterance to detention basin pumping station inlets

R0006165

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Detention Basin		
Minimum volume in gallons	200,457,000	Assume vertical walls for detention basin
Number of required detention basins	4	Ingnore capacity of sloped basin sides
Length of detention basin (ft)	1,200	Includes 1.5' freeboard.
Width of detention basin (ft)	240	
Depth of detention basin (ft)	25	
Actual capacity of detention basin, gallons	202,526,000	
Capacity, cubic feet per sec	27,072,000	Calculated based on detention basin dimensions
Time to Drain Detention Basin		
Hours (All levels)	24	
Pump Rate		
Gallons per minute (gpm)	139,206	Runoff Volume (gal.)/hr. det./ 60 min.
Million gallons per day (mgd)	200	
Capacity, (cfs)	310	
Number of pumping stations	4	Provide one pumping station per detention basin
Capacity of each pump stations, gpm	34,802	
Capacity of pump stations, cfs	77.5	
Level 2 and 3 Treatment Plant Avg. Capacity, mgd	200	
Max surface loading, @ 7200 gpd/sf (5 gpm/sf)		
Required filter size, square feet	27,800	

R0006166

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Rectangular filters		
Number of filters, including two back-up filter	20	
Width of filter, ft.	40	
Length of filter, ft.	40	
Filter surface area per filter, square feet	1,600	
Total filter surface area, square feet	28,800	
Wash Water Volume		
Backwash time, minutes/cycle	20	Use two tanks for redundancy
Backwash rate, gpm/sf	25	
Minimum volume, gallons	800,000	
Tank diameter, ft.	92	
Tank, height. ft.	24	
Actual tank capacity, gallons	1,193,300	
Number of tanks	2	
Total backwash water capacity, gallons	2,386,600	
Disinfection		
Hypochlorite criteria		
Hypochlorite concentration, percent	6%	Alternatively, chlorine gas might be used
Hypochlorite available Cl2, pounds/gal	0.5	
Chlorine dosage rate, mg/L	30	
Feed rate, gallons per day (gpd)	100,309	
Feed rate, gallons per minute (gpm)	70	

R0006167

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Hypochlorite tank capacity		
Number of design storms	3	
Hypochlorite tank capacity, gallons	300,926	
Actual tank capacity, gallons	325,000	Mulitple tanks will be used
Volume of Contact Tank		
Contact detention time, minutes	60	
Volume of contact tank, gallons	8,352,375	
Length of tank, feet.	460	
Width of tank	205	
Depth of tank, feet	12.0	
Actual volume of tank, gallons	8,465,500	
Dechlorination		
Sodium Bisulfite criteria		
Sodium Bisulfite available SO, pounds/gal	2.5	
Sodium Bisulfite rate, mg/L	15	
Feed rate, gallons per day (gpd)	10,031	
Sodium Bisulfite tank capacity		
Storage capacity, number of design storms	3	
Hypochlorite tank capacity	30,093	
Actual tank capacity, gallons	35,000	Multiple tanks used
Reverse Osmosis		Provide building.
Req. capacity of RO units, gpd	150,342,750	25% bypass around filters
Capacity of RO units (racks), gpd	1,000,000	Unit capacity 1,000,000 gpd

R0006168

200 MG Treatment Plant

ITEM	VALUE	COMMENTS
Capacity of RO treatment system, gpd	150,000,000	Unit are 40' in length, 1.5' in dia. Each
Number of RO units	170	Allow 20 for backwashing
Building size for RO units, sq. ft.	85,000	Each unit with access area 500 sq. ft.
Power requirements for RO units, kWh	37,586	6 kWh per 1000 gal. (Water Treatment Design, Robert L. Sanks)
Plant's total power requirements, MWh	41.3	Assume 10% higher than RO unit
Brine Storage Basin (Water not Recovered by RO)		
Minimum Volume, gallons	5,414,400	Storage for 1 storm event at 20% per storm
Minimum Volume, cubic feet	723,754	
Storage Basin , length, ft.	500.0	
Storage Basin , length, ft.	420.0	
Tank depth, feet	3.5	Annual evaporation rate, 42-inches per year.
Actual Tank Capacity, cubic feet	735,000	Remaining water will be discharged to sewer
Length of final effluent discharge pipe, feet	1,000	Effluent discharge to River
Number of outlet pipes	1	
Diameter of pipe, ft.	8.0	Use circular pipe

R0006169

PROTOTYPE 200 MGD TREATMENT PLANT

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 1 Treatment									
Existing River bypass structure (inflatable dam)	1	LS		$100,000	$1,000				$1,000
Gravity to detention basin 4 (15' x 10')	1500	LF	1,500	$2,250,000	$22,500				$22,500
Annual Maintenance Cost			1.00%						
Treatment plant discharge piping									
Discharge piping	1000	LF	300	$300,000					
Level 1 - Detention Basin & Influent Pump									
Detention Basin and Pumping Station	200	MG	360,000	$72,165,475	##########	$2,686	$16,115	$180,414	$920,870
Pump Operation	200	MGD			$258,522	$11,924		$64,630	$335,076
Level 1 - Site Work									
Paving	10,000	SF	$1.50	$15,000					
Maintenance and storage building	1,000	SF	$100	$100,000	$20,000	$5,000	$2,000		$27,000
Land / easements	40	AC	$914,760	$36,590,400					
Outside piping			5%	$3,608,274					
Subtotal				$115,129,149					$1,306,446
Level 1 - Miscellaneous									
Construction Contingency			30%	$34,538,745					
Subtotal				$149,667,893					
Engineering/Legal/Administrative			20%	$29,933,579					
Level 1 Total				$179,601,472					$1,306,446

R0006170

PROTOTYPE 200 MGD TREATMENT PLANT

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	LABOR $	ANNUAL OPERATION AND MAINTENANCE COST			
						POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 2 - Filtration									
Filter	200	MG	33,000	$42,714,092	$427,141	$30,069		$213,570	$670,780
Level 2 - Disinfection and Dechlorination									
Disinfection and dechlorination	200	MG	3,500	$1,266,830			$69,213		$69,213
Level 2 - Site Work									
Paving	10,000	SF	$1.50	$15,000					
Building	2,500	SF	$100	$250,000					
Outside piping			5%	$2,199,046					
Subtotal				$46,444,968					
Level 2 - Miscellaneous									
Construction Contingency			30%	$13,933,490					
Subtotal				$60,378,458					
Engineering / legal / administrative			20%	$12,075,692					
Subtotal				$72,454,150					
Land / easements	40	AC	$914,760	$36,590,400					
Level 2 Total				$109,044,550					$739,993

R0006171

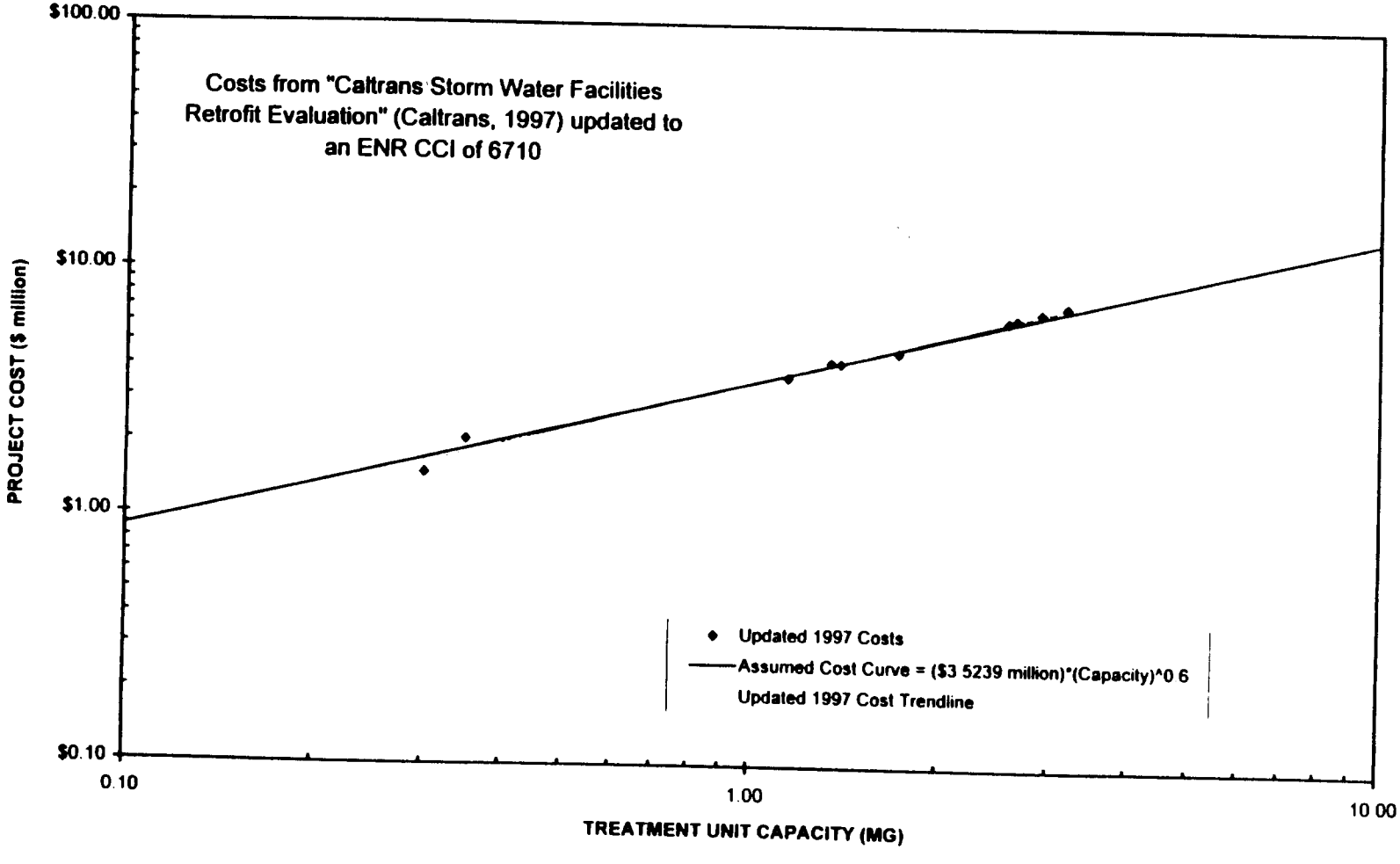
PROTOTYPE 200 MGD TREATMENT PLANT

ITEM	QUANTITY	UNIT	UNIT PRICE $	TOTAL COST $	ANNUAL OPERATION AND MAINTENANCE COST				
					LABOR $	POWER $	CHEMICALS $	MATERIALS $	TOTAL $
Level 3 -- Advanced Treatment									
Reverse osmosis (power costs assumes 15 storm a	150	MG	$1,500,000	$225,000,000	$1,125,000	$1,190,730	$8,730	$562,500	$2,886,960
Level 3 -- site work									
Paving	10,000	SF	$1.50	$15,000					
Building	85,000	SF	$100	$8,500,000					
Outside piping			5%	$11,675,750					
Subtotal				$245,190,750					
Level 3 -- [illegible]									
Construction Contingency			30%	$73,557,225					
Subtotal				$318,747,975					
Engineering / legal / administrative			20%	$63,749,595					
Subtotal				$382,497,570					
Land / easements				none					
Level 3 --Total				$382,497,570					$2,886,960

R0006172

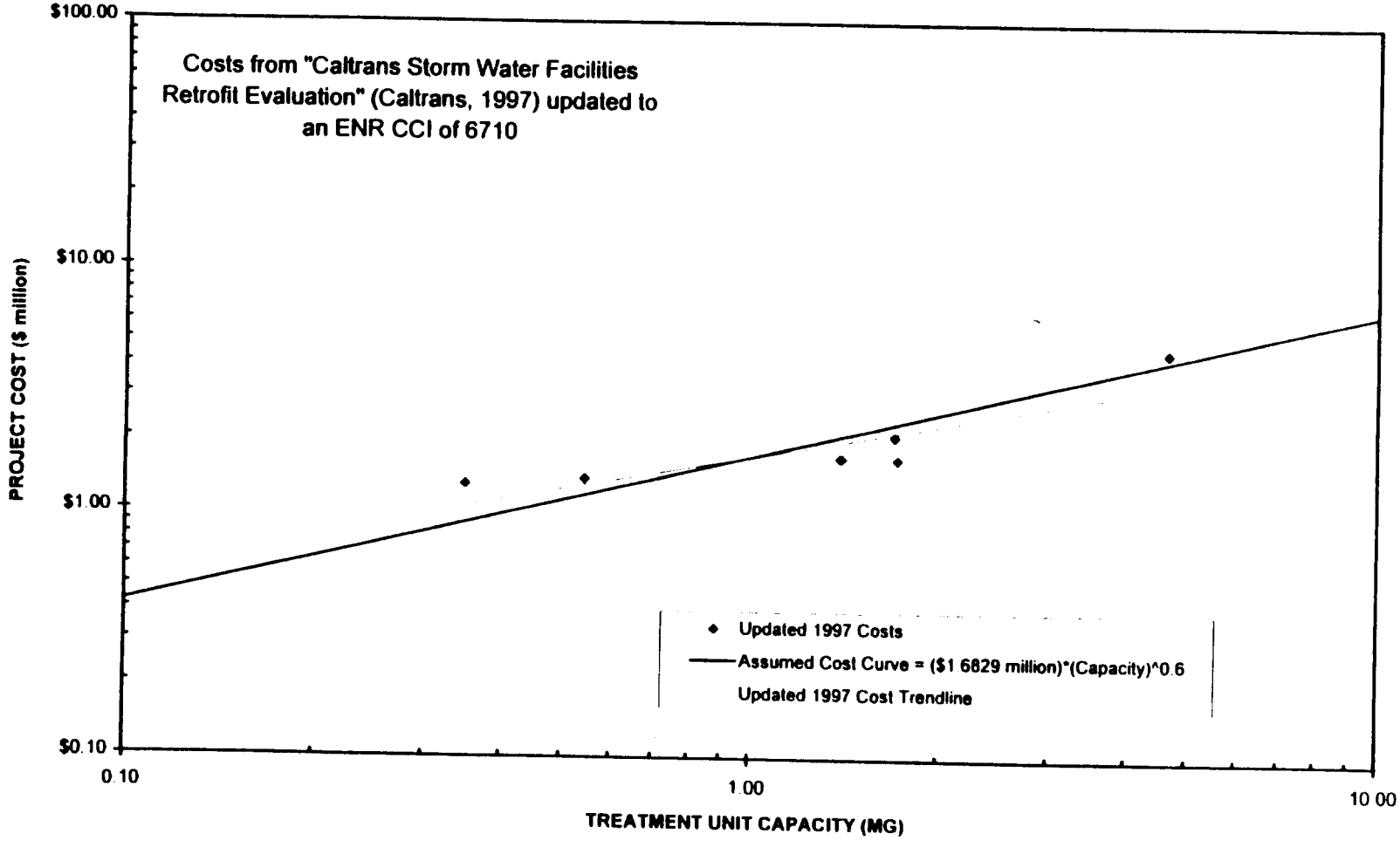
ATTACHMENT 3

STANDARDIZED COST ESTIMATION CURVES FOR TREATMENT PLANTS



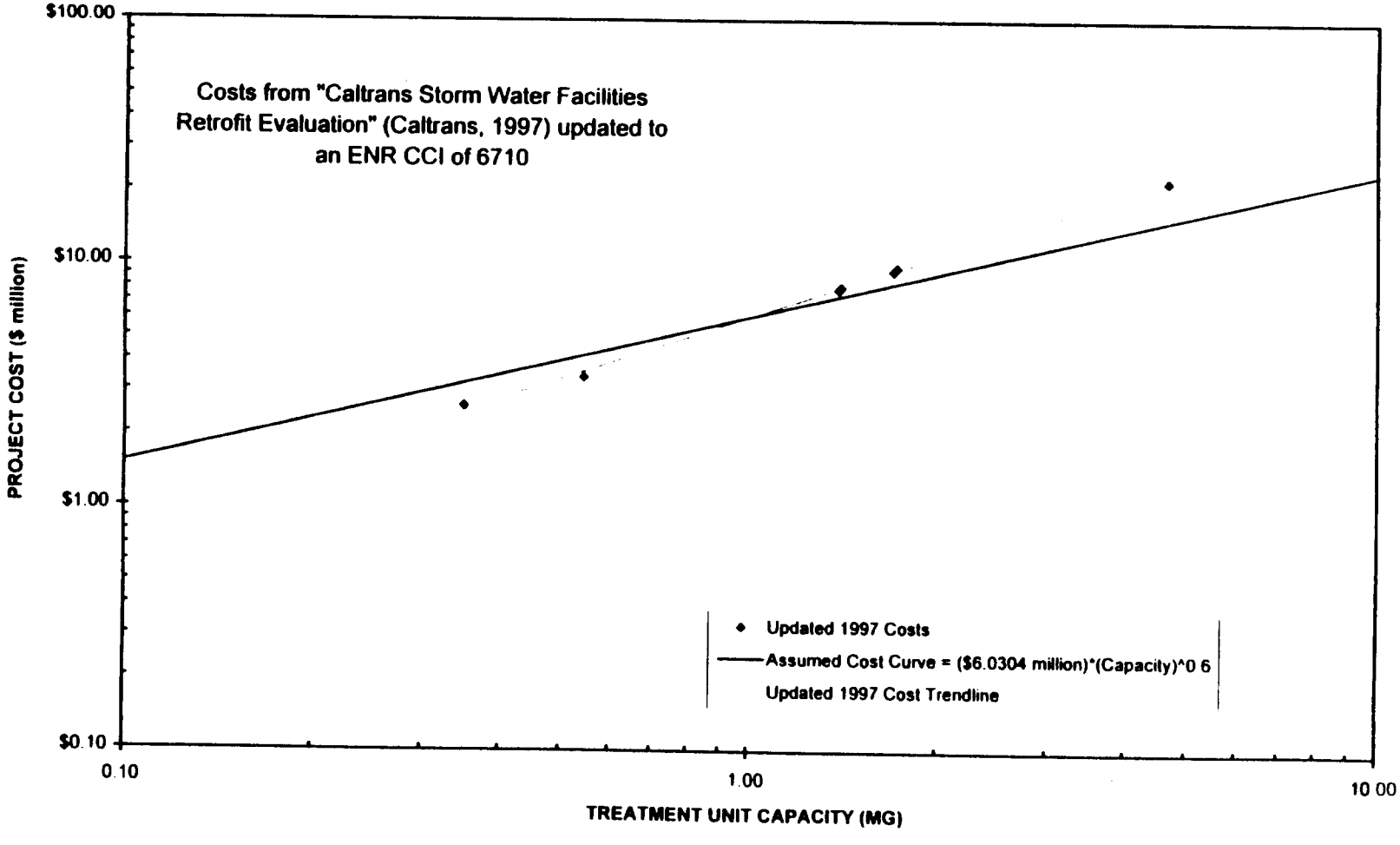
R0006174

Level 1 Treatment Project Costs



R0006175

Level 2 Treatment Incremental Project Costs

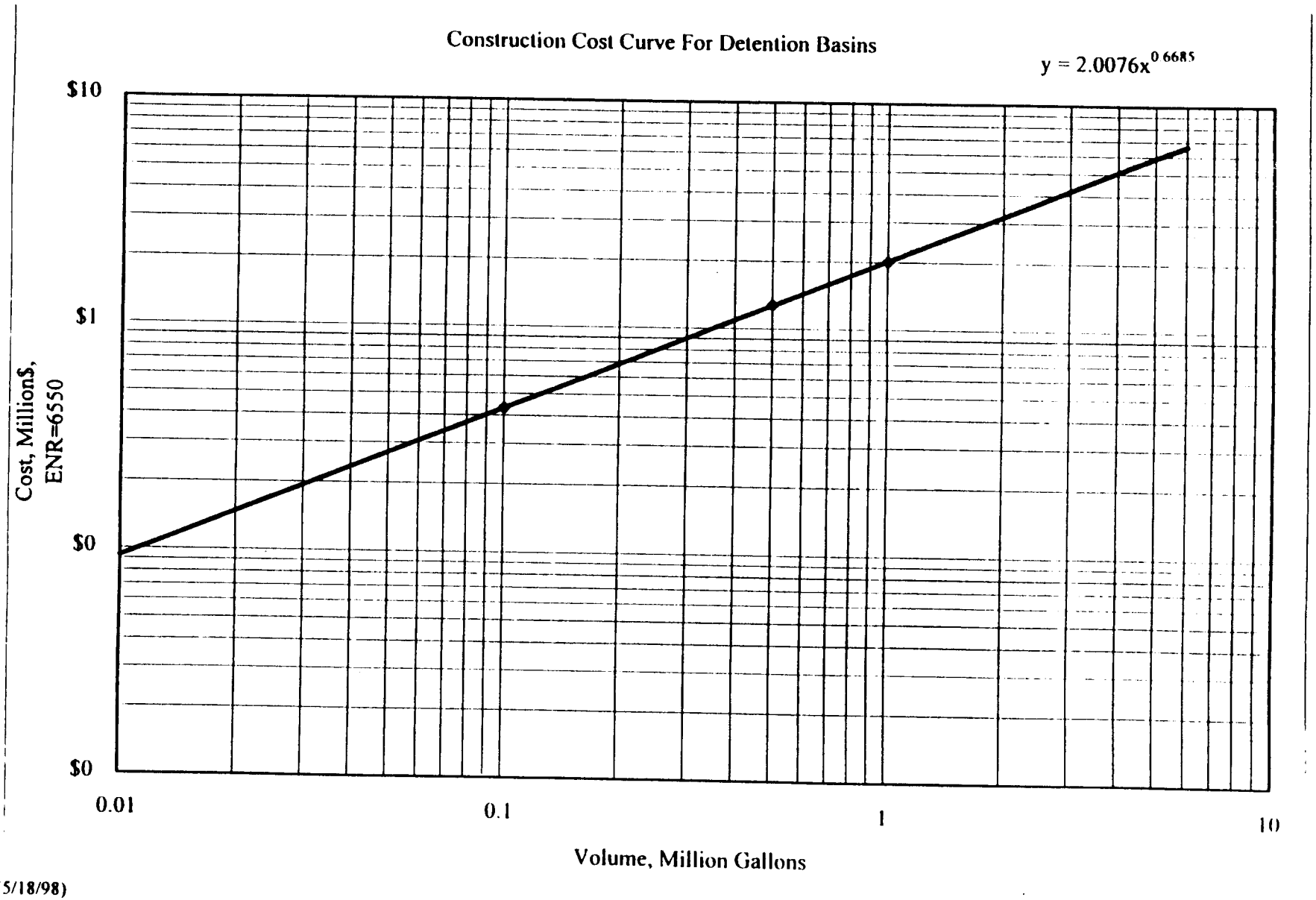


Level 3 Treatment Incremental Project Costs

R0006176

ATTACHMENT 4

STANDARDIZED COST ESTIMATION CURVES FOR TREATMENT PLANT SIZES TO 10 MILLION GALLONS



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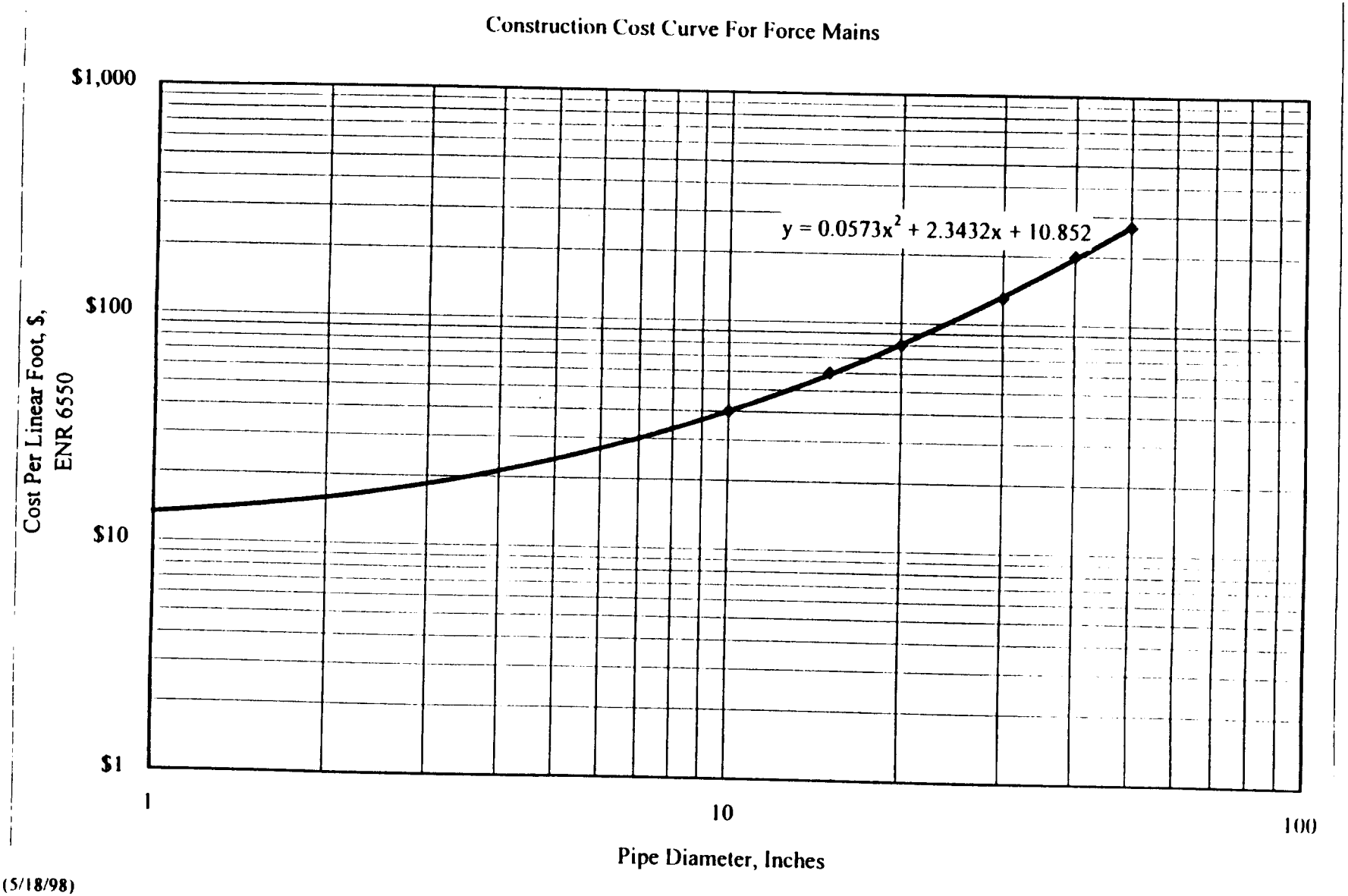

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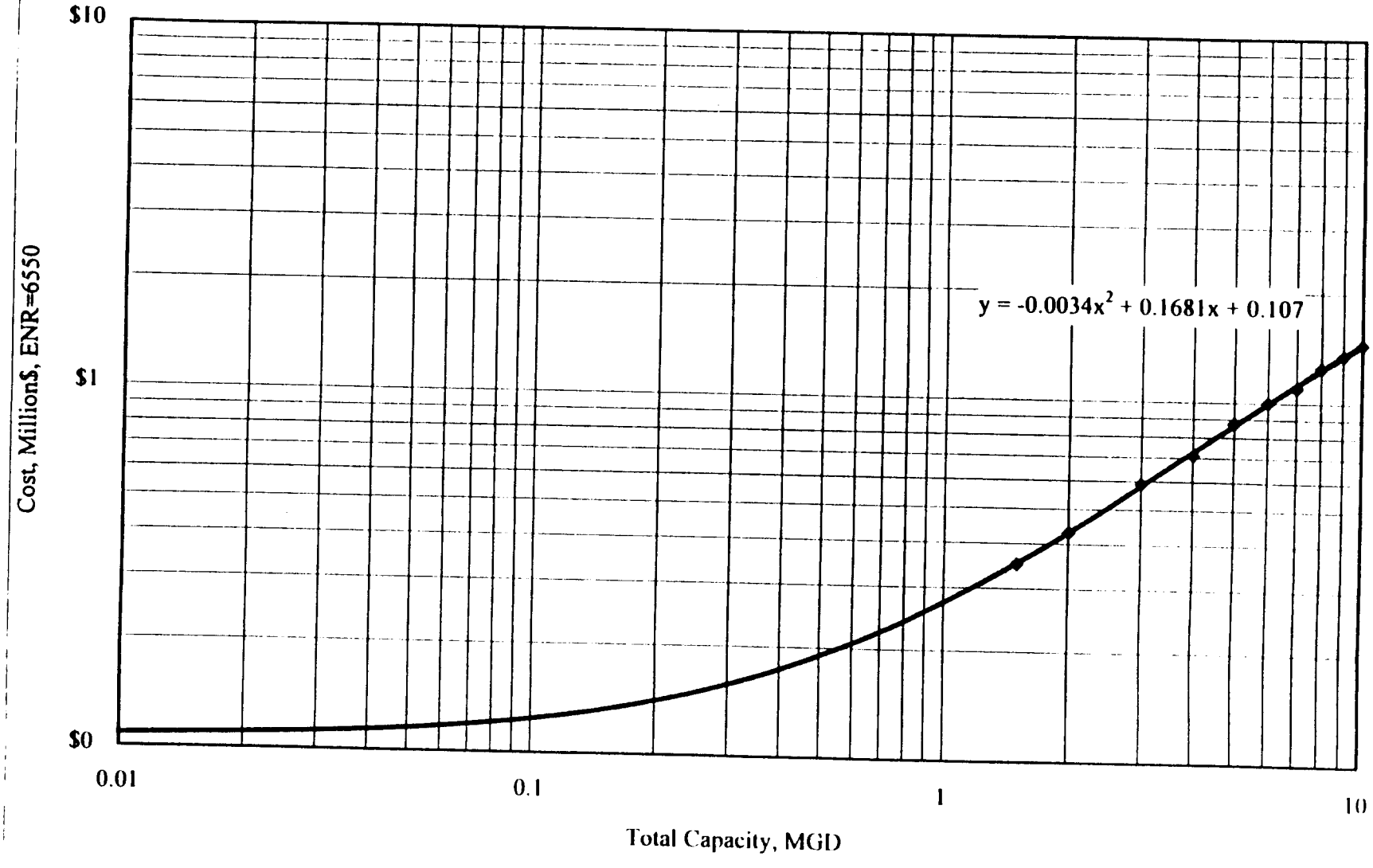
Construction Cost Curve For Submersible Storm Water Pumping Stations



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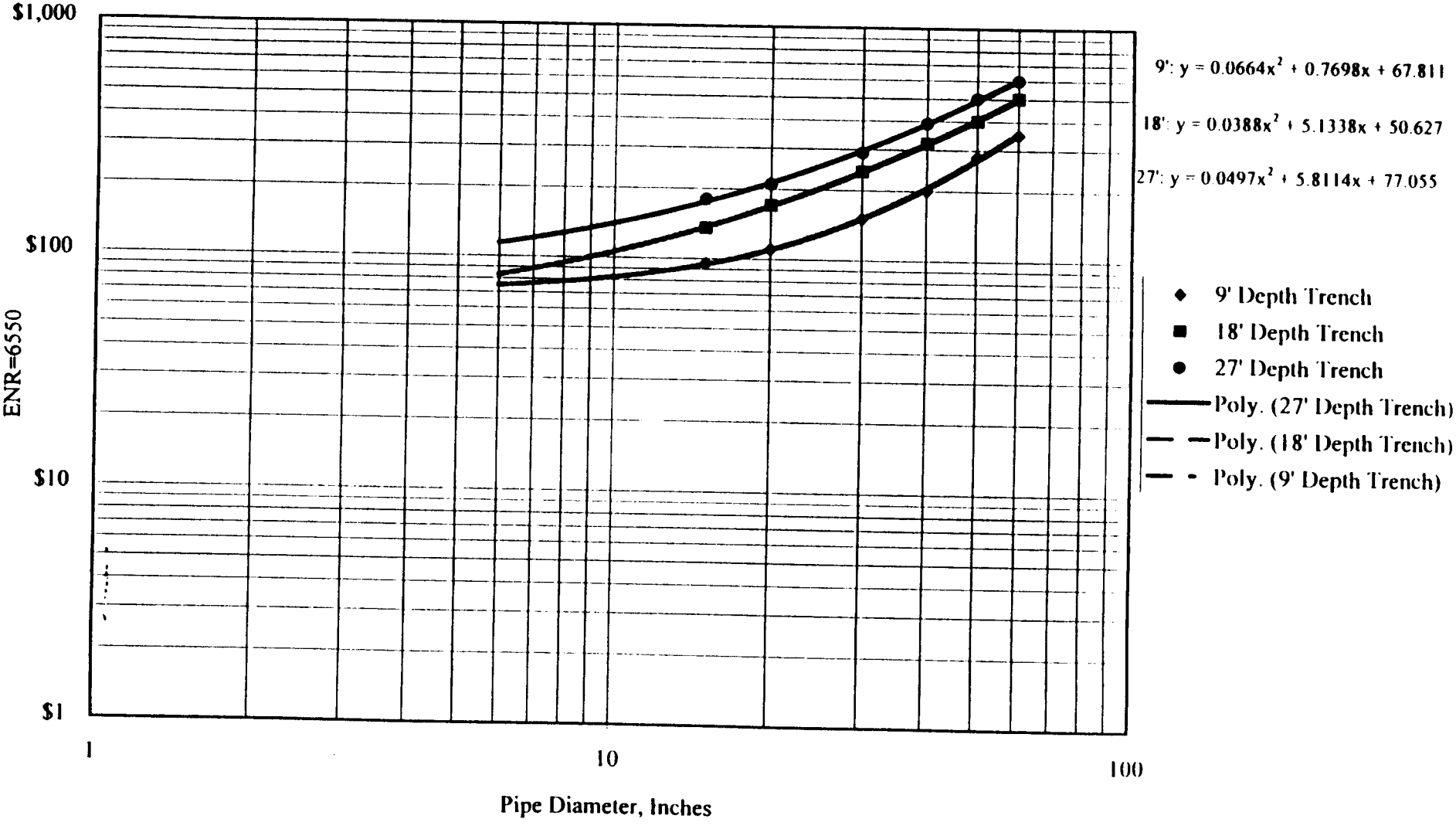
Construction Cost Curve For Gravity Sewers



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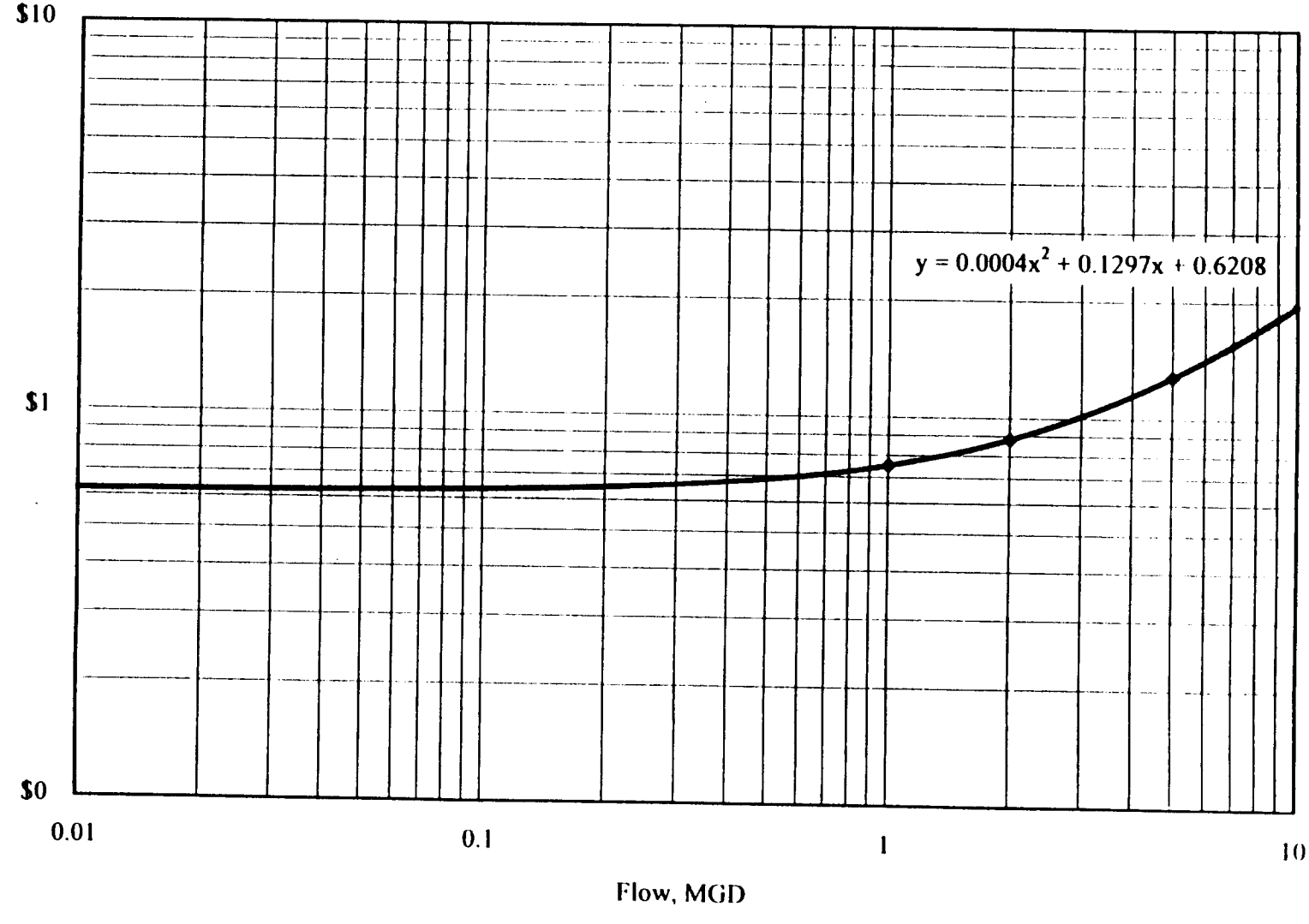
Construction Cost Curve For Pressure Filtration



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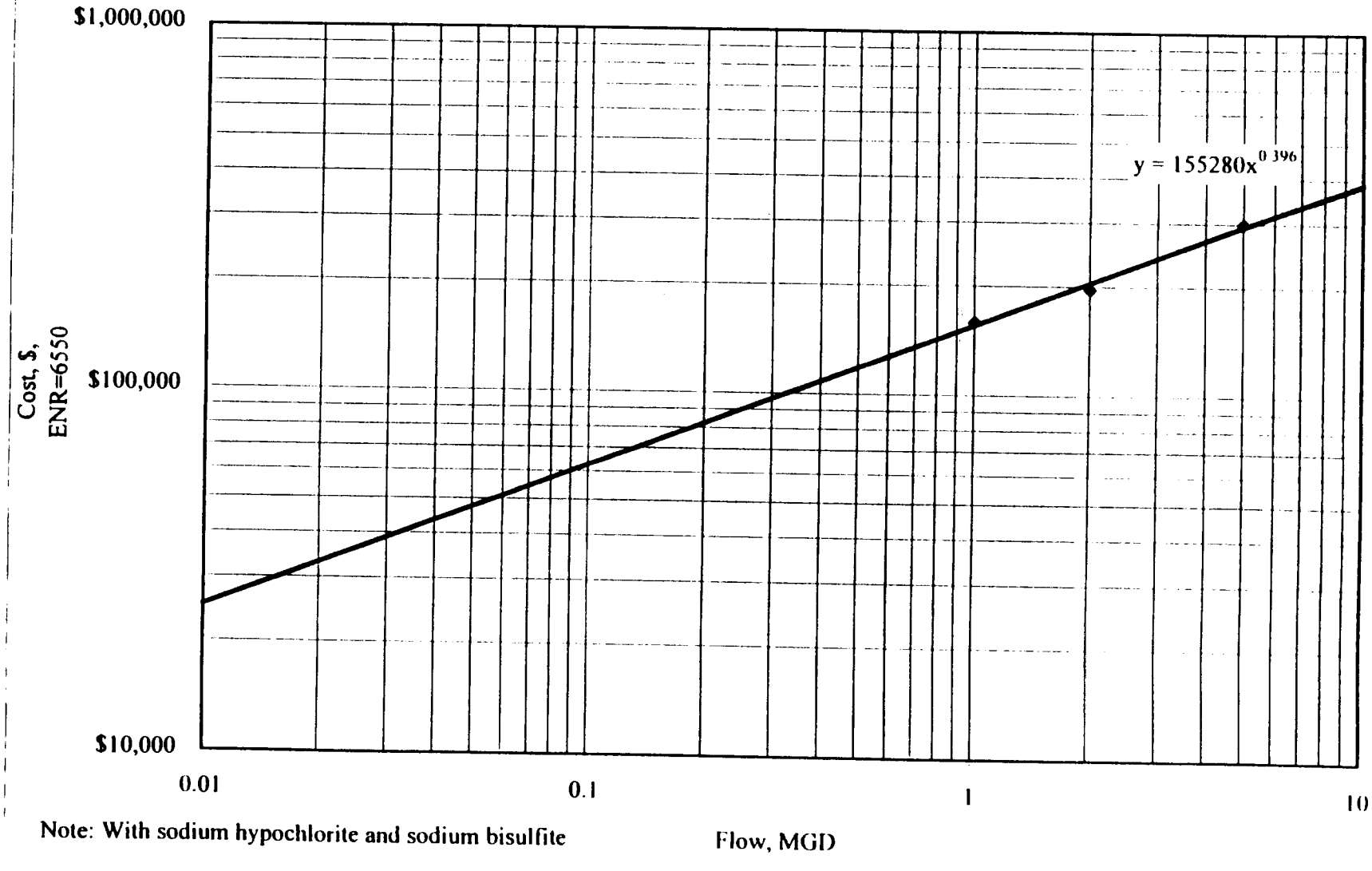
R0006182

Construction Cost Curve For Disinfection and Dechlorination



Note: With sodium hypochlorite and sodium bisulfite

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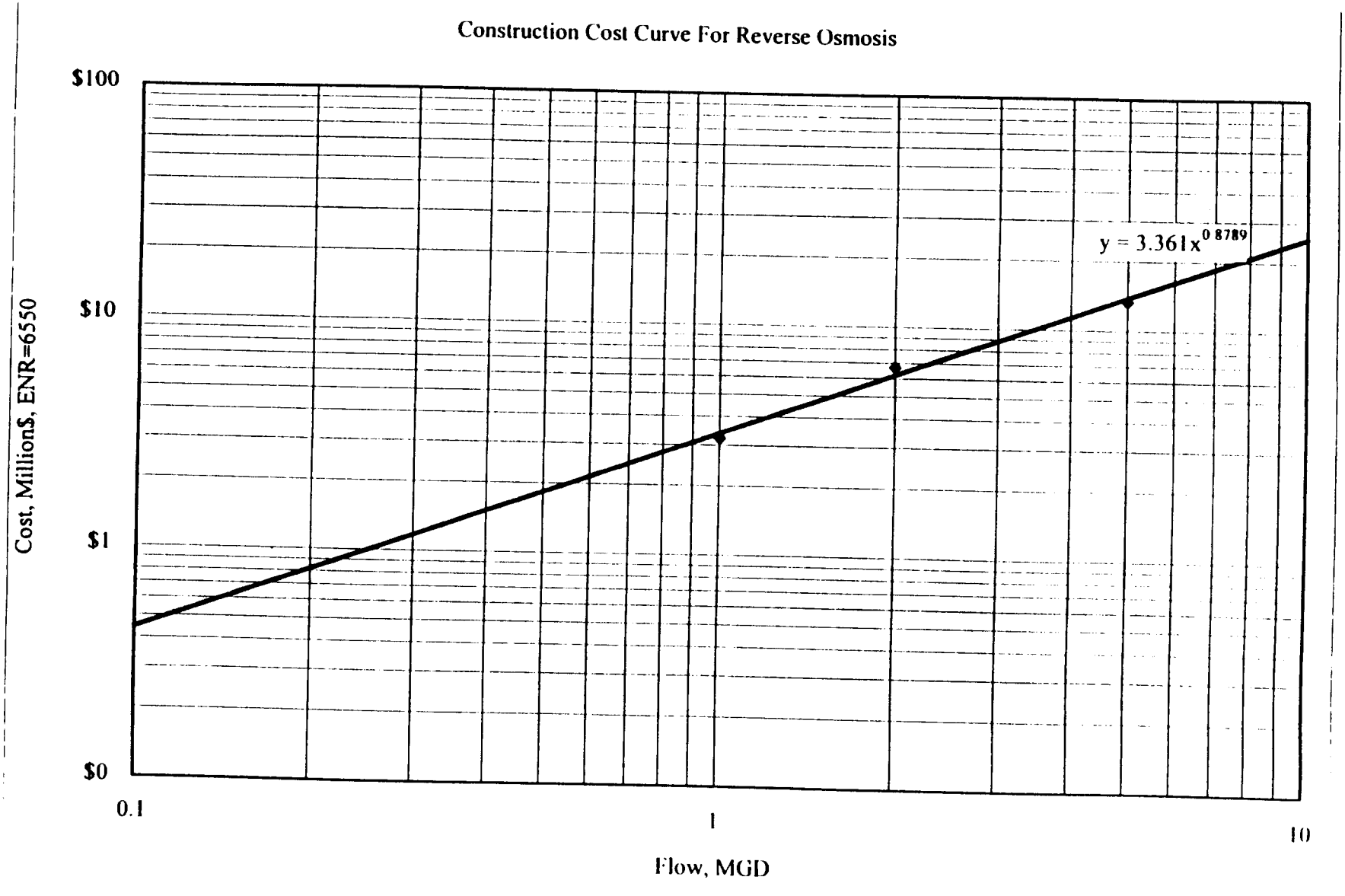

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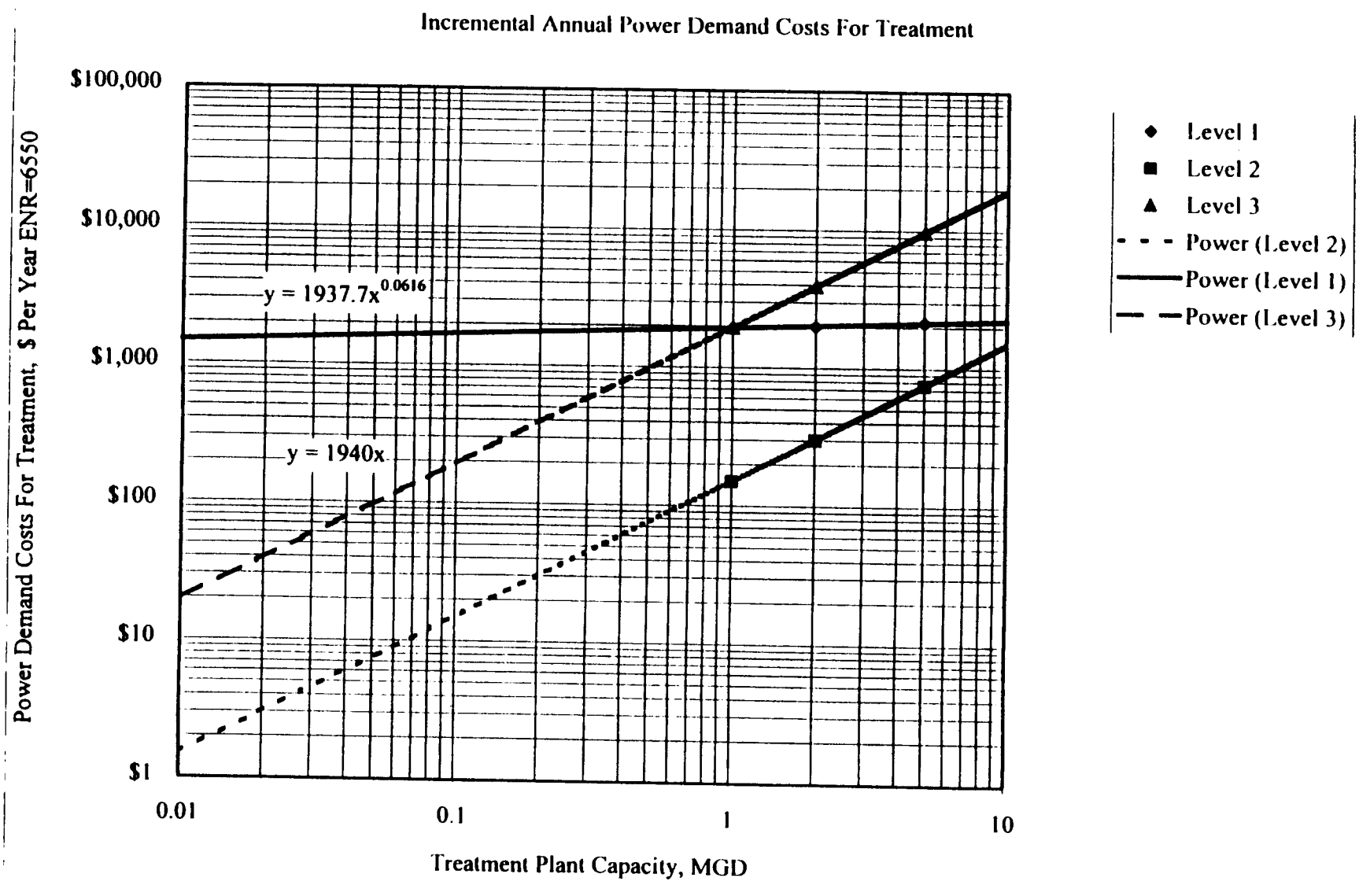

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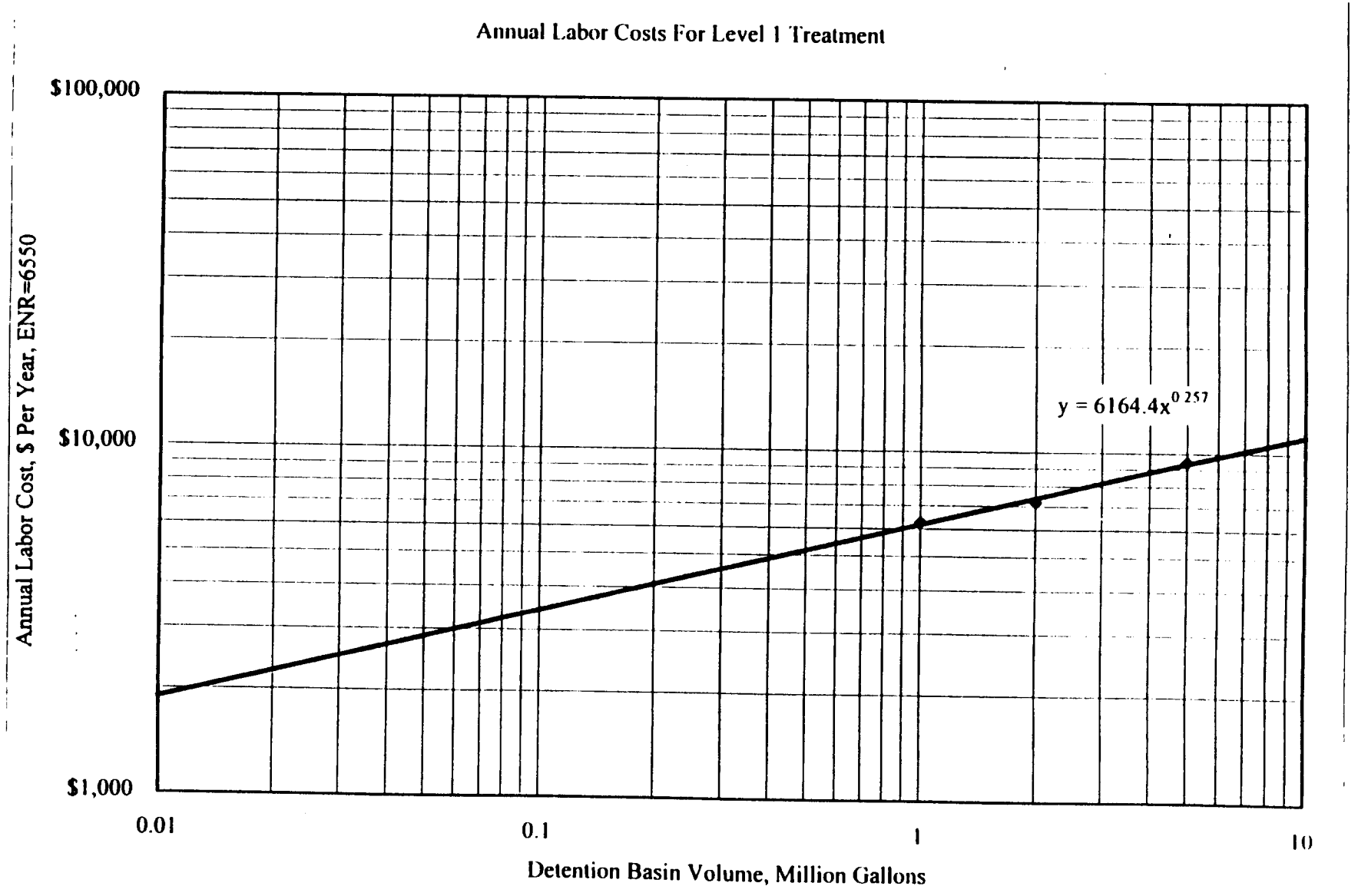

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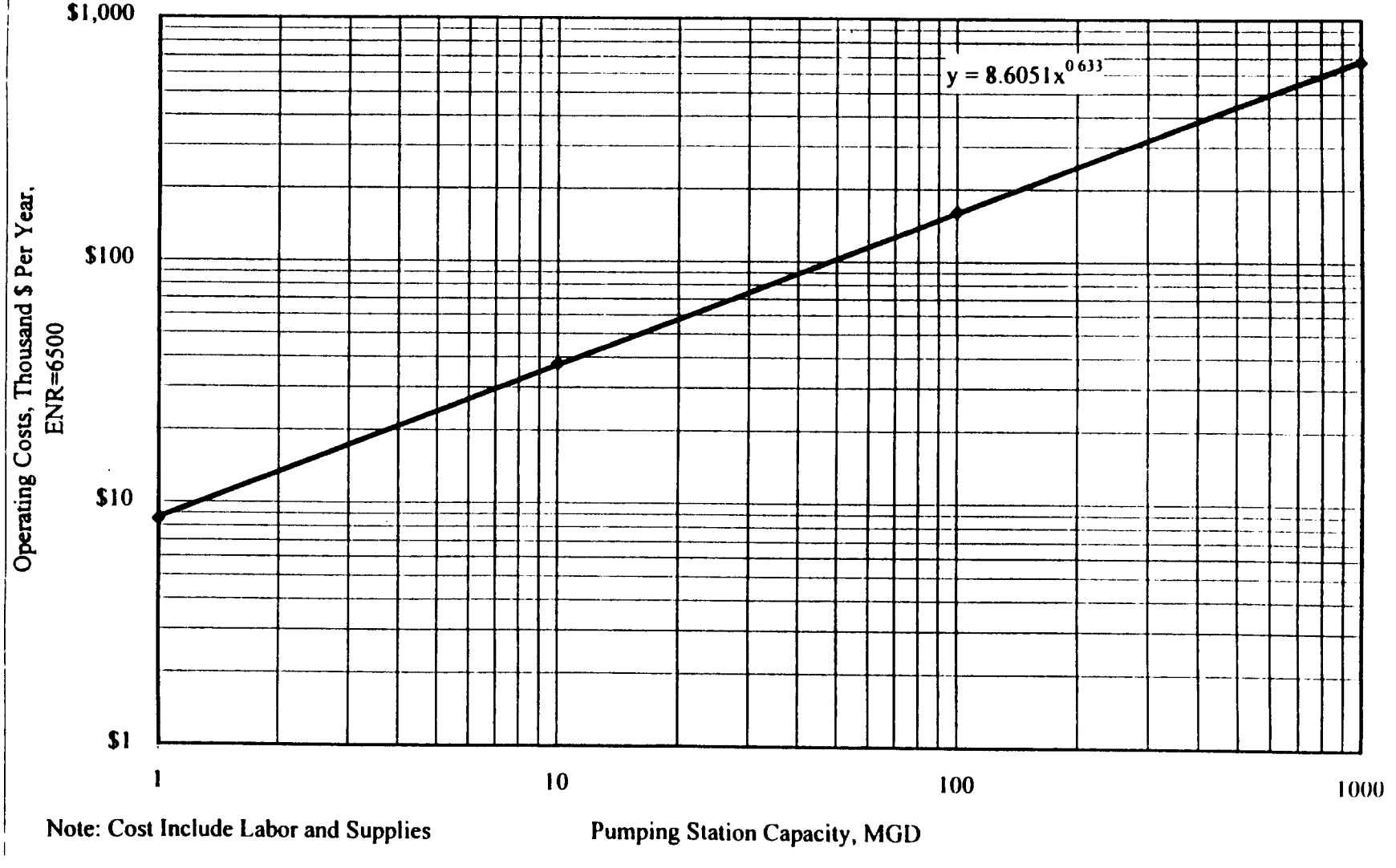
Operating Costs For Pumping Stations (Excluding Power Costs)



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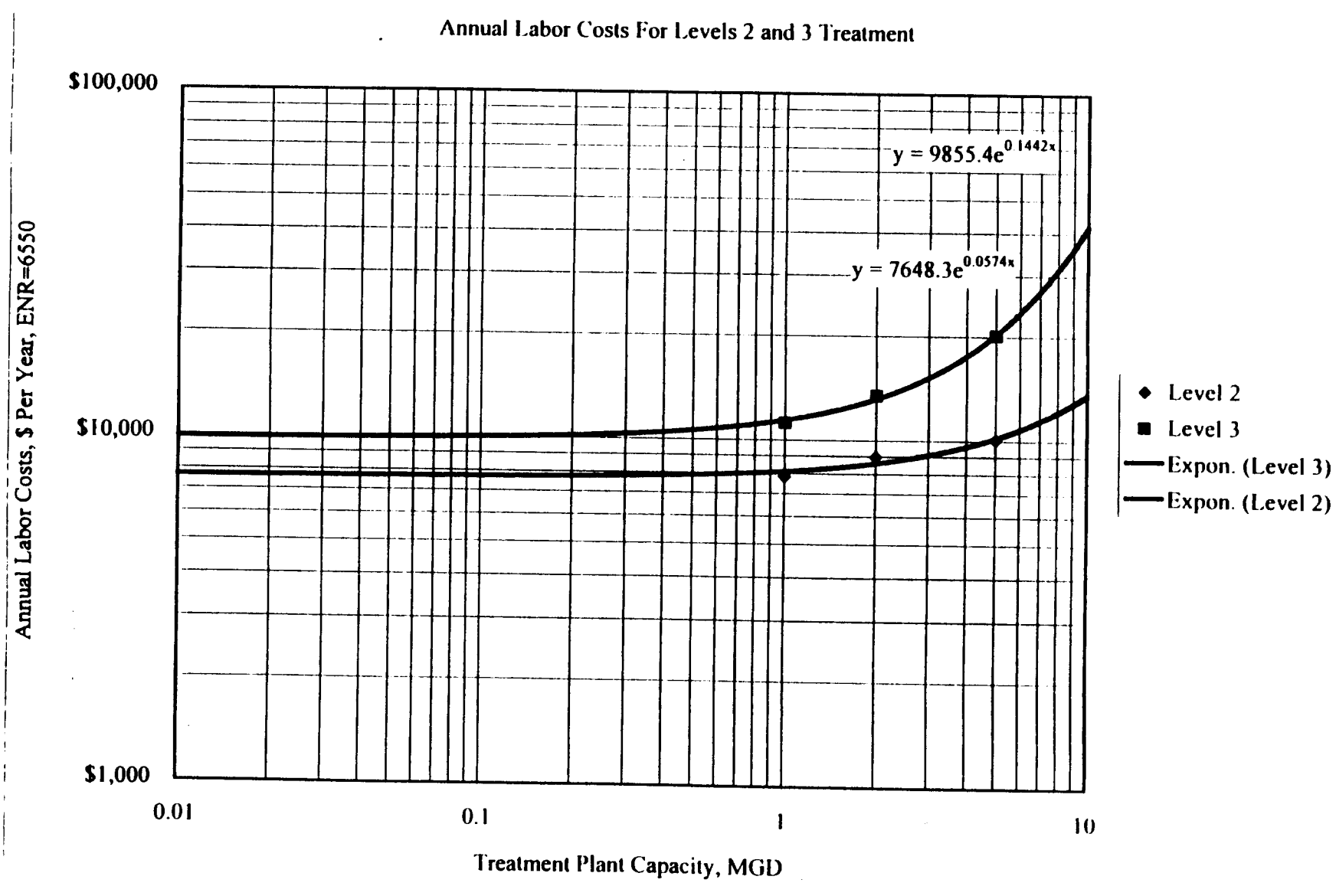

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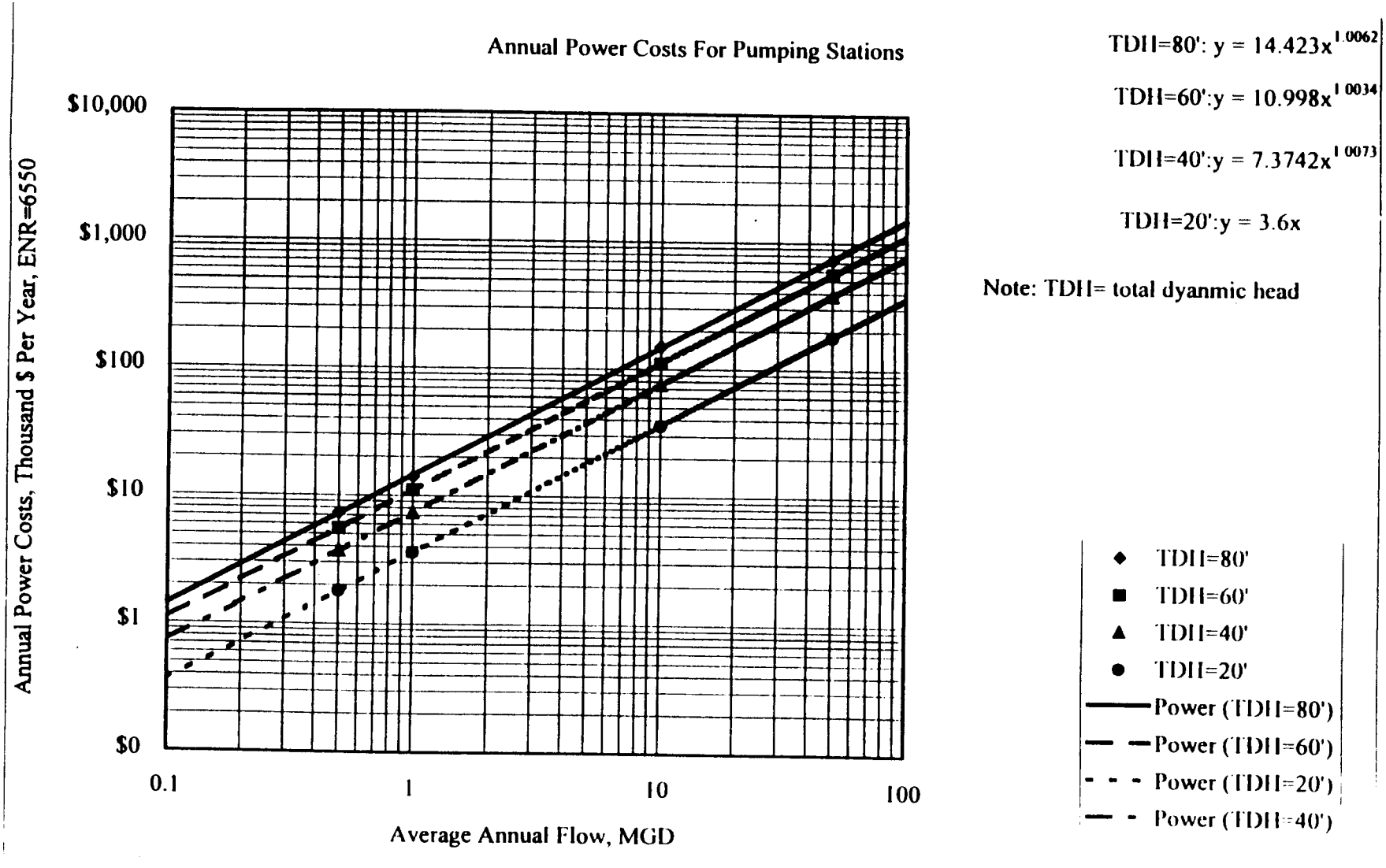

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(Pump-pwr Chart 2)

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November 8, 2001

Mr. Dennis Dickerson,
Executive Officer,
California Regional Water Quality Control Board –
Los Angeles Region
Attn: Xavier Swamikannu, Ph.D.
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: **Submission of "COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS," October, 1998, prepared for California Department of Transportation, Sacramento, California, by Brown and Caldwell as Evidence of Economic Impacts of "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH"**

Dear Mr. Dickerson and Dr. Swamikannu:

By this letter, the Cities of Alhambra, Camarillo, Compton, El Segundo, Industry, Lawndale, Lomita, Moorpark, Santa Clarita and Torrance (the "Cities") and the Los Angeles County Economic Development Corporation ("LAEDC"), submit an important study:

> **"COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS," October, 1998, prepared for California Department of Transportation, Sacramento, California, by Brown and Caldwell,**

as additional evidence of economic considerations. This evidence is directly relevant, and, as a matter of law, must be addressed in revisions to the "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" (the "Third Draft") and the accompanying document, "Tentative Draft – FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

The "COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS" study must be taken into consideration in re-evaluating the requirements to be imposed on the co-permittees. MS4 permits are issued by the Board under section 402(p)(3)(B)(iii) of the CWA.[1] **That section** does not impose an absolute prohibition on the discharge of pollutants. Instead, the section **requires that:**

> **Permits for discharges from municipal storm sewers --**
>
> > **(iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable*,** including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (Emphasis added.)

Similarly, section 13263(a) of the California Water Code requires regional boards, when prescribing waste discharge requirements, to take into consideration the provisions of California Water Code §§ 13241(c) and (d). Those sections require a balancing similar to that required by § 402(p)(3)(B)(iii) of the CWA. Among the factors regional boards must consider are:

---

[1] 33 U.S.C. § 1342(p)(3)(B)(iii).

(c) ***Water quality conditions that could reasonably be achieved*** through the coordinated control of all factors which affect water quality in the area.

(d) ***Economic considerations***.

The balancing required by CWA § 402(p)(3)(B)(iii) and California Water Code §§ 13241(c) and (d) clearly require the Regional Board to consider the "COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS" study.

The LAEDC and the Cities fully support the objectives of the Clean Water Act. However, the magnitude of the compliance costs will make it necessary for the Cities named above, and all other Cities in Los Angeles County, to ask the Congress and the California Legislature to appropriate nearly all of the funds estimated to be necessary for compliance.

The LAEDC and the Cities will expect the Board and Staff to give most careful consideration to "COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS." We are not aware of any published studies, by any reputable and qualified persons, which rebut the studies submitted with this letter.

We ask that this letter, and "COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS" be included in the administrative record of this matter. The LAEDC and the Cities reserve the right to offer further comments. Please list this letter as having been submitted by LAEDC and each of the respective cities. (It is not a comment letter of the firm of Burke, Williams & Sorensen, LLP, which has not taken a position in this matter. However, please continue to keep the undersigned on the list of interested persons in this matter.) This letter supplements the Cities' previous letters of July 19, 2001, and August 6, 2001, which offered comments on the Second Draft, and November 6, 2001, which submitted additional evidence of costs of storm water permit compliance.

Very truly yours,

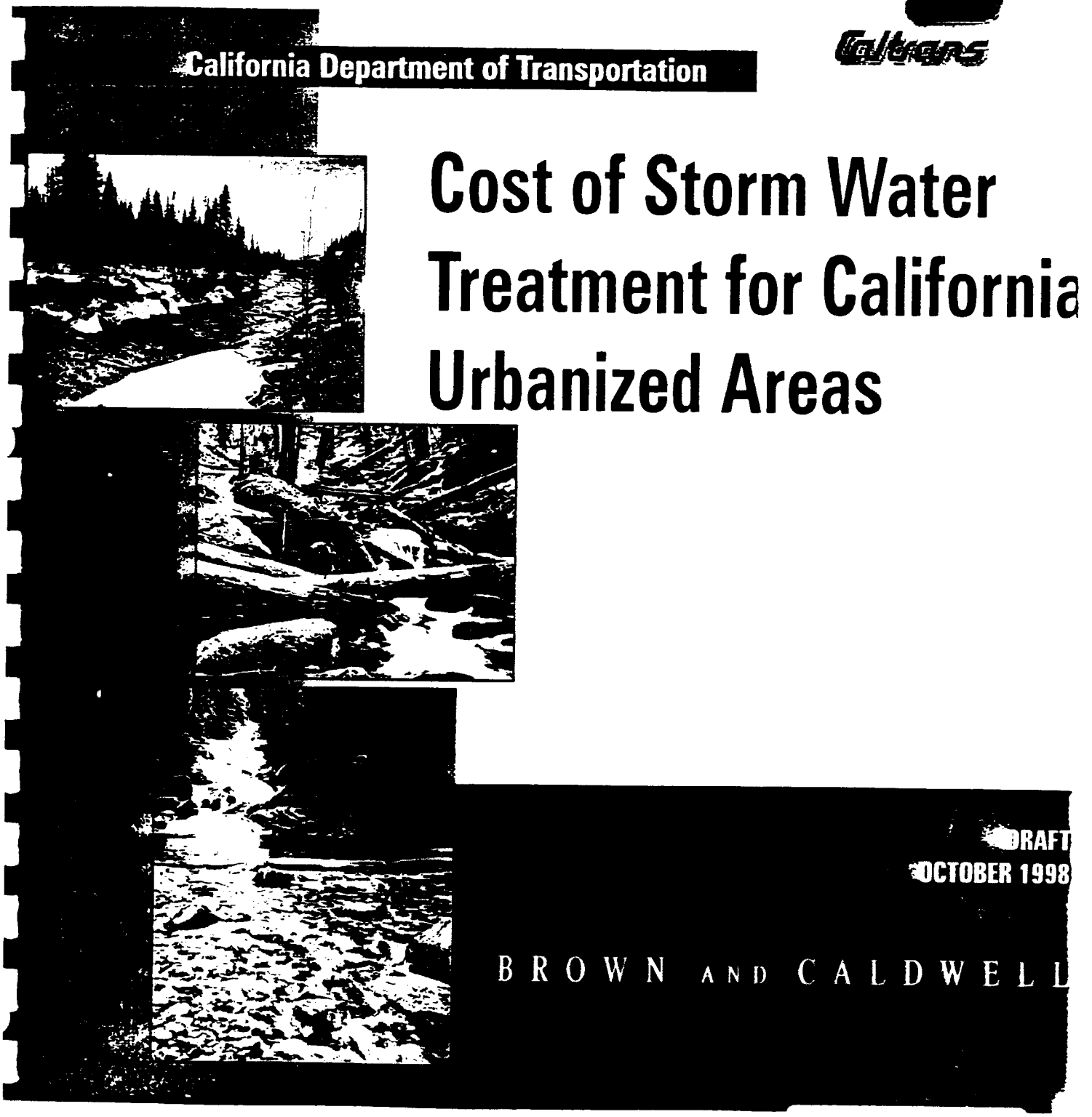
RUFUS C. YOUNG, JR.
Of BURKE, WILLIAMS & SORENSEN, LLP

LA #80263 v1

Encl.: "COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS," October, 1998, prepared for California Department of Transportation, Sacramento, California, by Brown & Caldwell.

cc: Lee Herrington, President & CEO, LAEDC
Mayors, City Managers and City Attorneys of the
City of Alhambra,
City of Compton,
City of Camarillo
City of El Segundo,
City of Industry,
City of Lawndale,
City of Lomita,
City of Moorpark
City of Santa Clarita, and the
City of Torrance

CTSW-RT-98-097-d



California Department of Transportation

Cost of Storm Water Treatment for California Urbanized Areas

DRAFT

OCTOBER 1998

BROWN AND CALDWELL

R0006194

...L CONTROL BOARD
...ANGELES REGION

COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS

October 1998

Prepared for:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
SACRAMENTO, CALIFORNIA

Prepared by:

BROWN AND CALDWELL
3480 BUSKIRK AVENUE
PLEASANT HILL, CALIFORNIA 94523

R0006195

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CHAPTER 1

INTRODUCTION

This report summarizes an analysis of the cost of treating storm water runoff from major urbanized areas throughout the state. The analysis was one component of a number of concurrent studies conducted by Caltrans to evaluate costs and other issues associated with storm water compliance. The costs presented herein were prepared as a basis for further analysis of the economic impact of storm water treatment on the residents of California.

This report builds on the storm water treatment cost analysis presented in two previous projects. The *Caltrans Storm Water Retrofit Evaluation* (Caltrans, 1997) evaluated the practicability of retrofitting the storm water drainage system in District 7 (Los Angeles County) roadways. The report analyzed the cost of retrofitting storm water treatment for 434 miles of freeways, 223 miles of highways, 40 interchanges, 56 pumping stations, 37 maintenance stations, and 43 park-and-ride lots within District 7. A detailed assessment was completed for a smaller study area within District 7, which comprised 27.5 miles of freeway, and the storm water treatment costs were extrapolated to all of District 7. *The Analysis of the Cost of Storm Water Treatment for Los Angeles County* (Caltrans, 1998) extended the storm water treatment retrofit cost analysis to the Phase I storm water permit area within Los Angeles County. This subsequent study evaluated the costs of storm water collection and treatment for the entire permit area, which included a variety of land uses in addition to transportation.

Given the scope and time available for this study, a geographic information system (GIS) database was compiled from existing data sources to evaluate the cost of storm water collection and treatment within major urbanized areas throughout California. Data on rainfall, hydrologic drainage basins, urbanized area boundaries, and land use were incorporated into this database so that a uniform statewide approach could be used. The most powerful feature of the GIS database is its ability to perform calculations using several pieces of spatially linked data that would not be possible with any other approach.

The GIS database developed for this study represents a framework for a systematic evaluation of storm water retrofit costs throughout the state. Any of the components of the database, such as land use, can easily be refined with more detailed and/or more recent data from other sources as additional data needs are developed.

CHAPTER 2

AREAS OF INTEREST

This chapter summarizes the urbanized areas of interest analyzed in this study.

Data on the location and extent of urbanized areas were obtained from Teale Data Center through Caltrans and are based on 1990 U.S. Census Bureau data. A description of the urbanized area data (i.e., "metadata") is included in Appendix D. An urbanized area is defined as a place and the adjacent densely settled surrounding territory that together have a population of 50,000 people or more. Therefore, an urbanized area boundary does not necessarily coincide with a city political boundary (*i.e.*, city limit) and or county political boundary. The densely settled surrounding territory consists of an area with continuous residential development and an overall population density of at least 1,000 people per square mile (1.6 people per acre). Based on this definition, there are 36 urbanized areas within California.

The major urbanized areas of interest for this study were selected based on the Phase I storm water permits issued to counties and municipalities throughout the state. These permitted counties include:

- Alameda
- Contra Costa
- Fresno
- Kern
- Los Angeles
- Marin
- Orange
- Riverside
- Sacramento
- San Bernardino
- San Diego
- San Joaquin
- San Mateo
- Santa Clara

- Solano
- Sonoma
- Stanislaus
- Ventura

Note that Marin County is not a Phase I permitee, but participates in the storm water programs and so was included in this analysis. Eighteen of the urbanized areas defined for California fall within the permitted counties. The urbanized areas of interest within these counties are shown in Figure 2-1 and include:

- Antioch-Pittsburg
- Bakersfield
- Fairfield
- Fresno
- Hemet-San Jacinto
- Indio-Coachella
- Los Angeles
- Modesto
- Oxnard-Ventura
- Palm Springs
- Riverside-San Bernardino
- Sacramento
- San Diego
- San Francisco-Oakland
- San Jose
- Santa Rosa
- Simi Valley
- Stockton



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Cost of Storm Water Treatment for California Urbanized Areas
California Urbanized Areas
Phase I Permits
Figure 2-1

Individual maps of the 18 counties showing the urbanized areas of interest within each county are included in Appendix B.

CHAPTER 3

DESIGN STORM

The design storm used for runoff calculations in this study is a 24-hour duration, 1-year return period storm, similar to that used in the *Caltrans Storm Water Retrofit Evaluation* (Caltrans, 1997) and *The Analysis of the Cost of Storm Water Treatment for Los Angeles County* (Caltrans, 1998). Statewide design storm rainfall contours were developed as part of this study and were used for runoff calculations as described in Chapter 4.

Historical rainfall data throughout California for a range of storm durations (*e.g.*, 1-hour, 24-hour, 7-day) are compiled by the Department of Water Resources (DWR). Figure 3-1 shows the location of approximately 3,000 rainfall gage locations in the state. Caltrans maintains spreadsheet files of the DWR data for highway drainage calculations and copies of these files were provided for this study (Glenn DeCou, 1998).

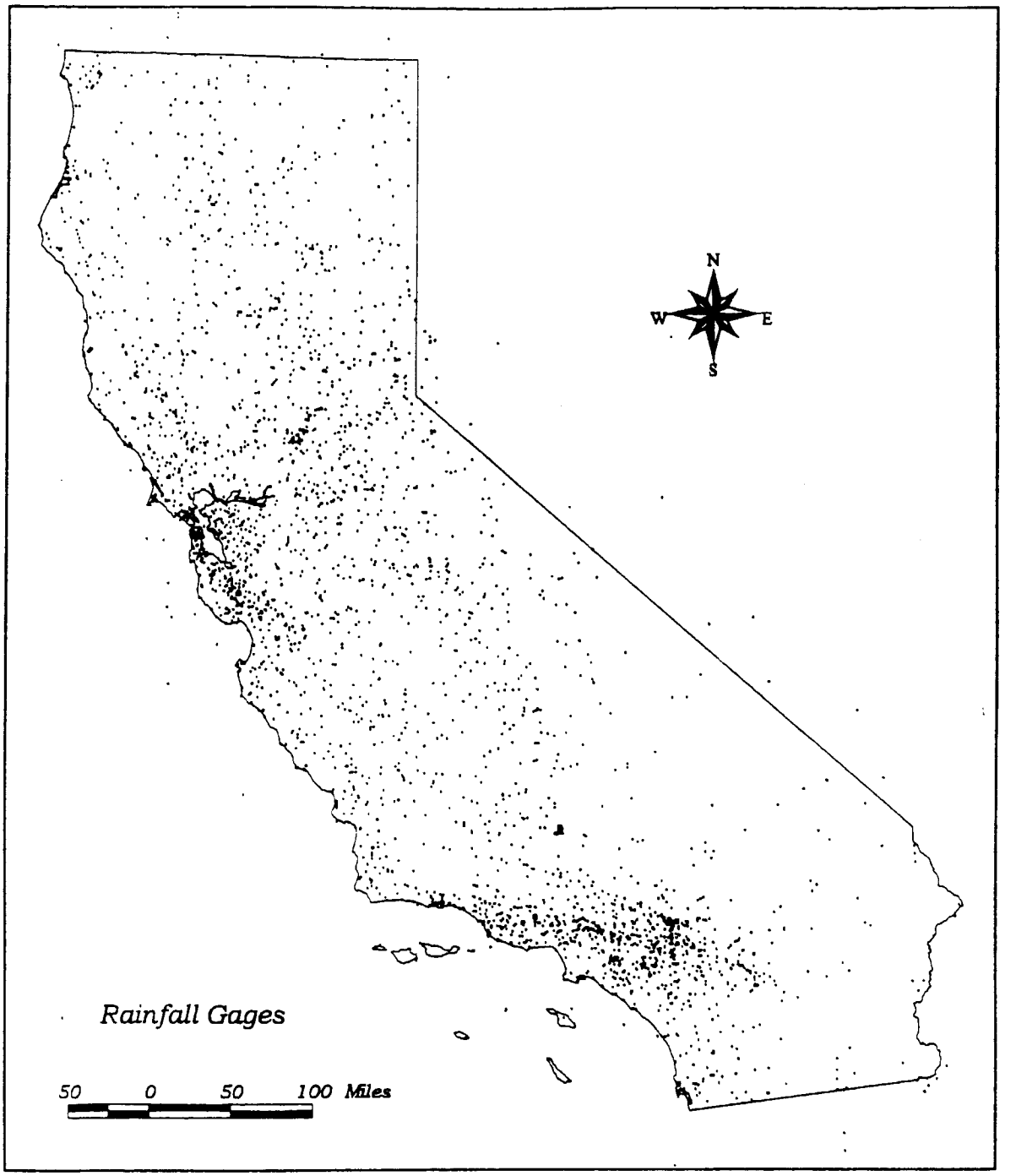
Design storm rainfall amounts were calculated using the approach described in *Rainfall Depth-Duration-Frequency for California* (Department of Water Resources, 1982). The design storm precipitation was calculated using the equation:

$$X_{ji} = X_{mean,i} + K_j S_i \qquad [1]$$

where X_{ji} is the precipitation in inches for return period j (*i.e.*, 1-year) and duration i (*i.e.*, 24-hour), $X_{mean,i}$ is the mean maximum annual storm for duration i (*i.e.*, 24-hour), K_j is the frequency factor (in standard deviations) for a return period j (*i.e.*, 1-year), and S_i is the standard deviation of the maximum annual storm for duration i (*i.e.*, 24-hour). Regional values for skew and coefficient of variation as reported in Department of Water Resources (1982) were used in the calculation. Values for the frequency factor for a Pearson Type III distribution, which are a function of skew, were obtained from Department of Water Resources (1982) and Haan (1977).

A summary table of precipitation for a 24-hour, 10-year return interval storm provided by Caltrans was used to calculate precipitation for a 24-hour, 1-year return interval storm for the approximately 3,000 rainfall stations in the state. Equation 1 was rearranged to calculate the mean maximum annual 24-hour storm, $X_{mean,i}$ given the 10-year return interval precipitation. The equation was then used to calculate the design storm precipitation for a 1-year return interval. The rainfall data are included in Appendix Table C-20.

The design storm precipitation data were used to calculate rainfall contours, shown in Figure 3-2. . To illustrate rainfall contours on a larger scale, Figure 3-3 shows the rainfall contours for Sacramento County. Maps showing rainfall contours for all the counties of interest are included in Appendix B. Note that the rainfall contour ranges shown in these figures were selected for clarity; rainfall contours of 0.1 inches were used for runoff calculations described in the next chapter.



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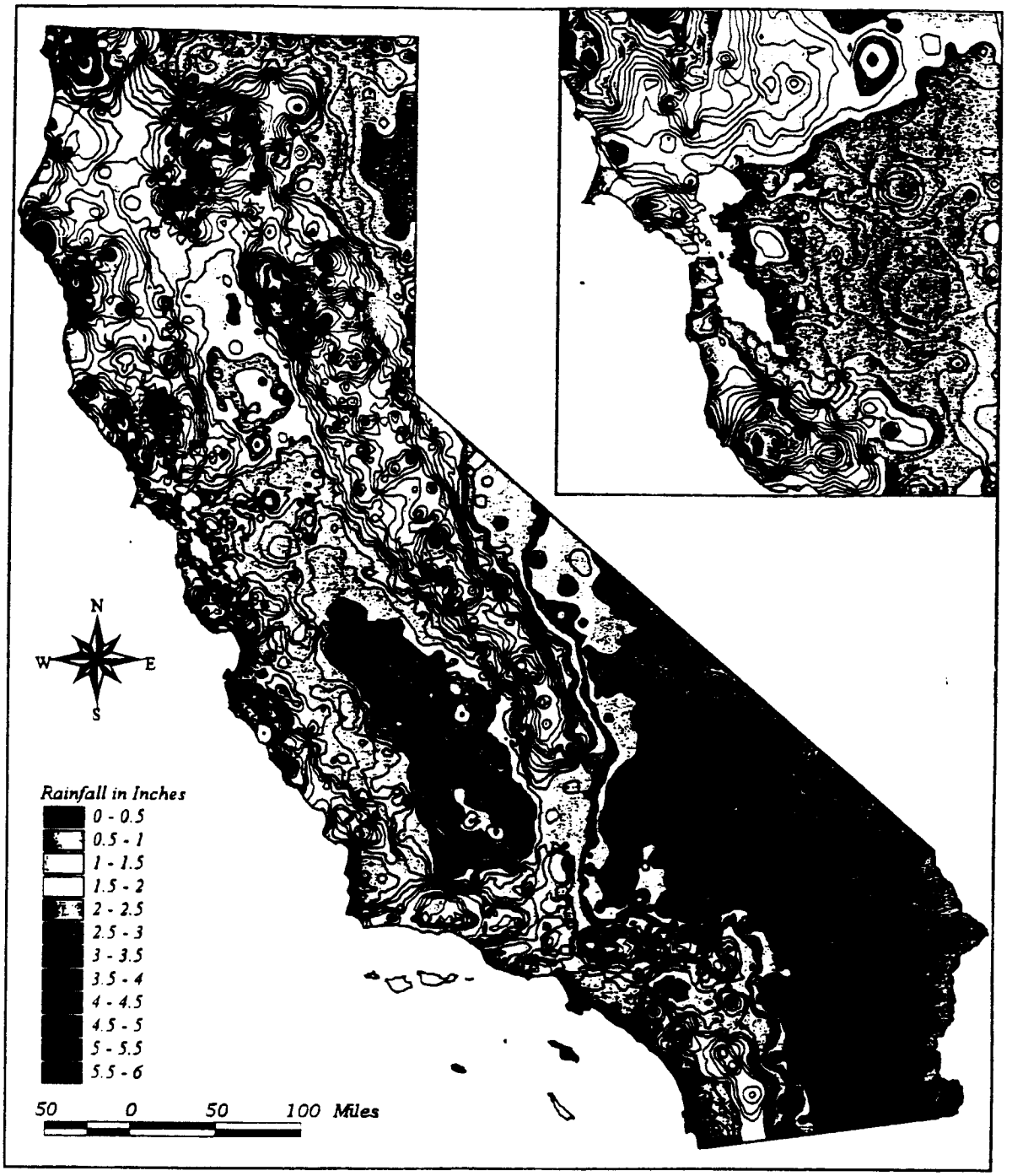
Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Gage Locations
Figure 3-1



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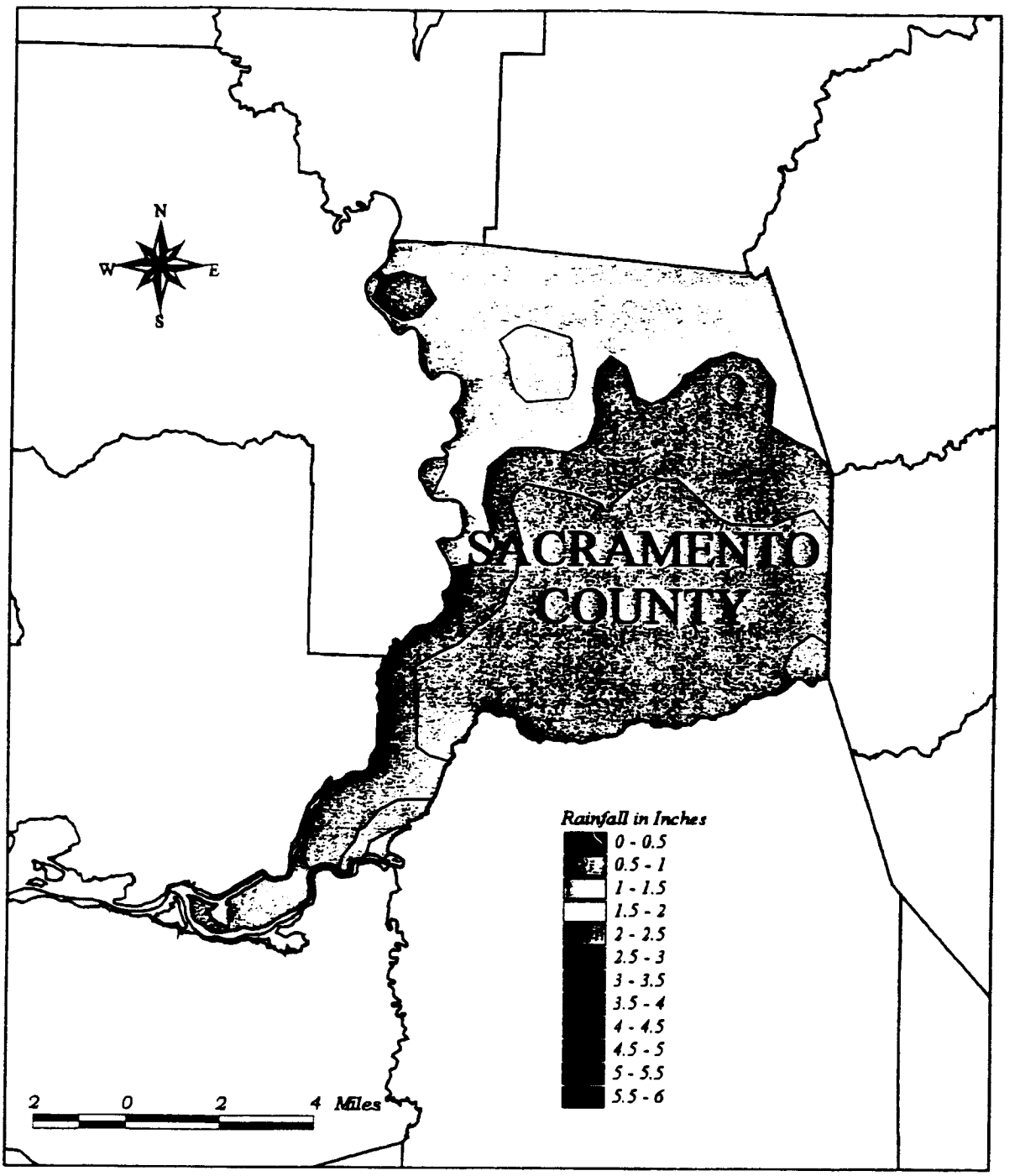
Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm
Figure 3-2



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Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Sacramento County
Figure 3-3

CHAPTER 4

RUNOFF CALCULATION

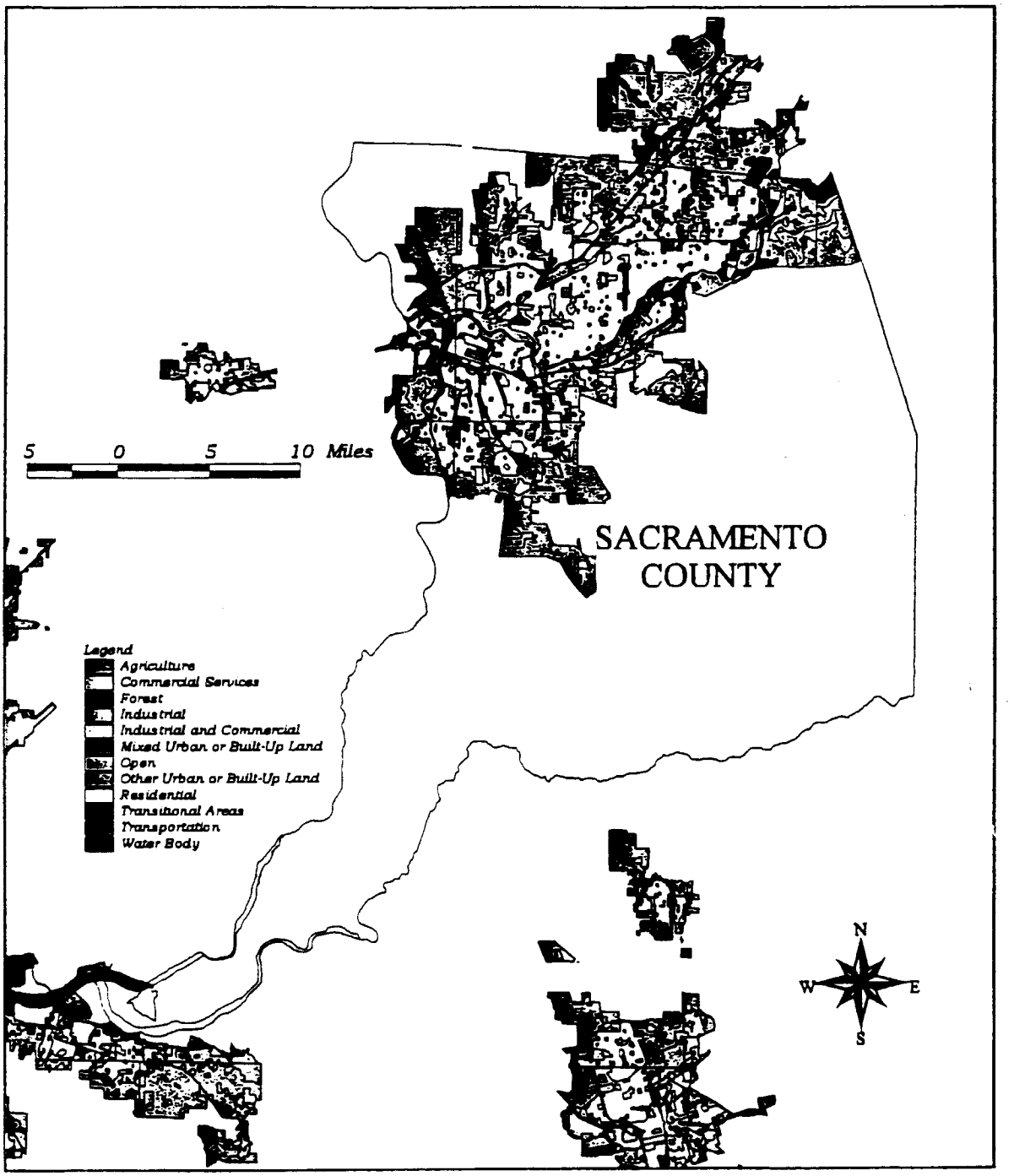
The volume of storm water runoff was calculated similar to the volumes calculated in the previous studies for District 7 and Los Angeles County. Runoff coefficients were used to estimate the fraction of rainfall occurring as runoff from impervious and pervious areas of urbanized areas. The GIS database was a key component in linking landuse (and runoff coefficient) patterns with rainfall patterns to calculate runoff volumes.

4.1 Urbanized Areas

4.1.1 Runoff Coefficients. Runoff coefficients were estimated for urbanized areas based on available land use/landcover data, which were incorporated into the GIS database. The 36 land use/land cover categories within the original land use/land cover data file are based on the Level I and Level II classifications of the Anderson classification scheme (Anderson, et al, 1976). The Anderson classification scheme is based on four levels, with each level providing a more specific definition of a given land use/land cover category. The two classification levels included in the data file used for this analysis provided adequate refinement for calculating urbanized area storm water runoff.

A description of the land use/land cover data file, which typically reflects land use circa the mid- to late-1980s, is included in Appendix D. More recent land use data may be available for certain areas of the state (i.e., Los Angeles County), but the data file used represents the most recent comprehensive compilation of statewide land use/land cover data. Level II classifications were maintained for urban or built-up land use classifications (i.e., land use category codes within the 10 series) for the runoff analysis. These classifications include residential, commercial services, industrial, transportation and communications, industrial and commercial, mixed urban or built-up land, and other urban or built-up land categories. Level II classifications for all other land use/land cover categories were aggregated into their respective Level I classifications for the runoff analysis. These aggregated classifications include agricultural land, rangeland, forest land, water, wetland, and barren land categories. A total of 13 land use/land cover categories were used for the runoff analysis. To illustrate the distribution of land use, Figure 4-1 shows the land use categories within the urbanized area in Sacramento County. Maps showing the land use categories within the urbanized areas of interest in all the counties of interest are included in Appendix B.

Table 4-1 summarizes the urbanized area land use for the 18 counties of interest by land use/landcover category. Note that the area boundaries within Los Angeles County do not strictly correspond to the urbanized area boundaries in the Teale Data Center file. The boundaries within Los Angeles County were set to correspond to the NPDES permit area used for the previous Los Angeles County studies (Caltrans, 1998a; Caltrans, 1998b). The total area represented by these urbanized areas of interest is 6,863 sq mi, which is approximately 4.4 percent of the total land area in the state.



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Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Sacramento County
Figure 4-1

Table 4-1
Major Urbanized Area Land Use Summary

County/ Urbanized Area	Urban or Built-Up Land							Agricultural Land	Rangeland	Forest Land	Water	Wetland	Barren Land	Totals
	Residential	Commercial Services	Industrial	Transportation, Communications	Industrial and Commercial	Mixed Urban or Built-Up Land	Other Urban or Built-Up Land							
Land Use Category Code	11	12	13	14	15	16	17	2X	3X	4X	5X	8X	7X	
Runoff Coefficient	0 50	0 70	0 75	0 60	0 65	0 60	0 60	0 00	0 38	0 38	0 00	0 38	0 38	
Alameda														
San Francisco--Oakland	103 15	35 80	15 38	12 43	3 18	0 16	9 13	27 85	30 24	18 75	48 59	2 07	3 70	310 42
San Jose (b)			0 07					0 00	0 03	0 00	0 05	0 04	0 01	0 20
Total Area:	103 15	35 80	15 45	12 43	3 18	0 16	9 13	27 85	30 27	18 75	48 64	2 12	3 71	310 62
Weighted Total Area:	51 58	25 06	11 59	9 94	2 06	0 09	6 48		11 59	7 13		0 80	1 41	126 94
Runoff Fraction:	40 7%	19 8%	9 2%	7 9%	1 6%	0 1%	4 3%		9 1%	5 6%		0 6%	1 1%	100 0%
Contra Costa														
Antioch--Pittsburg	11 00	2 06	3 53	0 25		0 55	1 72	25 39	9 86		4 04	4 04	1 36	64 71
San Francisco--Oakland	91 15	16 80	13 51	5 41	0 83	0 33	8 96	8 50	58 07	37 27	47 00	3 08	4 36	294 29
Total Area:	102 15	18 76	17 04	5 66	0 83	0 88	10 68	33 88	68 93	37 27	51 06	7 12	5 76	360 00
Weighted Total Area:	51 08	13 82	12 78	4 62	0 84	0 83	6 41		25 48	14 16		2 71	2 19	134 14
Runoff Fraction:	38 1%	10 3%	9 5%	3 4%	0 4%	0 4%	4 8%		18 0%	10 6%		2 0%	1 6%	100 0%
Fresno														
Fresno	53 31	16 72	5 73	5 25		0 86	3 14	43 54	1 83	0 18	0 83	0 10	1 80	132 84
Weighted Total Area:	26 66	11 71	4 30	4 20		0 83	1 89		0 82	0 07		0 04	0 68	66 69
Runoff Fraction:	52 0%	23 1%	8 5%	8 3%		1 0%	3 7%		1 2%	0 1%		0 1%	1 3%	100 0%
Kern														
Bakersfield	25 58	5 35	3 45	2 35	0 12	0 66	2 64	33 40	20 32	1 15	0 83		3 26	99 55
Weighted Total Area:	12 79	3 74	2 59	1 88	0 06	0 66	1 76		7 72	0 46			1 28	32 84
Runoff Fraction:	38 9%	11 4%	7 9%	5 7%	0 2%	1 8%	5 4%		23 5%	1 3%			3 9%	100 0%
Los Angeles														
Los Angeles (a)	649 64	164 66	103 31	48 05	2 85	10 46	66 53	68 05	1,301 72	220 32	12 14	4 04	37 06	2,609 38
Total Area:	649 64	164 66	103 31	48 66	2 66	10 48	66 63	68 66	1,301 72	220 32	12 14	4 04	37 06	2,609 38
Weighted Total Area:	324 87	115 62	77 48	38 44	1 06	6 27	39 92		494 66	83 72		1 64	14 09	1,100 36
Runoff Fraction:	27 1%	9 6%	6 5%	3 2%	0 2%	0 5%	3 3%		41 3%	7 0%		0 1%	1 2%	100 0%
Marin														
San Francisco--Oakland	38 06	8 50	0 06	1 01		0 72	2 01	5 39	8 41	20 11	25 91	1 81	0 58	120 58
Weighted Total Area:	19 04	6 80	0 04	0 61		0 43	1 20		8 42	10 60		0 89	0 23	42 78
Runoff Fraction:	44 5%	16 0%	0 1%	1 5%		1 0%	2 8%		6 7%	26 0%		1 0%	0 5%	100 0%
Orange														
Los Angeles	175 00	69 62	21 29	11 78	4 30	0 82	21 92	76 97	96 04	6 14	4 32	3 01	14 07	509 48
Palm Springs (b)									0 09					0 09
Riverside-San Bernardino (b)							0 00							0 00
Total Area:	175 00	69 62	21 29	11 78	4 30	0 82	21 92	76 97	96 13	6 14	4 32	3 01	14 07	509 57
Weighted Total Area:	87 64	48 74	16 97	9 43	2 68	0 86	13 16		37 29	2 33		1 14	8 38	224 28
Runoff Fraction:	38 8%	21 7%	7 1%	4 2%	1 2%	0 2%	5 9%		16 6%	1 0%		0 5%	3 4%	100 0%
Riverside														
Hemet--San Jacinto	8 73	1 70	0 27	0 31		0 20	1 11	28 71	4 22	0 03	0 07		0 74	44 09
Indio--Coachella	3 04	1 67	0 01	1 06		0 05	1 14	13 41	5 03				2 48	27 88
Los Angeles (b)									0 04					0 04
Palm Springs	20 30	1 53		1 91		0 43	5 38	4 18	51 97				4 15	89 92
Riverside-San Bernardino	54 00	18 64	3 36	4 00		0 81	6 77	76 99	46 70	0 01	0 46	4 56	5 02	224 25
Total Area:	86 19	23 78	3 63	7 36		1 48	14 46	123 28	107 96	0 04	0 04	4 56	12 36	386 17
Weighted Total Area:	43 09	10 62	2 72	6 68		0 89	8 64		41 03	0 25		1 73	4 79	120 58
Runoff Fraction:	34 2%	13 2%	2 2%	4 7%		0 7%	6 9%		32 7%	0 2%		1 4%	3 7%	100 0%

R0006213

Table 4-1
Major Urbanized Area Land Use Summary

County/ Urbanized Area	Urban or Built-Up Land							Agricultural Land	Rangeland	Forest Land	Water	Wetland	Barren Land	Totals
	Residential	Commercial Services	Industrial	Transportation, Communications	Industrial and Commercial	Mixed Urban or Built-Up Land	Other Urban or Built-Up Land							
Land Use Category Code	11	12	13	14	15	16	17	2X	3X	4X	5X	6X	7X	
Runoff Coefficient	0 50	0 70	0 75	0 80	0 85	0 80	0 80	0 00	0 38	0 38	0 00	0 38	0 38	
Sacramento														
Antioch--Pittsburg (b)											0 03			0 03
Sacramento	100 29	26 42	8 92	7 51	0 23	5 95	16 20	87 06	8 83	2 28	4 83		12 75	276 05
Total Area:	100 29	26 42	8 92	7 51	0 23	5 95	16 20	87 06	8 83	2 28	4 86		12 78	276 08
Weighted Total Area:	50 14	18 49	6 69	6 01	0 18	3 87	9 72		2 66	0 87			4 64	103 67
Runoff Fraction:	48 8%	17 9%	6 5%	5 8%	0 1%	3 8%	9 4%		2 6%	0 8%			4 7%	100 0%
San Bernardino														
Los Angeles	32 78	9 93	2 56	3 64	0 13	0 21	0 44	58 30	15 73	4 38	0 30		2 82	137 33
Riverside-San Bernardino	73 41	18 07	5 23	8 82		1 22	8 67	58 48	54 24	1 48	0 15		9 56	236 31
Total Area:	106 19	28 00	7 79	10 46	0 13	1 43	16 11	116 77	69 97	5 84	0 46		12 68	376 68
Weighted Total Area:	53 09	20 30	8 96	8 38	0 09	9 86	9 87		20 59	2 22			4 78	131 16
Runoff Fraction:	40 5%	15 5%	4 8%	6 4%	0 1%	0 7%	6 9%		20 3%	1 7%			3 6%	100 0%
San Diego														
Los Angeles (b)	0 02	0 01		0 00			0 00		0 00	0 00			0 00	0 04
San Diego	189 22	58 21	11 96	17 84	0 16	2 32	24 73	80 27	246 80	8 82	6 48	6 07	29 39	680 87
Total Area:	189 24	58 22	11 96	17 84	0 16	2 31	24 74	80 27	246 80	8 82	6 48	6 07	29 39	681 02
Weighted Total Area:	94 62	30 36	8 97	14 36	0 10	1 39	14 84		83 76	3 38		2 61	11 17	264 48
Runoff Fraction:	33 3%	10 6%	3 2%	5 0%	0 0%	0 5%	5 2%		33 0%	1 2%		0 9%	3 9%	100 0%
San Joaquin														
Stockton	22 29	9 36	2 97	2 47		0 58	2 40	30 50	2 88	0 11	0 76		0 70	74 83
Weighted Total Area:	11 13	6 88	2 23	1 98		0 35	1 44		1 03	0 04			0 37	36 88
Runoff Fraction:	44 6%	26 2%	8 9%	7 9%		1 4%	5 8%		4 1%	0 2%			1 1%	100 0%
San Mateo														
San Francisco--Oakland	73 42	17 78	13 18	8 17	0 48	1 54	8 24	3 70	29 98	12 38	80 73	5 08	1 99	256 70
San Jose (b)	0 00	0 00				0 00	0 00		0 00	0 01	0 07			0 08
Total Area:	73 42	17 78	13 18	8 17	0 48	1 55	8 24	3 70	29 98	12 39	80 80	5 08	1 99	256 78
Weighted Total Area:	36 71	12 46	9 68	5 84	0 31	0 93	4 94		11 48	4 71		1 93	0 76	88 80
Runoff Fraction:	40 8%	13 7%	10 9%	7 2%	0 3%	1 0%	5 5%		12 8%	5 2%		2 1%	0 8%	100 0%
Santa Clara														
Merced (b)									0 01					0 01
San Francisco--Oakland (b)	0 13	0 02	0 03	0 00		0 01	0 01	0 01	0 04	0 04	0 05			0 32
San Jose	141 16	32 73	24 10	7 19	7 84	2 24	10 96	40 08	45 96	21 53	6 09	2 29	3 35	347 50
Total Area:	141 29	32 74	24 13	7 19	7 84	2 24	10 97	40 10	46 00	21 57	6 11	2 29	3 36	347 83
Weighted Total Area:	70 64	22 92	16 19	5 76	5 19	1 38	6 58		17 48	8 29		0 87	1 27	156 27
Runoff Fraction:	44 8%	14 6%	11 4%	3 6%	3 2%	0 9%	4 2%		11 9%	5 2%		0 6%	0 8%	100 0%
Solano														
Antioch--Pittsburg (b)											0 01			0 01
Fairfield	5 24	6 00	0 30	1 22		0 34	0 33	16 84	8 68	0 65	0 01	0 71	1 16	40 77
San Francisco--Oakland	9 79	3 29	2 82	1 59		0 04	1 23	1 92	19 23		20 54	7 38	0 51	68 31
Total Area:	15 04	10 26	3 12	2 80		0 38	1 56	18 76	28 92	0 66	20 56	8 07	1 66	109 09
Weighted Total Area:	7 52	7 20	2 34	2 24		0 23	0 84		9 66	0 36		3 07	0 83	34 37
Runoff Fraction:	21 9%	20 9%	6 8%	6 5%		0 7%	2 7%		28 7%	1 0%		8 9%	1 8%	100 0%
Sonoma														
San Francisco--Oakland (b)											0 01			0 01
Santa Rosa	21 87	6 74	0 20	0 32		0 52	1 78	23 87	4 88	7 33	0 32		0 19	87 44
Total Area:	21 87	6 74	0 20	0 32		0 52	1 78	23 87	4 88	7 33	0 33		0 19	87 44
Weighted Total Area:	10 78	4 72	0 18	0 28		0 31	1 07		1 82	2 79			0 07	21 97
Runoff Fraction:	49 1%	21 5%	0 7%	1 2%		1 4%	4 9%		8 3%	12 7%			0 3%	100 0%
Stanislaus														
Modesto	23 00	5 13	2 48	1 16		0 48	2 24	17 88					0 18	52 37

R0006214

Table 4-1
Major Urbanized Area Land Use Summary

County/ Urbanized Area	Urban or Built-Up Land							Agricultural Land	Rangeland	Forest Land	Water	Wetland	Barren Land	Totals
	Residential	Commercial Services	Industrial	Transportation, Communications	Industrial and Commercial	Mixed Urban or Built-Up Land	Other Urban or Built-Up Land							
Land Use Category Code	11	12	13	14	15	16	17	2X	3X	4X	5X	6X	7X	
Runoff Coefficient	0.50	0.70	0.75	0.80	0.65	0.60	0.60	0.00	0.38	0.38	0.00	0.38	0.38	
San Jose (b)									0.13	0.53				0.00
Total Area:	23.00	5.13	2.46	1.18		0.49	2.24	17.69	0.13	0.53			0.18	53.04
Weighted Total Area:	11.50	3.59	1.00	0.95		0.30	1.34		0.00	0.20			0.07	19.85
Runoff Fraction:	57.9%	18.1%	9.4%	4.8%		1.5%	8.8%		0.3%	1.0%			0.3%	100.0%
Ventura														
Los Angeles (b)	0.01					0.00			0.57				0.39	0.00
Oxnard–Ventura	35.22	11.78	2.82	2.59	0.26	1.14	4.05	39.12	35.56	1.00	0.39	1.01	4.55	139.48
Simi Valley	10.20	2.28	0.08	0.67	0.40	0.13	1.32	19.32	12.24	0.01	0.02	0.32	0.35	47.43
Total Area:	46.61	14.06	2.91	3.26	0.66	1.27	6.37	58.44	48.37	1.01	0.42	1.32	5.28	187.88
Weighted Total Area:	22.76	9.84	2.18	2.61	0.43	0.76	3.22		18.38	0.38		0.50	2.01	63.07
Runoff Fraction:	36.1%	15.6%	3.5%	4.1%	0.7%	1.2%	5.1%		29.1%	0.6%		0.8%	3.2%	100.0%
Grand Total Area:	1,926.00	539.06	244.71	151.92	20.10	31.95	213.00	642.99	2,066.97	372.20	266.04	48.06	141.73	6,863.82

a - Urbanized area defined as Phase I storm water NPDES boundary.

R0006215

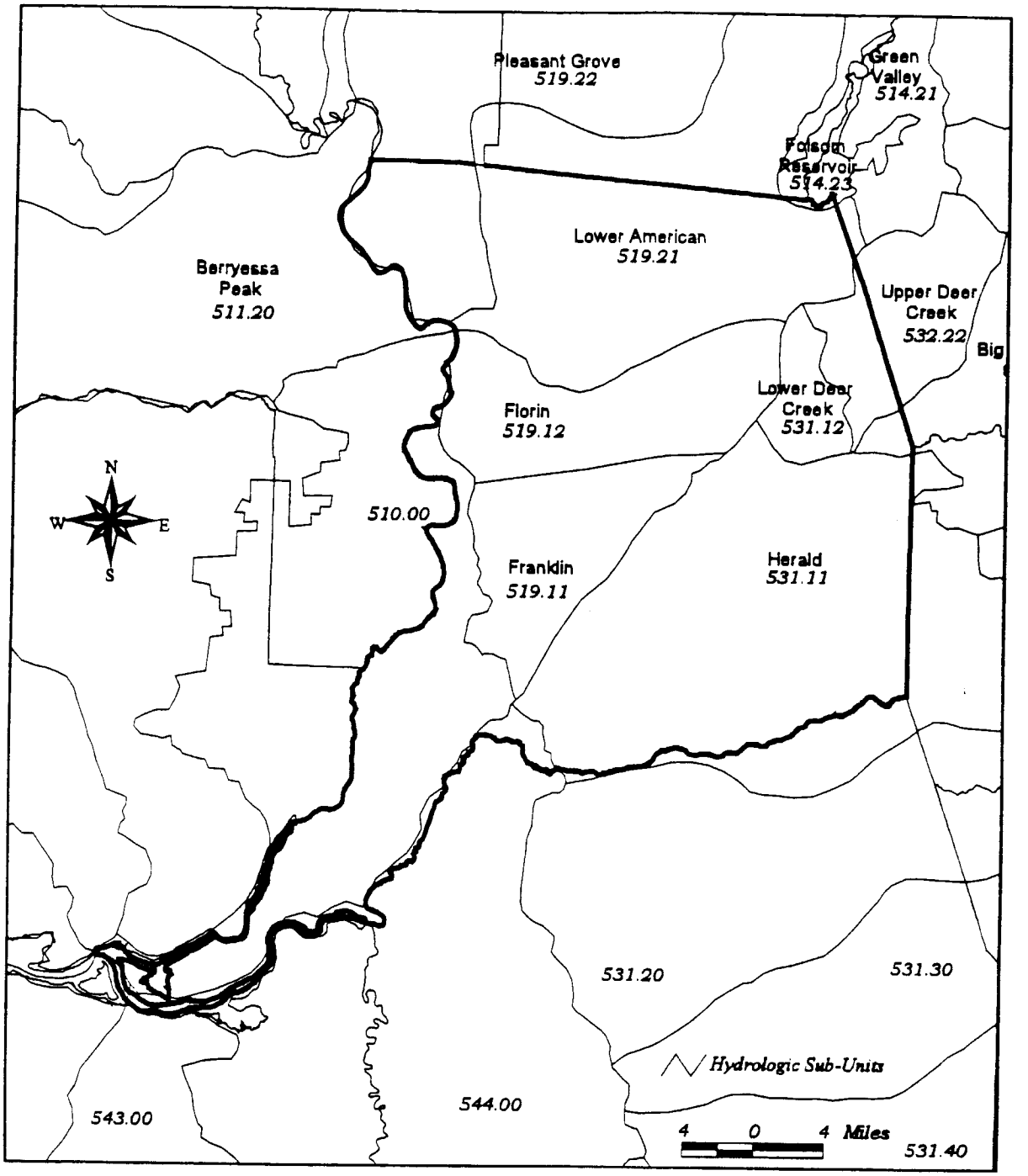
The following runoff coefficients for each land use category were selected for the runoff analysis based on a review of previous studies (Caltrans, 1995; San Jose, 1997; UCLA, 1993):

- Residential 0.50
- Commercial Services 0.70
- Industrial 0.75
- Transportation, Communication 0.80
- Industrial and Commercial 0.65
- Mixed Urban 0.60
- Other Urban 0.60
- Agricultural Land 0.00
- Rangeland 0.38
- Forest Land 0.38
- Water 0.00
- Wetland 0.38
- Barren Land 0.38

Runoff from agricultural land and water areas was not included in this analysis as reflected by their runoff coefficient values of zero. The runoff coefficient of 0.38 selected for the other aggregated, non-urban land use/land cover classifications is based on the median value of pervious area runoff coefficients included in the "Highway Design Manual" (Caltrans, 1995).

4.1.2 Runoff Calculation. Urbanized area runoff from a given parcel of land was calculated by multiplying the rainfall, land area, and runoff coefficient. Runoff was totaled by hydrologic sub-unit (or sub-area) to reflect storm water runoff within natural drainage areas. . To illustrate the natural drainage area boundaries, Figure 4-2 shows the hydrologic sub-unit boundaries in Sacramento County. Maps showing the hydrologic sub-unit boundaries in all the counties of interest are included in Appendix B. The runoff calculation results are summarized in a series of tables in Appendix C.

Runoff contributions by land use/land cover categories for each county of interest are summarized in Table 4-1. These contributions are approximate in that they assume a constant rainfall across the urbanized area(s) of interest within each county. The fractional runoff contribution was calculated as the fractional land area weighted by the runoff coefficient. The table shows that the residential land use category contributes a large fraction of the runoff within each county.



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Sacramento County
Figure 4-2

CHAPTER 5

STORM WATER TREATMENT FACILITIES

The objective of this study was to establish the basic tools necessary to estimate the total cost of storm water treatment for urbanized areas within California. As discussed in the previous chapters, hydrologic sub-units (or sub-areas) in California were defined, and the associated runoff volume from rainfall for each area was calculated using a geographic information system (GIS) database. In this chapter, the types of treatment facilities proposed to treat storm water to meet water quality objectives, the collection system requirements, and assumptions for treatment facility siting are described. Based on these assumptions, storm water treatment cost estimates are developed in Chapter 6.

5.1 Water Quality Objectives

Water quality objectives and permitting in California are designated and controlled by nine Regional Water Quality Control Boards (RWQCBs) pursuant to the Porter-Cologne Act (the basic California water quality act) and its subsequent amendments. The State Water Resources Control Board (SWRCB) has oversight and appeal functions concerning actions of the local RWQCBs. Federal law (i.e., Clean Water Act) authority also rests with the SWRCB and the RWQCBs through acceptance of federal pass-through authority and the close similarity of federal and state environmental laws. There are some exceptions, but in general, each RWQCB sets water quality objectives and issues water quality-related discharge permits, including storm water discharge permits.

Each RWQCB has designated specific beneficial uses for water bodies within its jurisdiction. The RWQCBs have been very aggressive in describing benefits, and, therefore, all water bodies have beneficial uses attributed to them that require stringent water quality objectives that, in turn, seek to insure high water quality. Beneficial uses and their associated water quality objectives were used as the basis for defining the level of storm water treatment.

At the time this study was prepared, Brown and Caldwell was preparing a separate study that summarizes the specific water quality objectives for particular water bodies in the State. The results of that study, taken together with the storm water quality data being developed by Larry Walker and Associates, will allow a more quantitative assessment of water quality and treatment goals for all water bodies in California. This study addresses the level of storm water treatment necessary to meet water quality objectives by associating beneficial uses with three storm water treatment levels on a qualitative basis. This study assumes no dilution of treated storm water nor concentration time averaging, so treated storm water discharge requirements were assumed equal to the receiving water quality objective.

Beneficial uses have been aggregated into six categories to simplify the qualitative assessment of the level of storm water treatment required. The groupings of the beneficial use categories are based on potential end use at the receiving water body. The six categories are:

- Potable water (MUN, GWR, FRSH, AGR)
- Body contact recreation (REC1)
- Non-body contact recreation (REC2)
- Human consumption (COMM, SHELL)
- Commercial use (PROC, IND, NAV)
- Habitat (WARM, COLD, BIOL, SAL, EST, WET, MAR, MIGR, WILD, RARE, SPWN)

5.1.1 Potable water. Water bodies with this classification are potential potable water sources. Water should be free of pollutants that would impair its use as a potable water source.

5.1.2 Body contact recreation. Water bodies with this classification are used for recreational activities involving proximity to water or direct contact with water where ingestion of water is reasonably possible. For this category, water should be free from bacteria and nutrients that would promote algae growth.

5.1.3 Non-body contact recreation. Water bodies with this classification are used for non-body contact recreational activities involving proximity to water, but not normally involving contact with water where water ingestion is reasonably possible. For this category, water should be free from bacteria.

5.1.4 Human consumption. Water bodies in this classification are used for collection of fish, shellfish, or other organisms in oceans, bays, and estuaries, including, but not limited to, uses involving organisms intended for human consumption or bait purposes. For this category, water should be free from pollutants that would impair human consumption of fish or shellfish (e.g., pathogenic bacteria).

5.1.5 Commercial use. Water bodies in this classification are used for shipping, travel, or industrial activities. For shipping or travel, direct contact with water is unlikely. For industrial activities, subsequent treatment is assumed water to meet specific process water requirements. Water for commercial use should be free from particulates.

5.1.6 Habitat. Water bodies in this classification support habitats necessary for the preservation, enhancement, survival and successful maintenance of plant or animal species. Water for habitat should be free from pollutants that would impair plant and animal species' activities.

5.2 Storm Water Treatment Methods

Storm water collection, storage, and treatment techniques were evaluated in the *Caltrans District 7 Storm Water Retrofit Plan* (Caltrans, May 1997). In anticipation of the need to conduct design, cost, and benefit evaluation, various management practices were subdivided into categories based on the general level of treatment provided. At present, there is limited regulatory experience for establishing treatment levels of storm water discharges. Several generalized treatment categories representing successively more stringent levels of treatment were considered for this analysis. The treatment categories were selected based on an evaluation of the types of pollutants removed by treatment systems and the types of beneficial uses that the treatment would support. Increasing levels of treatment, i.e., combining the lower categories of treatment with higher ones, could potentially meet higher levels of water quality objectives that are required to preserve potential beneficial uses of receiving waters. The division points between treatment categories are basically the ability to remove sediment, bulk solids and trash; the ability to kill bacteria; the ability to remove fine particulates that are associated with bacterial and algae growth; and the ability to remove soluble metals. The treatment alternative for each category was chosen as a representative management practice that achieves "greater or substantially the same pollution control benefits" as the other management practices within that category.

Level 1 treatment includes screening and detention of storm water to remove floating debris and settle bulk solids picked up by storm water. Screening is an important step to remove large debris that could interfere with subsequent pumping operations. Level 1 treatment is commonly recommended and represents a treatment technology that could be implemented for a large drainage area. The Level 1 detention facilities were sized to capture the 24-hour design storm and allow the solids to settle and clarify the water. Level 1 treatment will reduce concentrations of constituents of concern through sedimentation, but is unlikely meet the objectives for any beneficial use. Detention basins have been successful at removing up to 89 percent of total suspended solids and up to 66 percent of carbonaceous oxygen demand (COD) in a study performed by the University of Texas and the Texas Department of Transportation (Keblin, et. al., 1995). As a consequence of suspended solids removed, metals that are adsorbed to particles or occur as insoluble precipitates (i.e., particulate metals) are removed to some degree as well. Level 1 treatment is an important initial step for effective subsequent performance of Levels 2 and 3 treatment.

Level 2 treatment includes filtration and disinfection in addition to screening and detention. Storm water runoff is often contaminated with coliform bacteria, which are indicator organisms used to indicate the potential for the presence of human pathogens. Coliform levels can be high in urban storm water, and may cause the receiving water to exceed levels considered safe for recreational contact, a designated beneficial use of most waters within the state. High-rate filtration physically removes a large fraction of the coliform organisms. Subsequent chlorine disinfection inactivates a large fraction of the remaining coliform bacteria. Dechlorination protects receiving water organisms from residual chlorine toxicity. Level 2 treatment using high-rate filtration and chlorine disinfection following screening and detention will likely meet the requirements for non-contact and body contact recreational beneficial use.

Level 3 treatment is a highly sophisticated treatment process to remove very low concentrations of toxic and soluble constituents that are typically found in urban runoff. Many of the waters in California are designated as potential drinking water sources which may require advanced treatment to meet water quality objectives. The standards for toxicity, as they relate to sensitive species that could potentially exist in the receiving waters, are even more restrictive than the drinking water standards. Most waters have a beneficial use designation that describes aquatic environment and have objectives to protect that beneficial use. Meeting these objectives with structural treatment units would require advanced treatment beyond what is normally expected of water treatment facilities. Reverse osmosis, following screening, detention, filtration, and disinfection, is included as the typical technology representing advanced toxics removal to achieve the required low concentrations. Storm water treated by Level 3 would be free of almost all constituents of concern and likely would be suitable for all beneficial uses.

Brine is a concentrate of dissolved salts and solids from reverse osmosis treatment process. In southern California, brine is typically disposed into the Pacific Ocean. In other areas, where ocean disposal is not possible (i.e., inland areas like the Central Valley) or where brine poses potential environmental impacts, additional brine treatment and/or transport will be required.

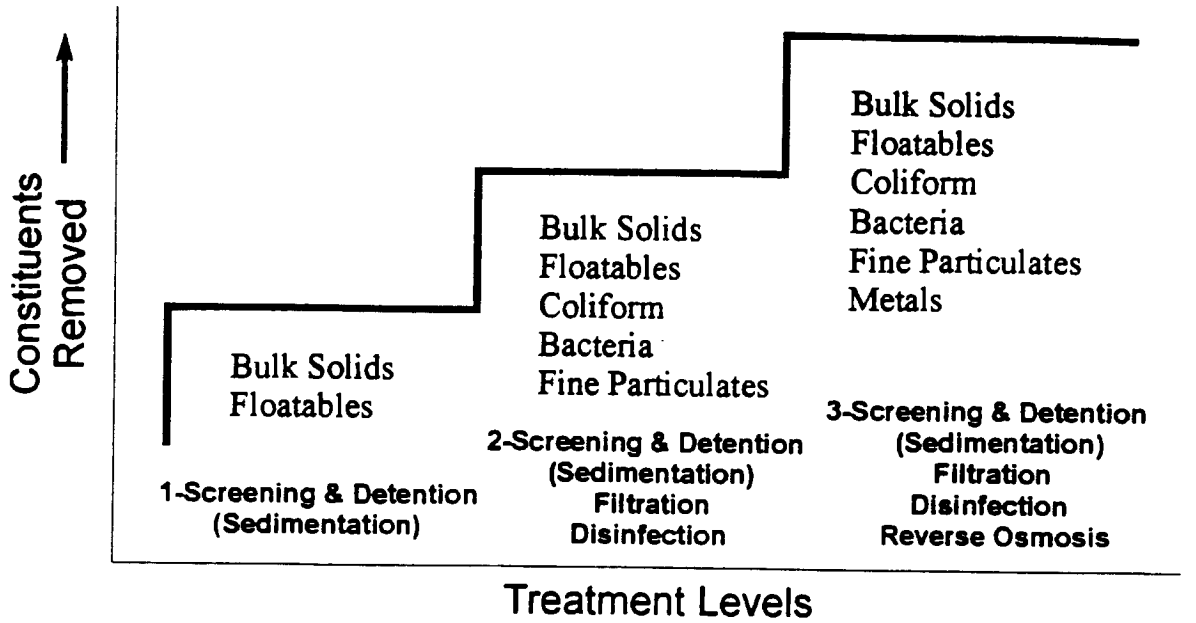
5.3 Collection System

Urbanized area storm water collection system requirements were analyzed by natural drainage basin boundaries (i.e., hydrographic sub-units) within the counties of interest. It was assumed that storm water collection systems exist within the urbanized areas of interest analyzed for this study to collect and transport storm water to natural or constructed drainage channels. Therefore, new interceptor systems to route the runoff to one or more treatment units within each hydrographic sub-unit were identified for this study.

5.4 Treatment Facility Description

Three levels of storm water treatment were developed to treat storm water to meet specific benefit use criteria for water bodies. Figure 5-1 shows a schematic of examples of constituents removed at progressively higher levels of treatment.

Figure 5-1 – Storm Water Treatment Constituent Removal



Level 1 – this level of treatment consists of sedimentation achieved through detention. This level of treatment would be effective at removing bulk solids and floatable materials. Level 1 treatment would most likely meet the water quality for commercial use (PROC, IND, NAV).

Level 2 – this level of treatment combines sedimentation (i.e., Level 1) with filtration and chlorine disinfection. Level 2 treatment would most likely meet the water quality criteria for non-body contact recreational use (REC2) and body contact recreational use (REC1).

Level 3 – this level of treatment combines sedimentation (i.e., Level 1), filtration and disinfection (i.e., Level 2), and reverse osmosis. This highest level of treatment would be effective in removing metals and soluble materials in addition to removing residual solids, floatable materials, and bacteria remaining after Level 1 and Level 2 treatment. Level 3 treatment would most likely meet the water quality for drinking water sources (MUN, GWR, FRSH, AGR), human consumption (COMM, SHELL), and habitat uses (WARM, COLD, BIOL, SAL, EST, WET, MAR, MIGR, WILD, RARE, SPWN).

CHAPTER 6

STORM WATER TREATMENT COSTS

Capital and annual operations and maintenance costs were estimated for urbanized area storm water treatment facilities using information generated from the GIS database. Runoff volume within natural drainage basins (i.e., hydrologic sub-units) in the counties of interest and other criteria were used to estimate the number and size of treatment units. Cost curves were used to estimate capital and operations and maintenance costs for varying levels of treatment. Specific levels of treatment for specific urbanized areas may be refined in the future based on ongoing projects addressing water quality objectives and storm water quality.

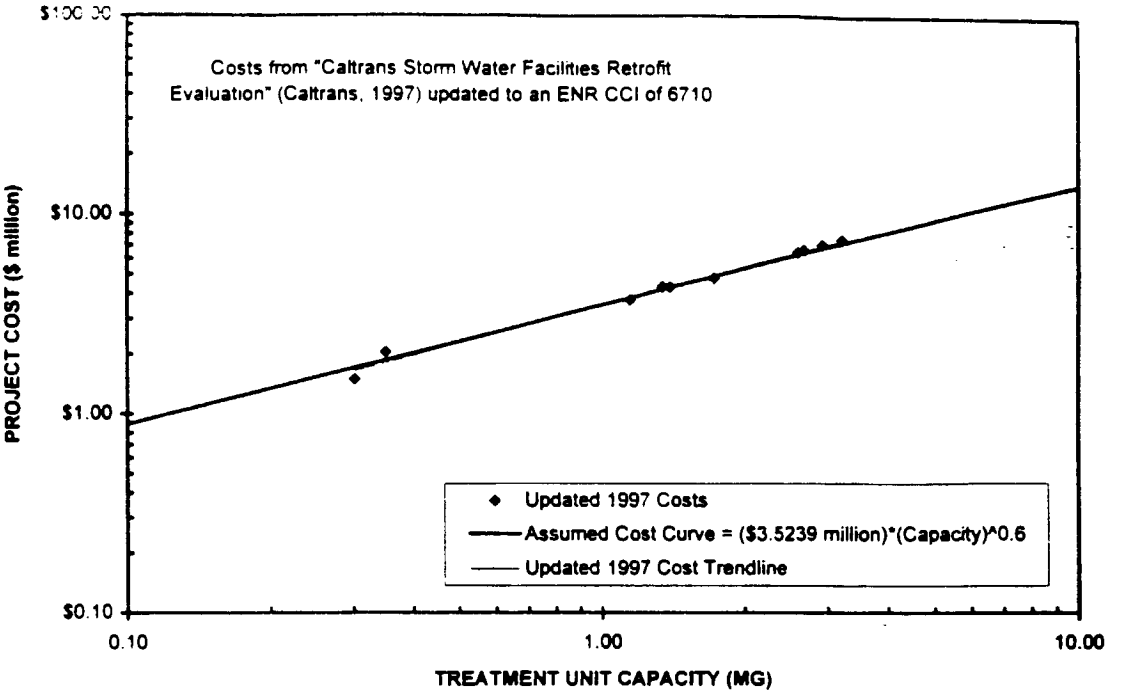
6.1 Cost Estimating Approach

The costs of storm water collection and treatment facilities were estimated using an approach similar to that in two previous studies (Caltrans, 1997; Caltrans, 1998). The following sections summarize how cost curves were developed for capital and operations and maintenance.

6.1.1 Capital Costs. Project costs from the *Storm Water Facilities Retrofit Evaluation* (Caltrans, 1997) were updated and analyzed for this study to derive a series of project cost curves. Project costs include a 30 percent construction cost contingency and a 20 percent allowance for engineering, legal, and administration. Project costs do not include any costs for property acquisition. Project costs from the 1997 report were updated to an Engineering News Record Construction Cost Index (ENR CCI) of 6710, which represents the average of the Los Angeles and San Francisco ENR CCIs for March 1998.

Figures 6-1 through 6-3 show the project costs as a function of treatment unit size for three storm water treatment levels. The relationship between the treatment unit size and the project cost can be represented as a power function, as shown in the figures. The individual treatment unit costs are plotted in each figure and a best-fit line was determined to estimate the cost of a 1.0 mil gal treatment facility. A power function with an exponent of 0.6, a typical value reflecting treatment facility "economy of scale", was developed for each treatment level as shown in the figures.

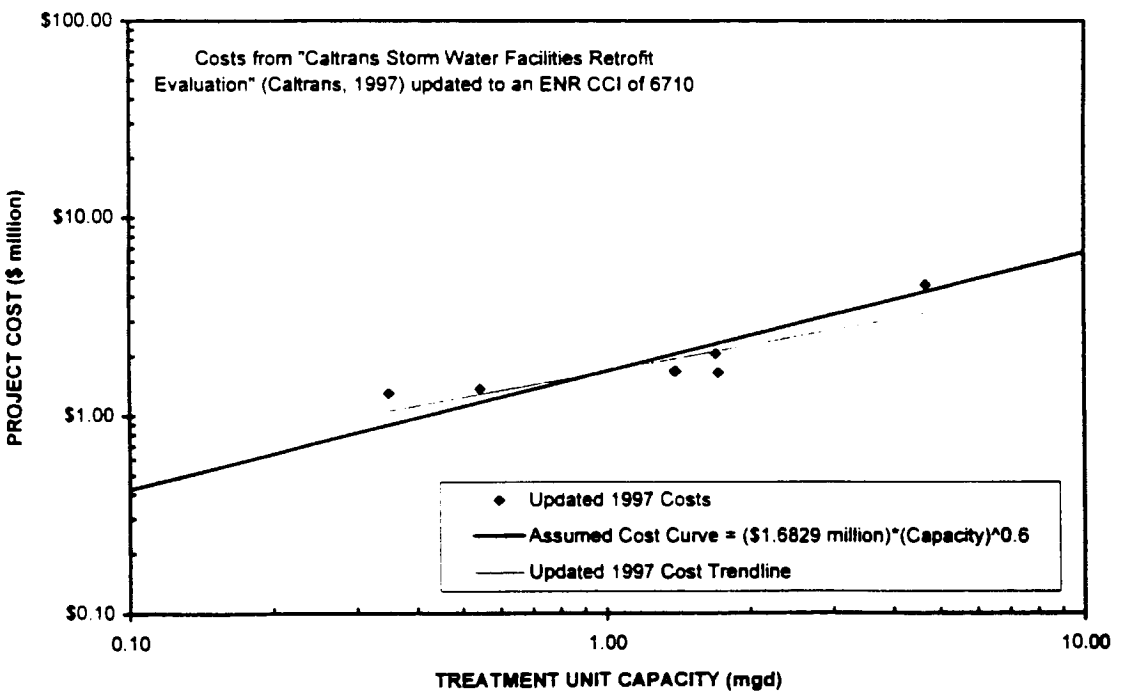
6.1.2 Operations and Maintenance Cost. Operations and maintenance costs were also derived from the *Storm Water Facilities Retrofit Evaluation* (Caltrans, 1997). Annual operations and maintenance costs per MG treated for each of the three treatment levels were calculated from the total analytical study area cost and volume treated per rainfall event. Annual operations and maintenance costs were estimated based on ten rainfall events per year.



Cost of Storm Water Treatment for California Urbanized Areas

Level 1 Treatment Project Costs

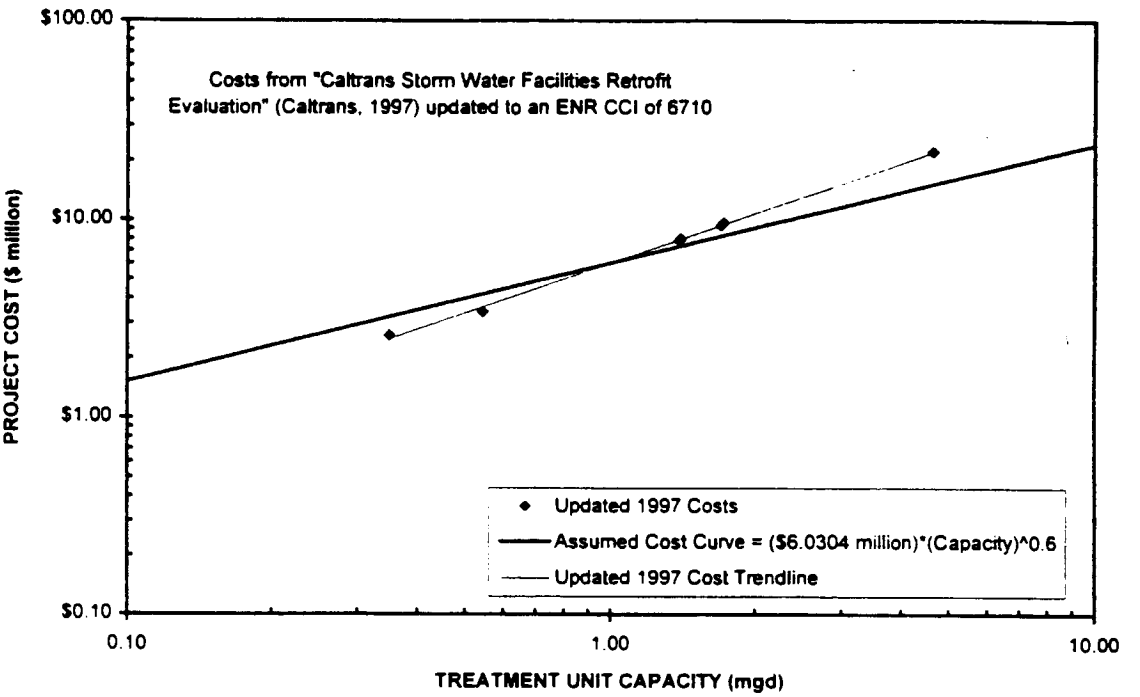
Figure 6-1



Cost of Storm Water Treatment for California Urbanized Areas

Level 2 Treatment Incremental Project Costs

Figure 6-2



Cost of Storm Water Treatment for California Urbanized Areas

Level 3 Treatment Incremental Project Costs

Figure 6-3

Operations and maintenance costs were calculated for this study as a function of volume treated using a power function, similar to the approach used for calculating capital costs. Operations and maintenance cost relationships for primary sedimentation, dual-media filtration, chlorination, dechlorination, and reverse osmosis treatment systems were evaluated to identify a range of power function exponents (EPA, 1980; AWWARF, *et al*, 1996). The median of the range of values, 0.67, was selected for scaling annual operations and maintenance costs.

6.2 Urbanized Areas

Capital and operations and maintenance cost calculations for urbanized areas are summarized by county in a series of tables in Appendix C. The capital costs include an interceptor system for each treatment unit to capture the storm water runoff. The total volume of runoff per rainfall event is 45,205 MG from 6,864 sq mi of urbanized area.

The number of treatment units per hydrologic sub-unit within each urbanized area was calculated based on a maximum Level 1 treatment unit size. A number of calculations were performed to evaluate the total number of treatment units required over a range of maximum treatment unit sizes. A maximum Level 1 treatment unit size of 50 MG was used for the cost calculations summarized in the tables in Appendix C. The Level 2 and Level 3 treatment unit sizes were based on a three-day period to treat and discharge captured storm water. That is; if a 3.0 MG basin was required to capture the 24-hour design storm for a given area, the filtration, disinfection, and reverse osmosis treatment systems were sized for 1.0 million gallons per day (mgd) capacity. The capital costs include county-specific land costs, which were provided by Stanley R. Hoffman Associates.

Statewide storm water collection and treatment capital costs range from $70.5 billion for Level 1 to $113.7 billion for Level 3. Annual operations and maintenance costs range from $145.2 million/year for Level 1 to $423.9 million/year for Level 3. The present worth of the treatment cost was calculated at an interest rate of 4 percent and a period of 20 years, similar to the values used in previous Caltrans studies. The present worth ranges from $72.5 billion for Level 1 to $119.5 billion for Level 3 assuming that a uniform treatment level is used for all urbanized area storm water throughout the State.

APPENDIX A

REFERENCES



APPENDIX A

REFERENCES

American Water Works Association Research Foundation, Lyonnaise des Eaux, Water Research Commission of South Africa. *Water Treatment Membrane Processes.* McGraw-Hill, 1996.

Anderson, J.R., E.E. Hardy, and J.T. Roach. "Land Use and Land Cover Classification System for Use with Remote Sensing Data". Geological Survey Professional Paper 964. A revision of the land use classification system as presented in US Geological Circular 671, USGPO, 1976.

California Division of Water Resources. "Rainfall Depth-Duration-Frequency for California". February 1981, Updated August 1986.

Caltrans. "Highway Design Manual, Fifth Edition". 1995.

Caltrans. "Storm Water Facilities Retrofit Evaluation". Prepared by Brown and Caldwell, May 1997.

Caltrans. "Cost of Storm Water Treatment for the Los Angeles County NPDES Permit Area". Prepared by Brown and Caldwell, June 1998 (1998a).

Caltrans. "Financial and Economic Impacts of Storm Water Treatment, Los Angeles County NPDES Permit Area". Prepared by Stanley R. Hoffman Associates, June 1998 (1998b).

DeCou, Glenn (Chief, Office of State Highway Drainage Design). Personal communication, March 1998.

Haan, Charles T. *Statistical Methods in Hydrology.* The Iowa State University Press, 1977.

Keblin, M. V., Barrett, M. E., Malina, J. F., and Charbeneau, R. J., 1997, "The Effectiveness of Permanent Highway Runoff Controls: Sedimentation/Filtration Systems," CRWR On-line Report 97-4, Center for Research in Water Resources, University of Texas at Austin.

City of San Jose. "Urban Runoff Management Plan". 1997.

University of California, Los Angeles. "Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay". 1993.

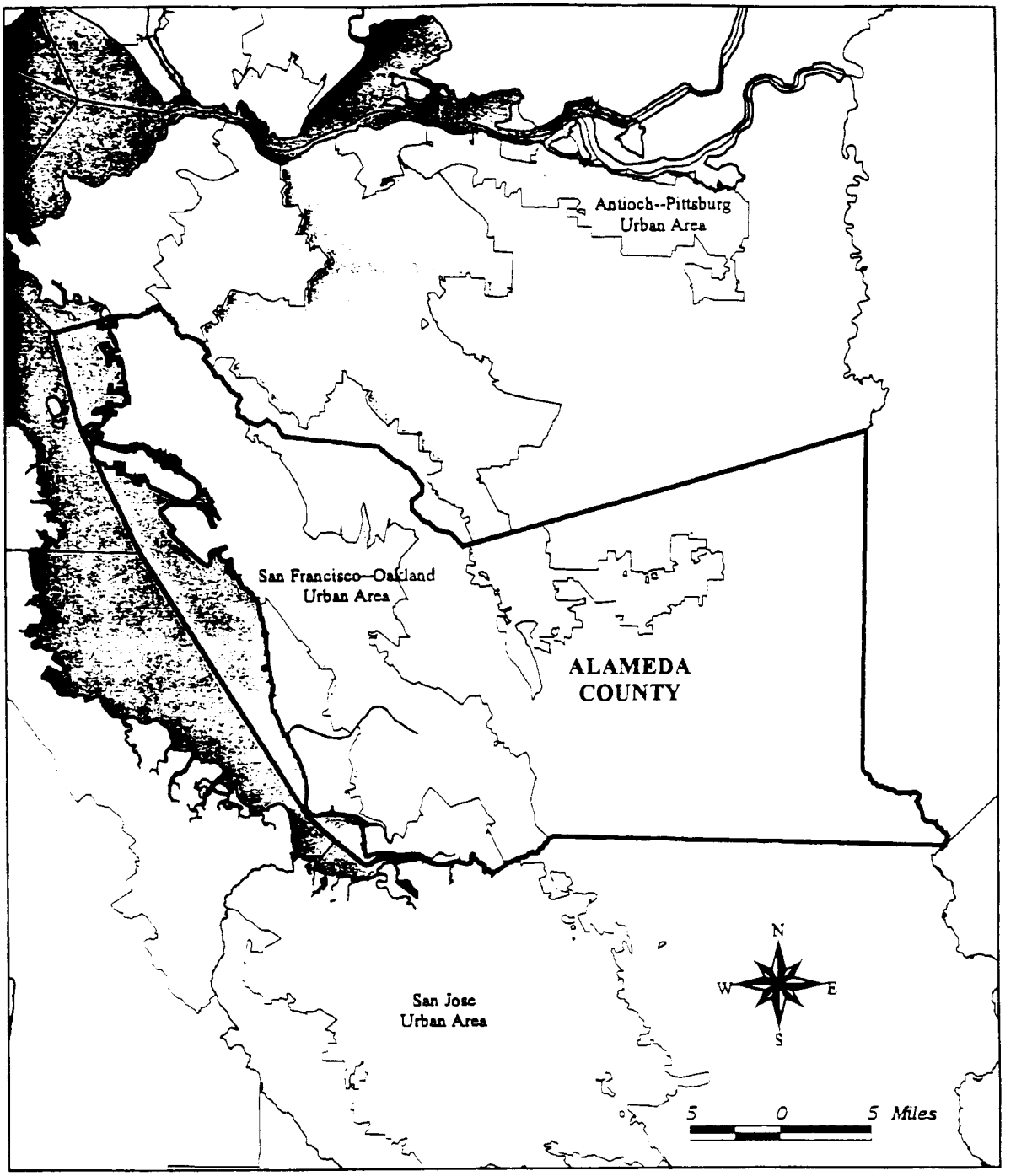
USEPA. "Innovative and Alternative Technology Assessment Manual". 430/9-78-009, February 1980.

APPENDIX B

URBANIZED AREA BOUNDARY, RAINFALL CONTOUR, LAND USE, AND HYDROLOGIC SUB-UNIT BOUNDARY MAPS

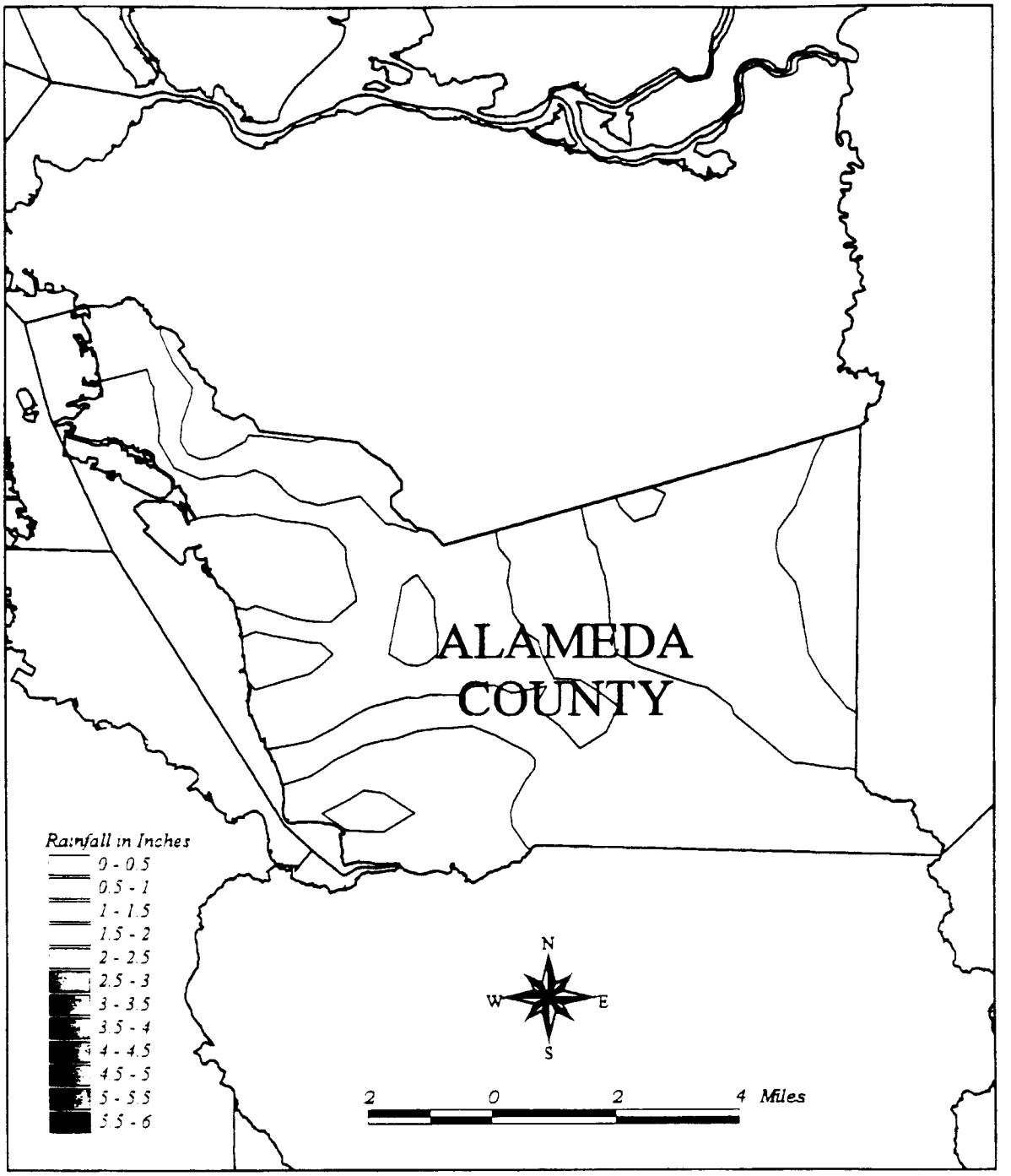
APPENDIX B

URBANIZED AREA BOUNDARY, RAINFALL CONTOUR, LAND USE, AND HYDROLOGIC SUB-UNIT BOUNDARY MAPS



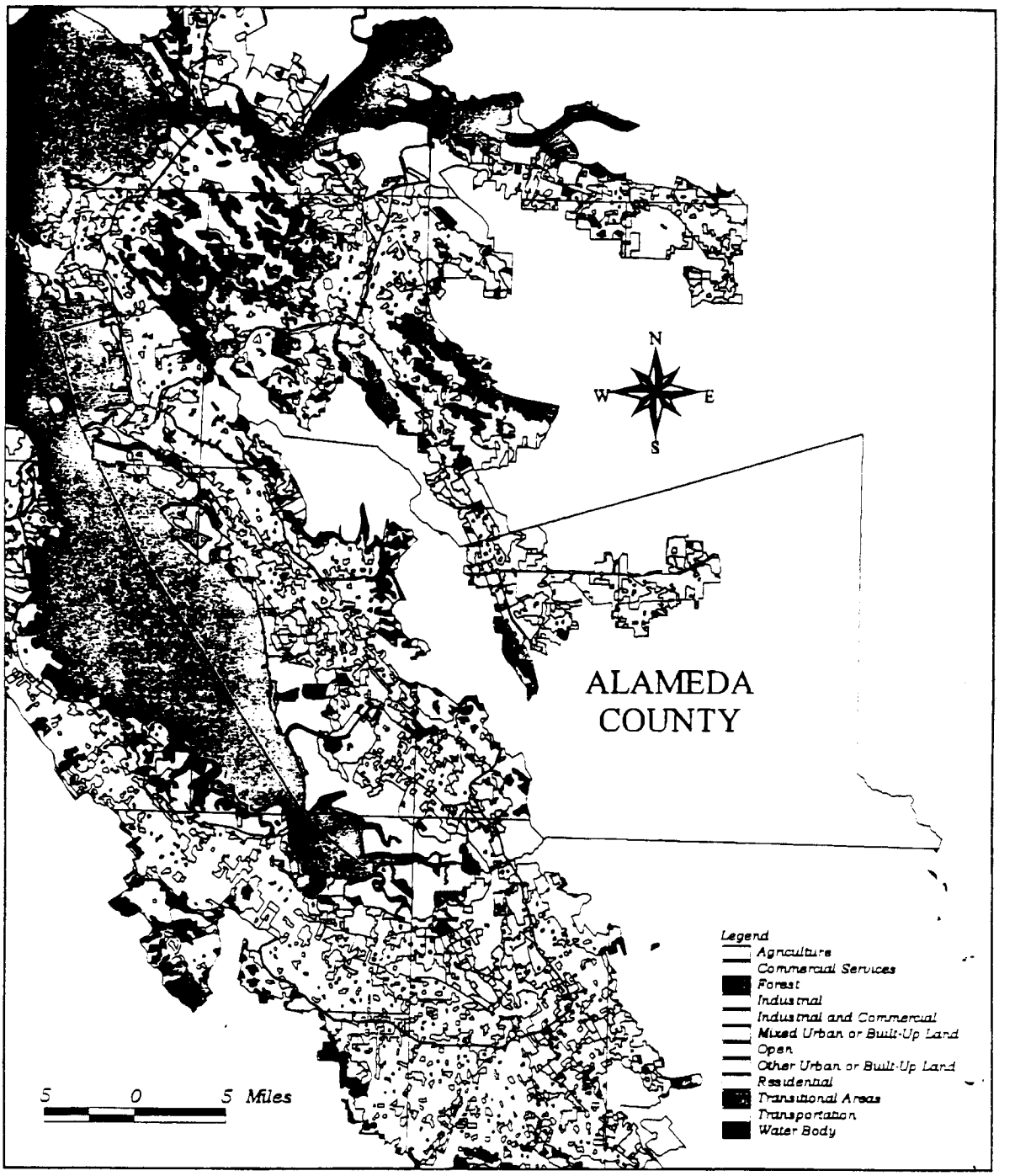
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Alameda County
Figure B-1a



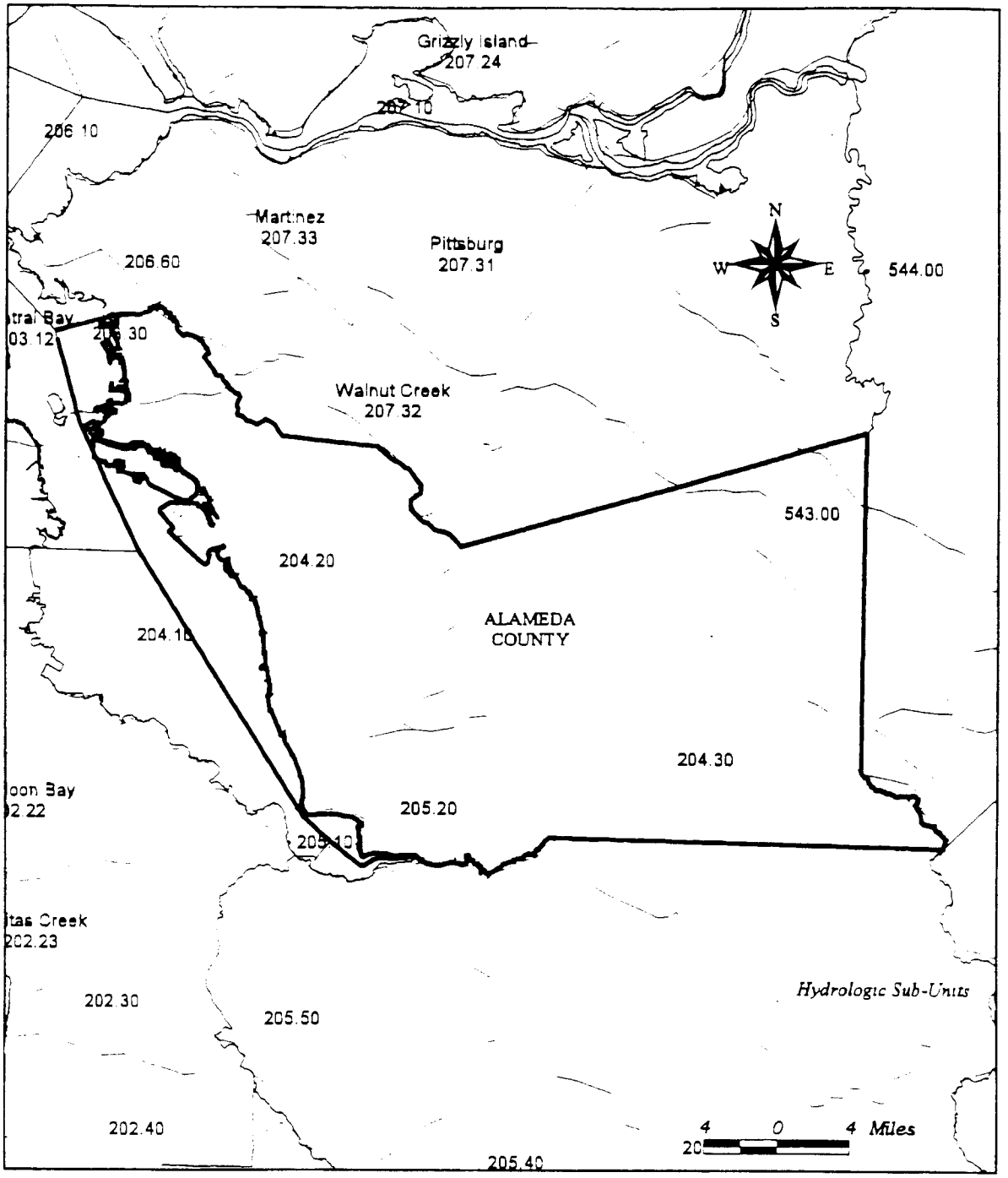
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Alameda County
Figure B-1b



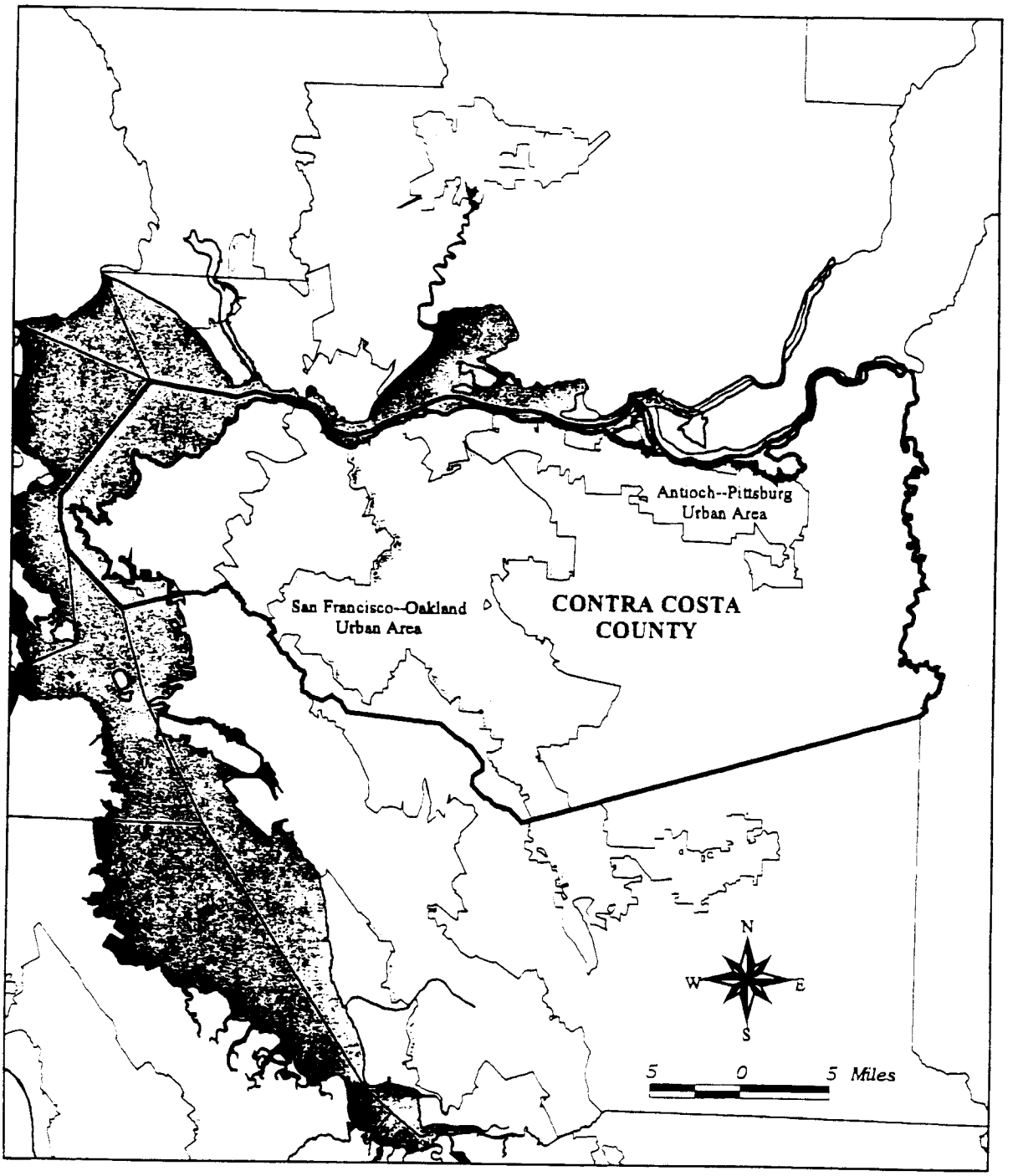
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Alameda County
Figure B-1c



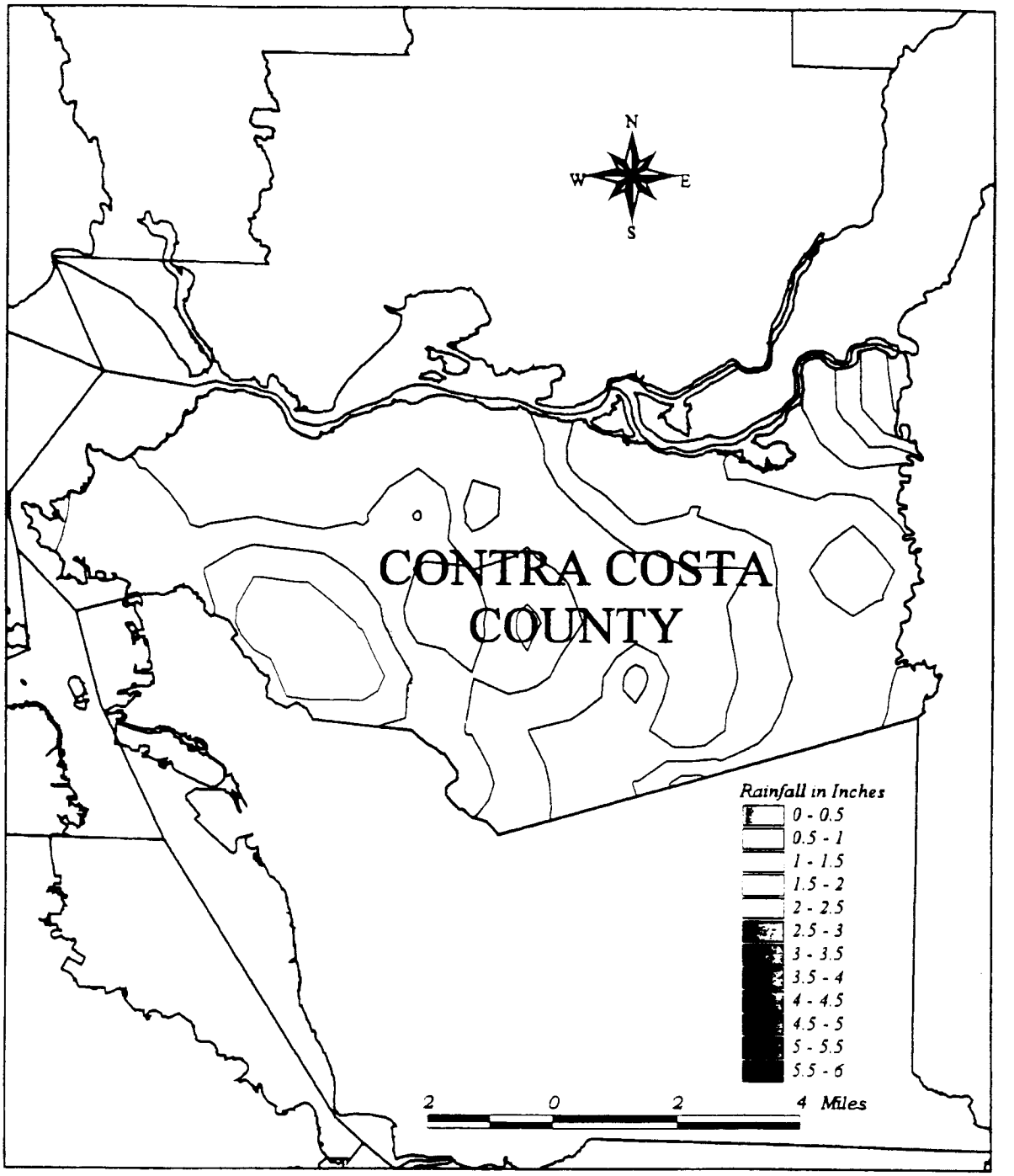
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Alameda County
Figure B-1d



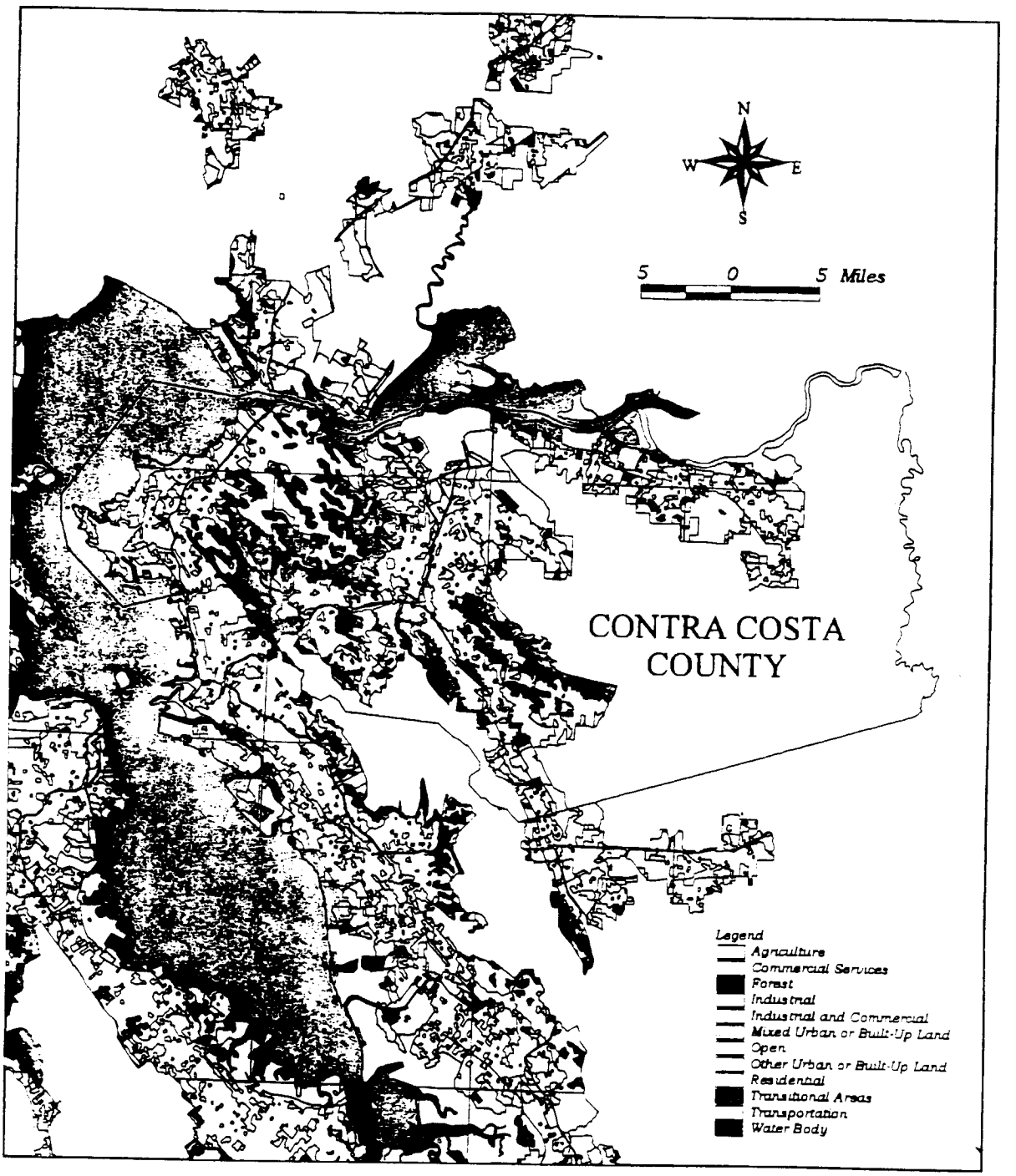
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Contra Costa County
Figure B-2a



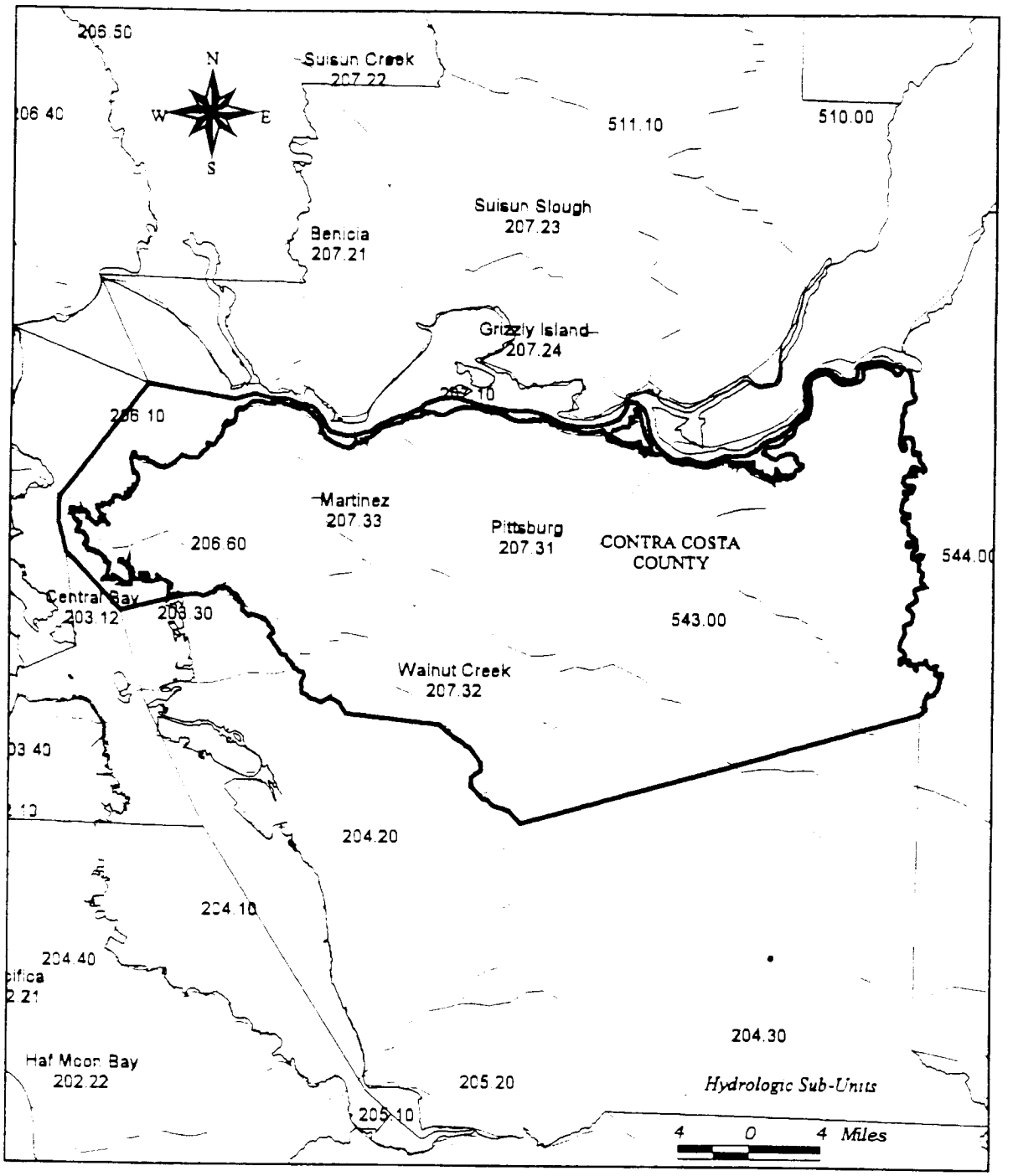
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Contra Costa County
Figure B-2b



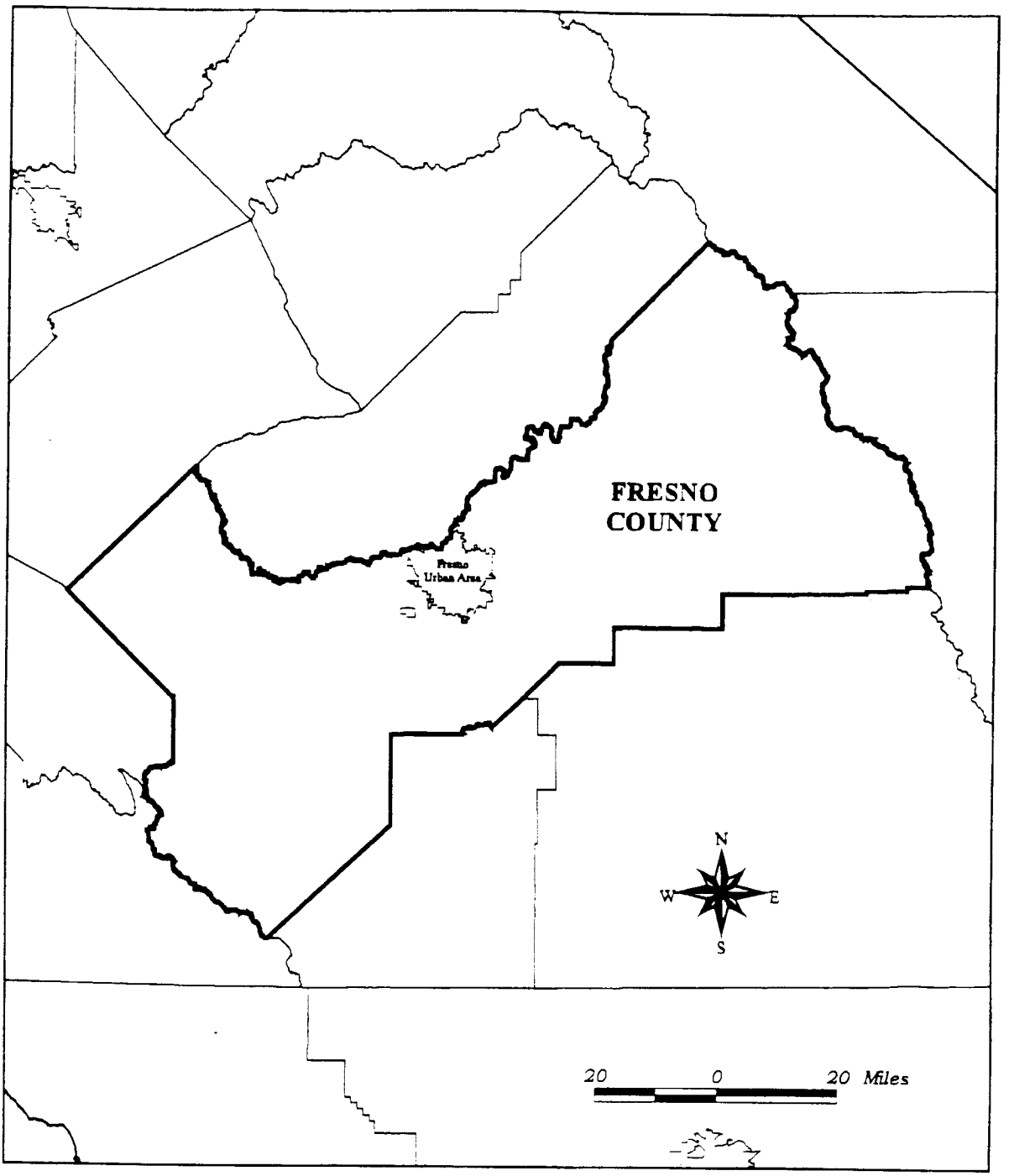
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Contra Costa County
Figure B-2c



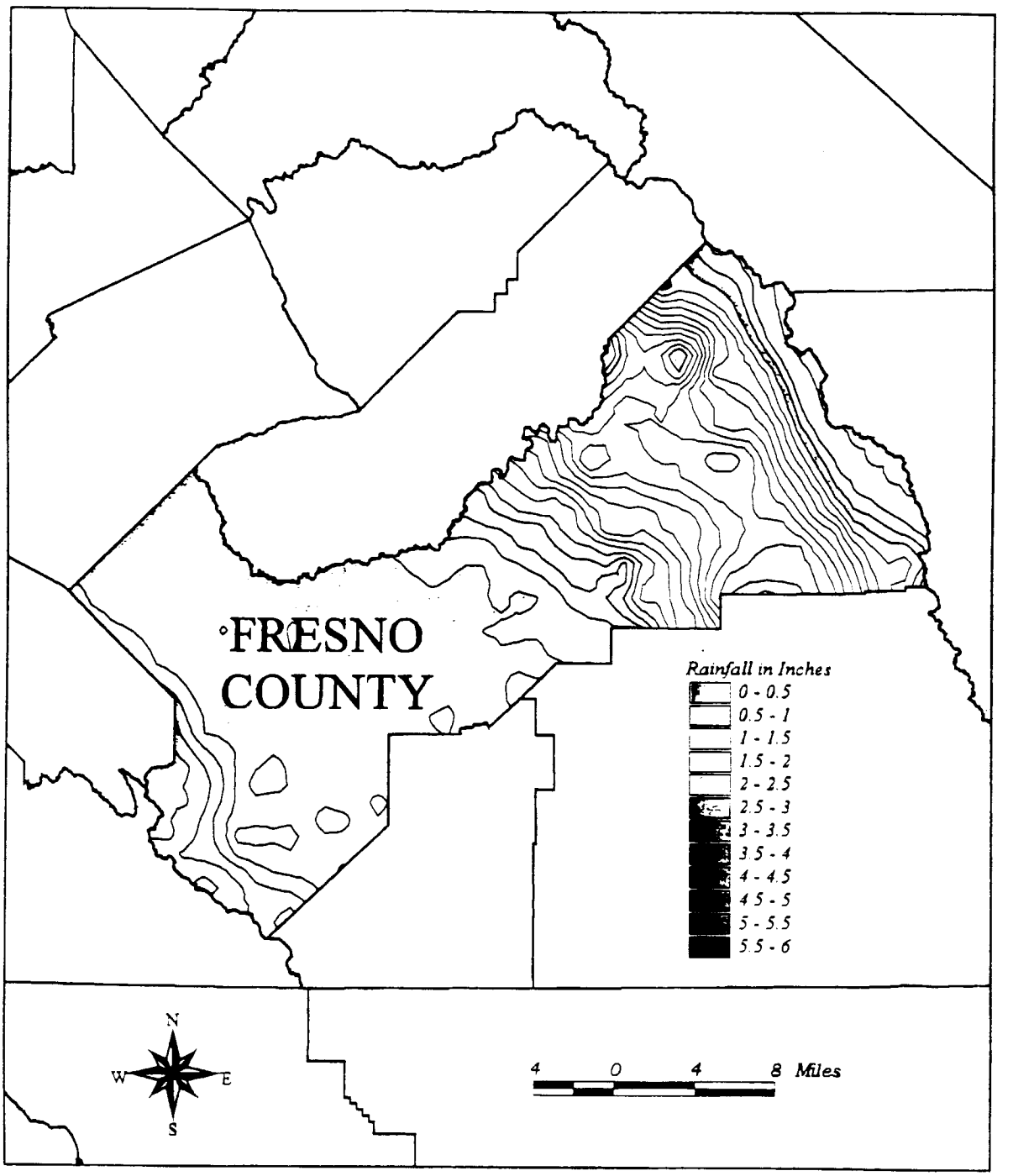
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Contra Costa County
Figure B-2d



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Fresno County
Figure B-3a

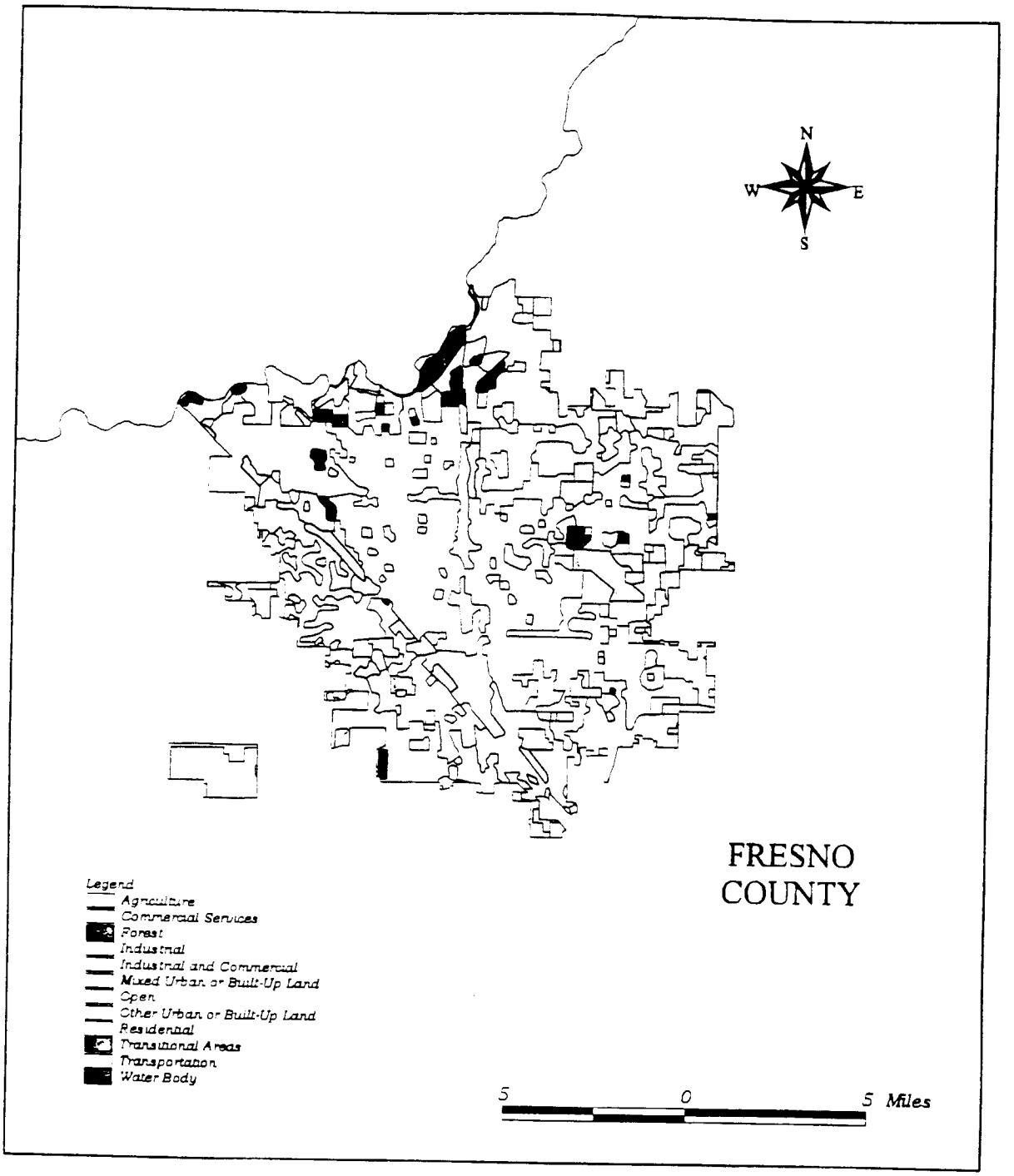


BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas

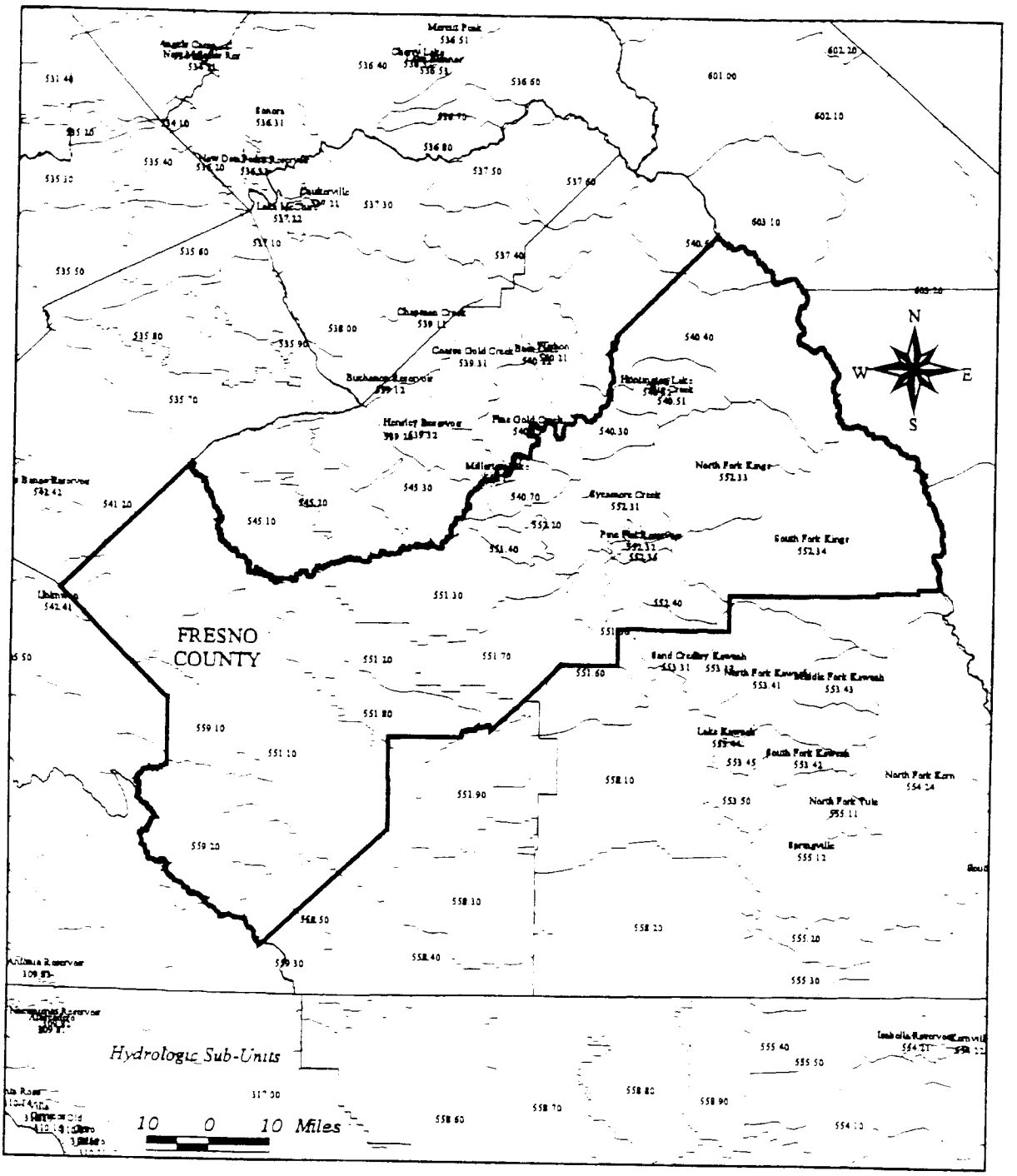
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Fresno County

Figure B-3b



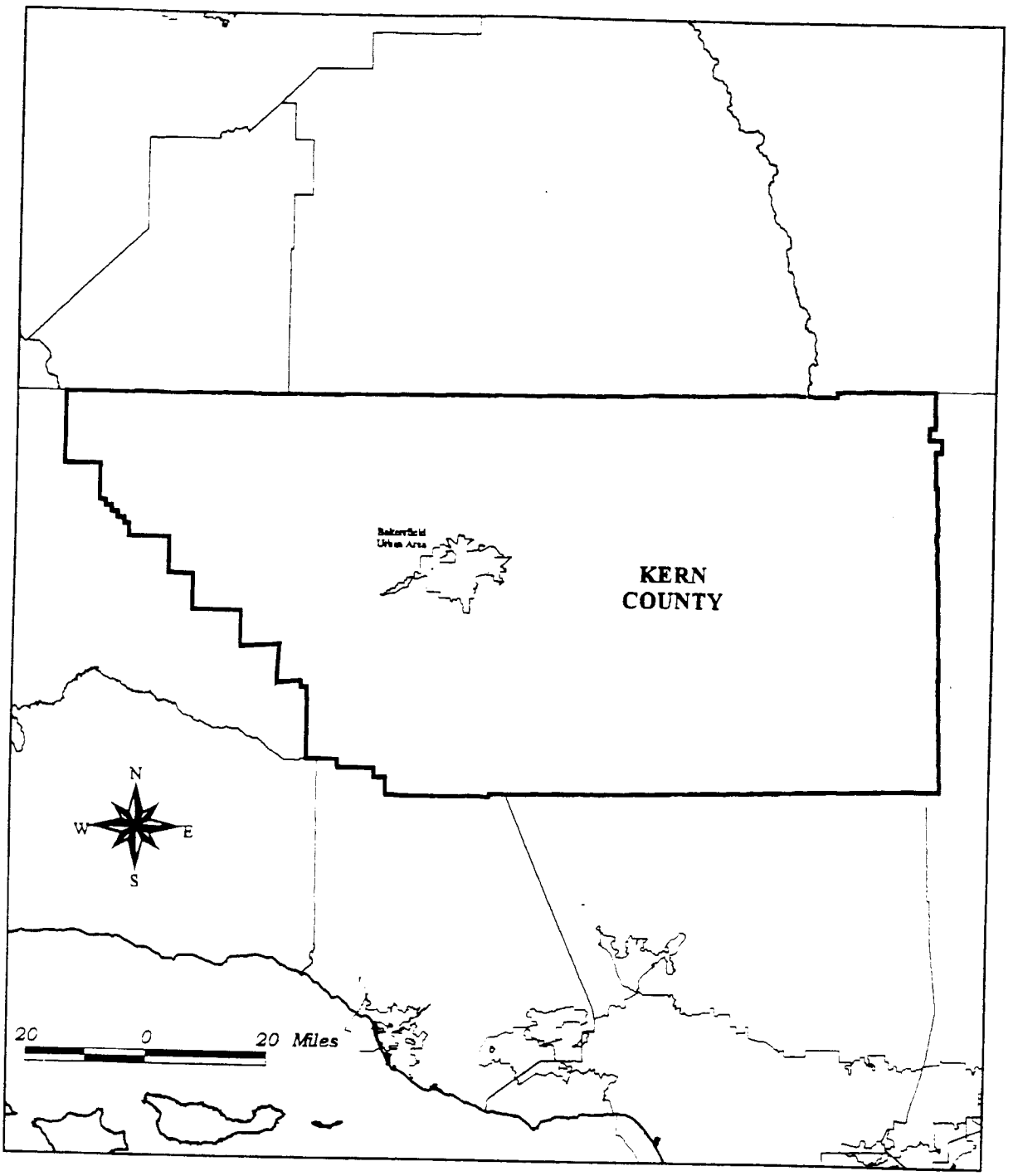
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Fresno County
Figure B-3c



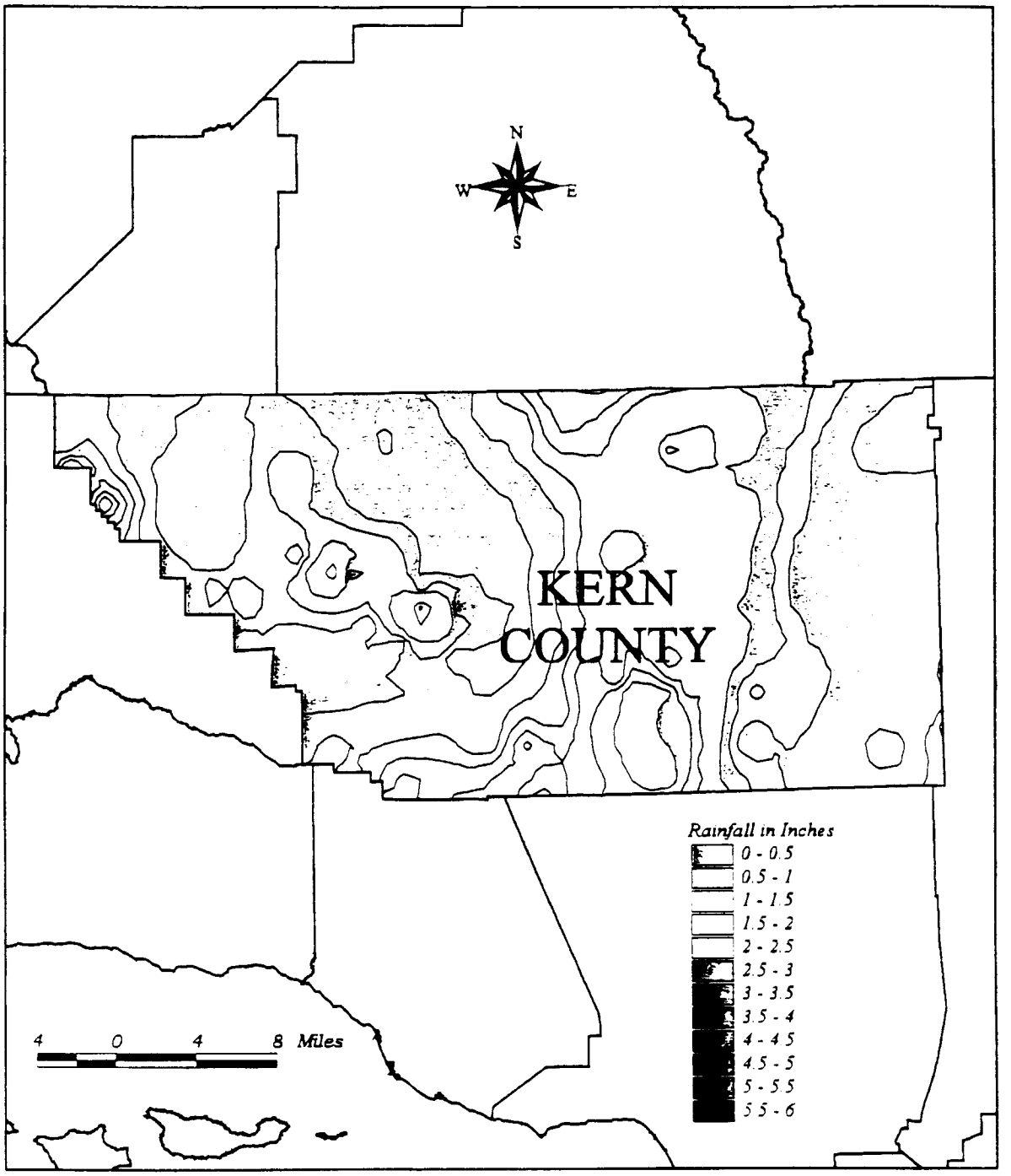
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Fresno County
Figure B-3d



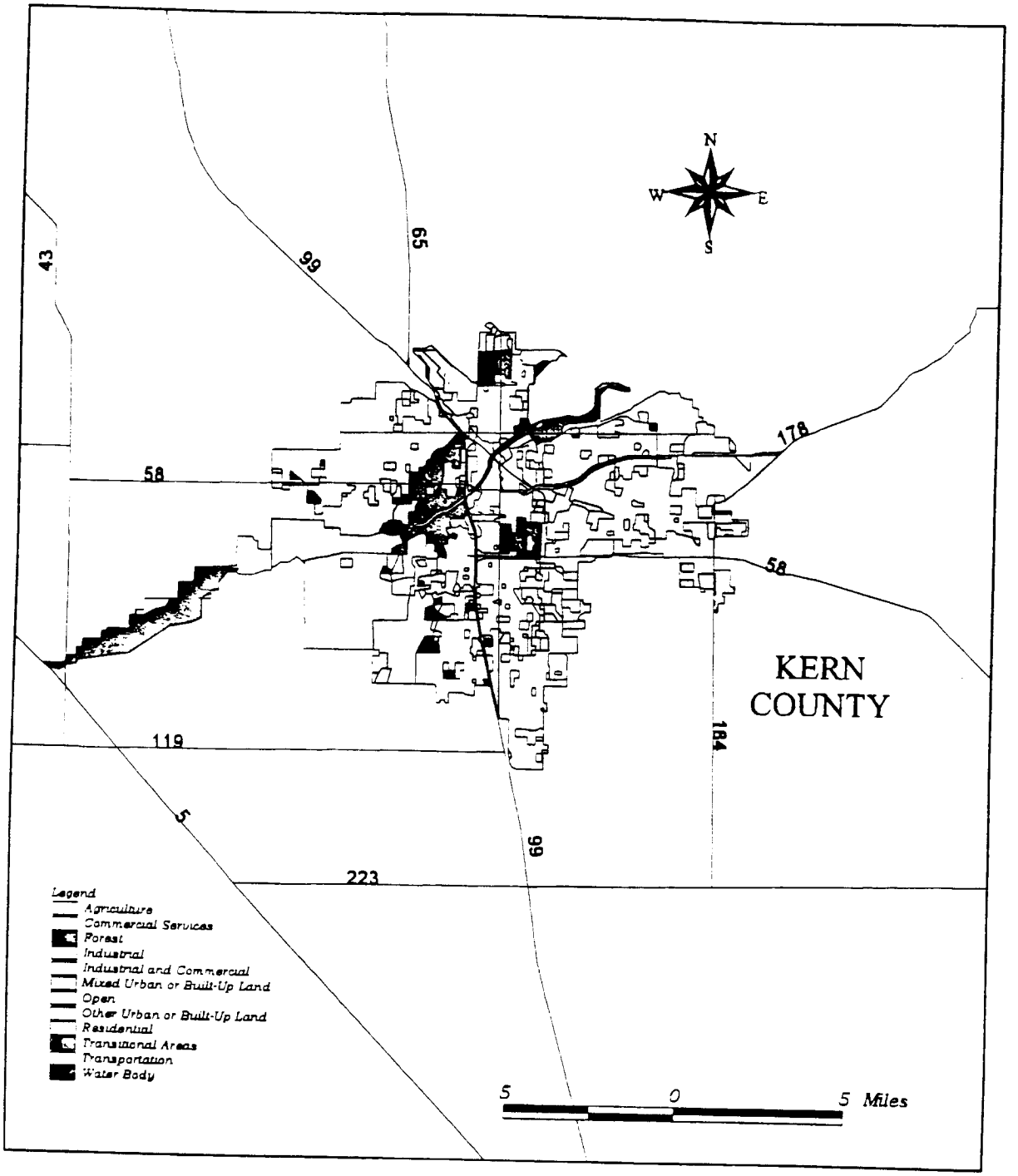
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Kern County
Figure B-4a



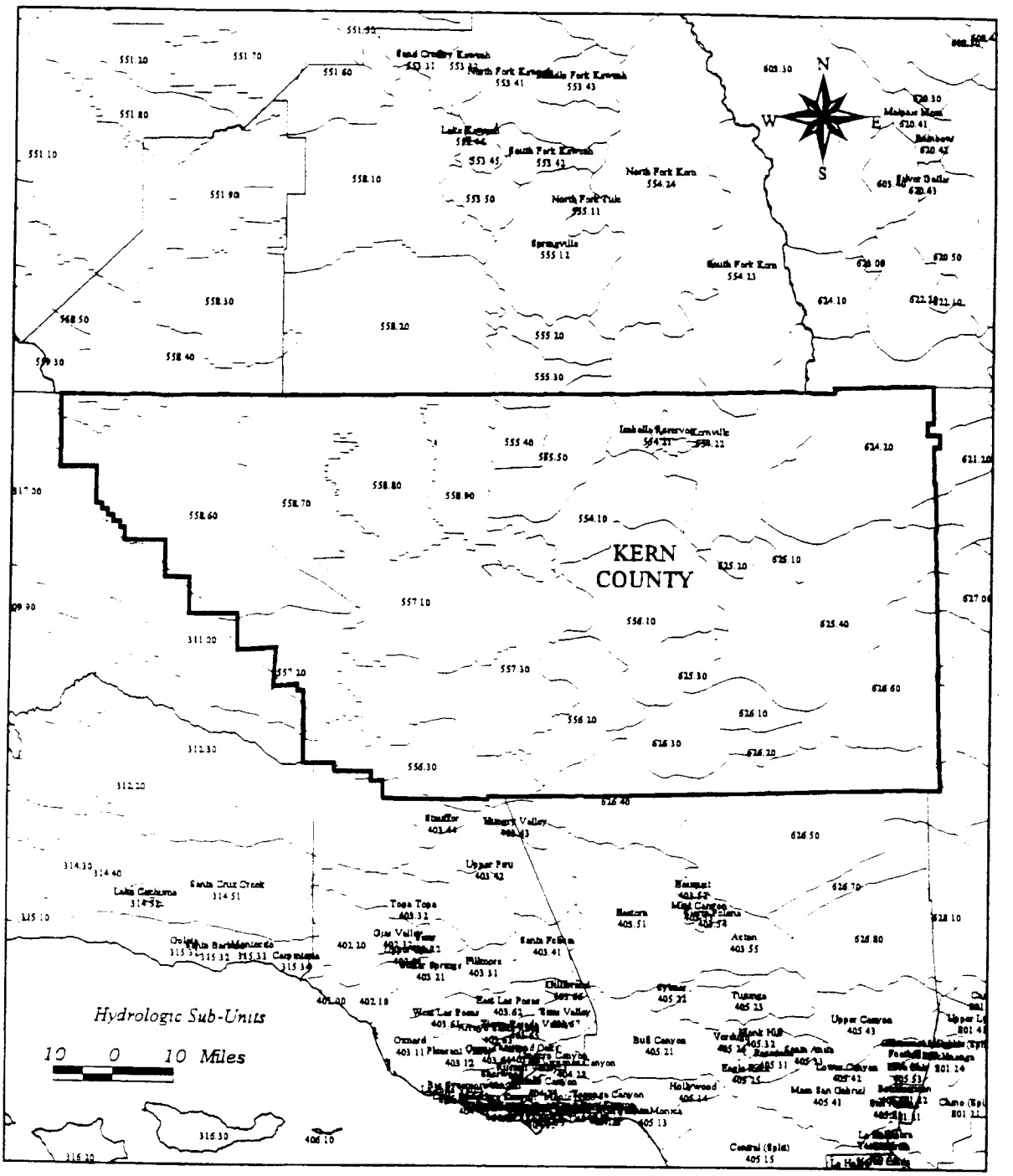
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Kern County
Figure B-4b



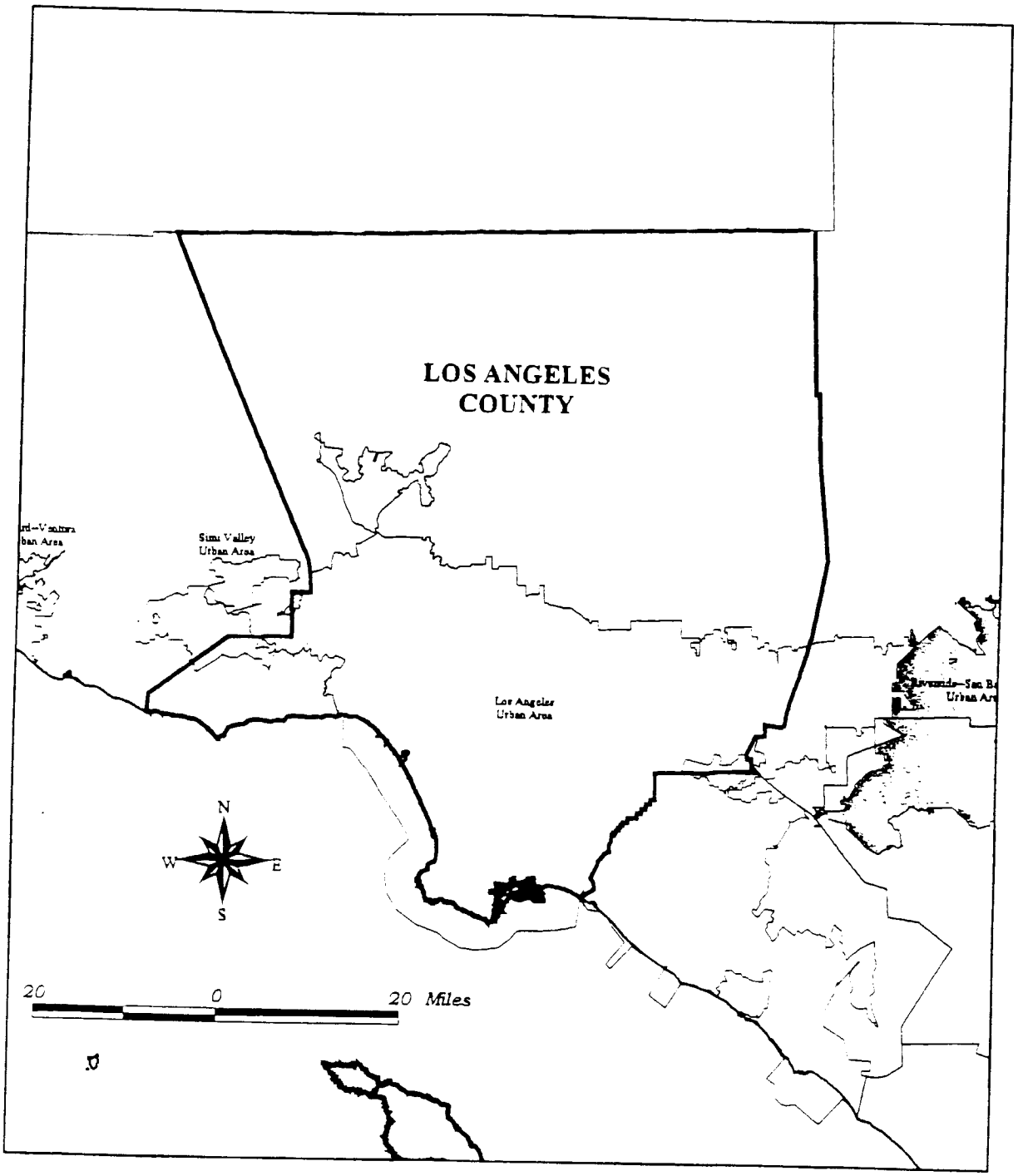
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Kern County
Figure B-4c



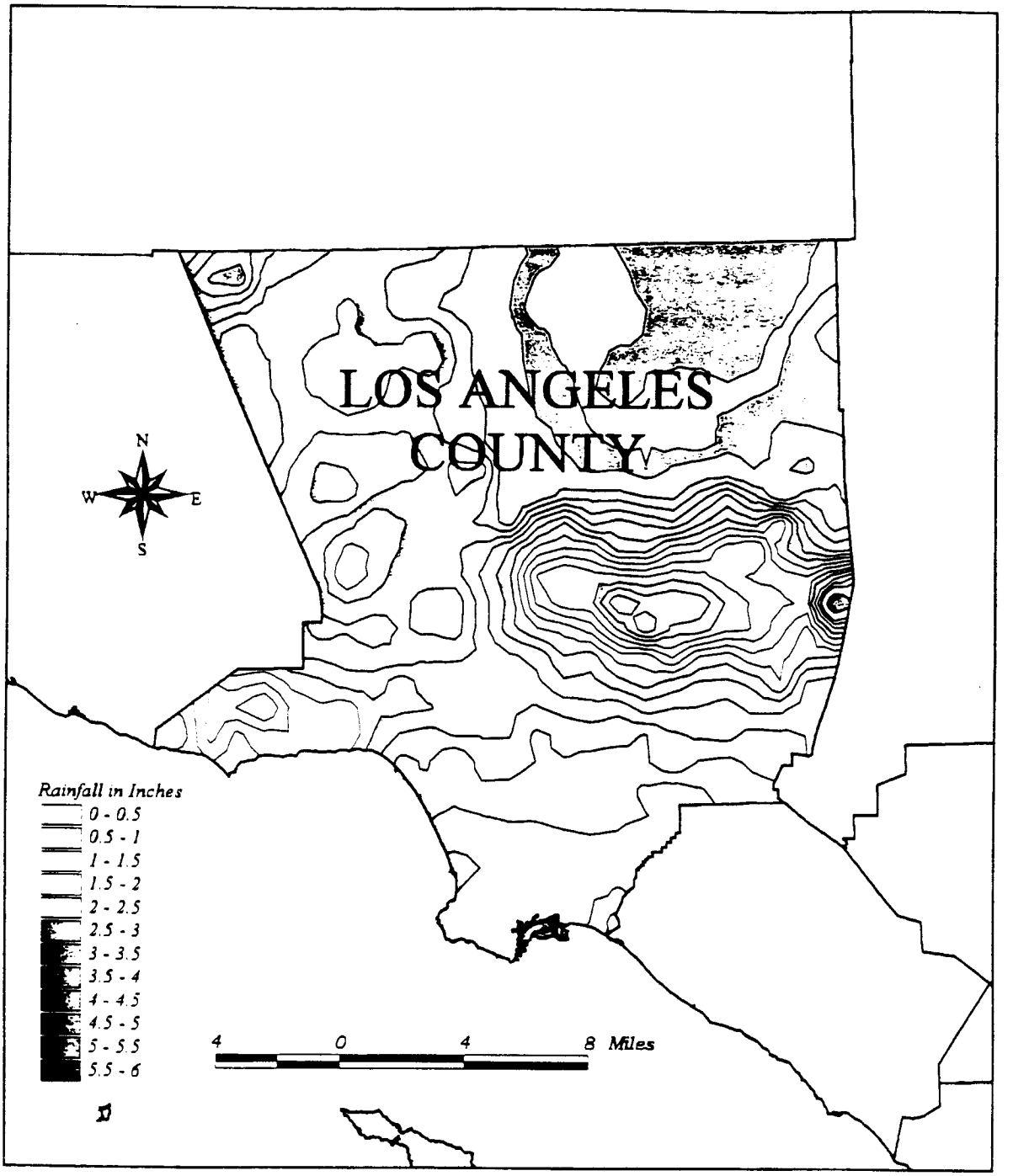
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Kern County
Figure B-4d



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Los Angeles County
Figure B-5a

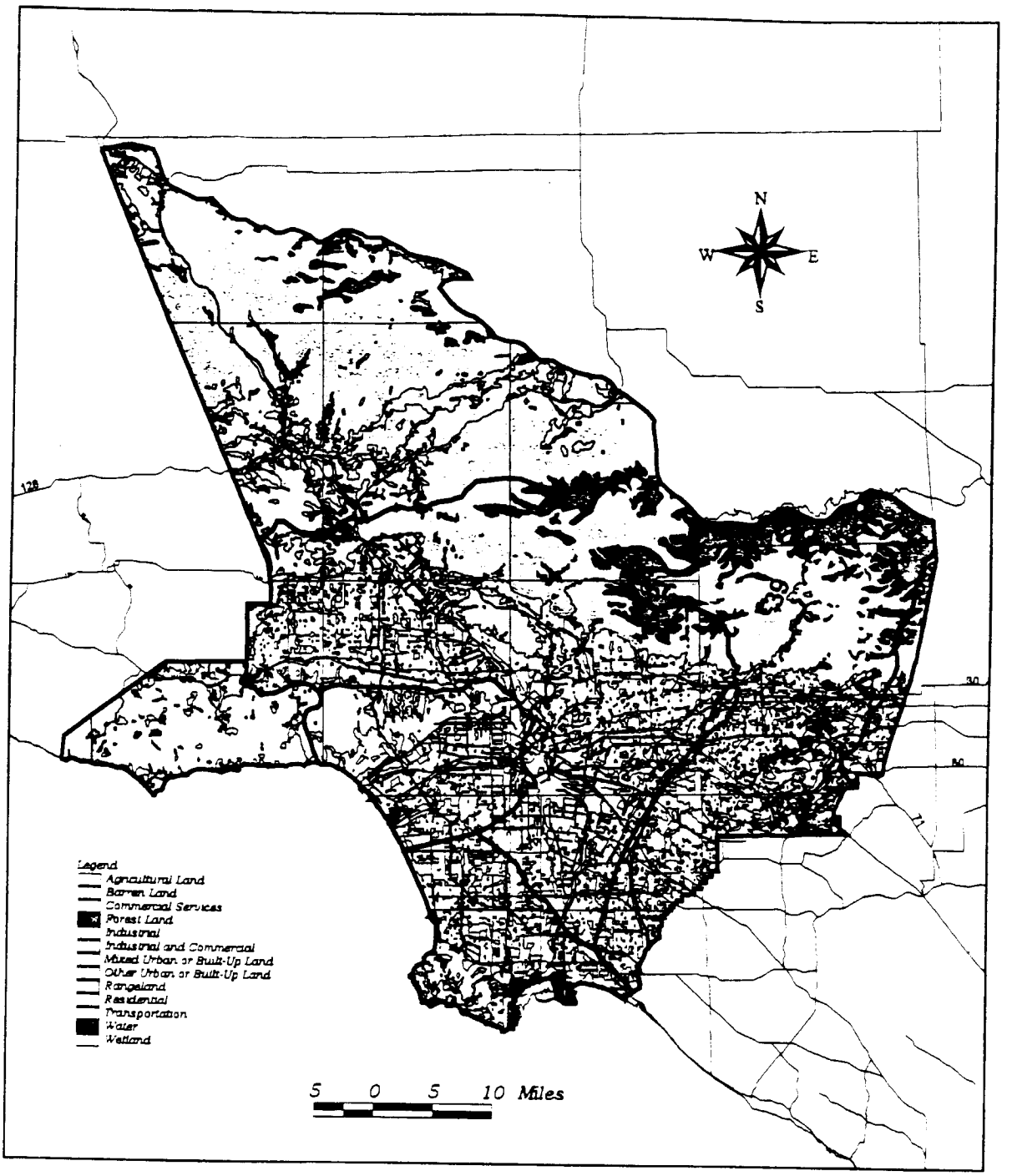


BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas

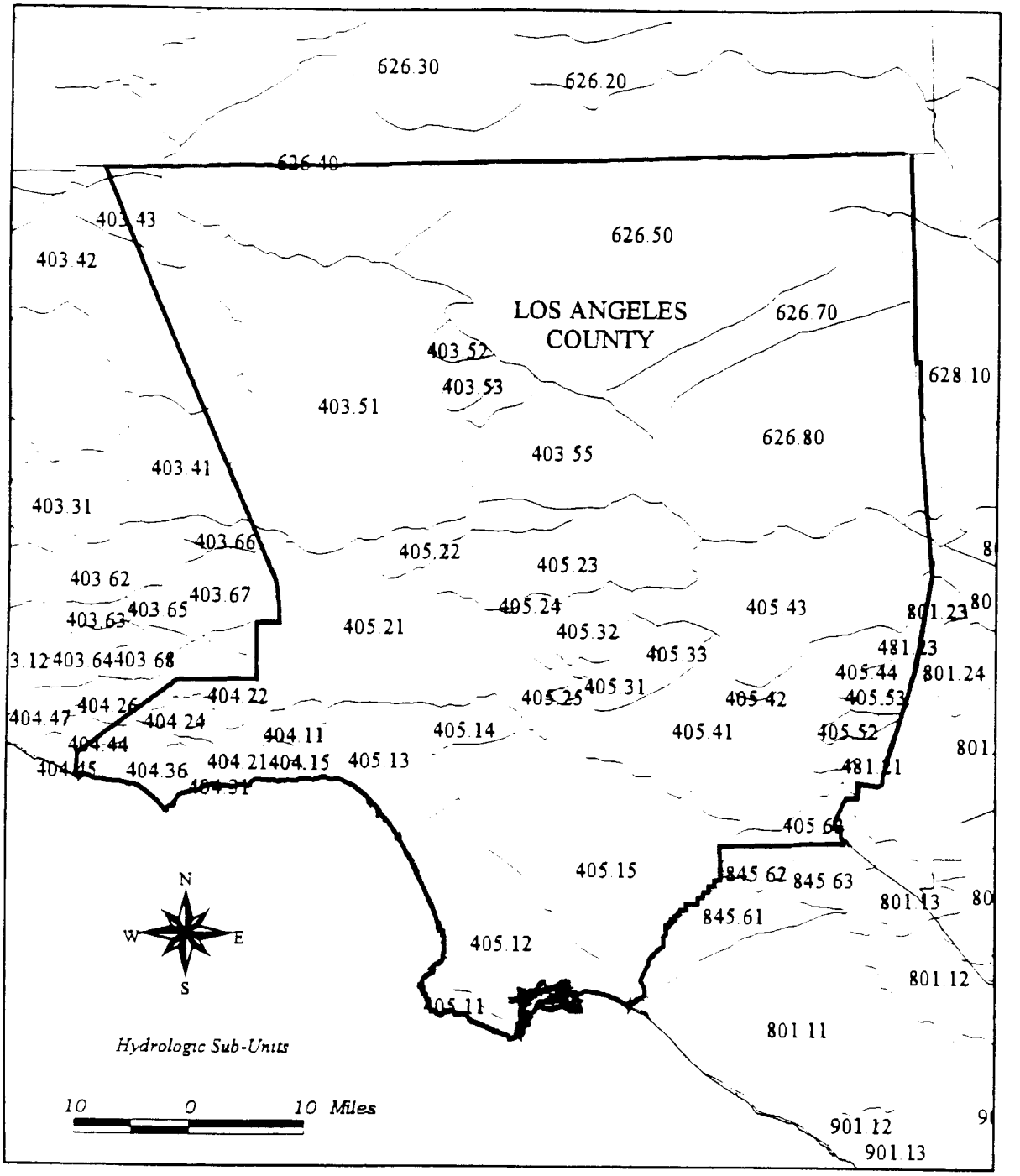
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Los Angeles County

Figure B-5b



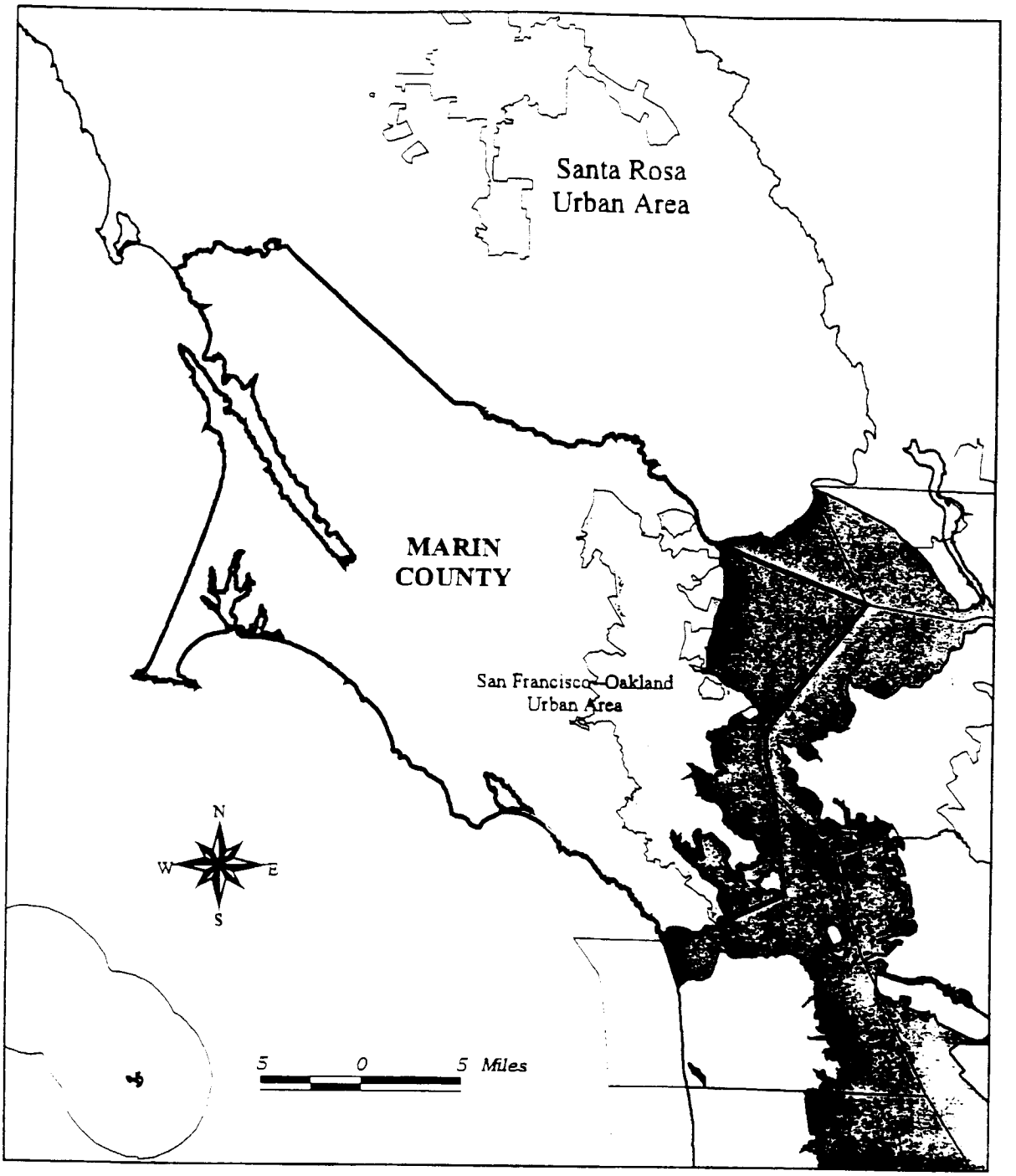
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Los Angeles Drainage Basins
Figure B-5c



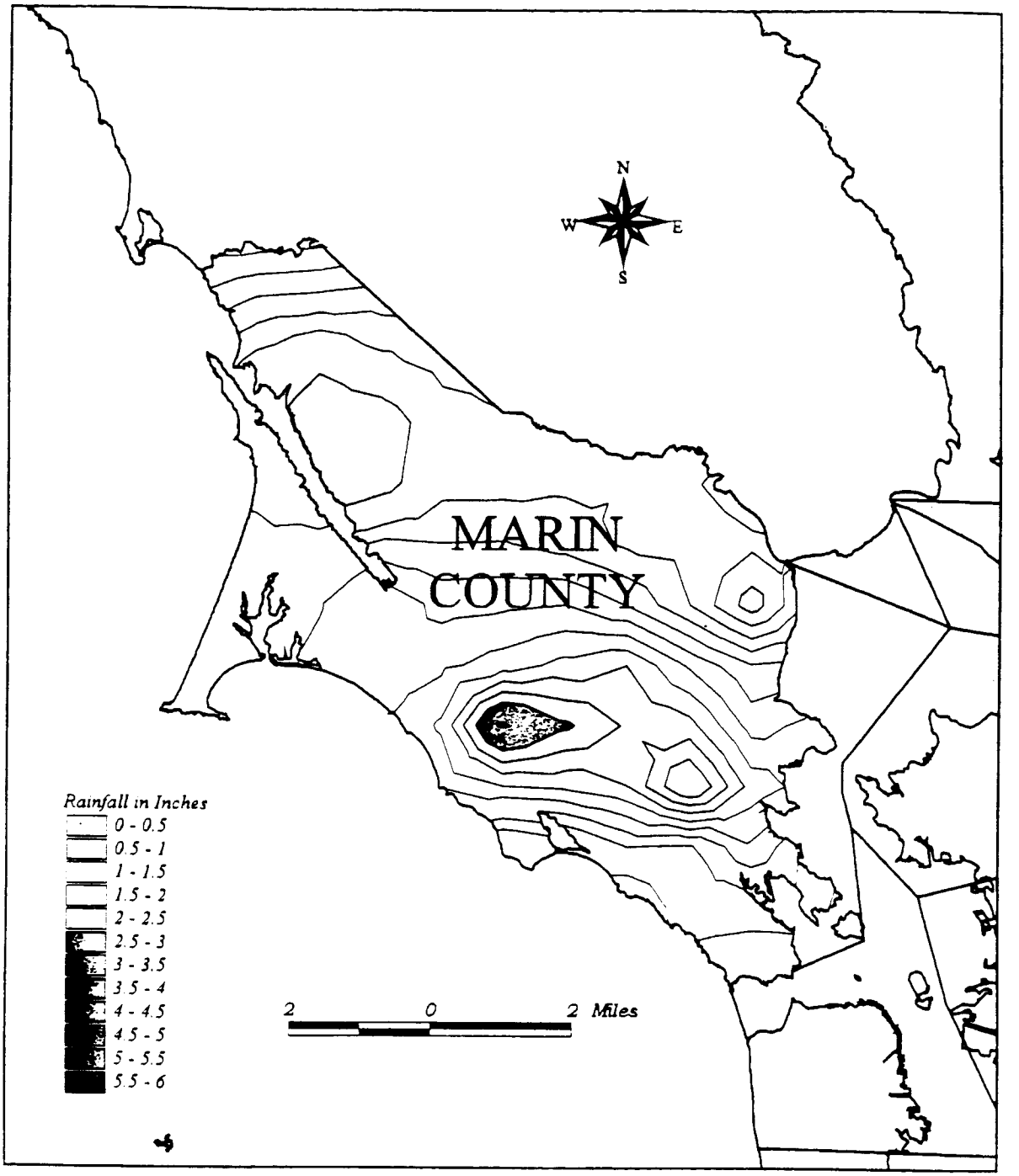
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Los Angeles County
Figure B-5d



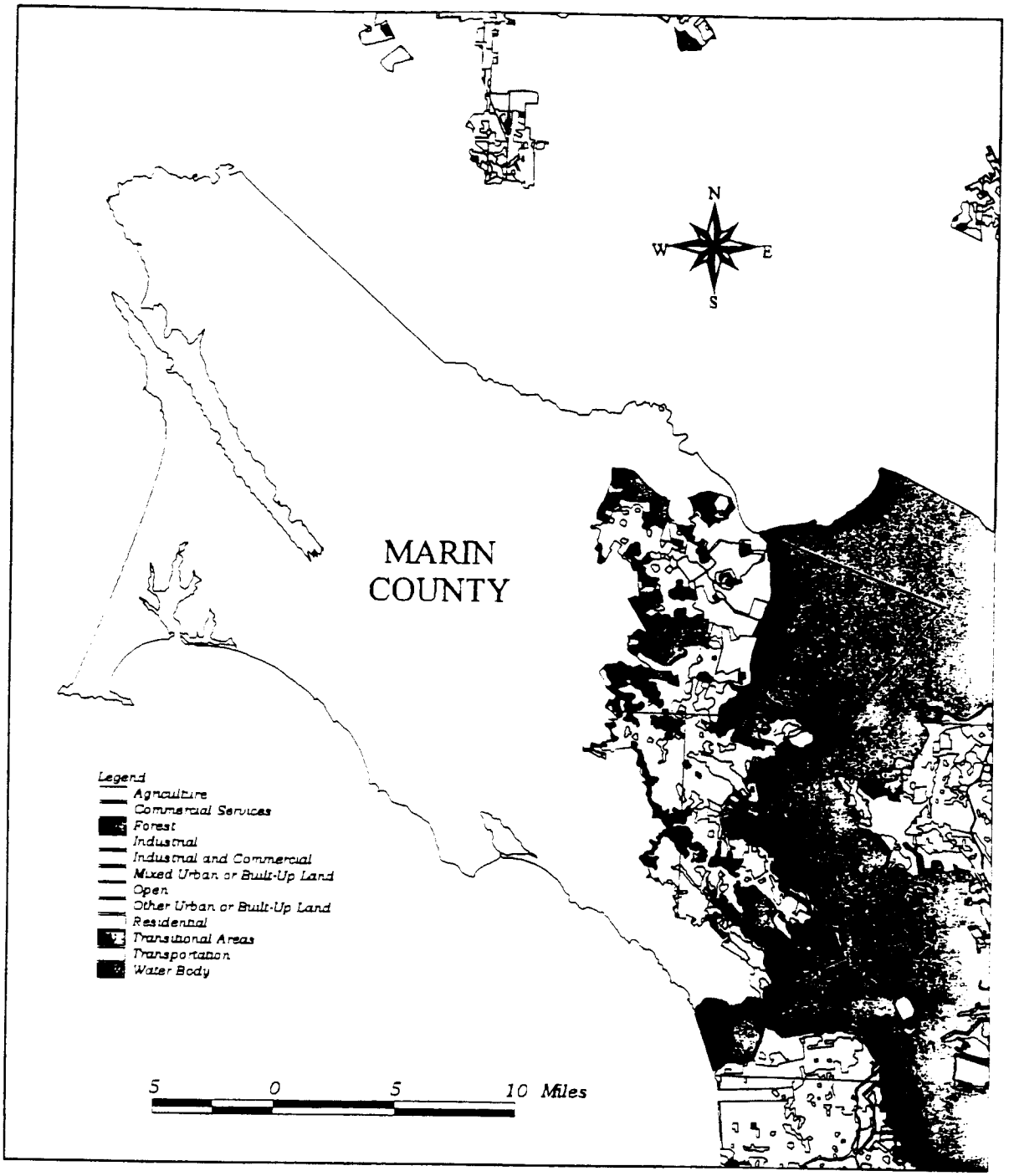
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Marin County
Figure B-6a



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Marin County
Figure B-6b



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Marin County
Figure B-6c

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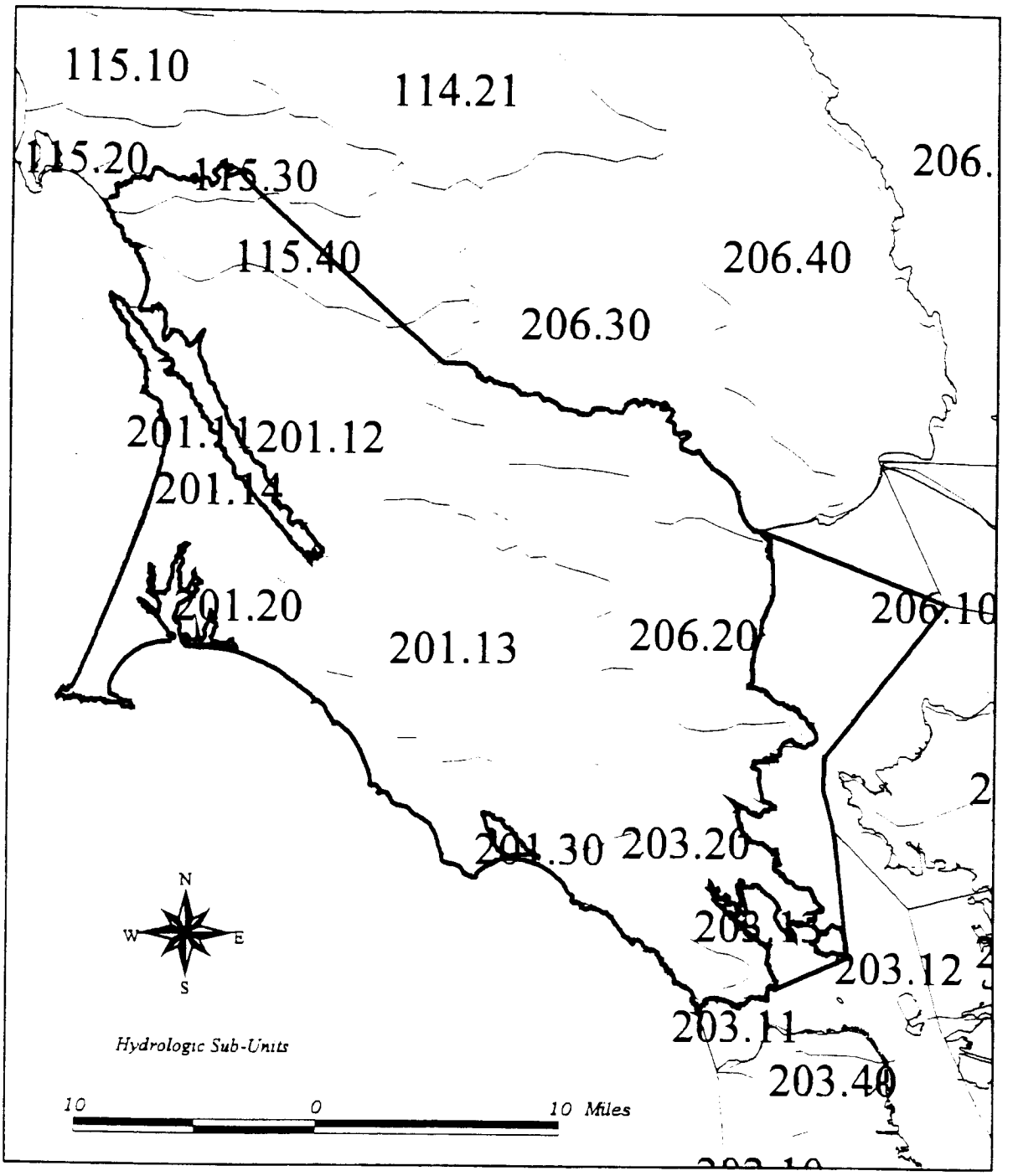
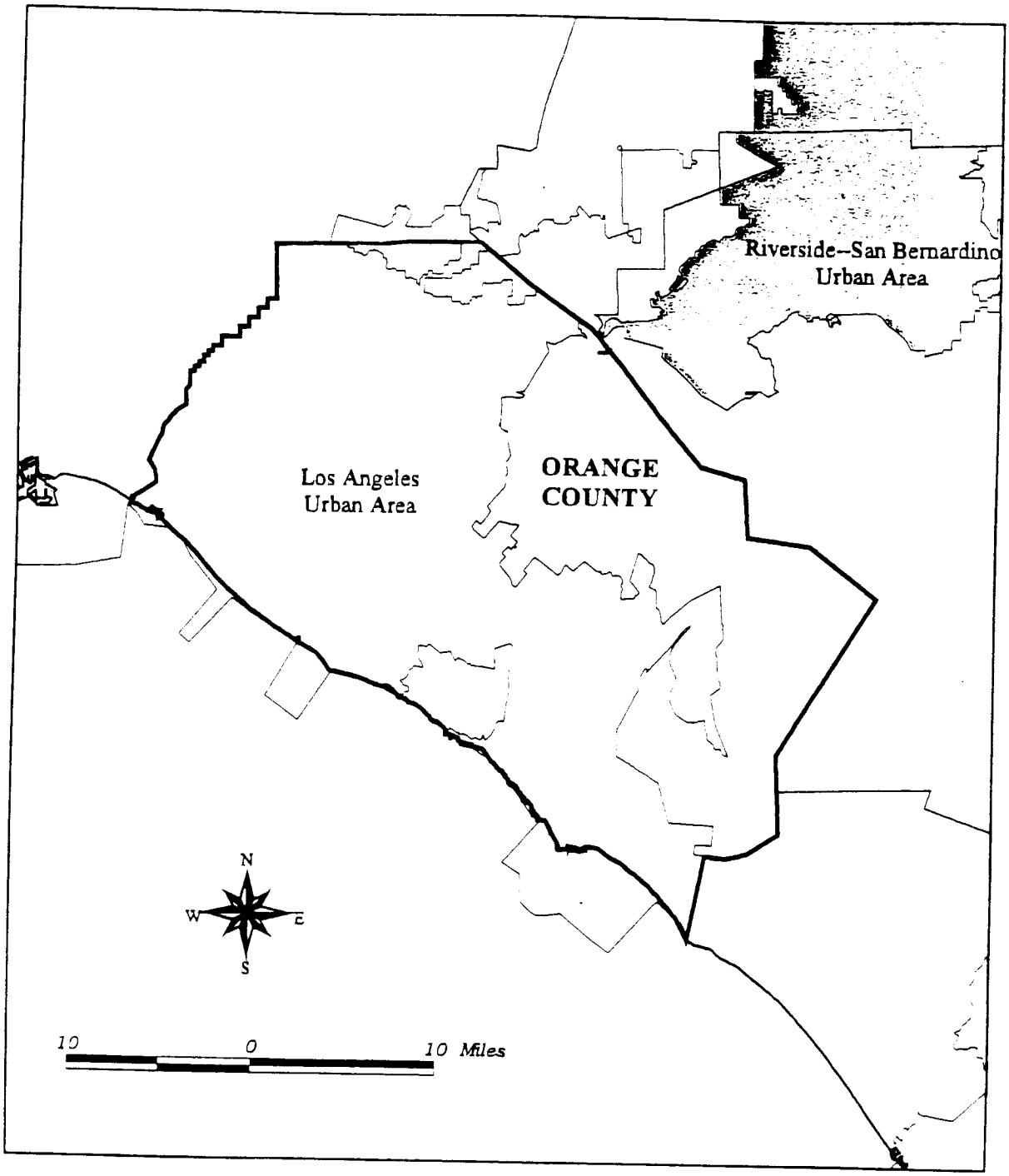


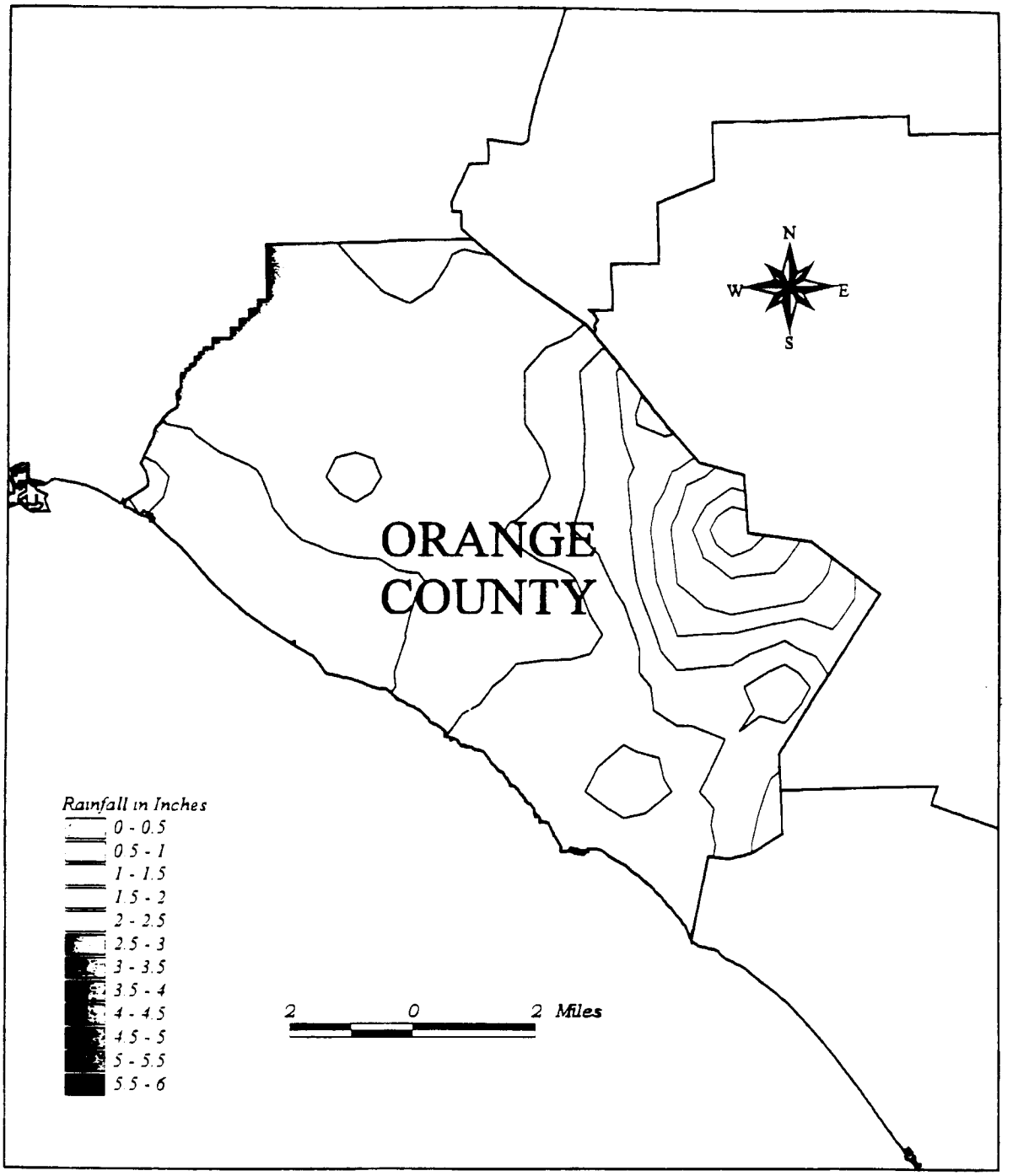
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Marin County
Figure B-6d



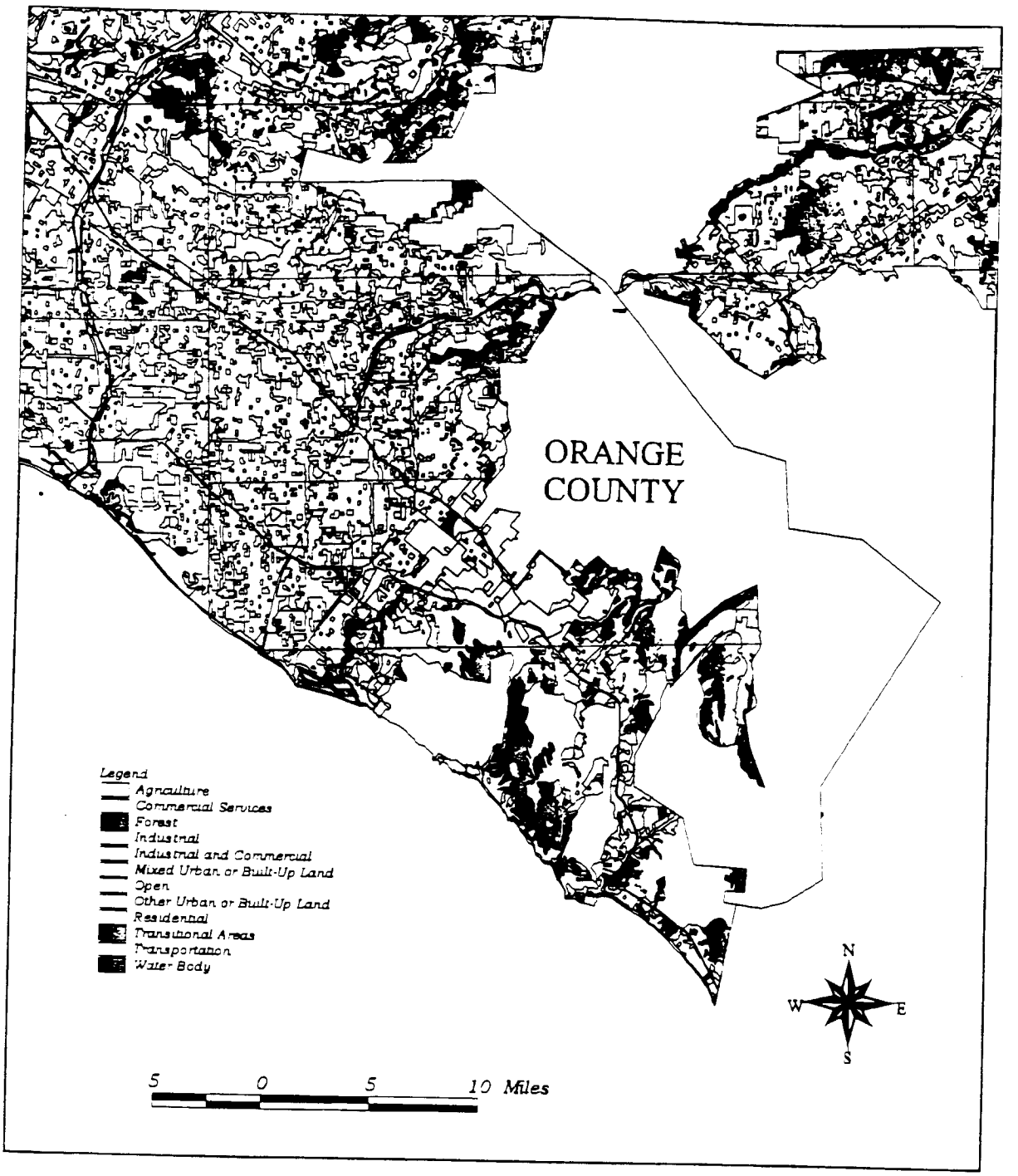
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Orange County
Figure B-7a



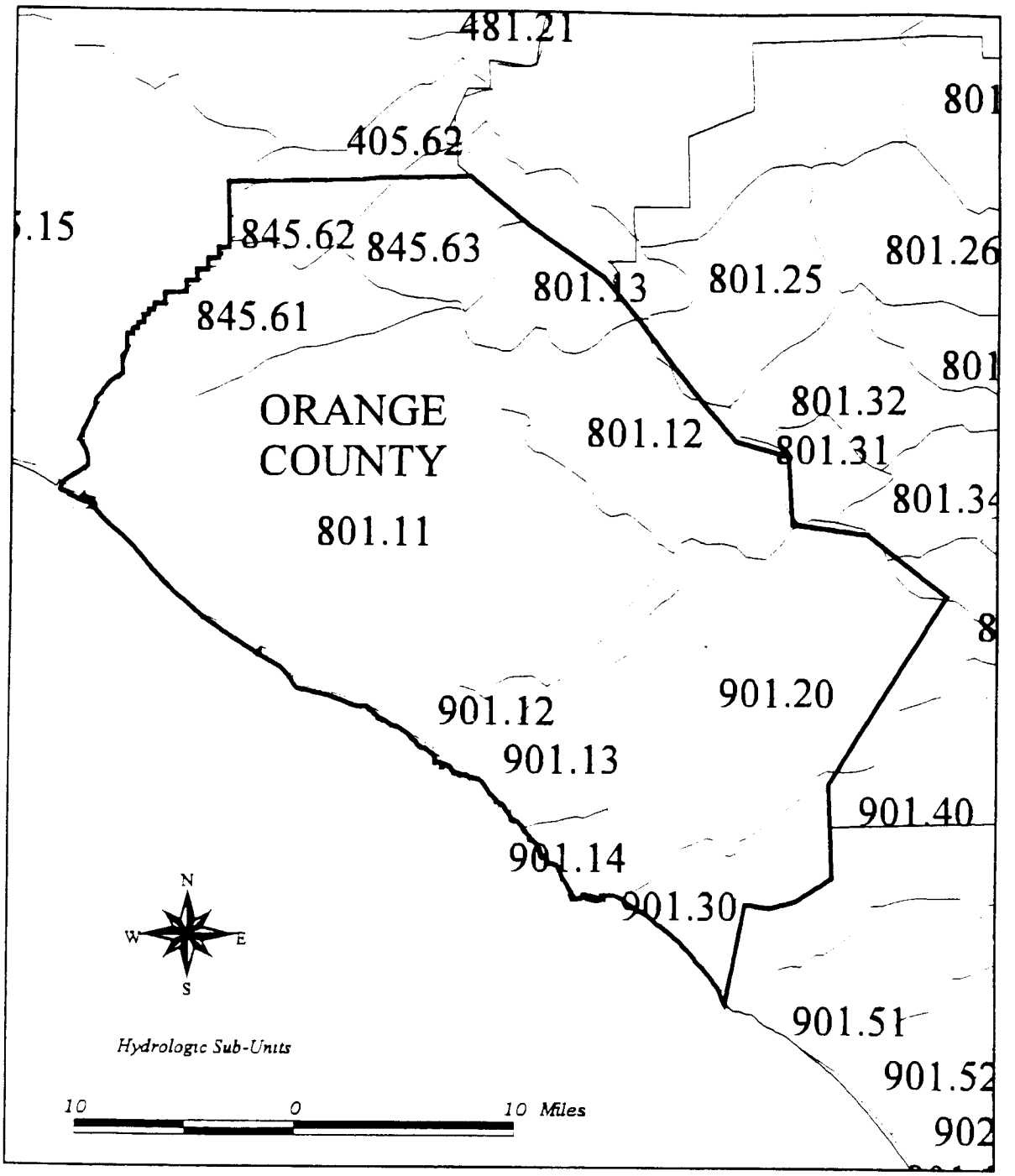
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Orange County
Figure B-7b



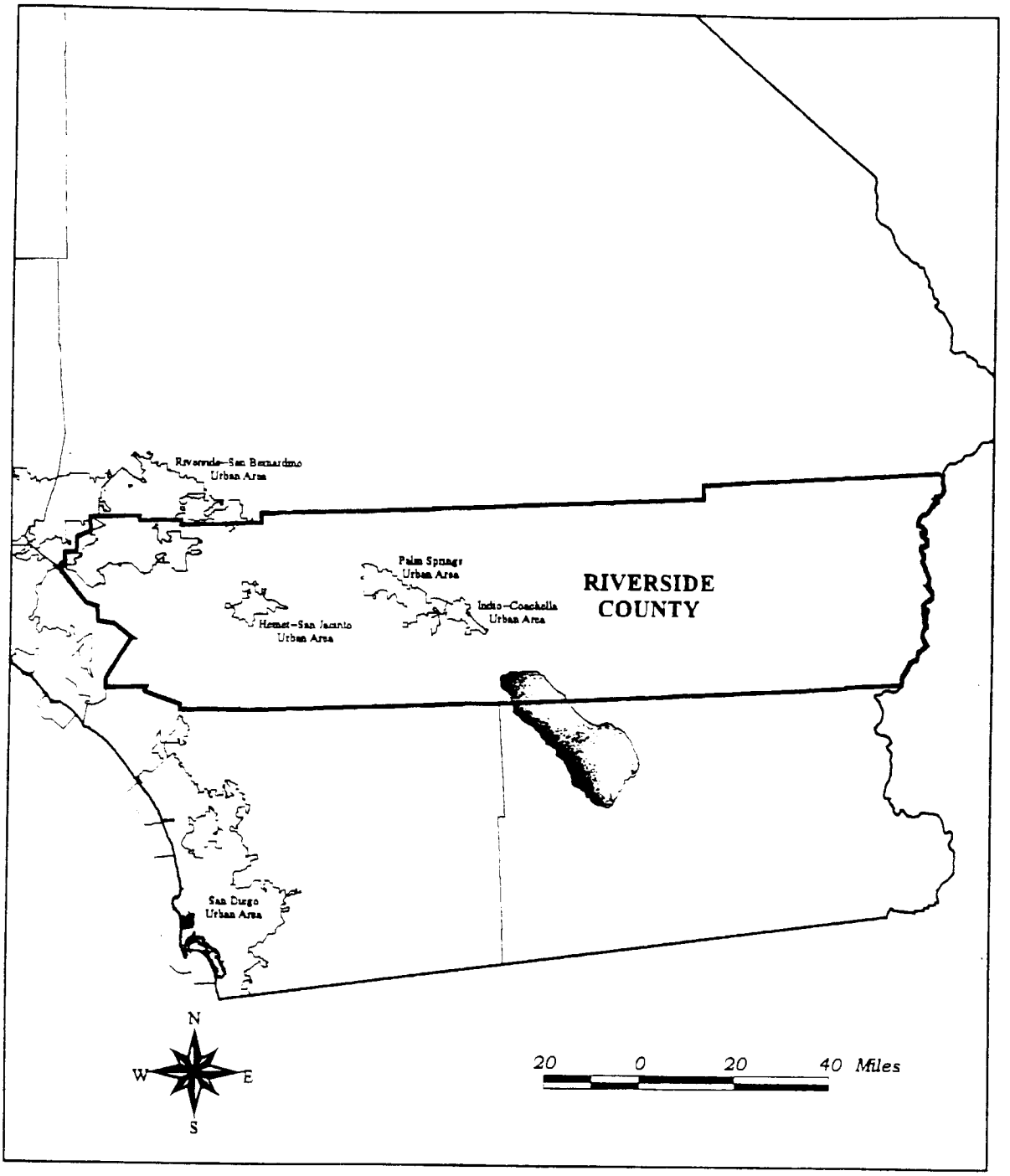
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Orange County
Figure B-7c



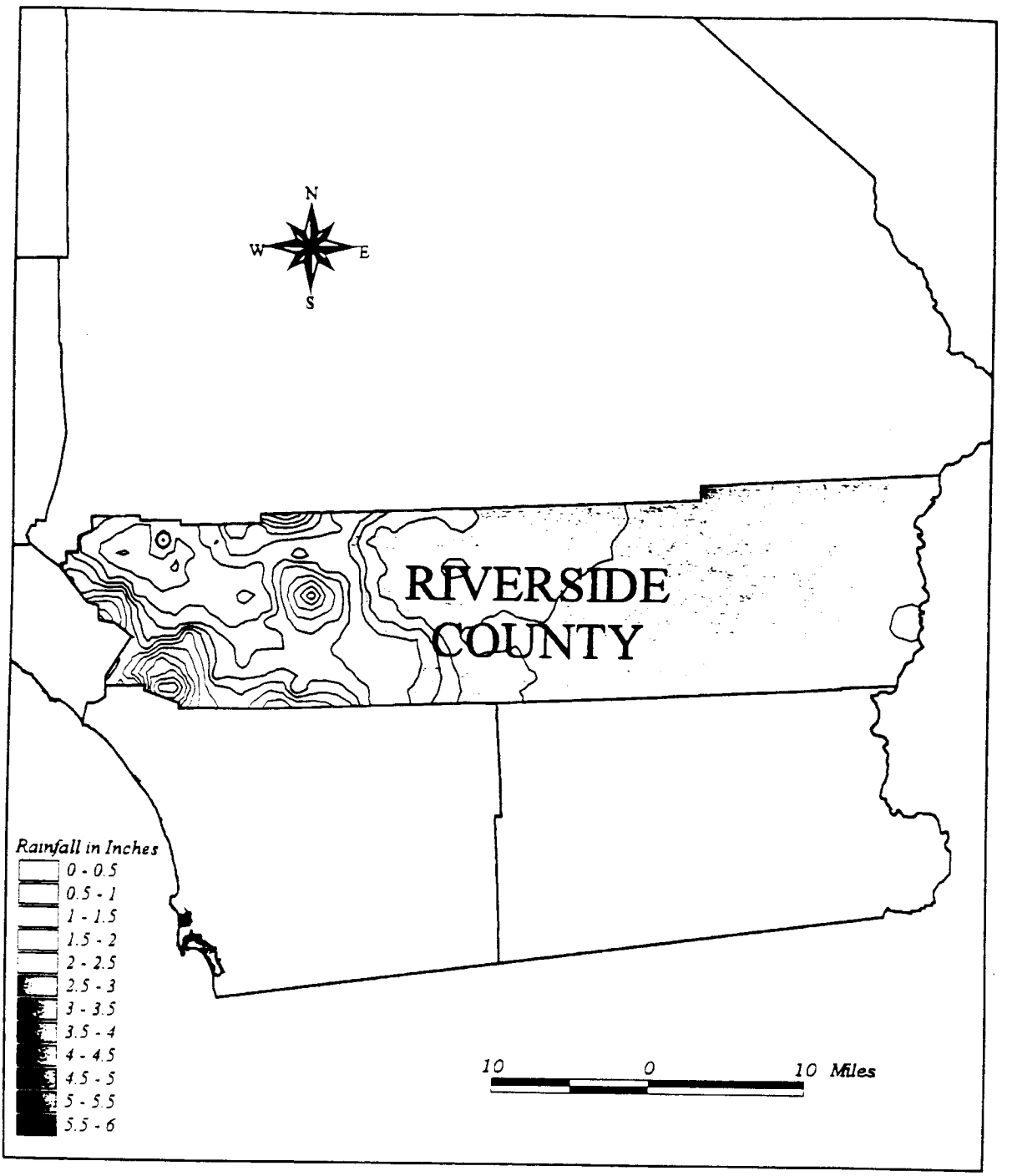
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Orange County
Figure B-7d



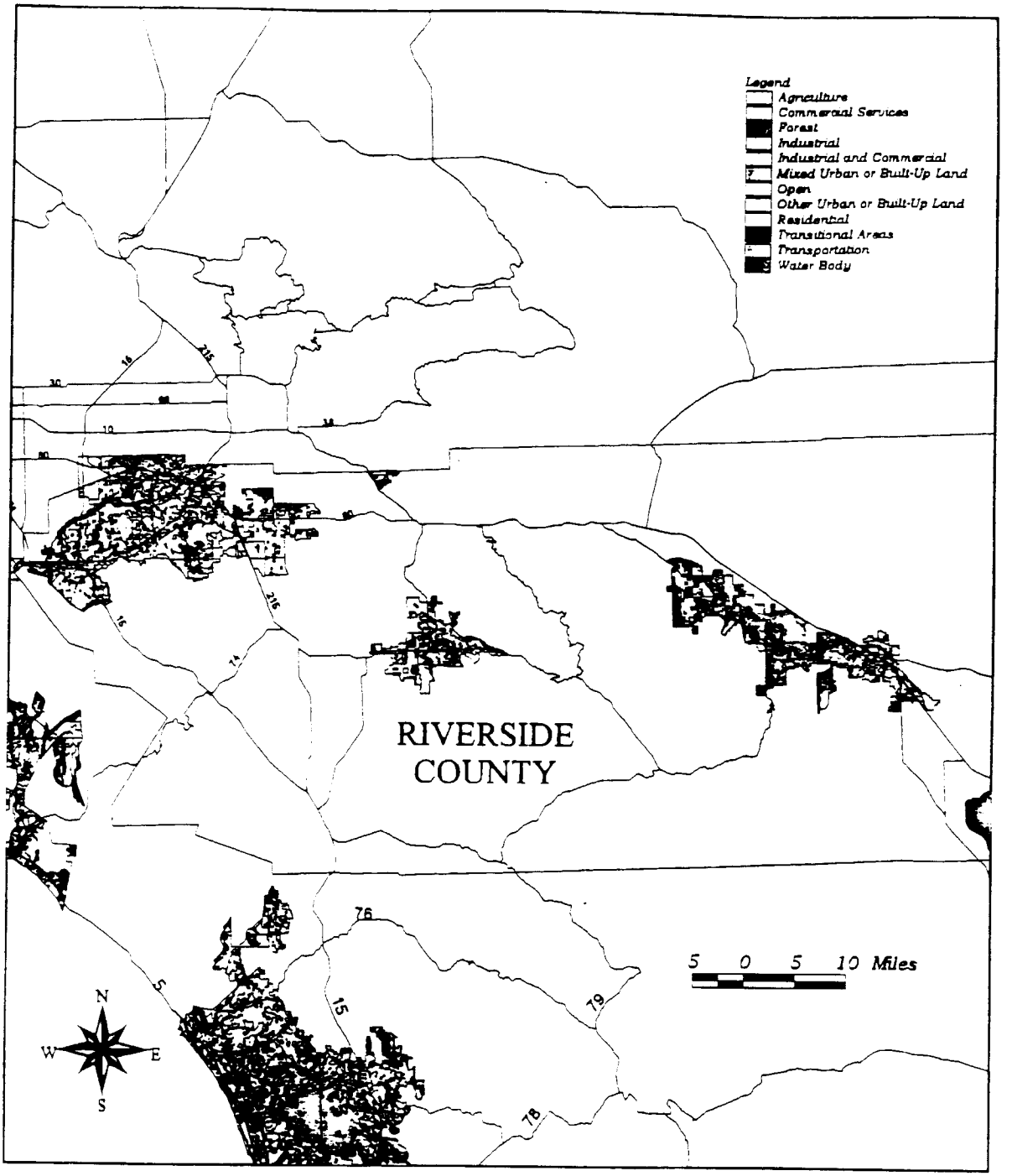
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Riverside County
Figure B-8a



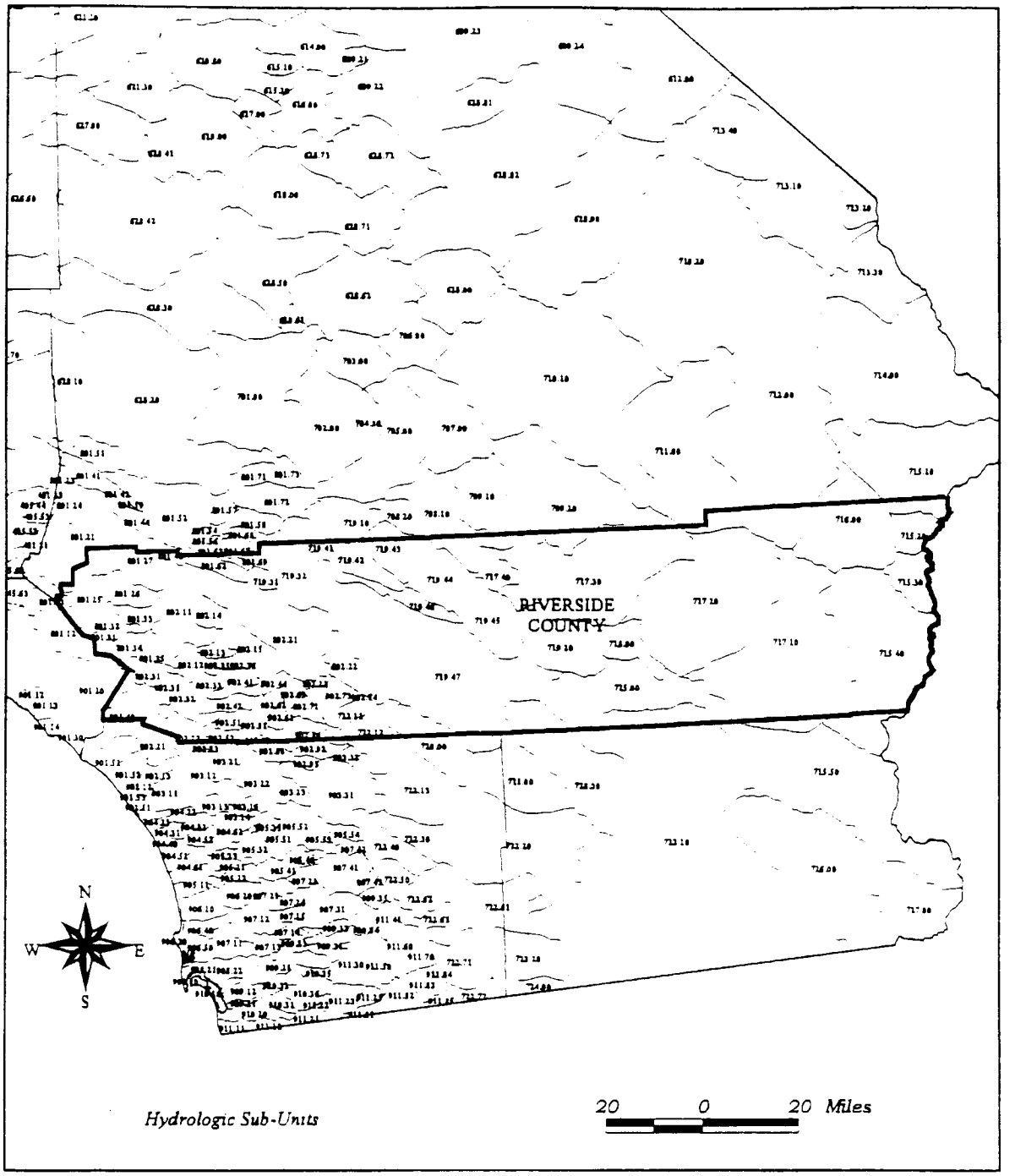
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Riverside County
Figure B-8b



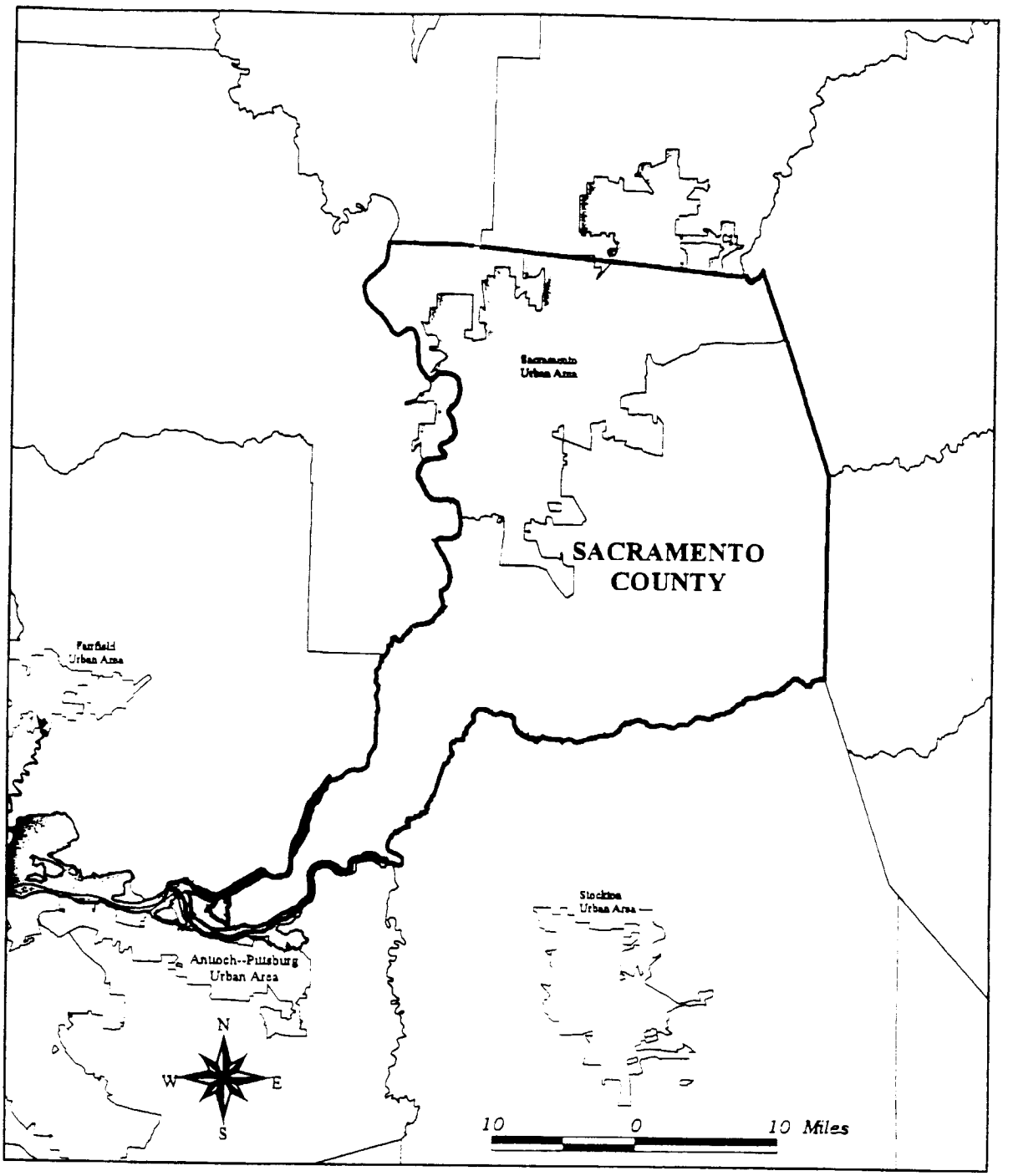
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Riverside County
Figure B-8c



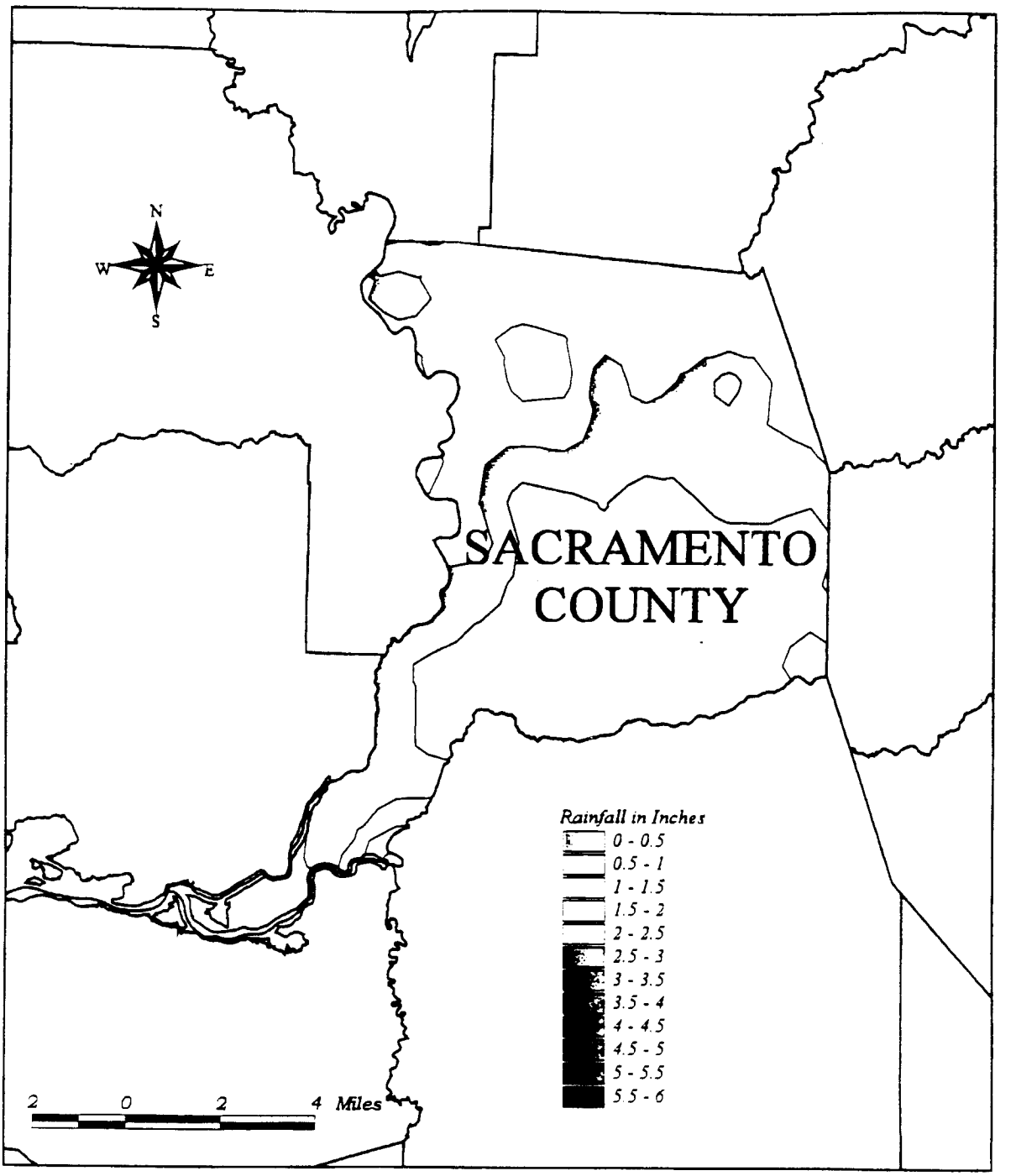
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Riverside County
Figure B-8d



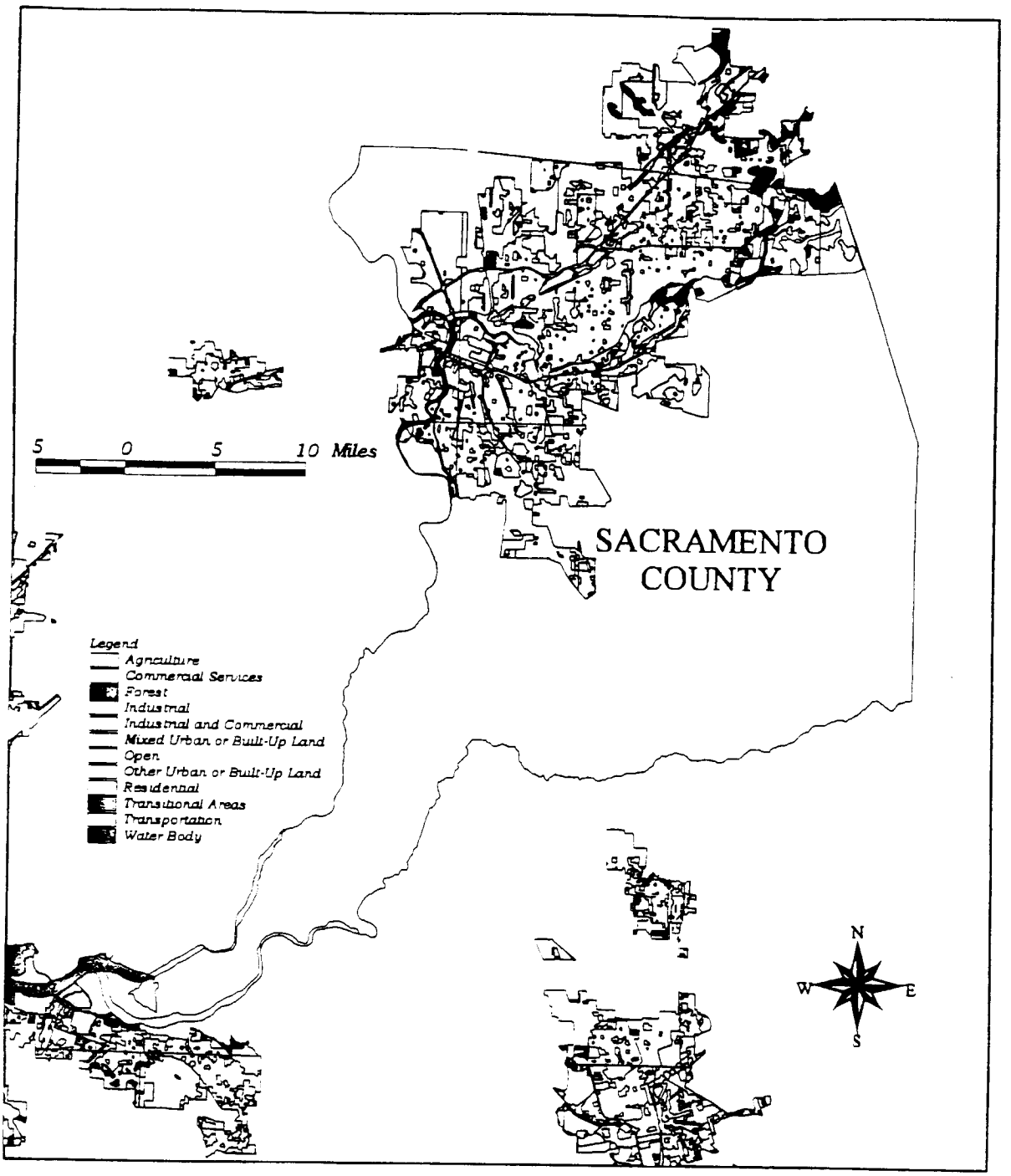
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Sacramento County
Figure B-9a



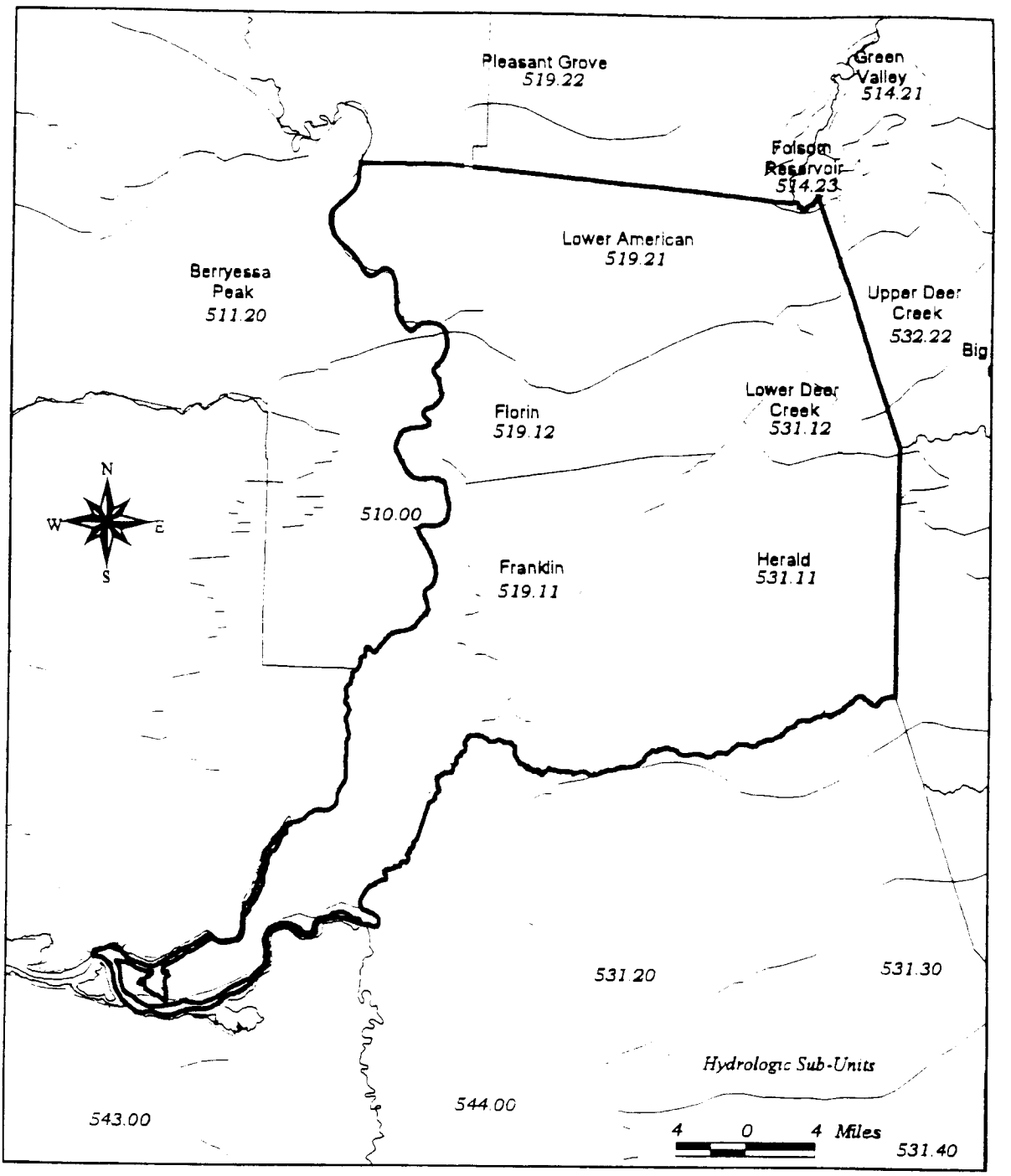
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Sacramento County
Figure B-9b



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Sacramento County
Figure B-9c



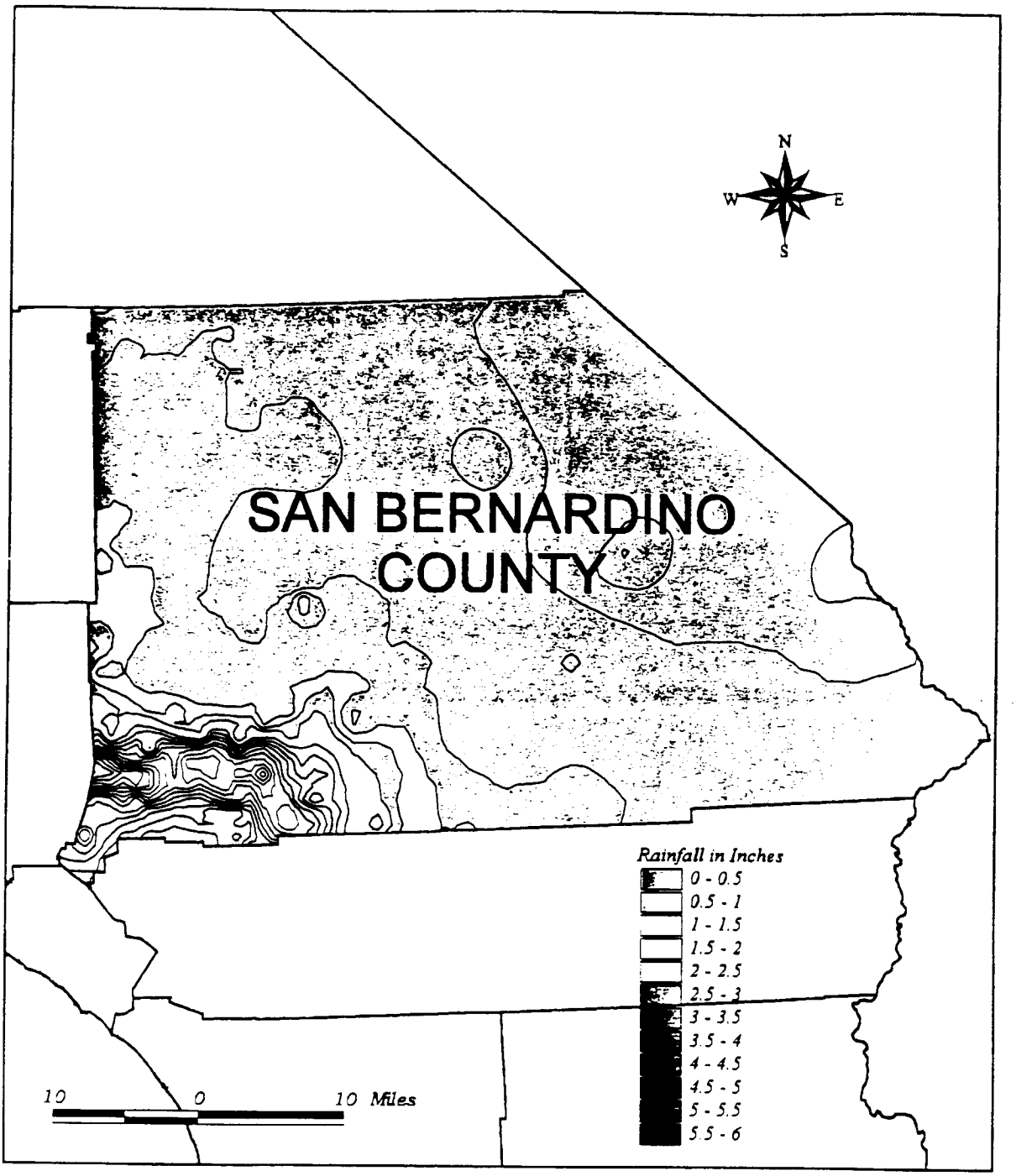
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Sacramento County
Figure B-9d



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Bernardino County
Figure B-10a

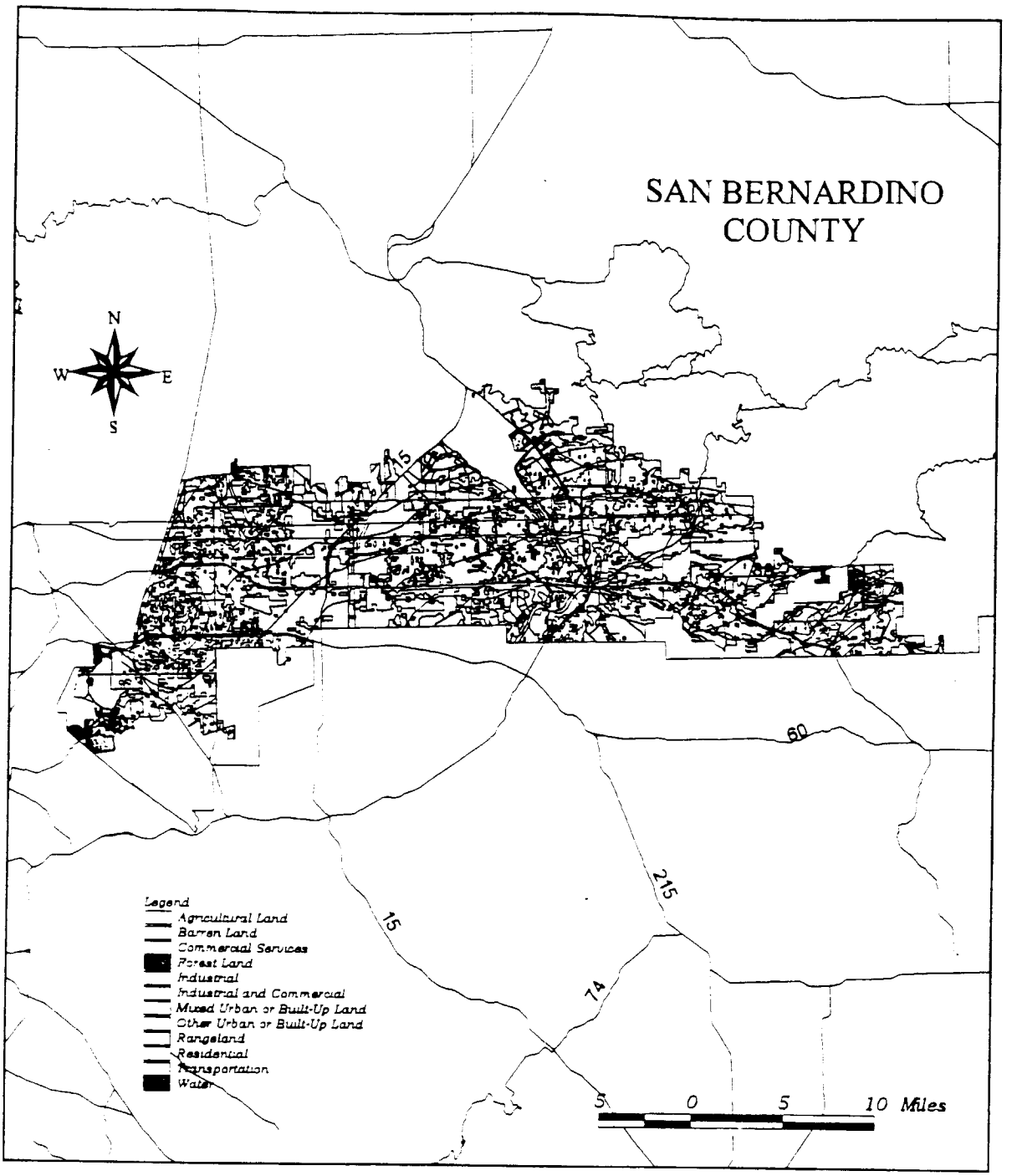


BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas

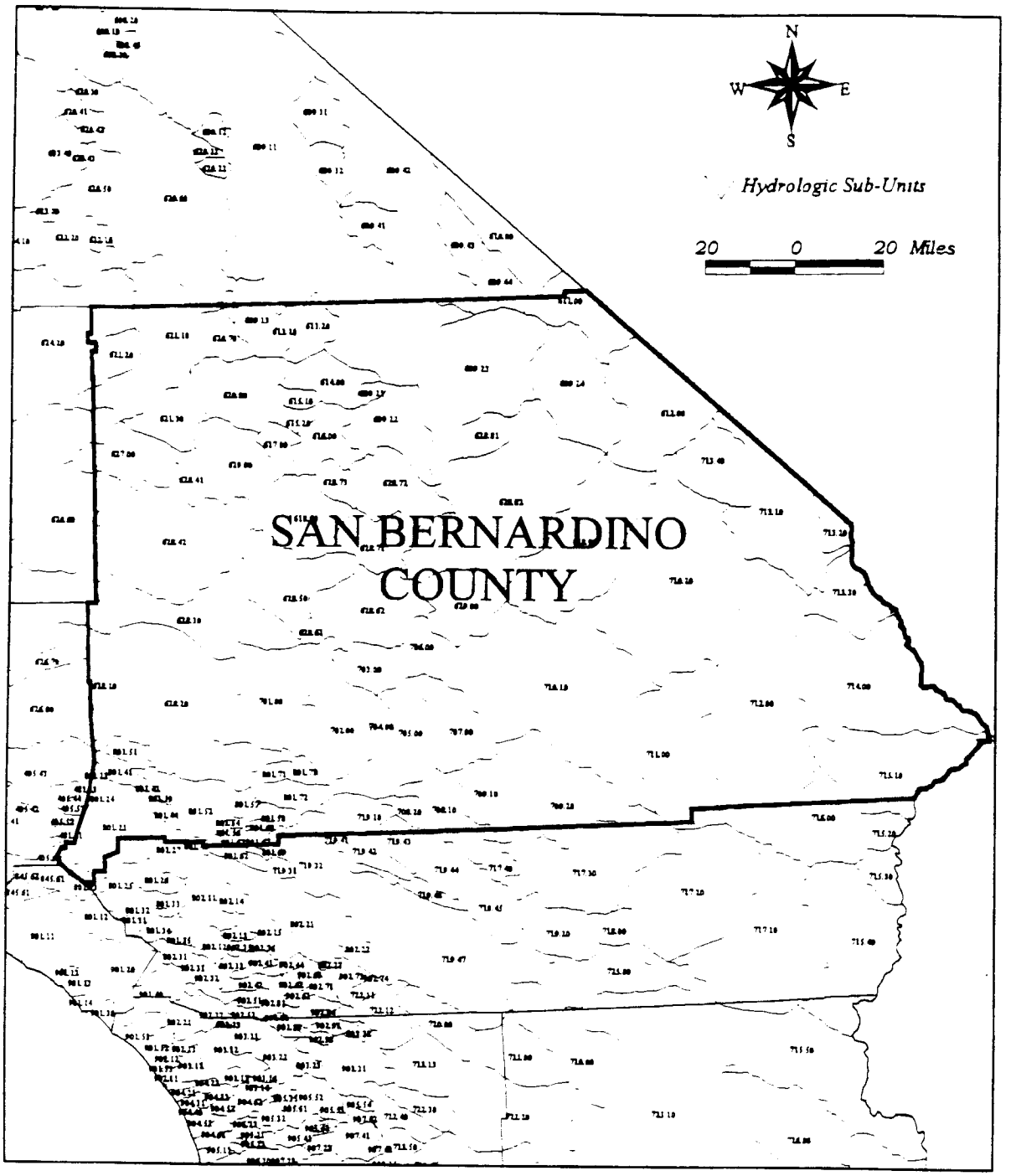
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Bernardino County

Figure B-10b



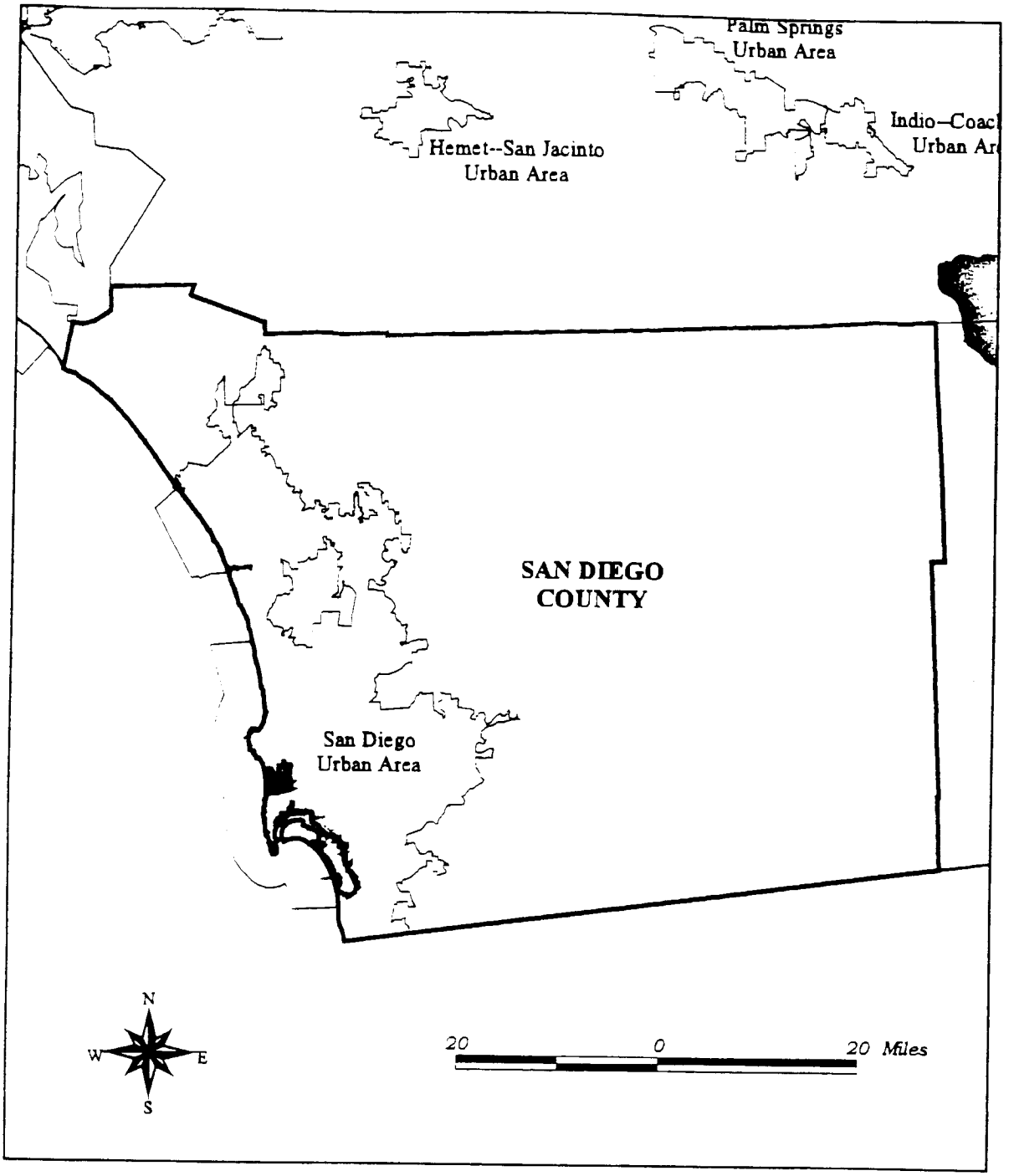
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Bernardino County
Figure B-10c



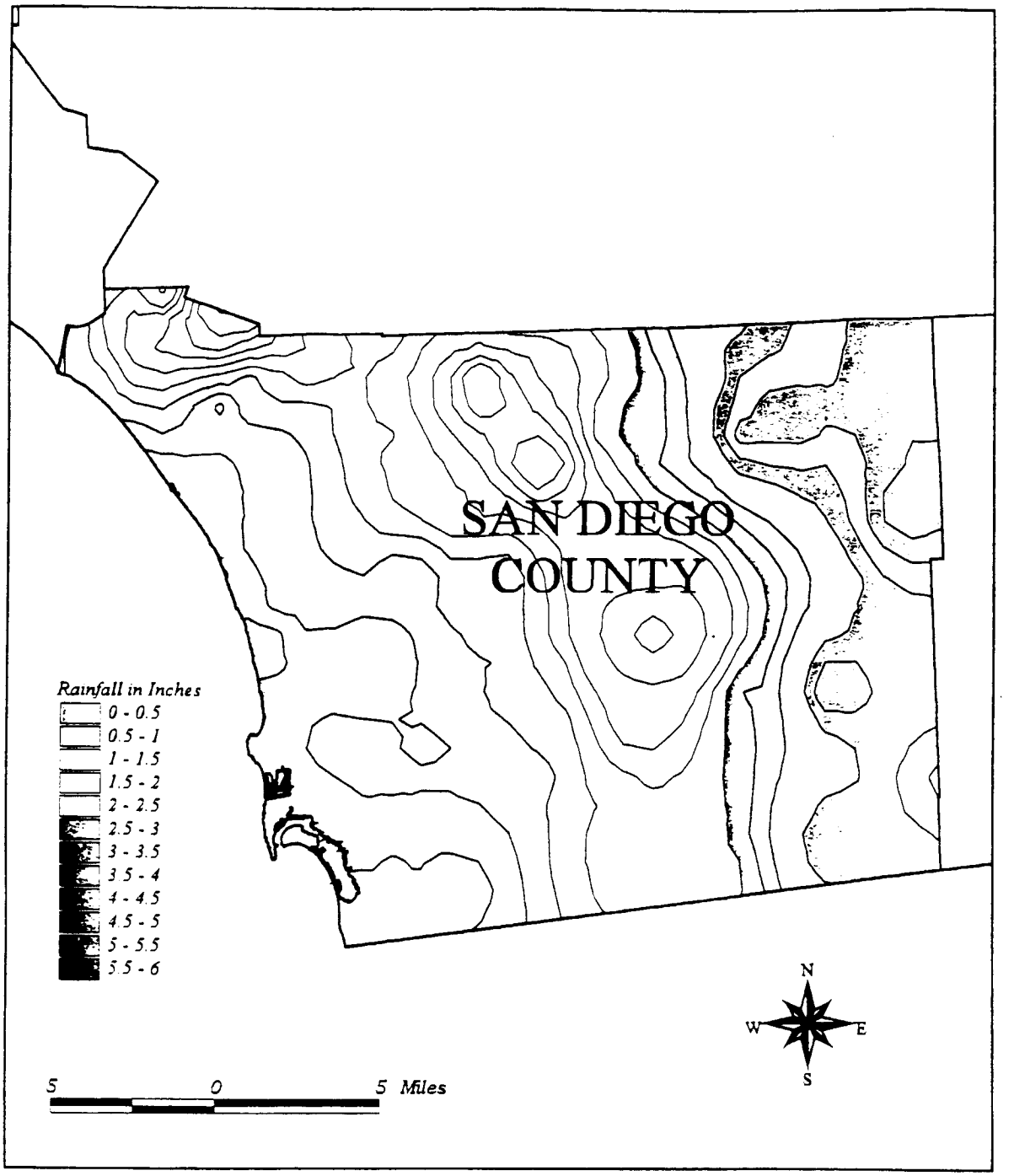
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Bernardino County
Figure B-10d



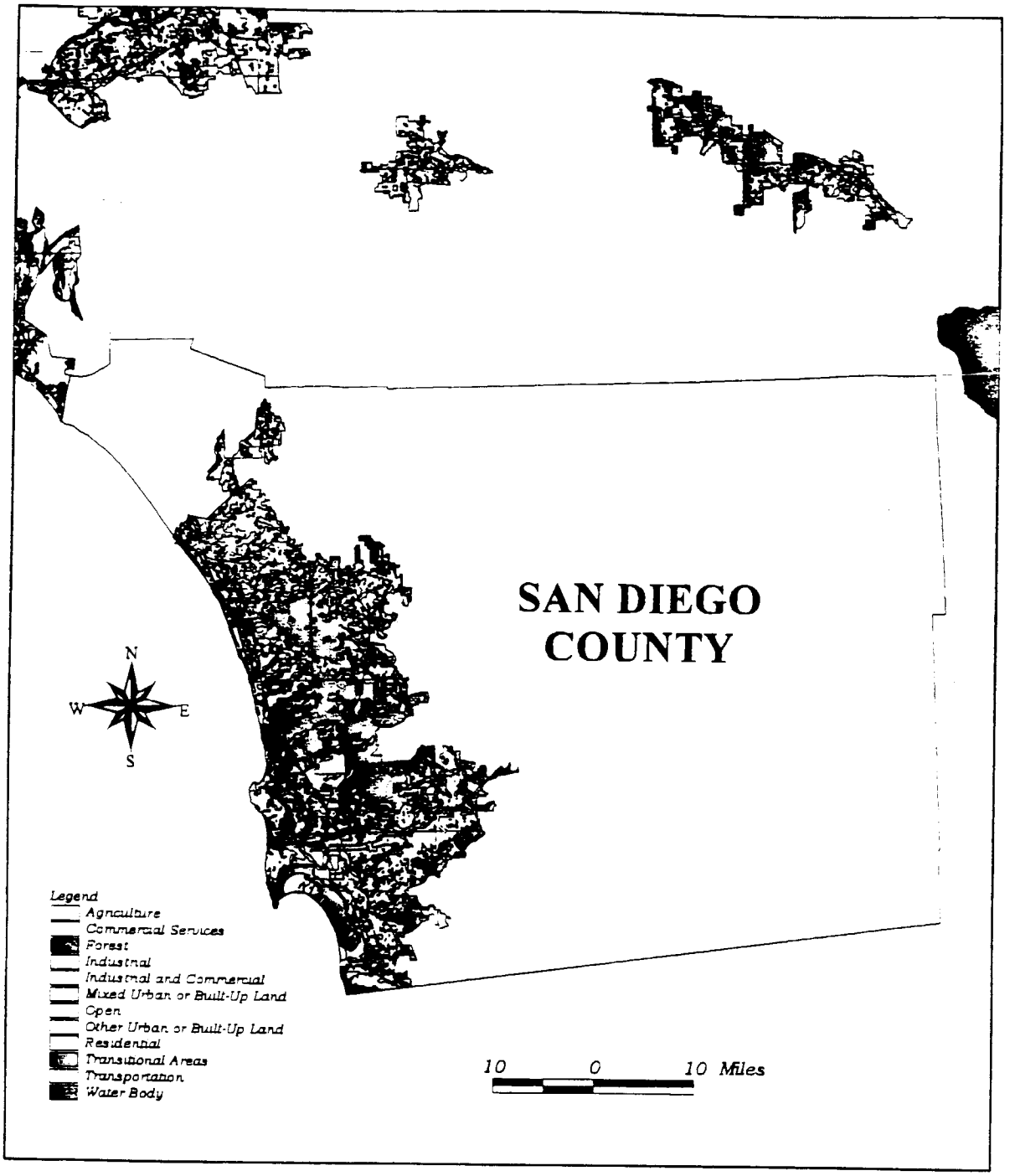
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Diego County
Figure B-11a



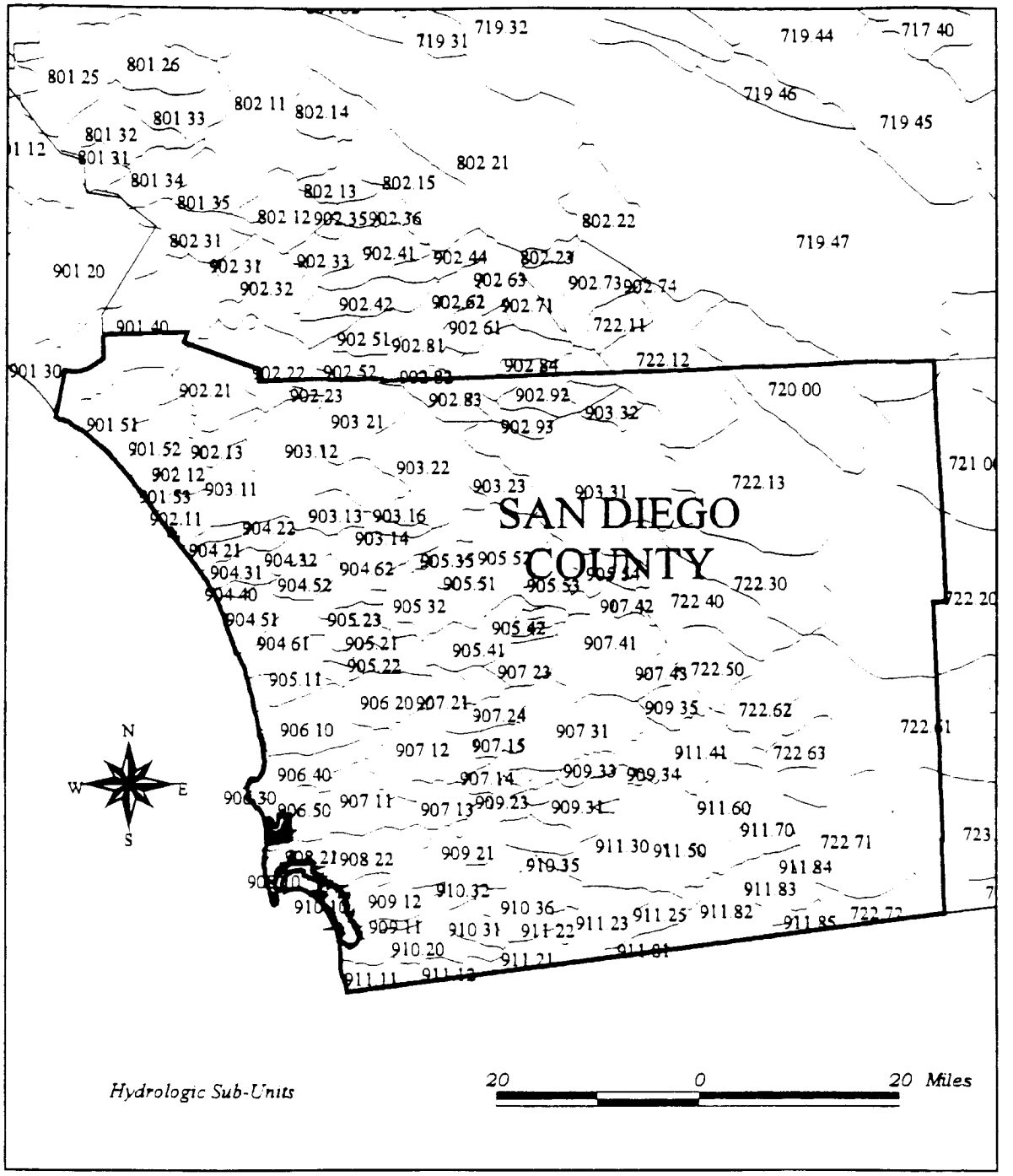
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Diego County
Figure B-11b



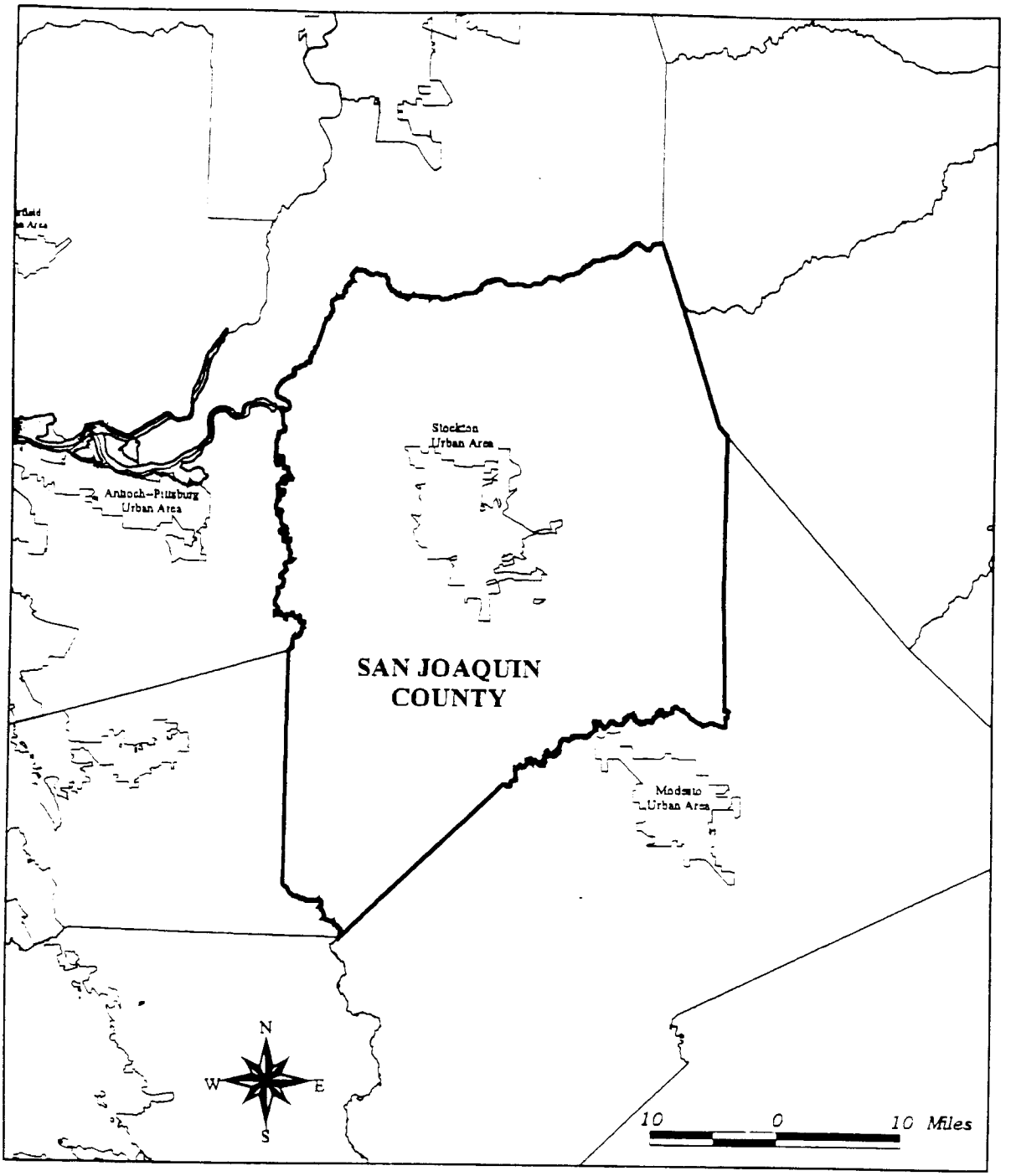
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Diego County
Figure B-11c



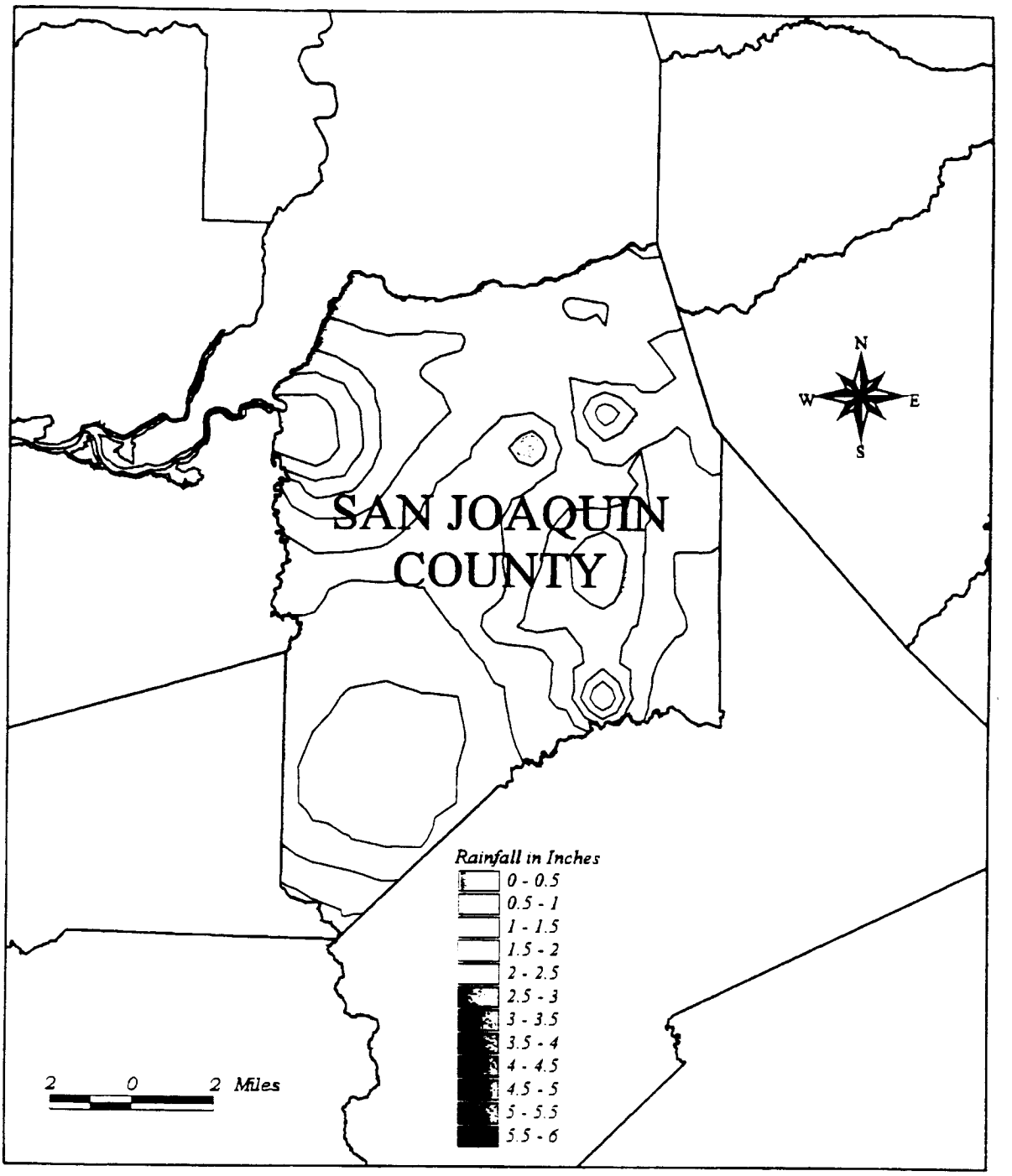
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Diego County
Figure B-11d



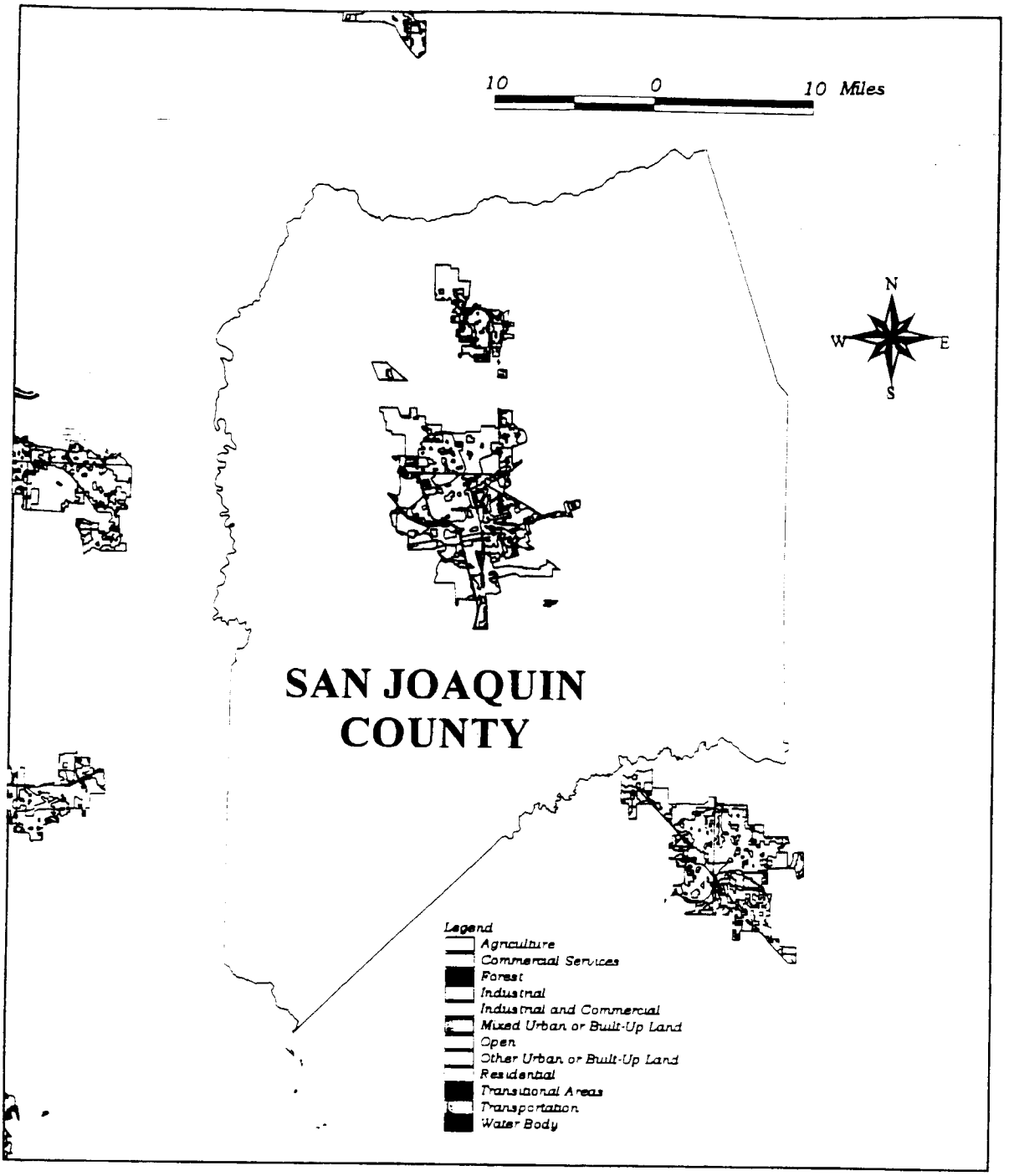
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Joaquin County
Figure B-12a



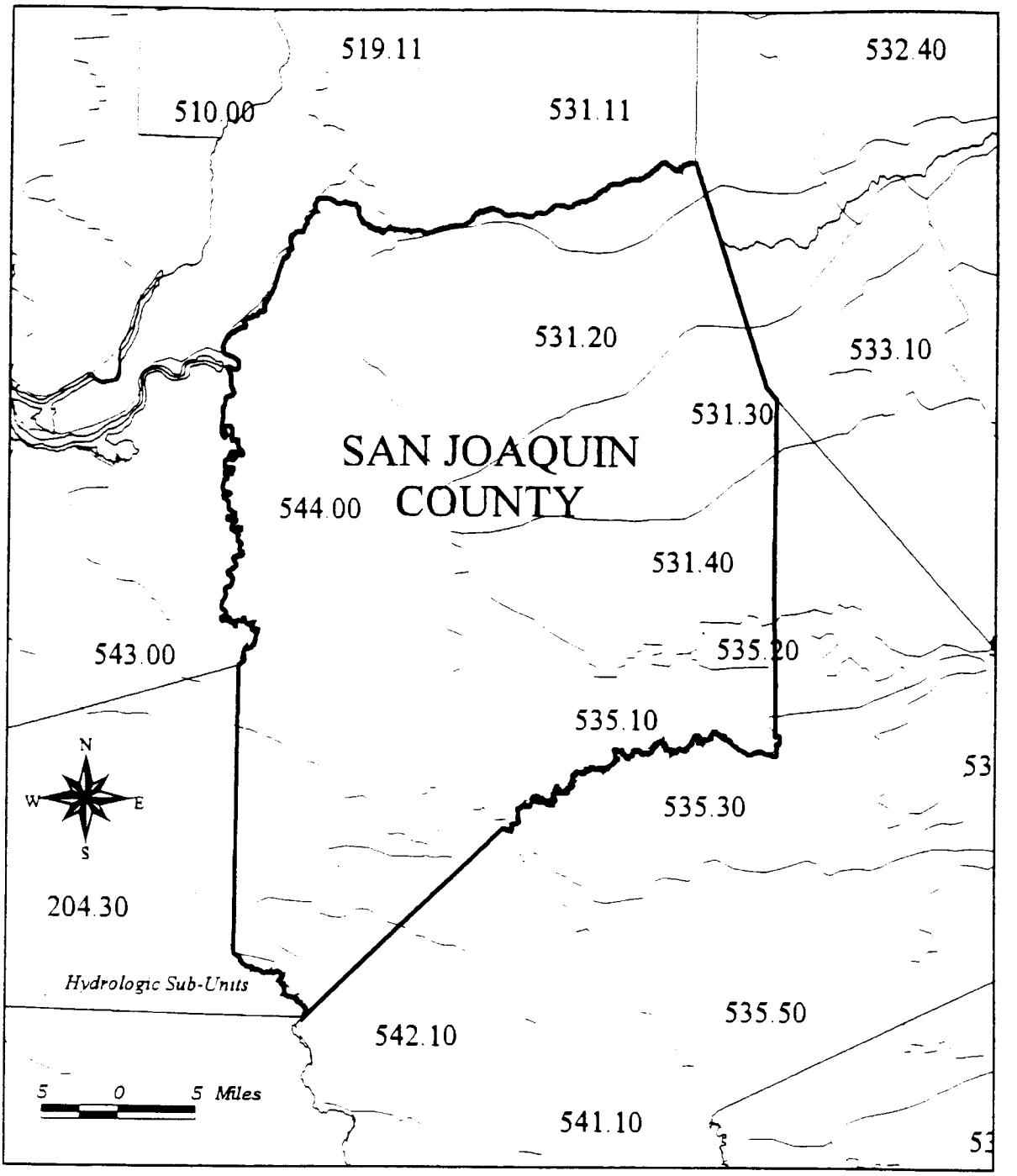
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Joaquin County
Figure B-12b



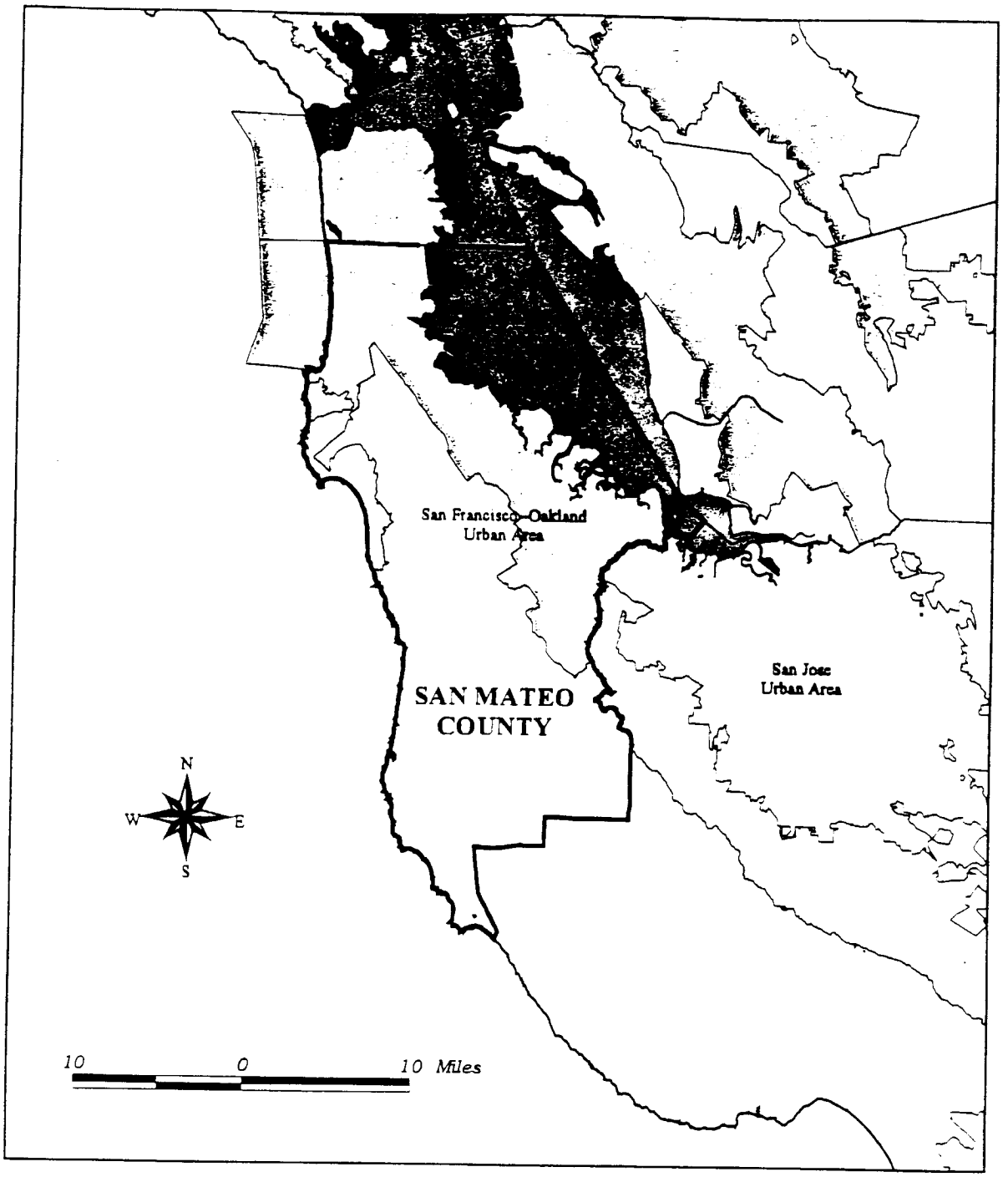
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Joaquin County
Figure B-12c



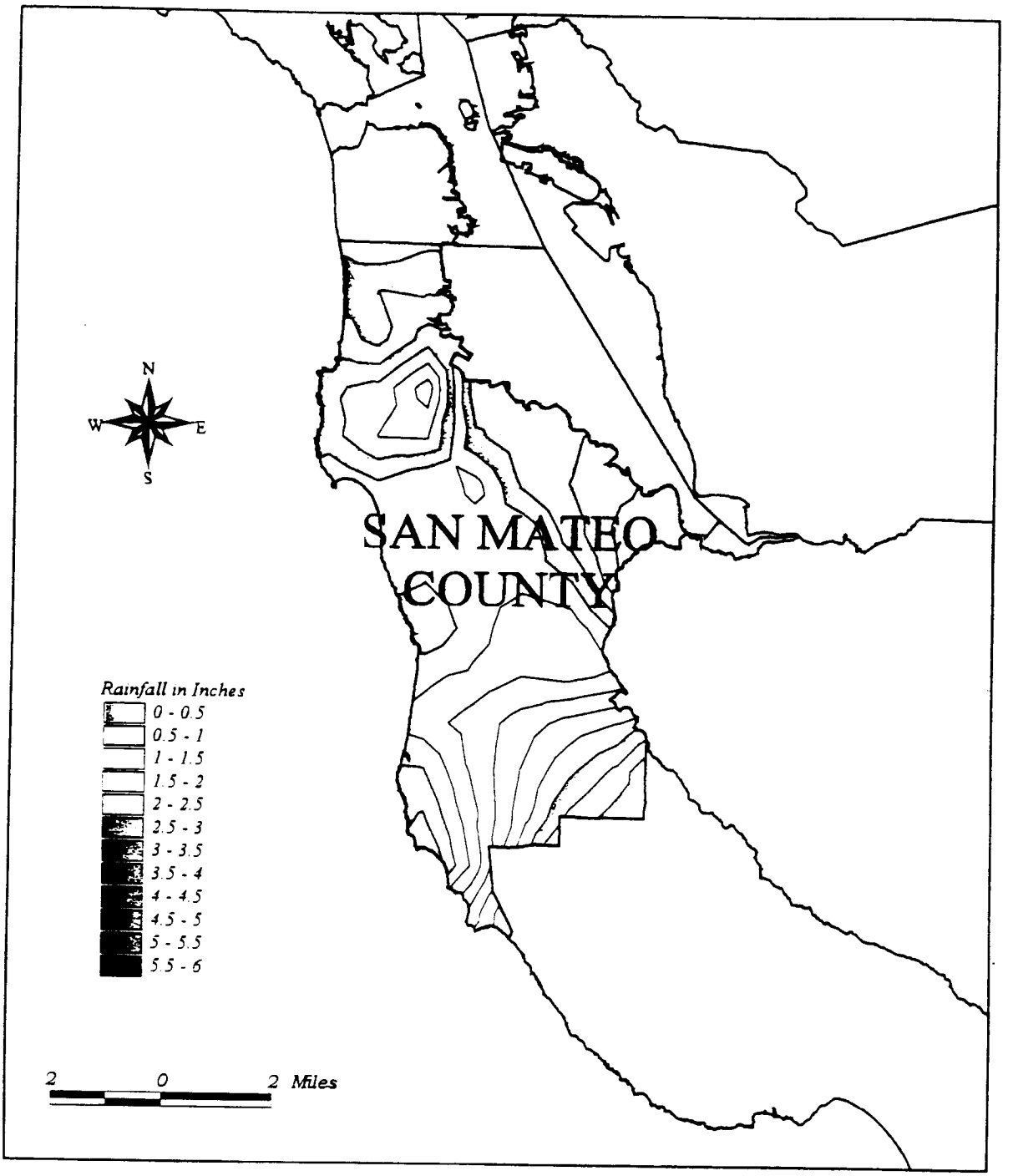
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Joaquin County
Figure B-12d



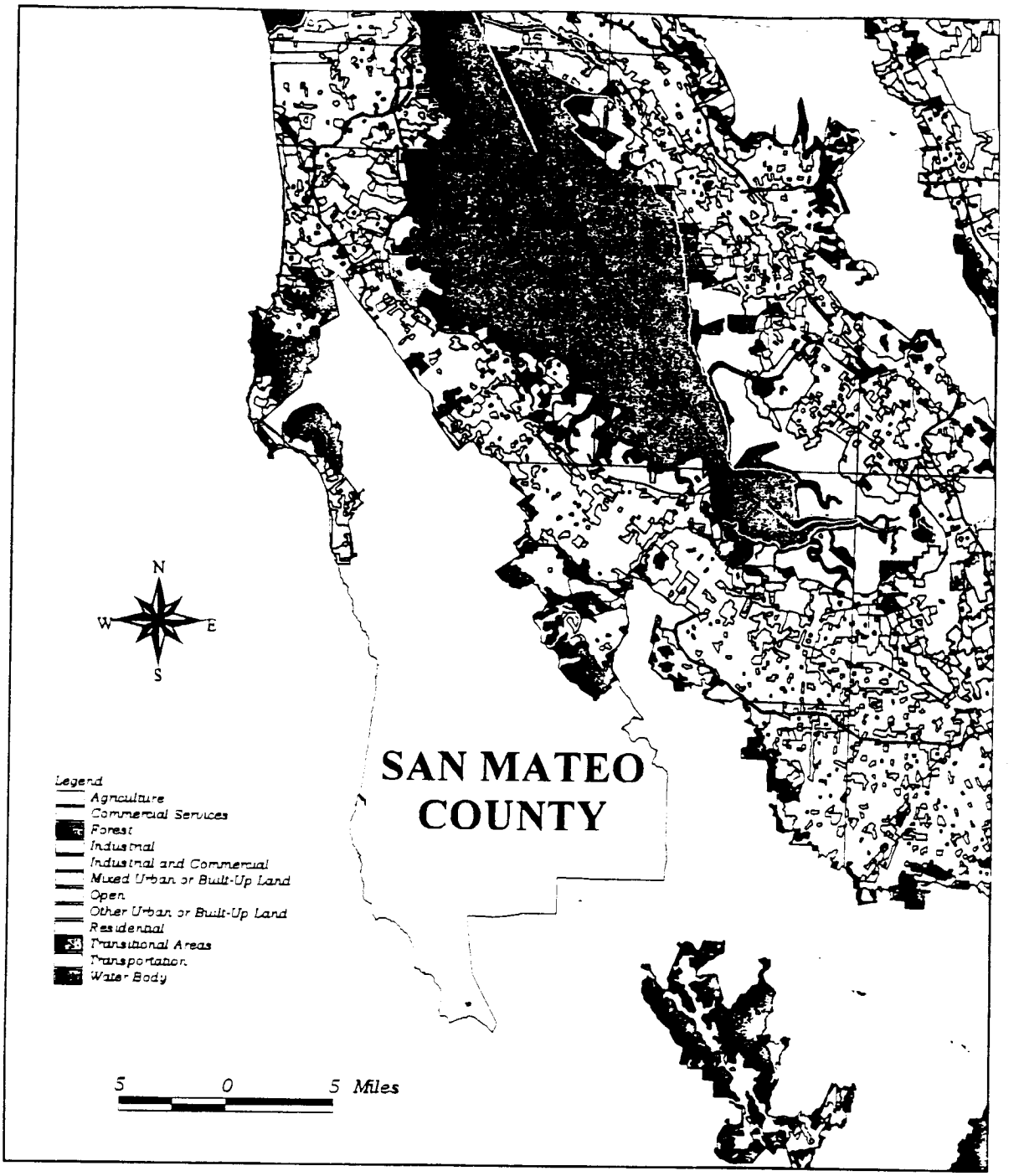
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Mateo County
Figure B-13a



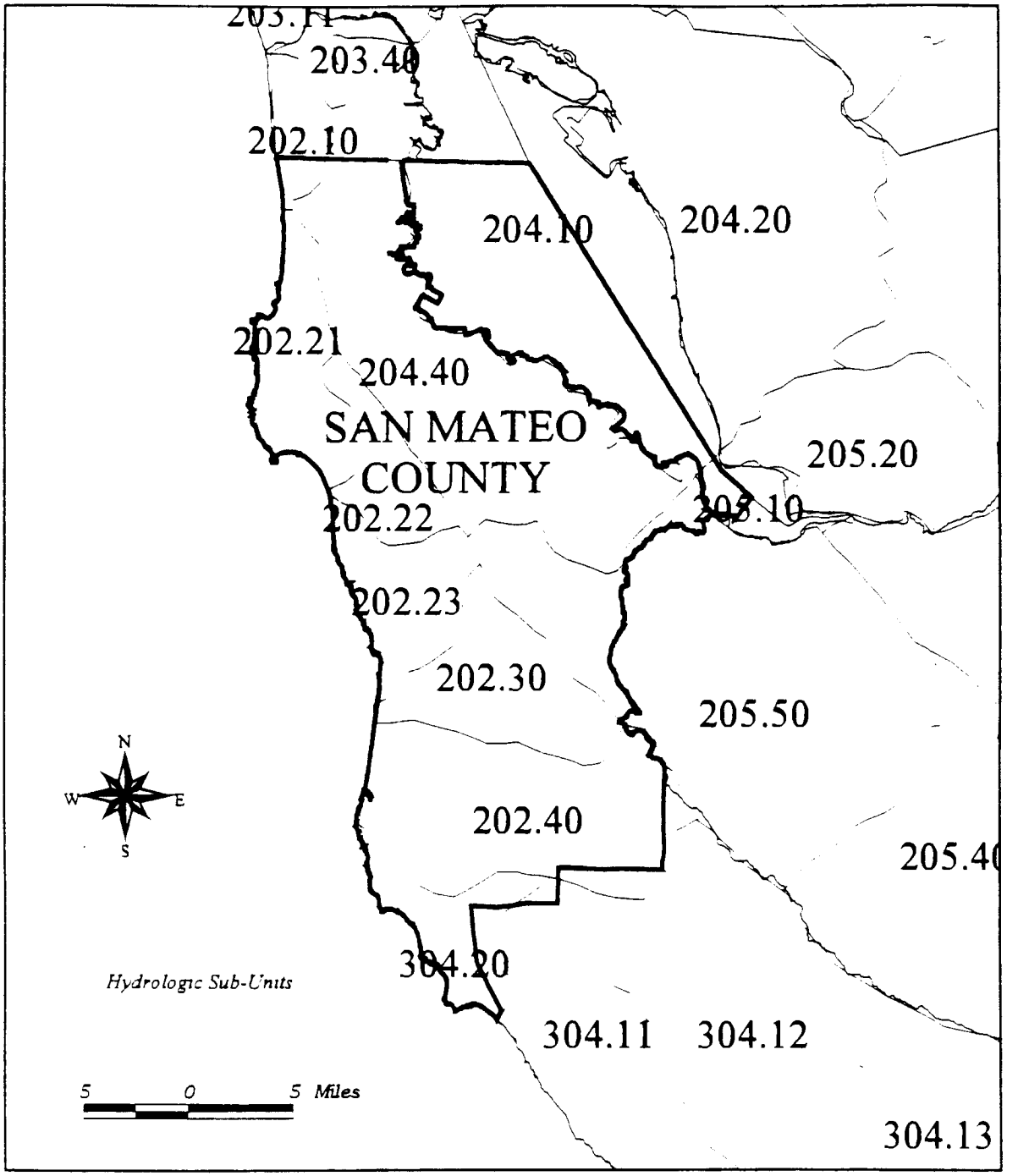
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Mateo County
Figure B-13b



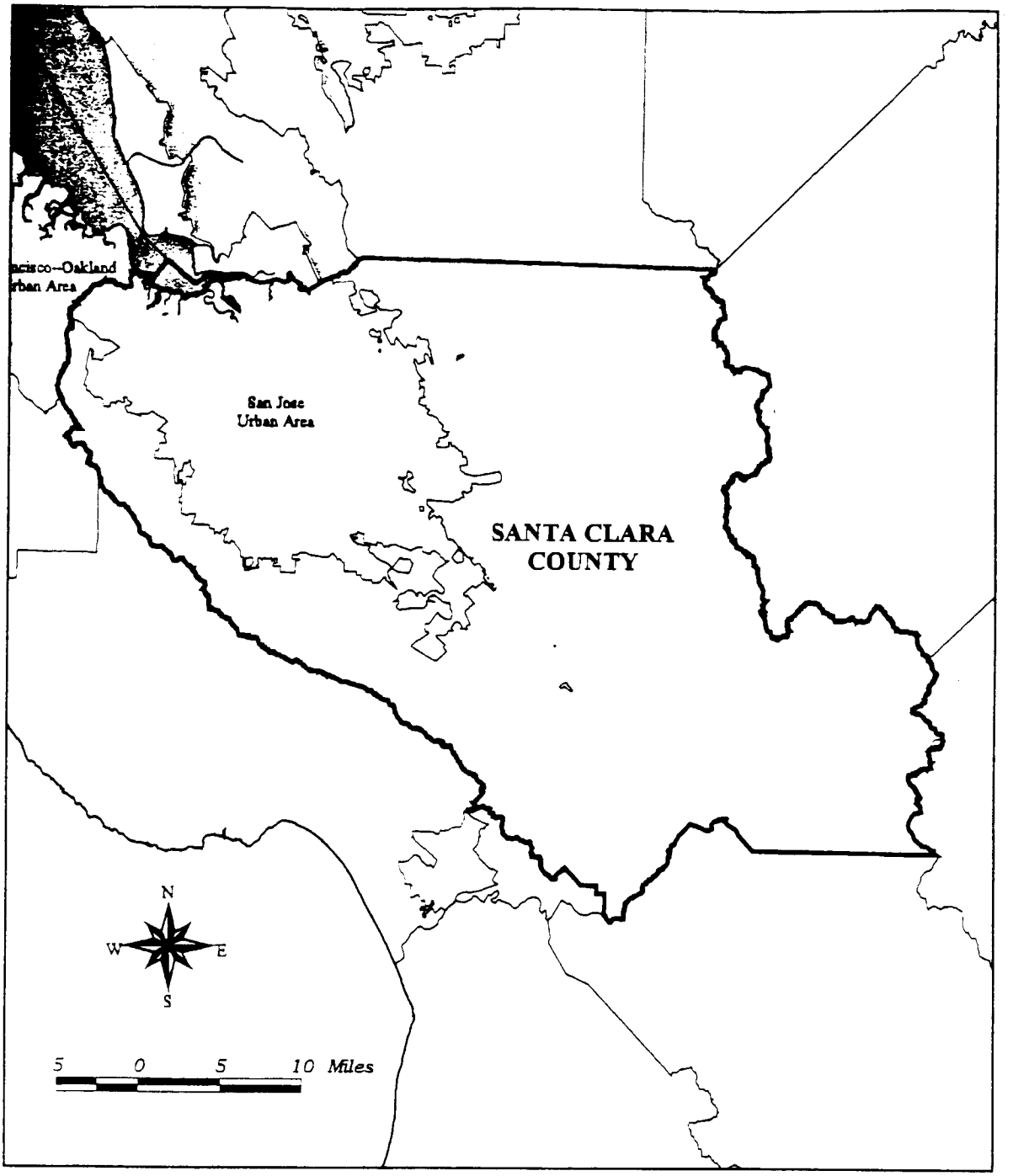
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Mateo County
Figure B-13c



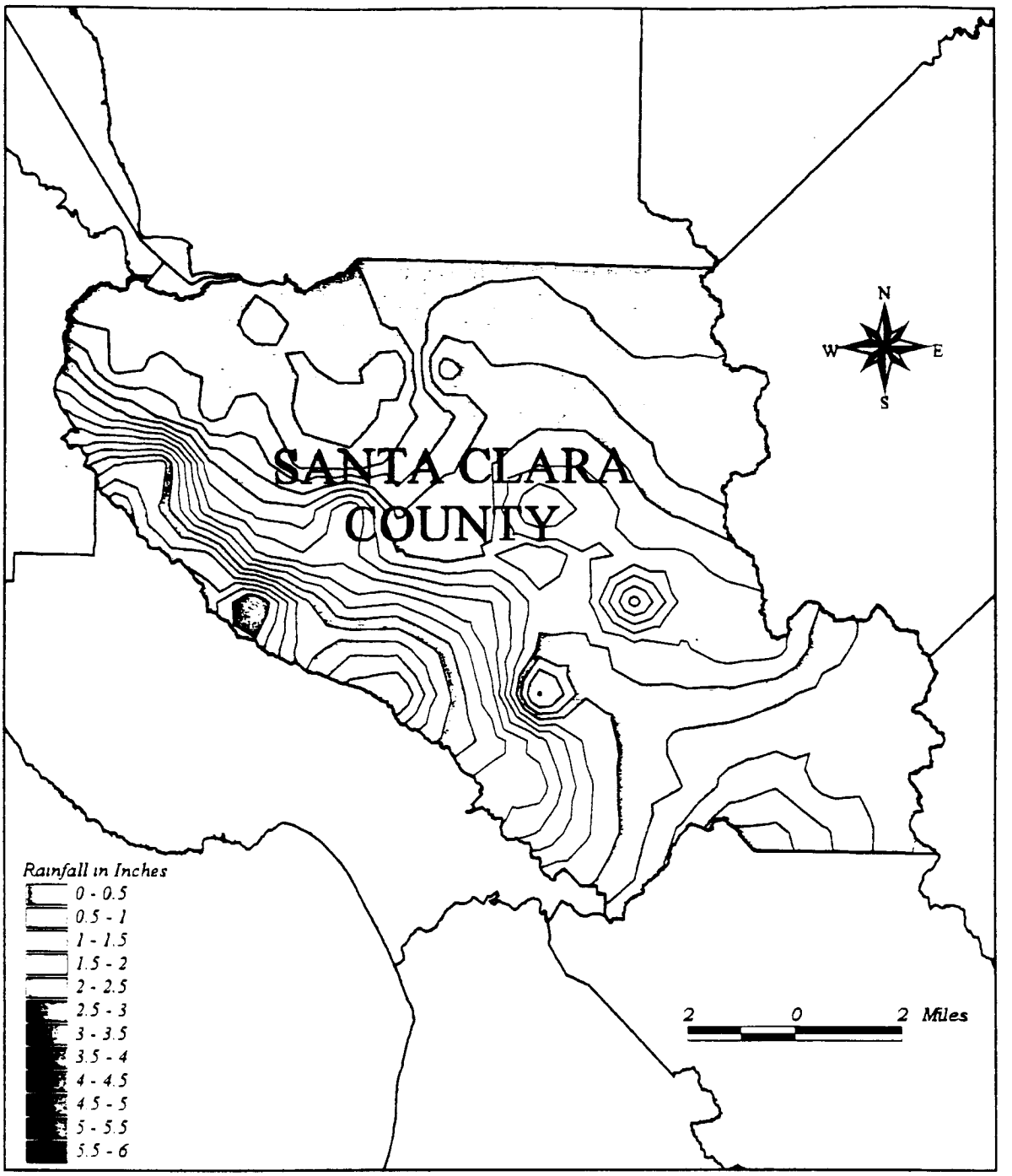
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Mateo County
Figure B-13d



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Santa Clara County
Figure B-14a

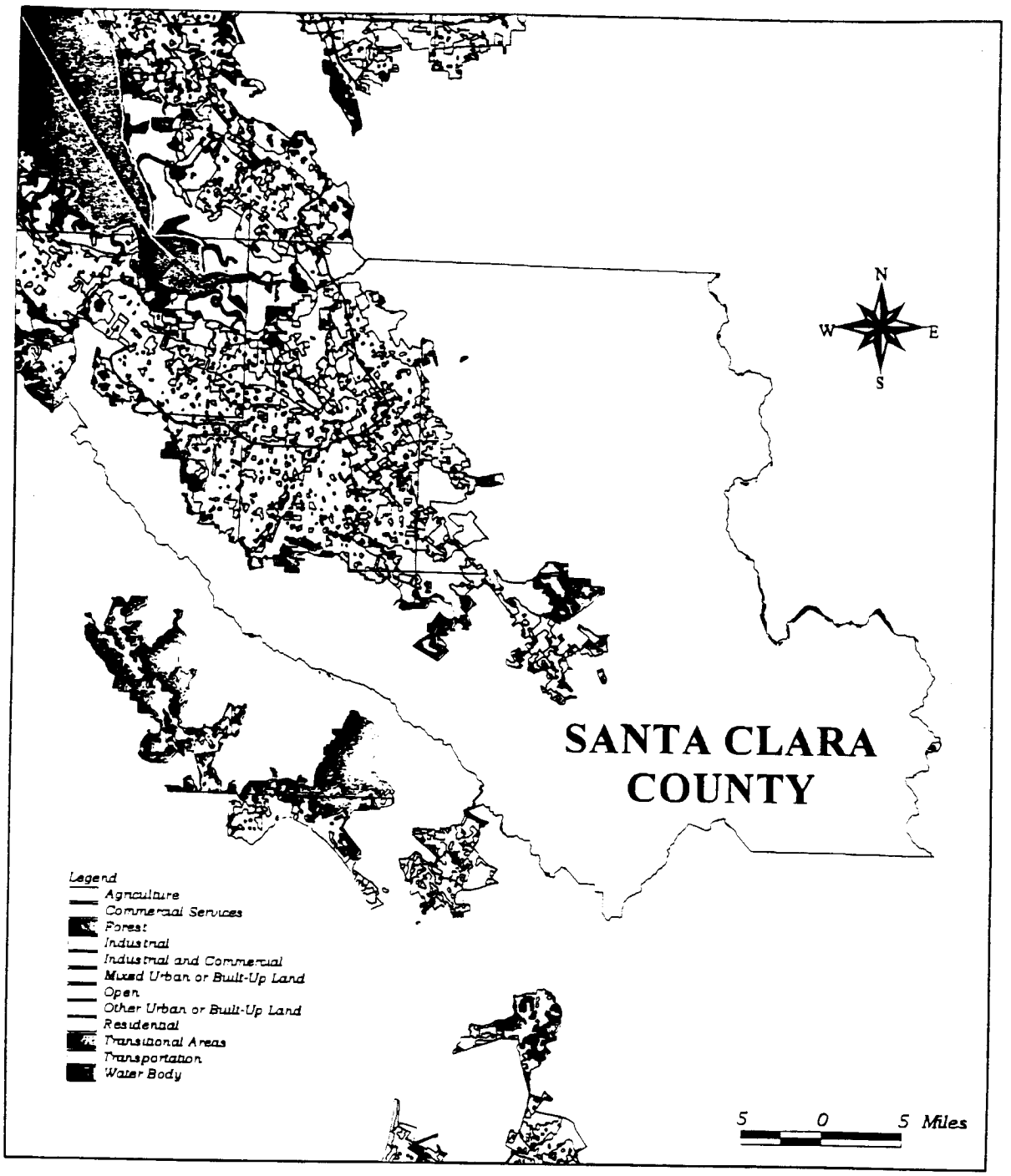


BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas

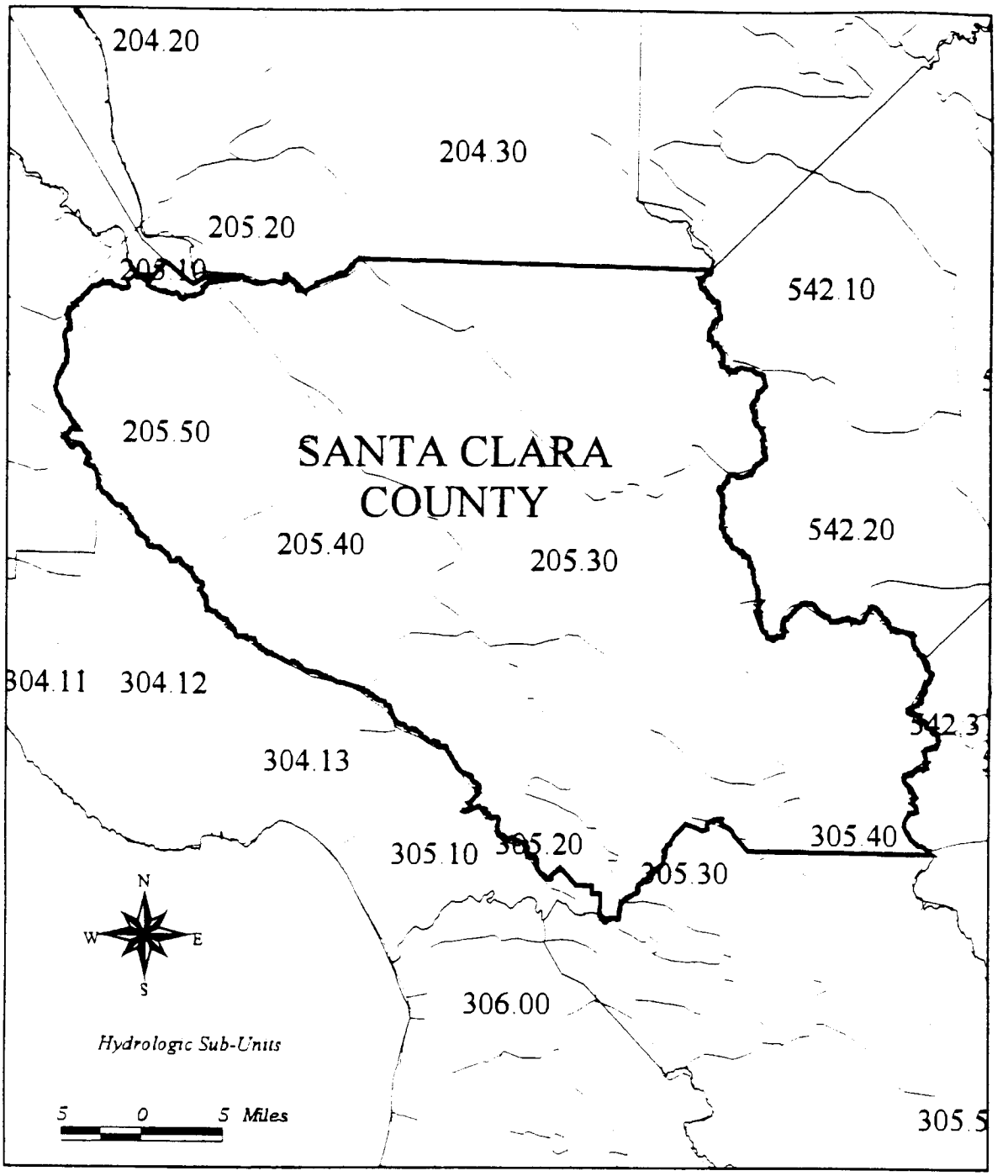
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Santa Clara County

Figure B-14b



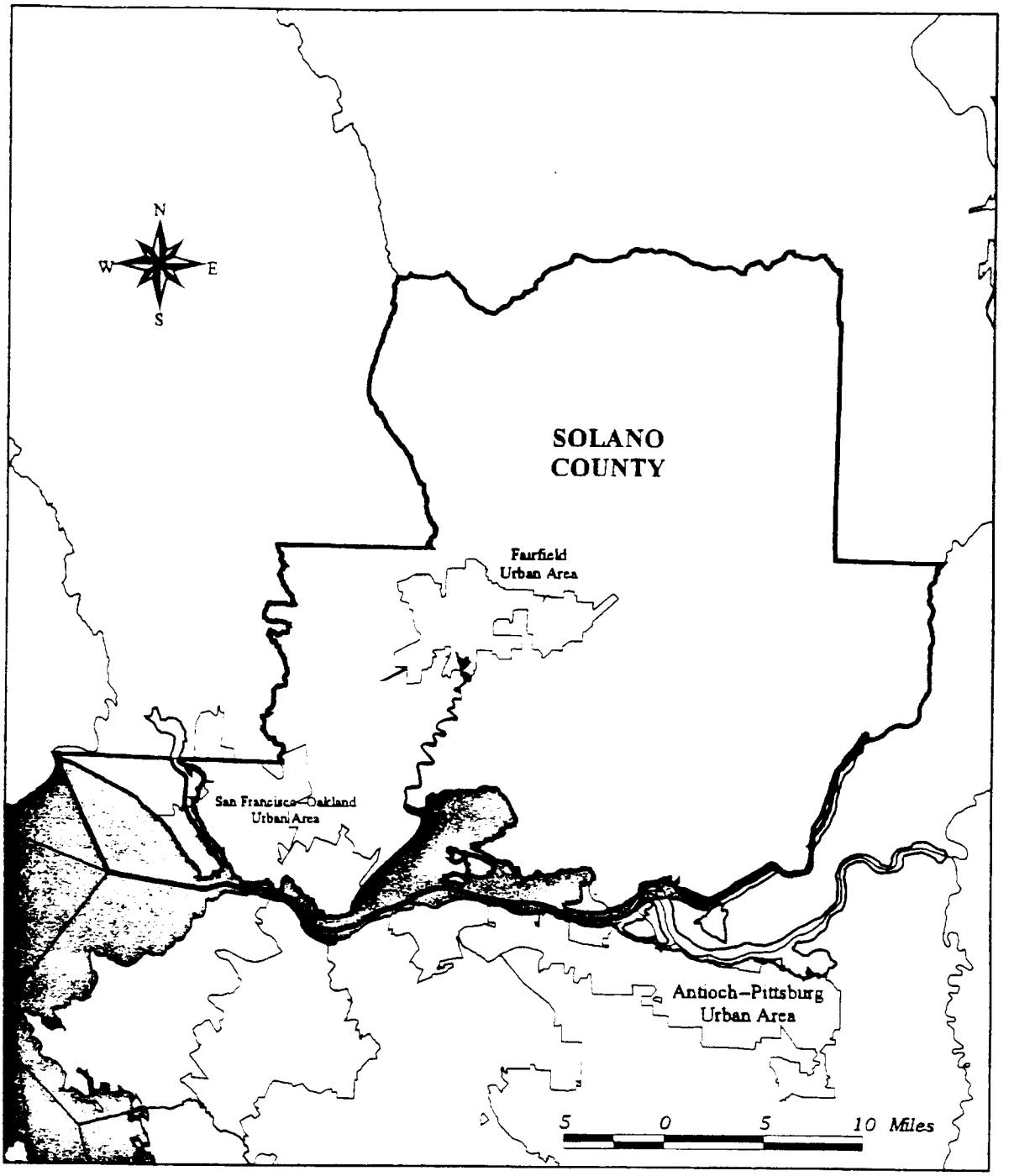
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Santa Clara County
Figure B-14c



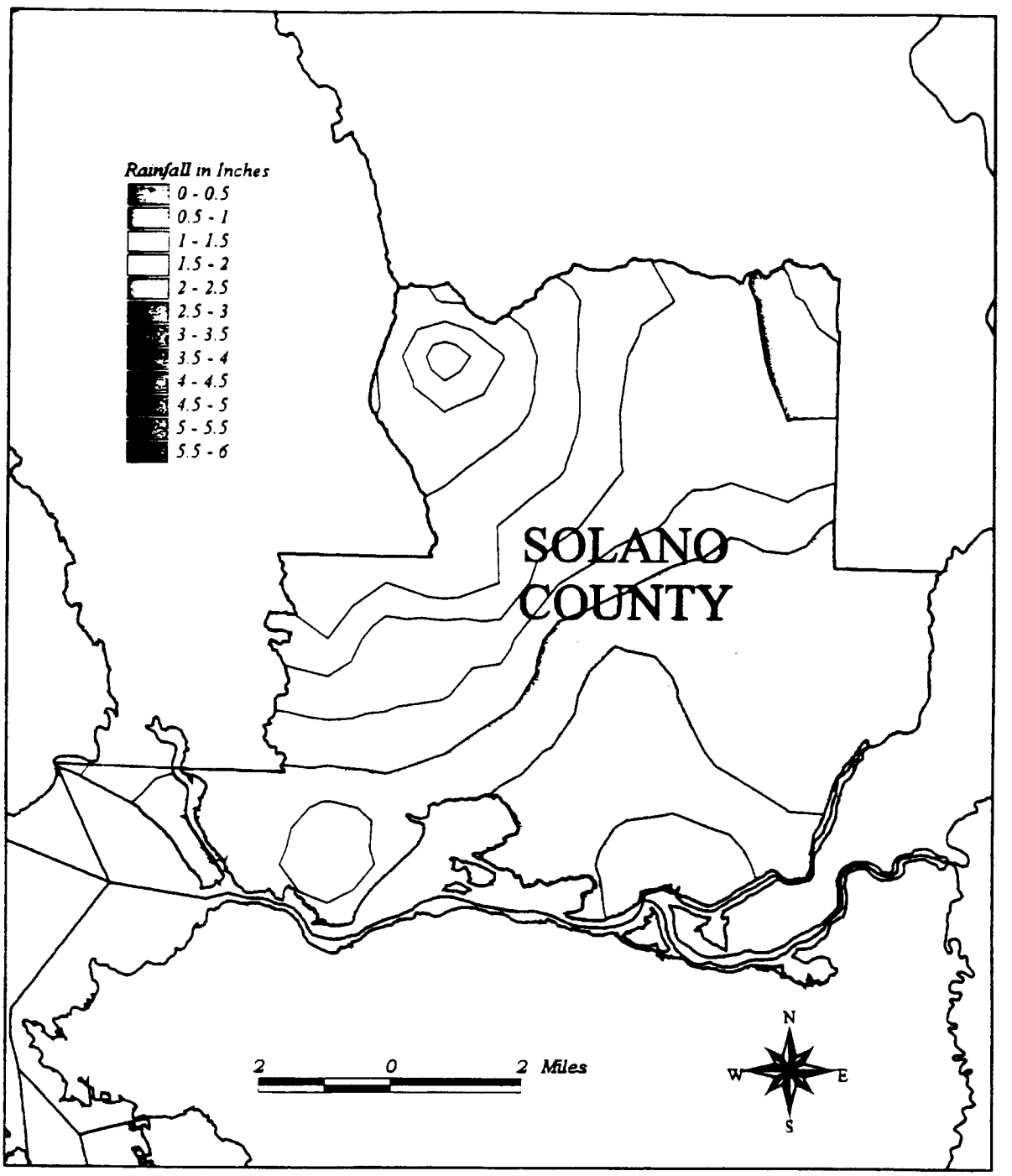
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Santa Clara County
Figure B-14d



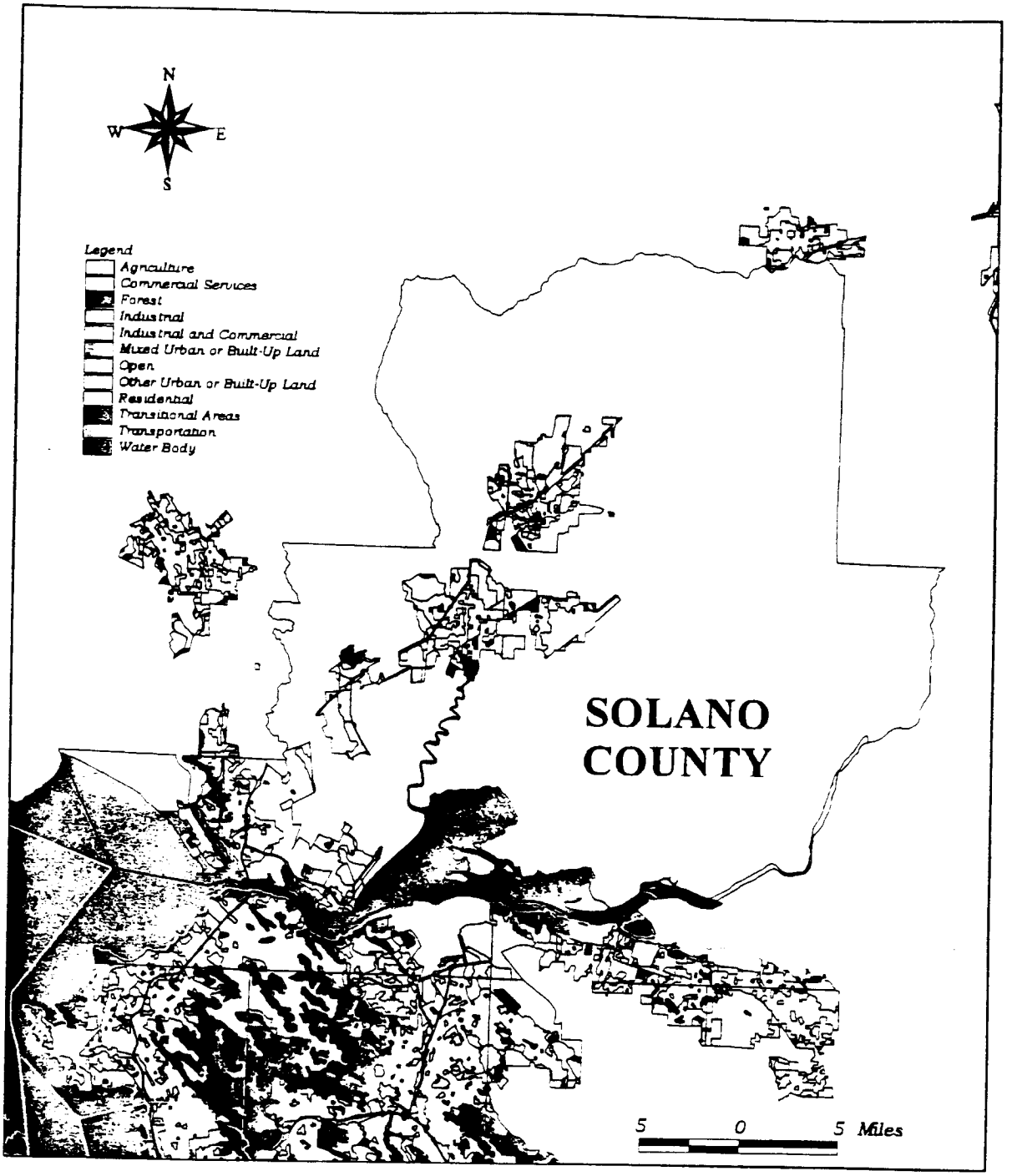
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Solano County
Figure B-15a



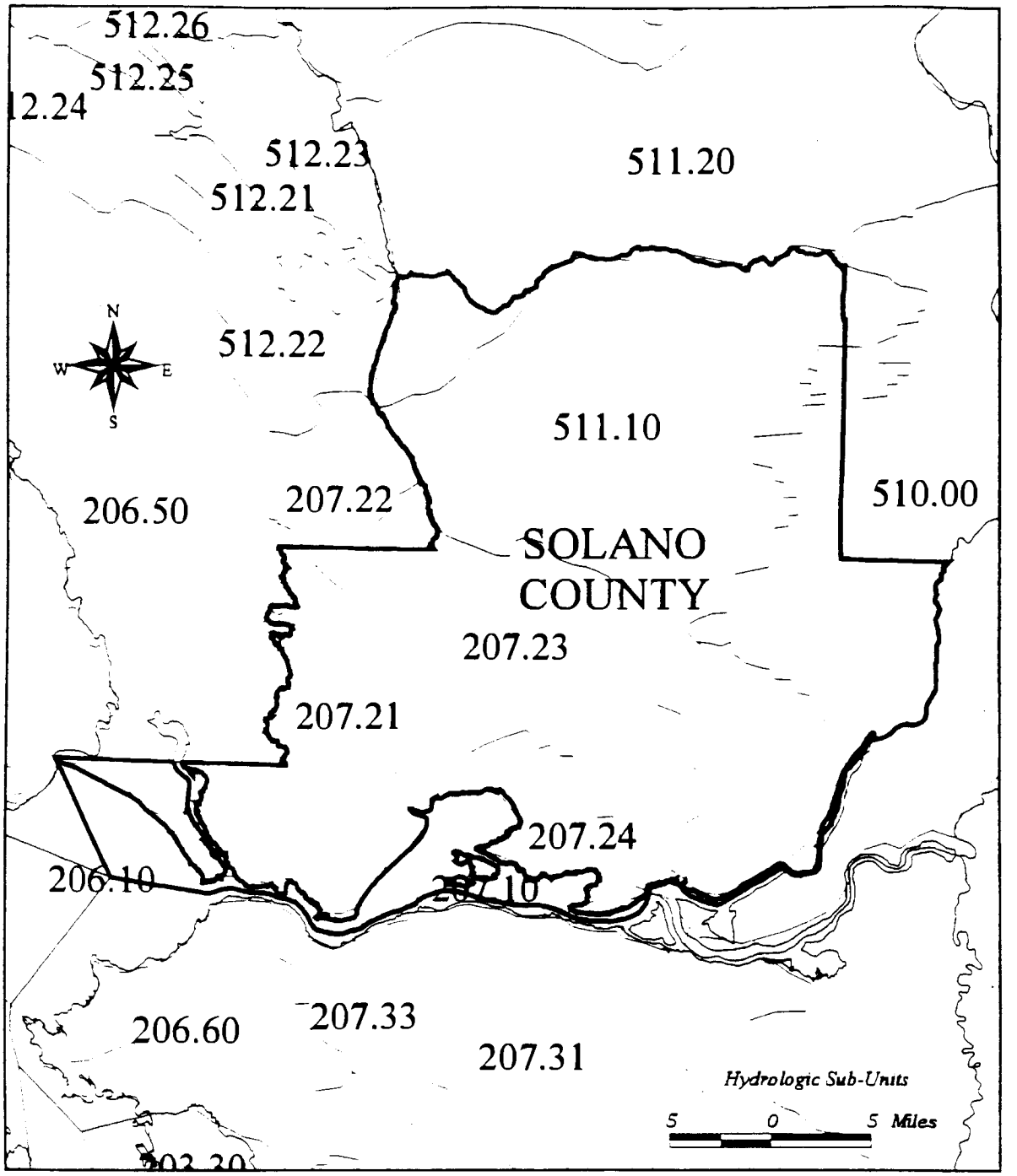
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Solano County
Figure B-15b



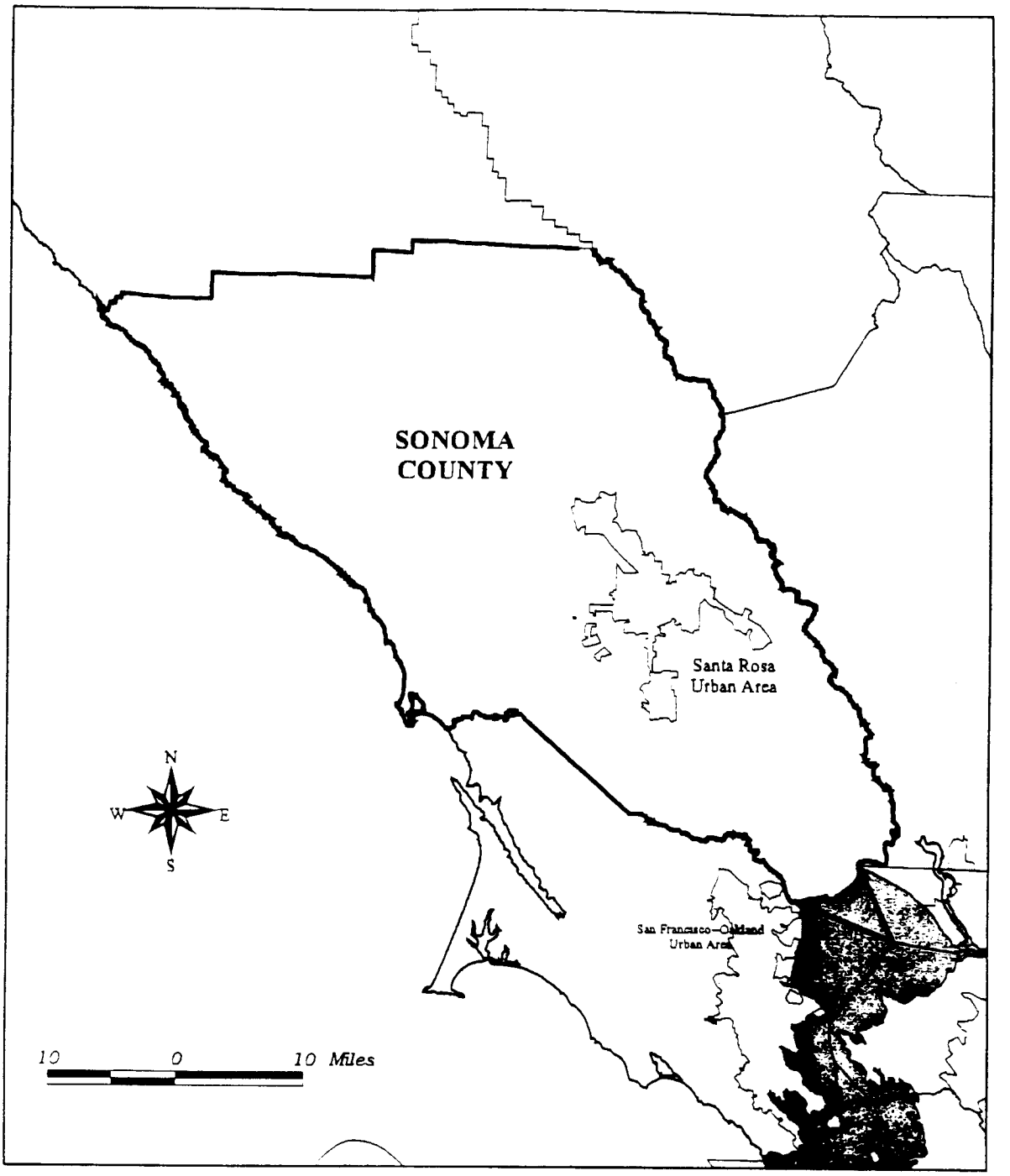
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Solano County
Figure B-15c



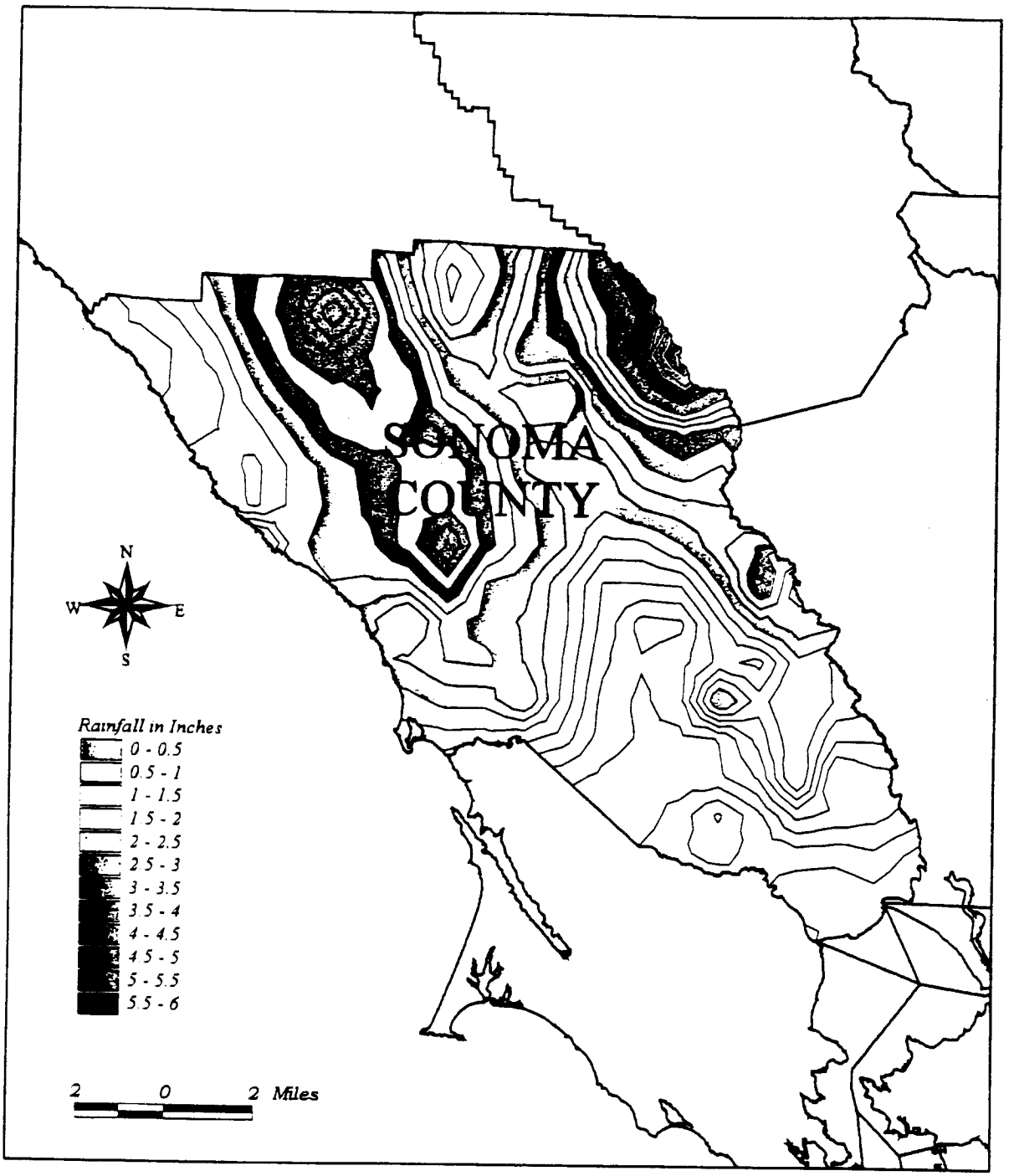
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Solano County
Figure B-15d



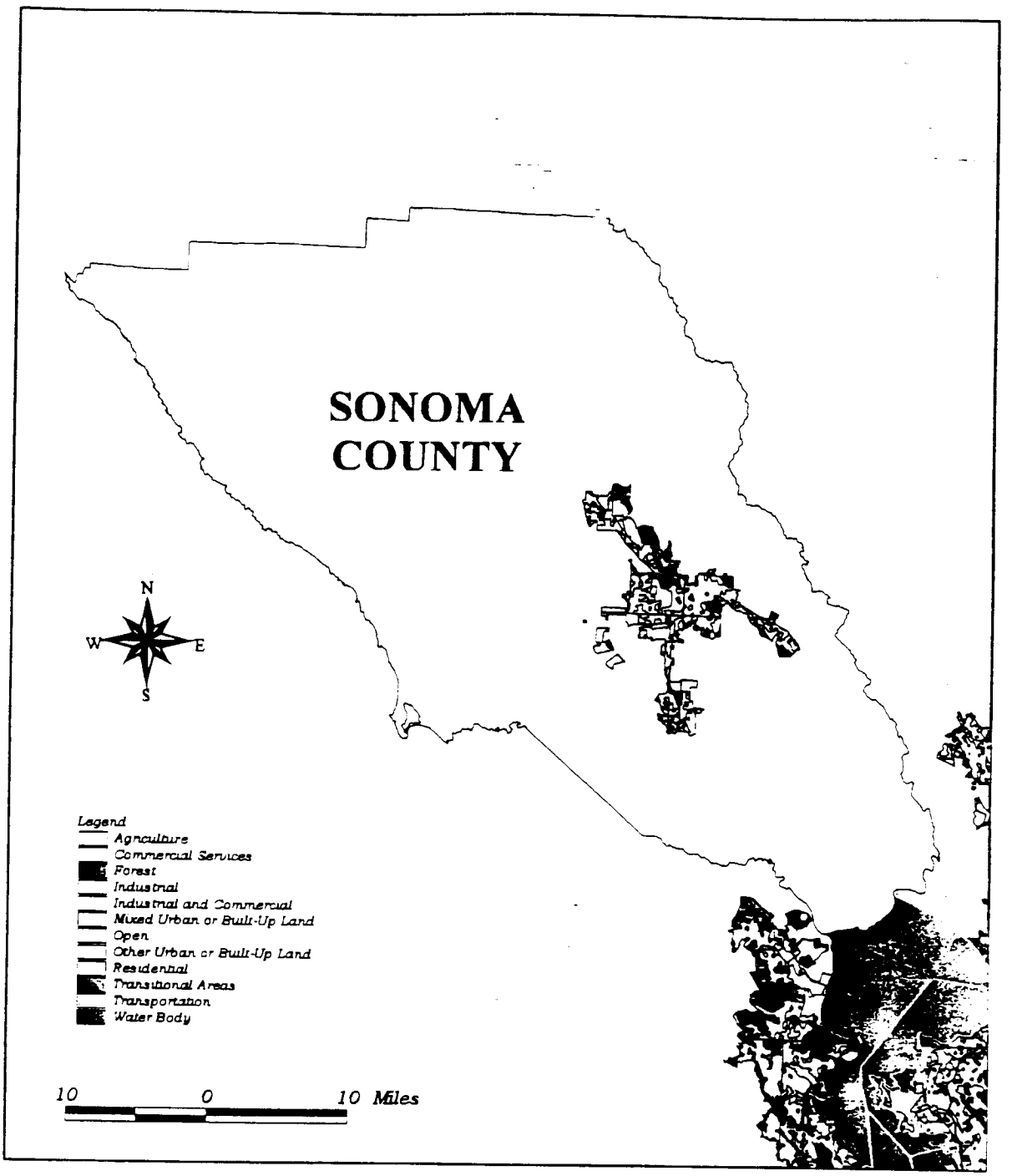
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Sonoma County
Figure B-16a



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Sonoma County
Figure B-16b



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Sonoma County
Figure B-16c

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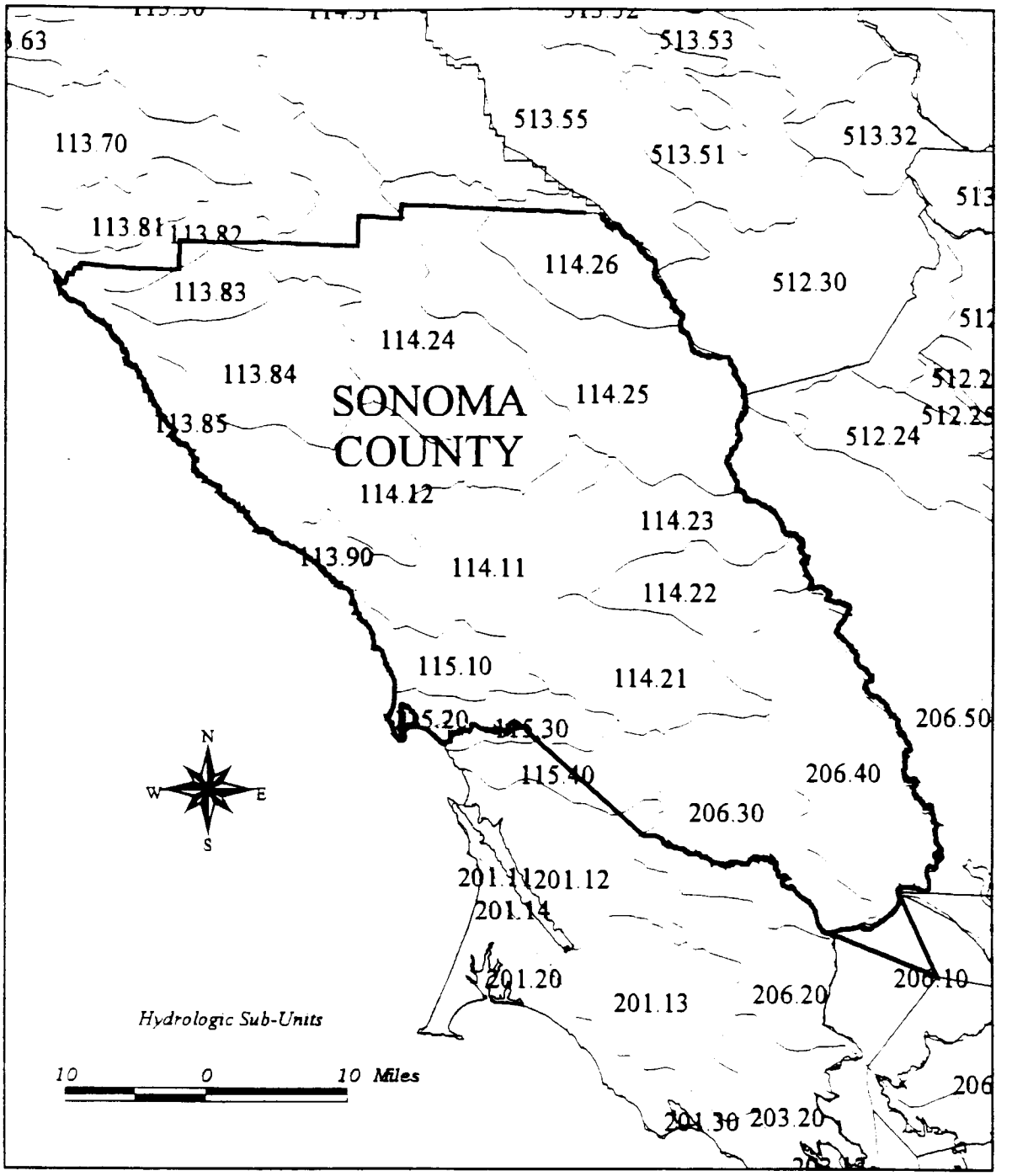
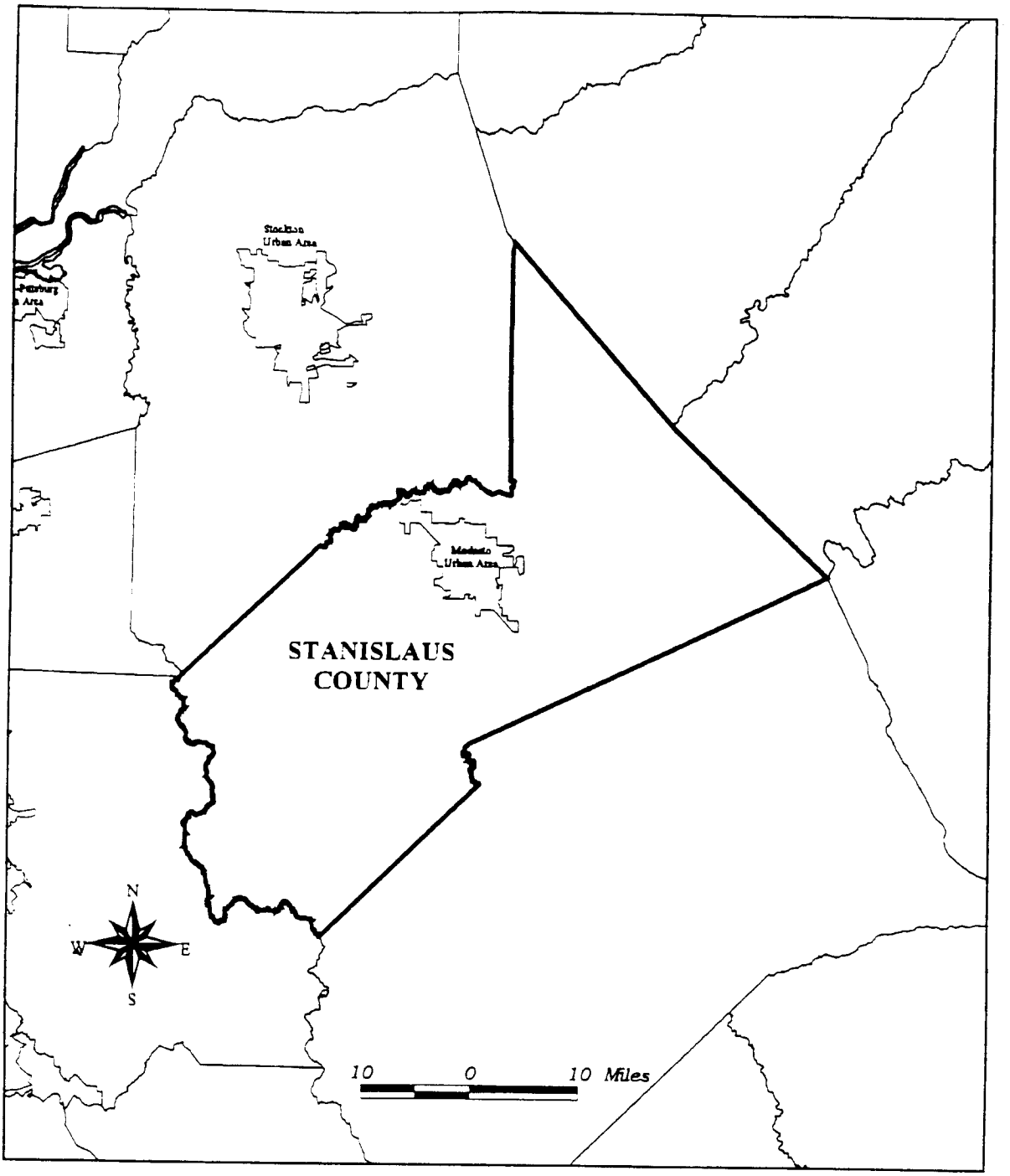


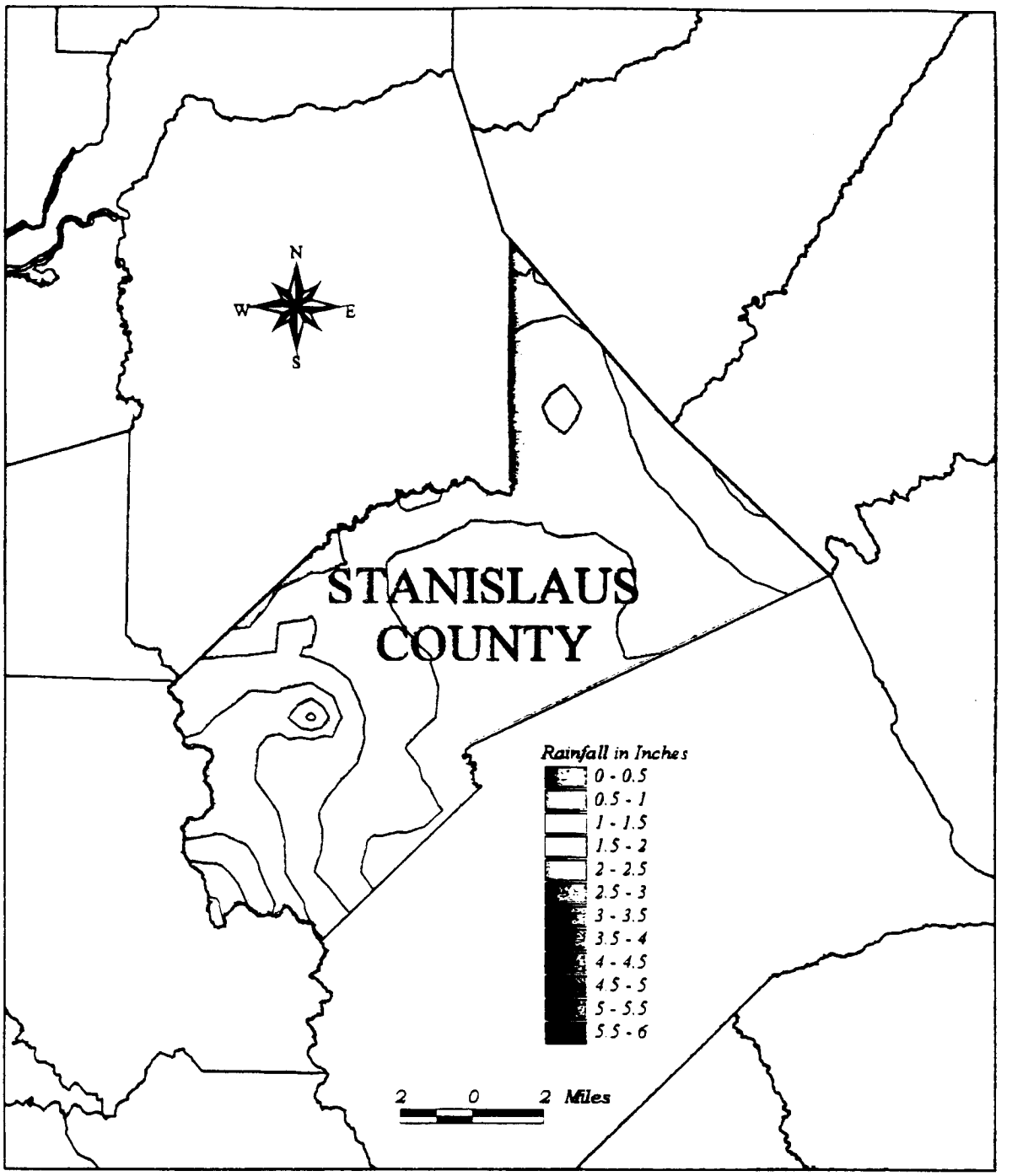
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Sonoma County
Figure B-16d



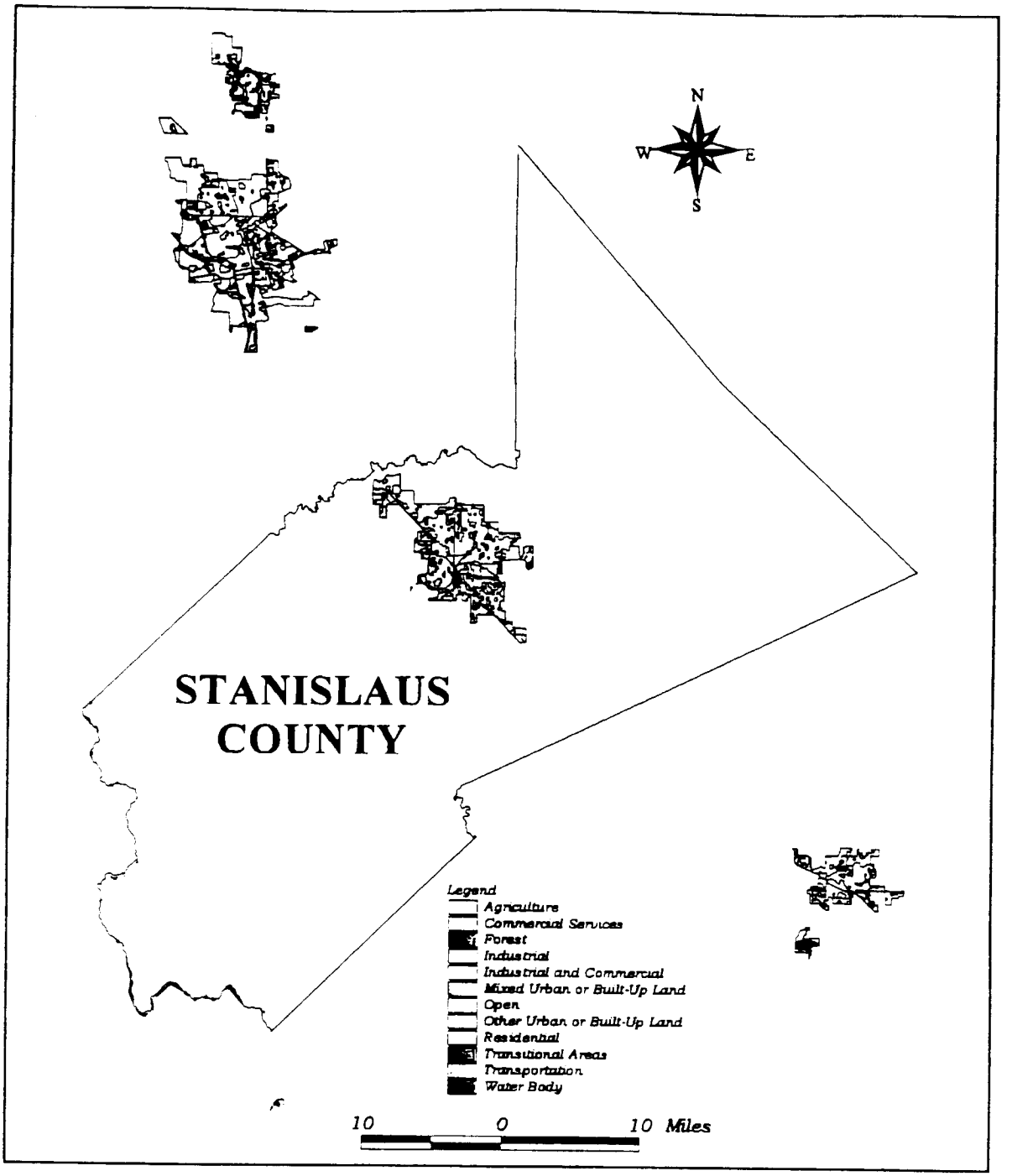
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Stanislaus County
Figure B-17a



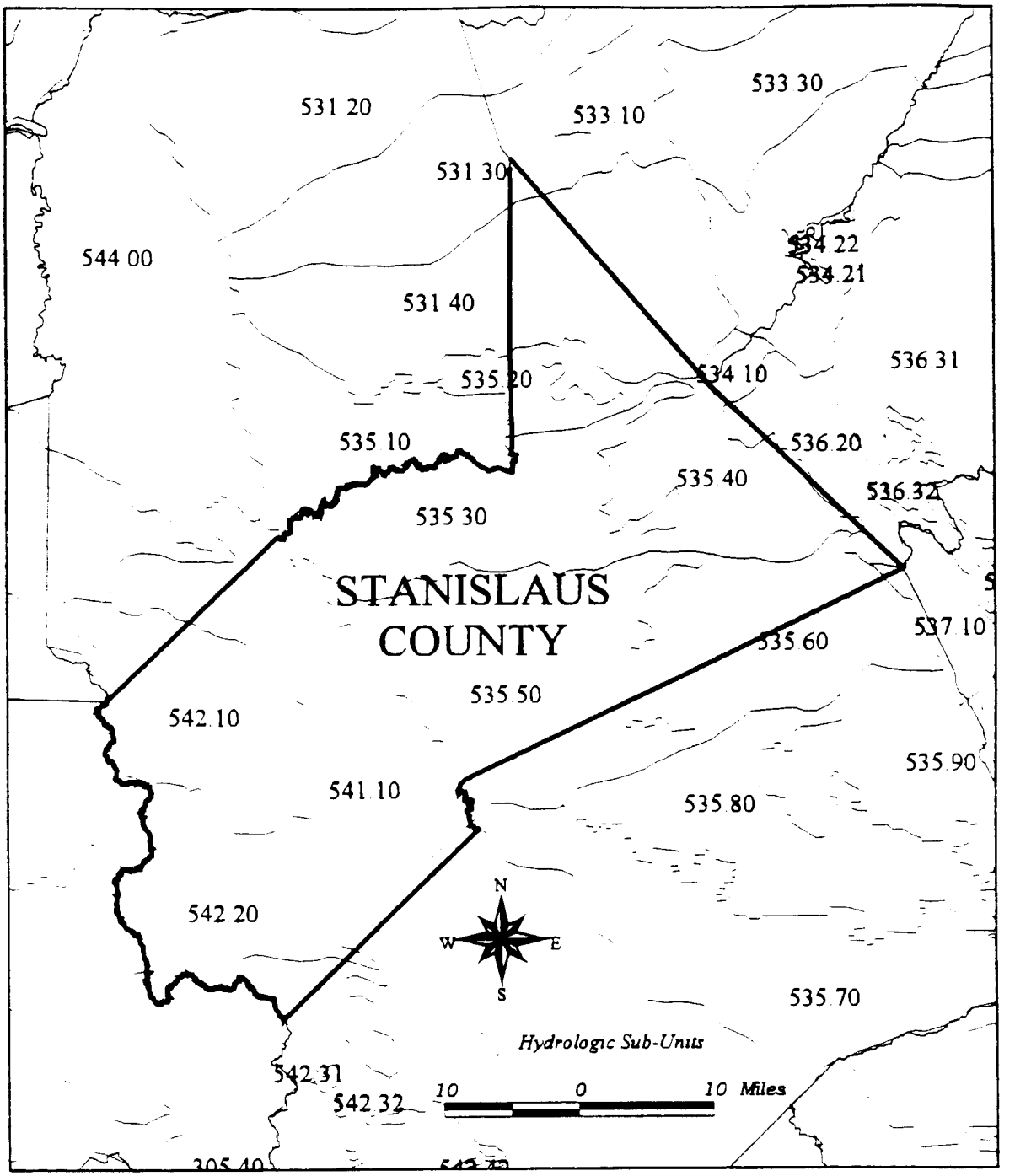
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Stanislaus County
Figure B-17b



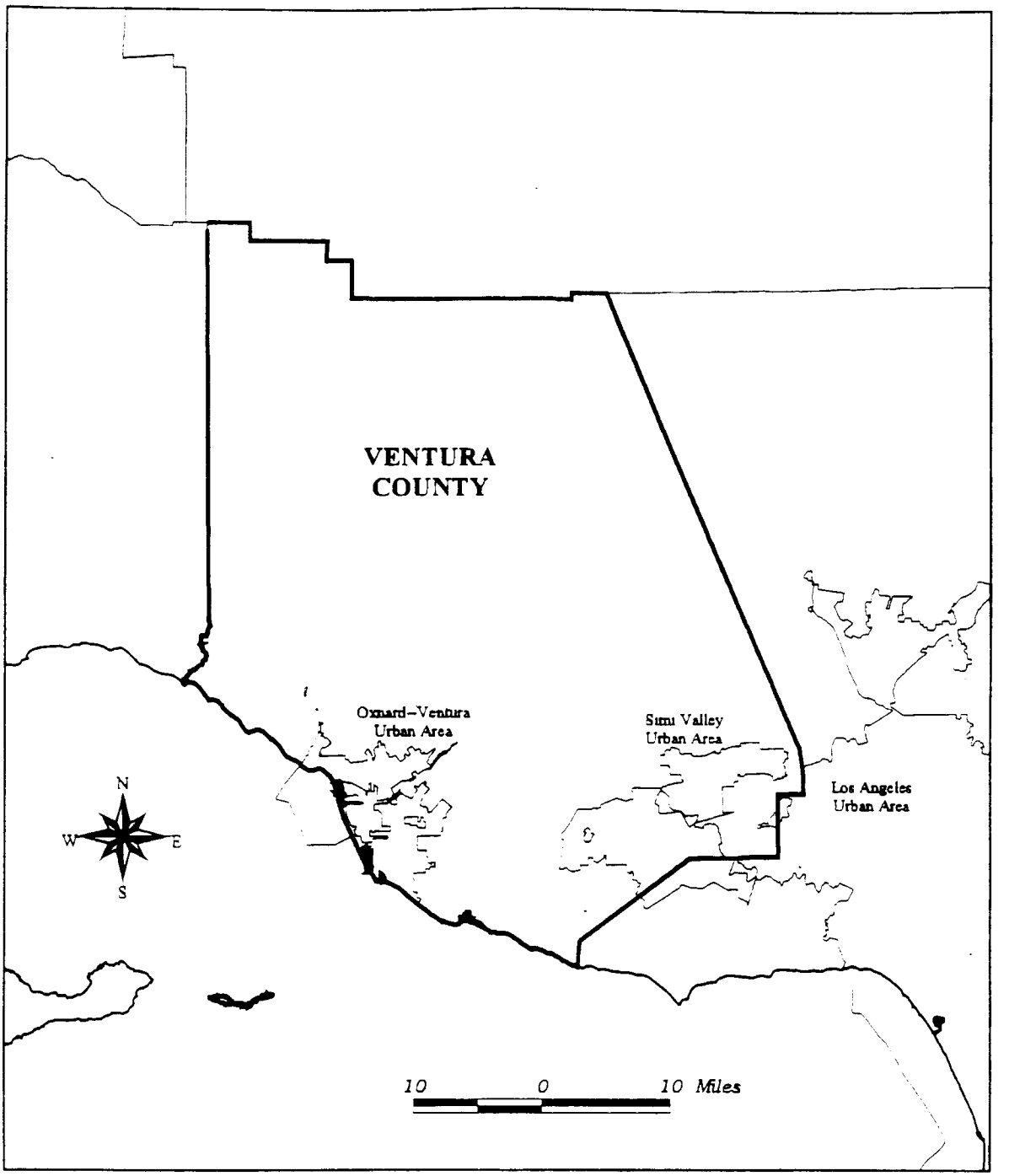
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Stanislaus County
Figure B-17c



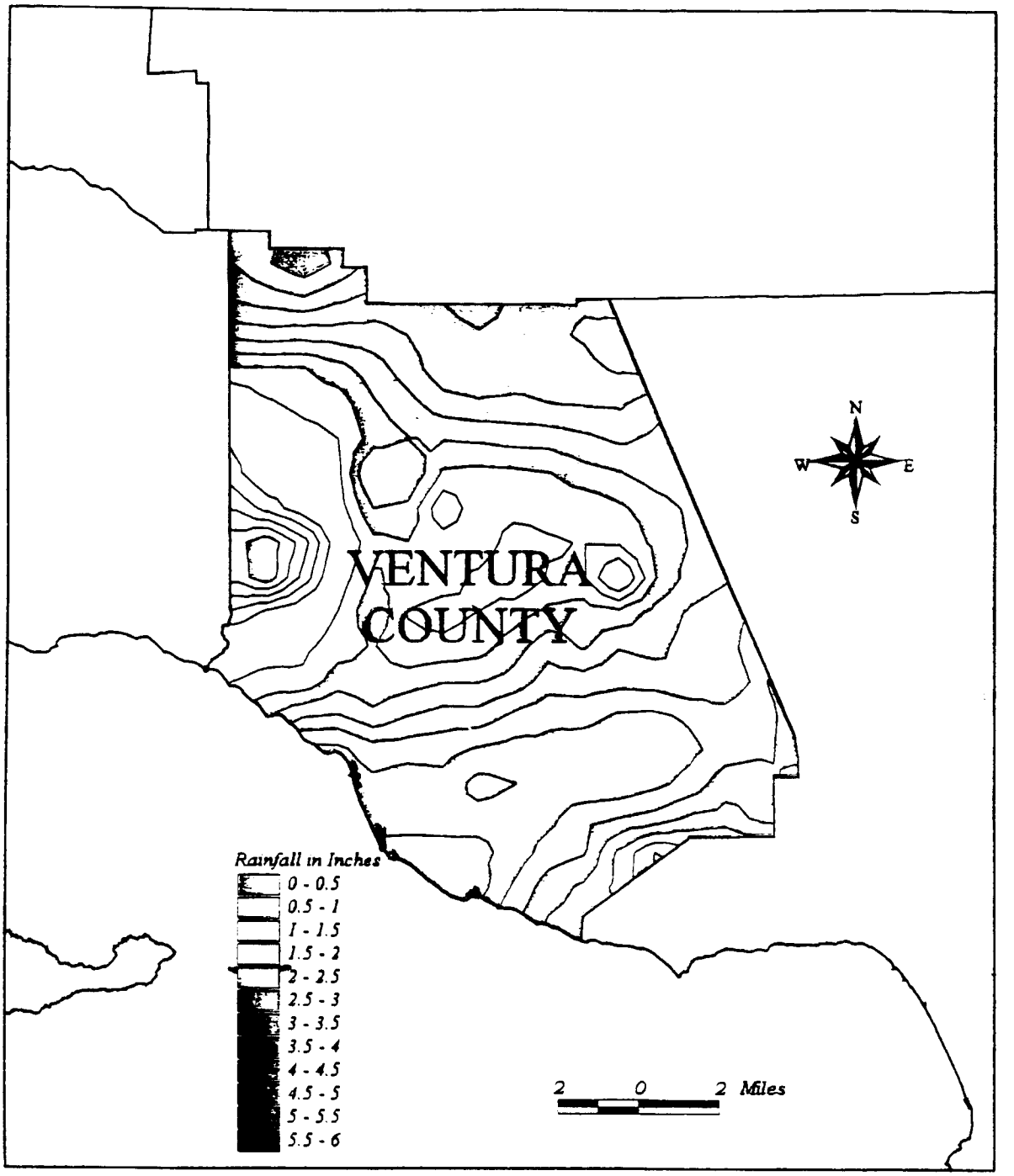
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Stanislaus County
Figure B-17d



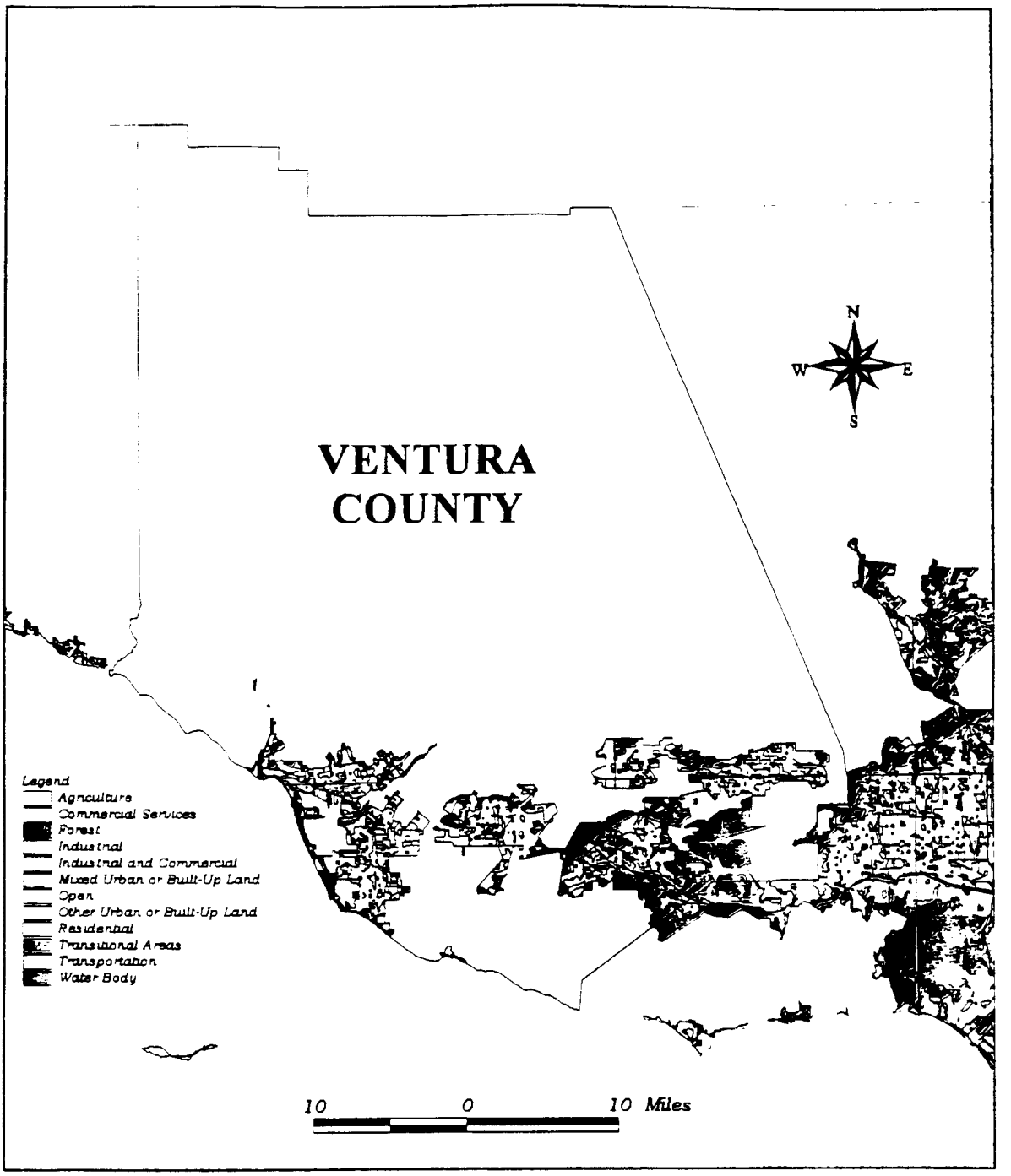
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Ventura County
Figure B-18a



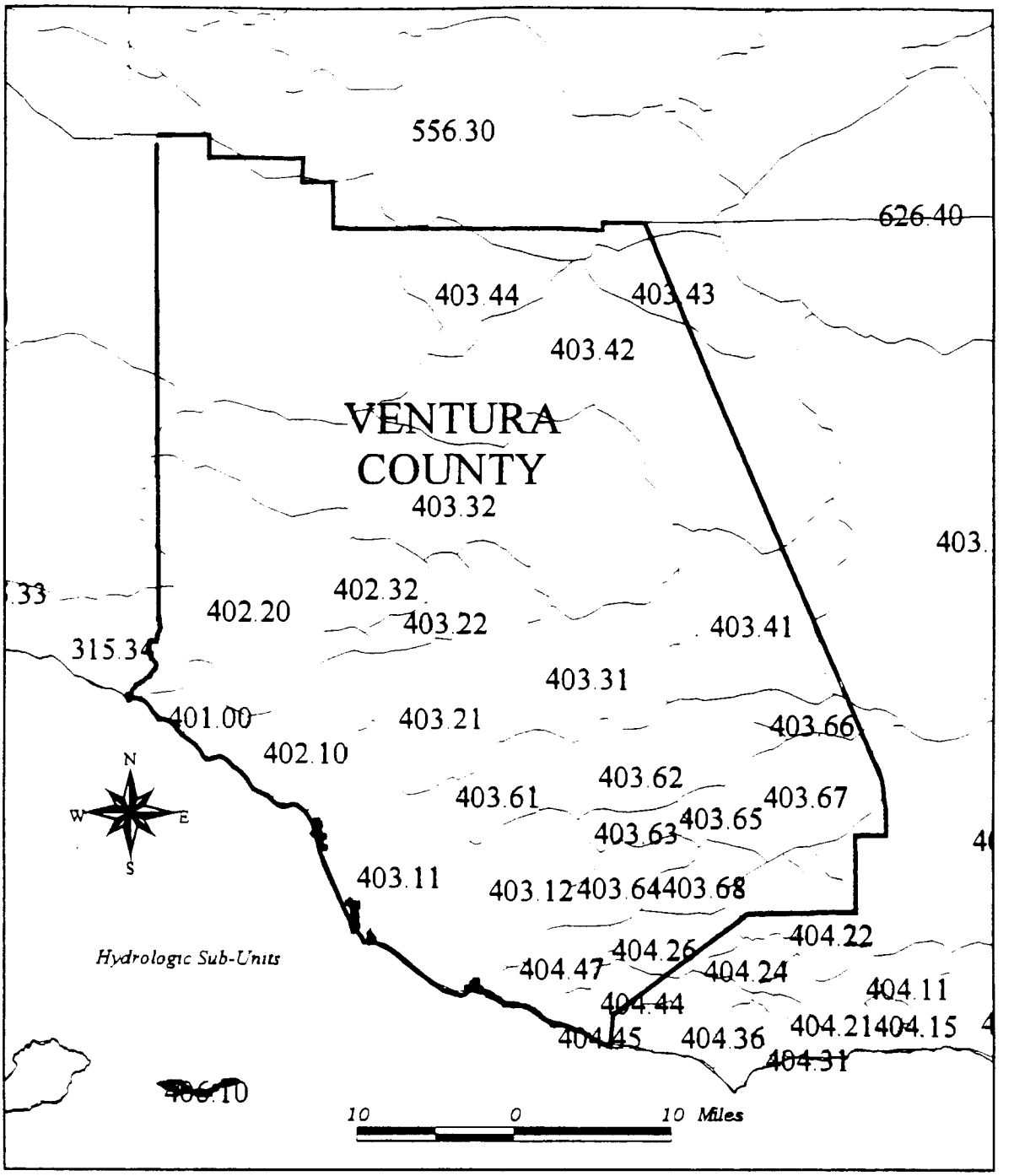
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Ventura County
Figure B-18b



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Ventura County
Figure B-18c



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Ventura County
Figure B-18d

APPENDIX A

REFERENCES



APPENDIX A

REFERENCES

American Water Works Association Research Foundation, Lyonnaise des Eaux, Water Research Commission of South Africa. *Water Treatment Membrane Processes*. McGraw-Hill, 1996.

Anderson, J.R., E.E. Hardy, and J.T. Roach. "Land Use and Land Cover Classification System for Use with Remote Sensing Data". Geological Survey Professional Paper 964. A revision of the land use classification system as presented in US Geological Circular 671, USGPO, 1976.

California Division of Water Resources. "Rainfall Depth-Duration-Frequency for California". February 1981, Updated August 1986.

Caltrans. "Highway Design Manual, Fifth Edition". 1995.

Caltrans. "Storm Water Facilities Retrofit Evaluation". Prepared by Brown and Caldwell, May 1997.

Caltrans. "Cost of Storm Water Treatment for the Los Angeles County NPDES Permit Area". Prepared by Brown and Caldwell, June 1998 (1998a).

Caltrans. "Financial and Economic Impacts of Storm Water Treatment, Los Angeles County NPDES Permit Area". Prepared by Stanley R. Hoffman Associates, June 1998 (1998b).

DeCou, Glenn (Chief, Office of State Highway Drainage Design). Personal communication, March 1998.

Haan, Charles T. *Statistical Methods in Hydrology*. The Iowa State University Press, 1977.

Keblin, M. V., Barrett, M. E., Malina, J. F., and Charbeneau, R. J., 1997, "The Effectiveness of Permanent Highway Runoff Controls: Sedimentation/Filtration Systems," CRWR On-line Report 97-4, Center for Research in Water Resources, University of Texas at Austin.

City of San Jose. "Urban Runoff Management Plan". 1997.

University of California, Los Angeles. "Assessment of Storm Drain Sources of Contaminants to Santa Monica Bay". 1993.

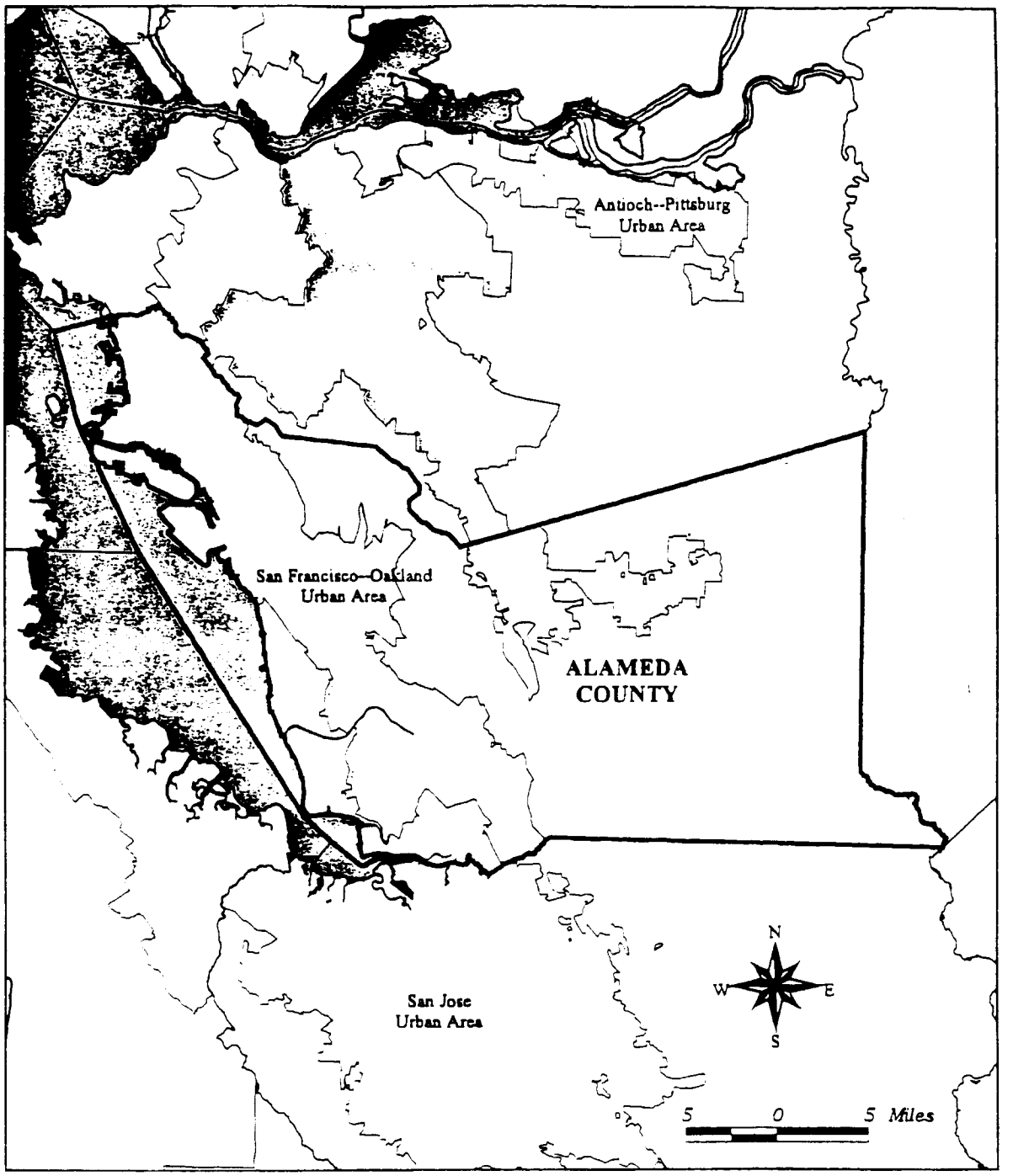
USEPA. "Innovative and Alternative Technology Assessment Manual". 430/9-78-009, February 1980.

APPENDIX B

URBANIZED AREA BOUNDARY, RAINFALL CONTOUR, LAND USE, AND HYDROLOGIC SUB-UNIT BOUNDARY MAPS

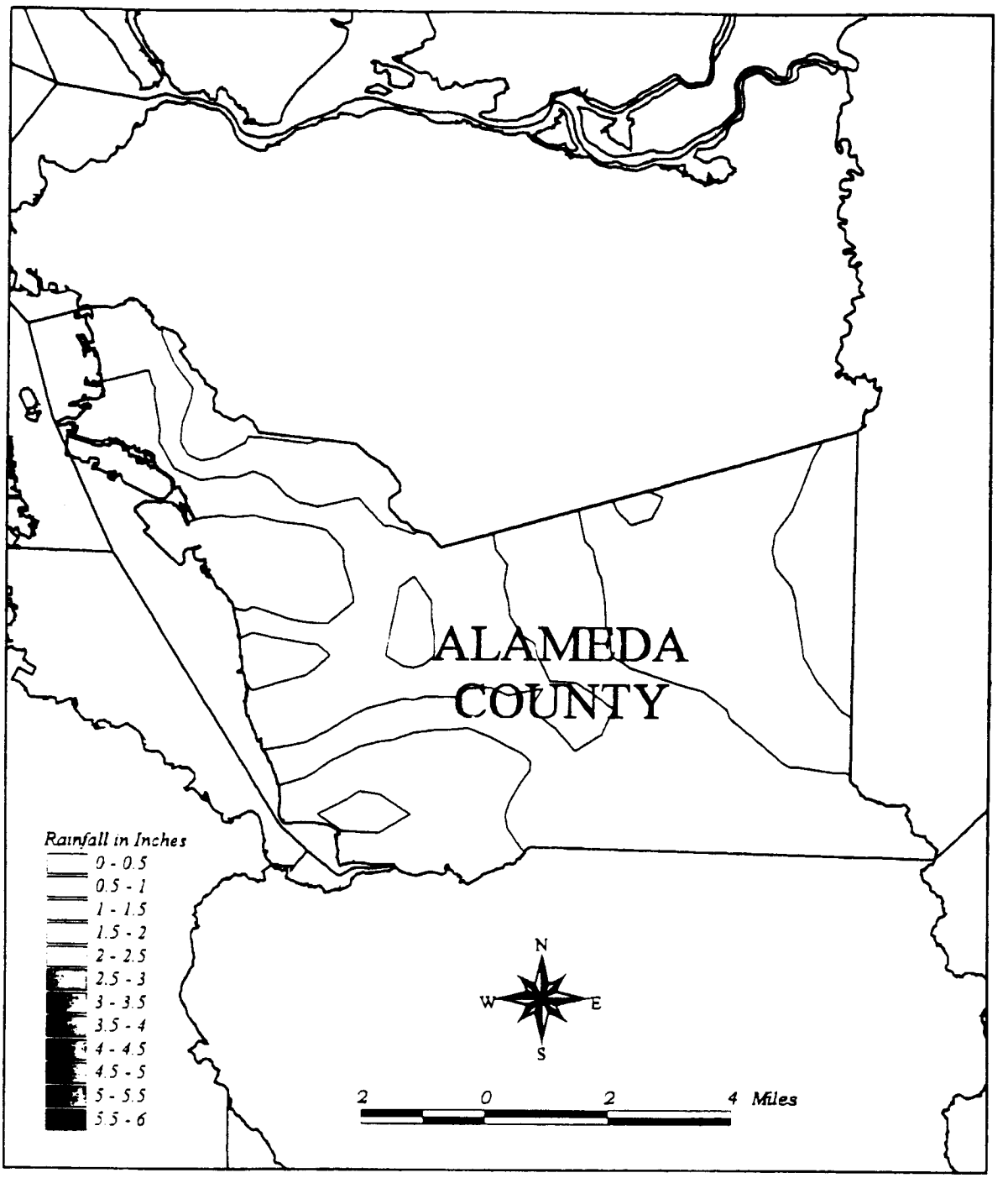
APPENDIX B

URBANIZED AREA BOUNDARY, RAINFALL CONTOUR, LAND USE, AND HYDROLOGIC SUB-UNIT BOUNDARY MAPS



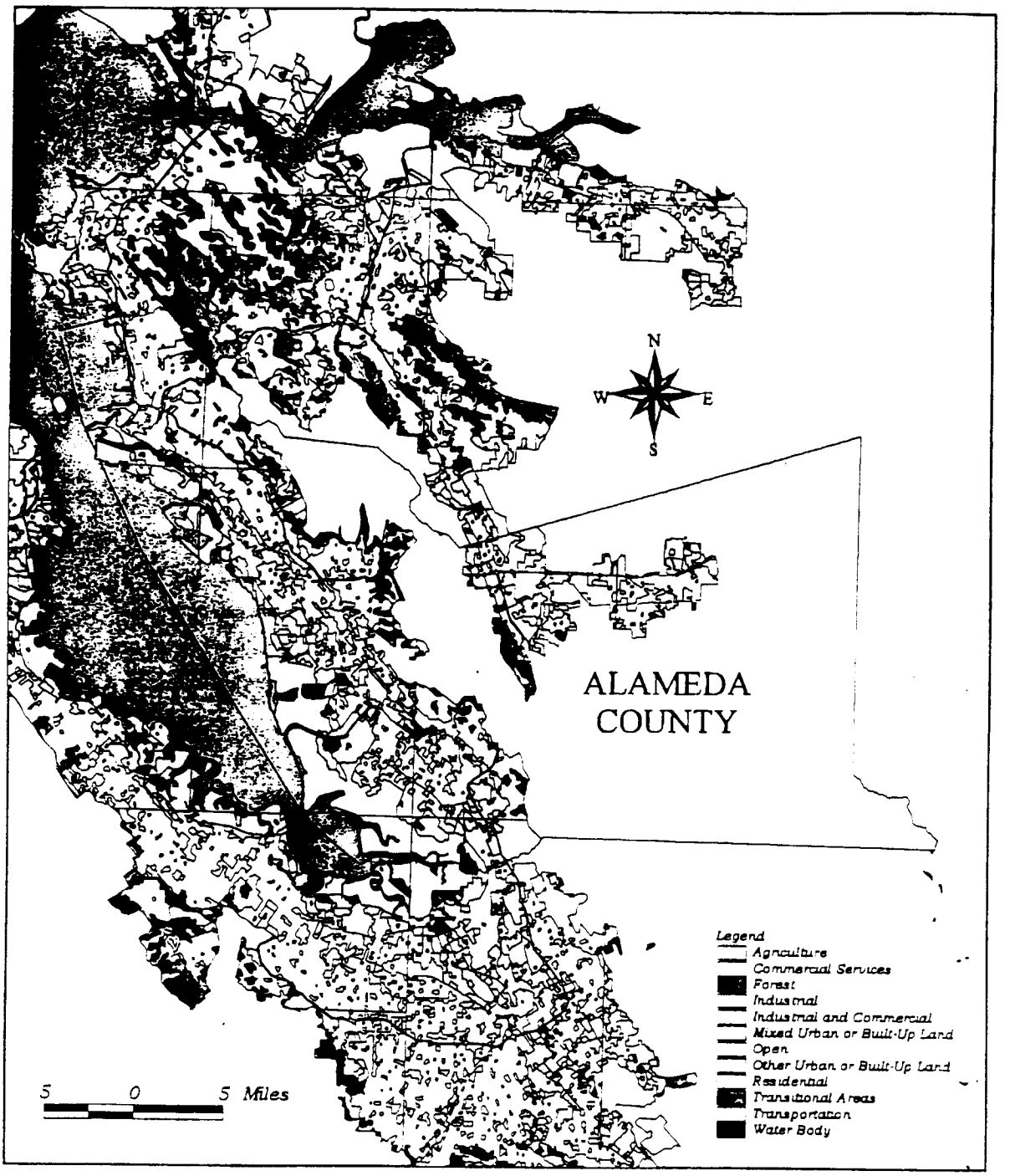
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Alameda County
Figure B-1a



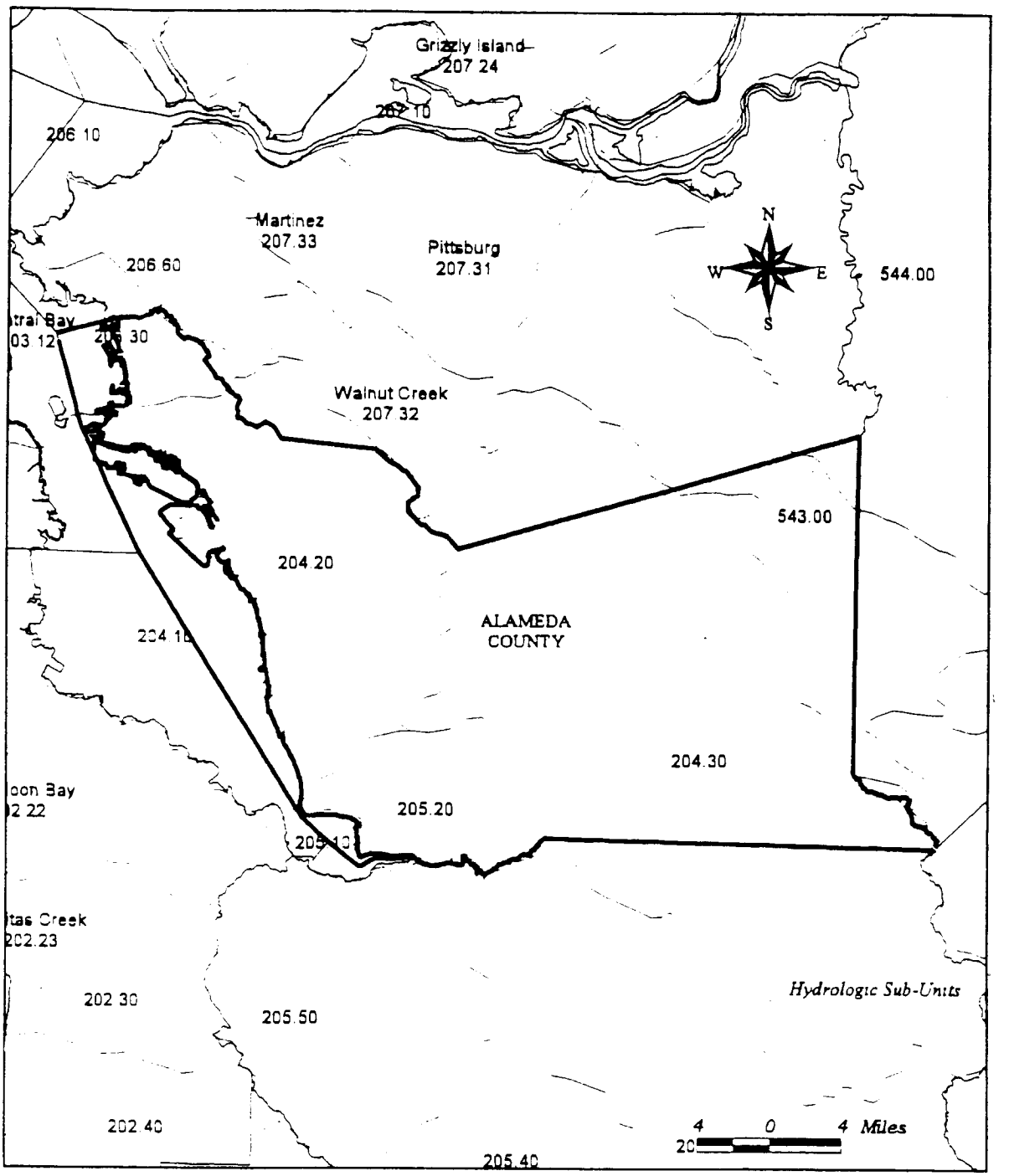
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Alameda County
Figure B-1b



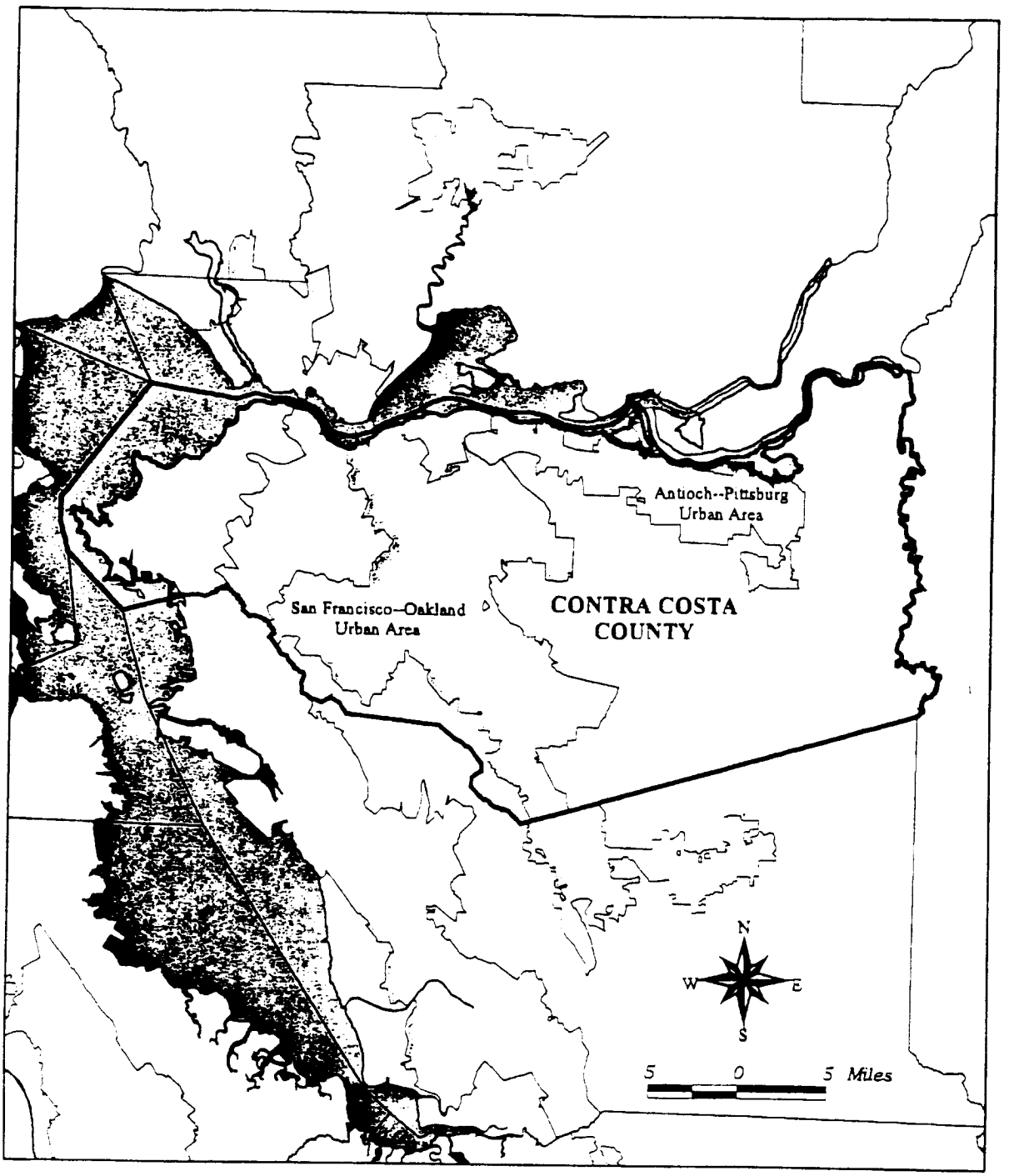
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Alameda County
Figure B-1c



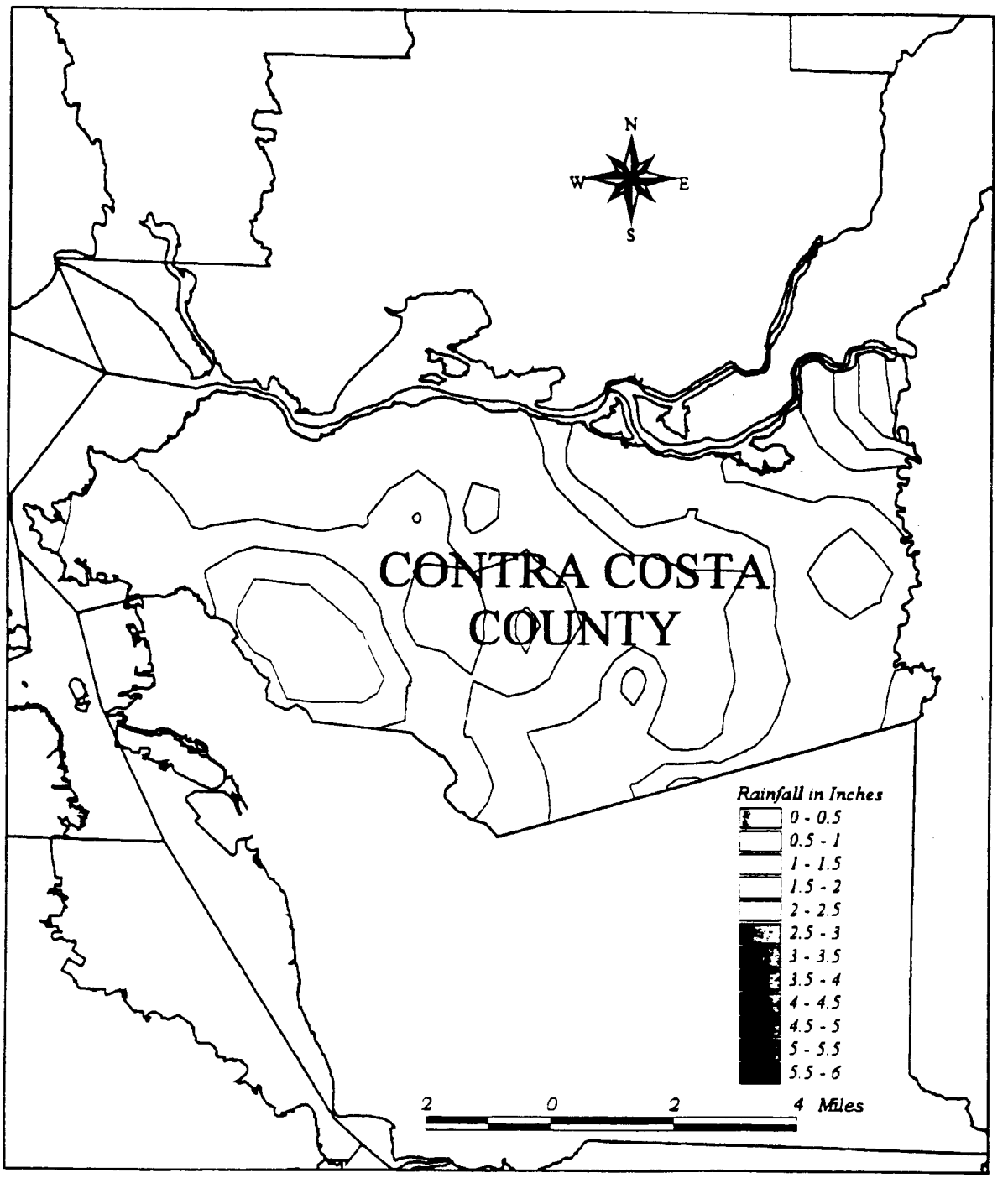
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Alameda County
Figure B-1d



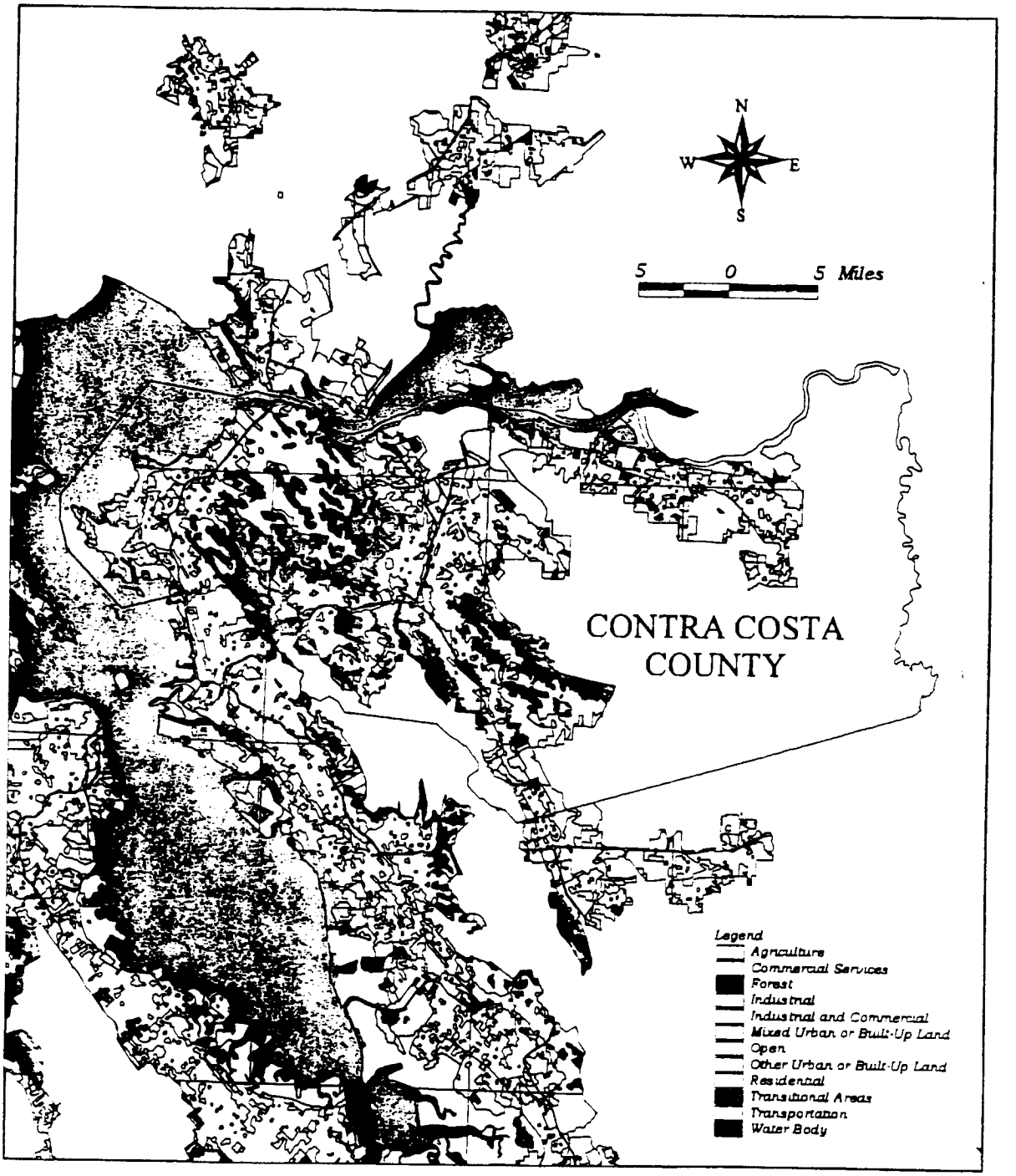
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Contra Costa County
Figure B-2a



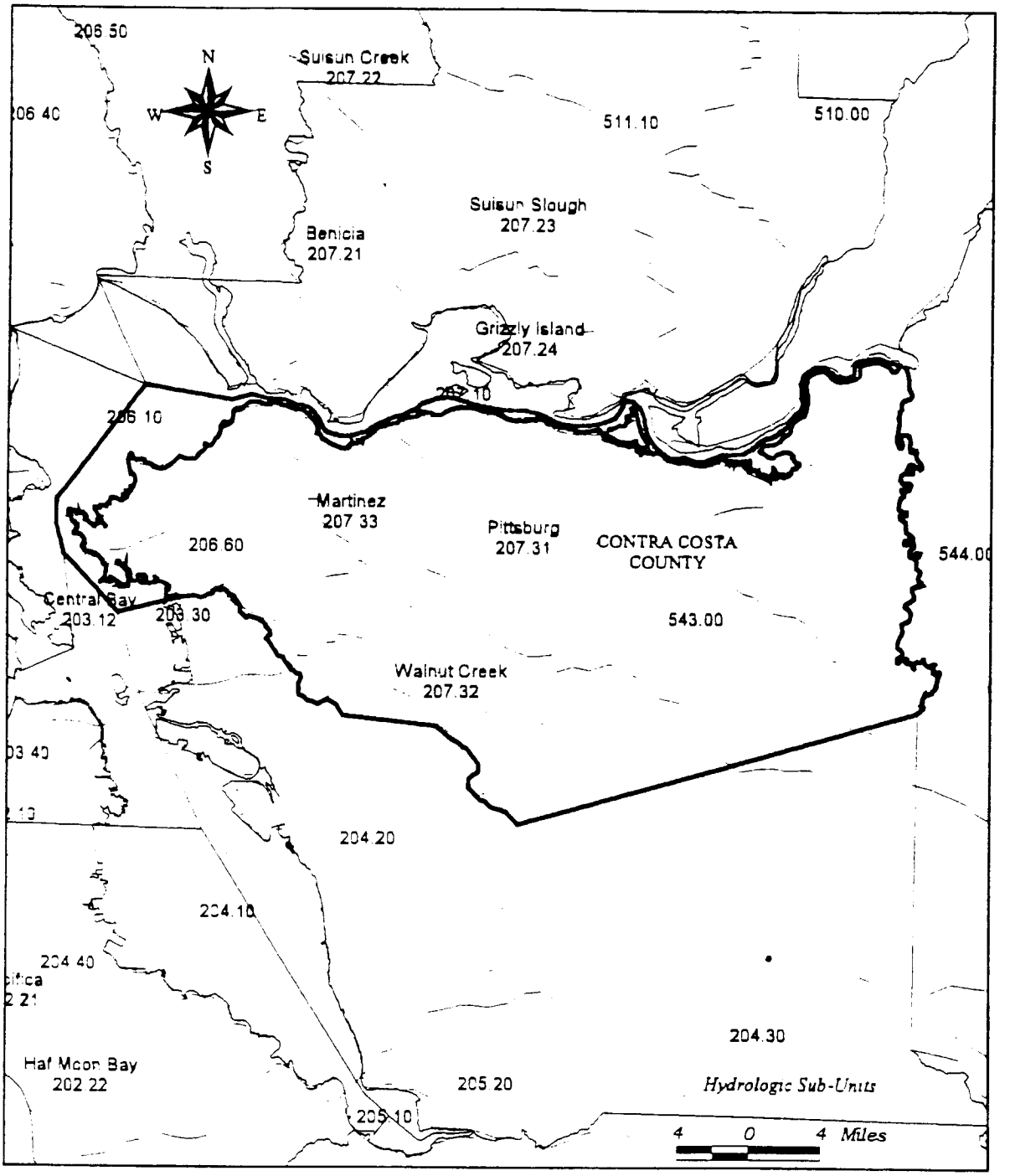
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Contra Costa County
Figure B-2b



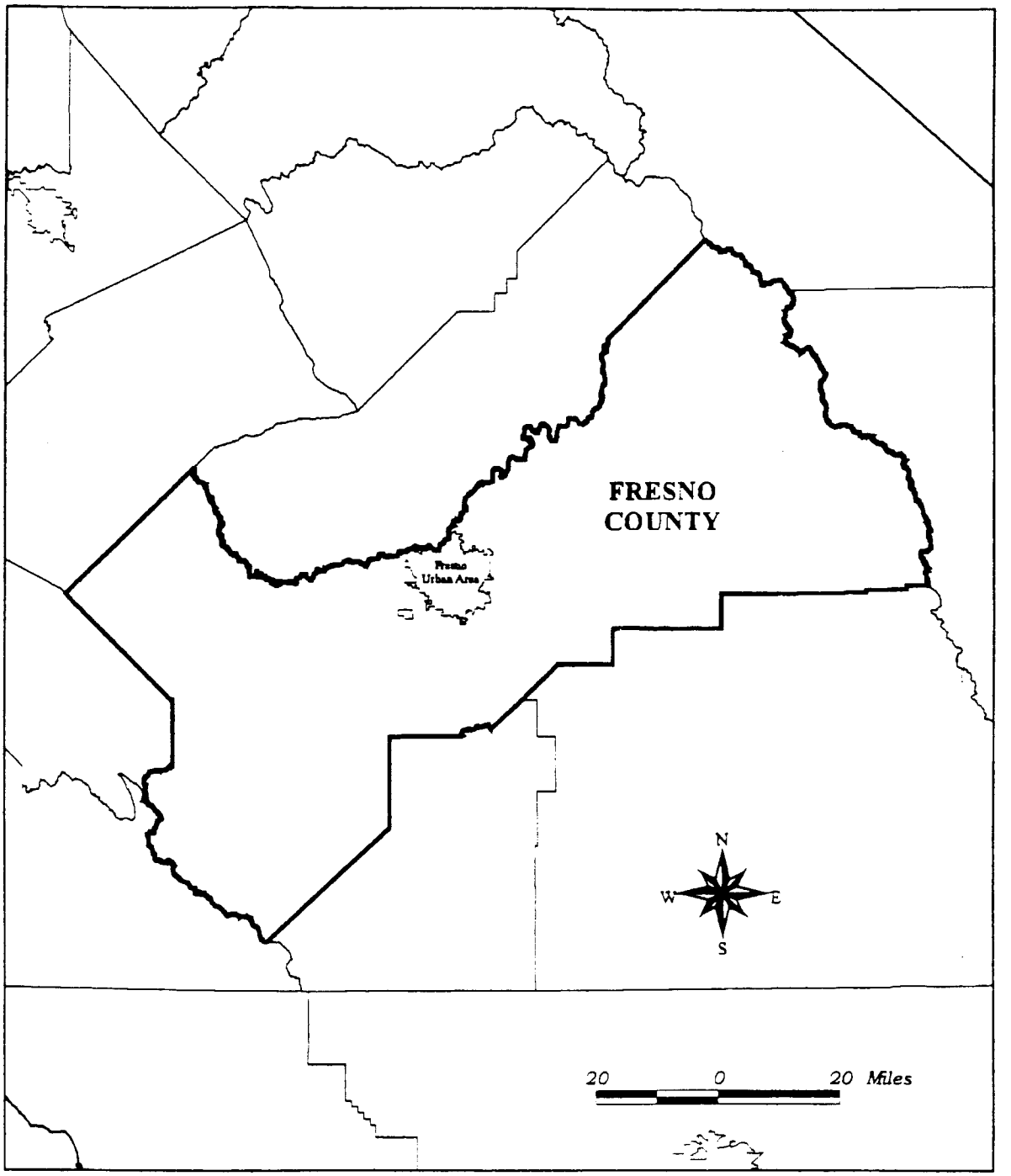
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Contra Costa County
Figure B-2c



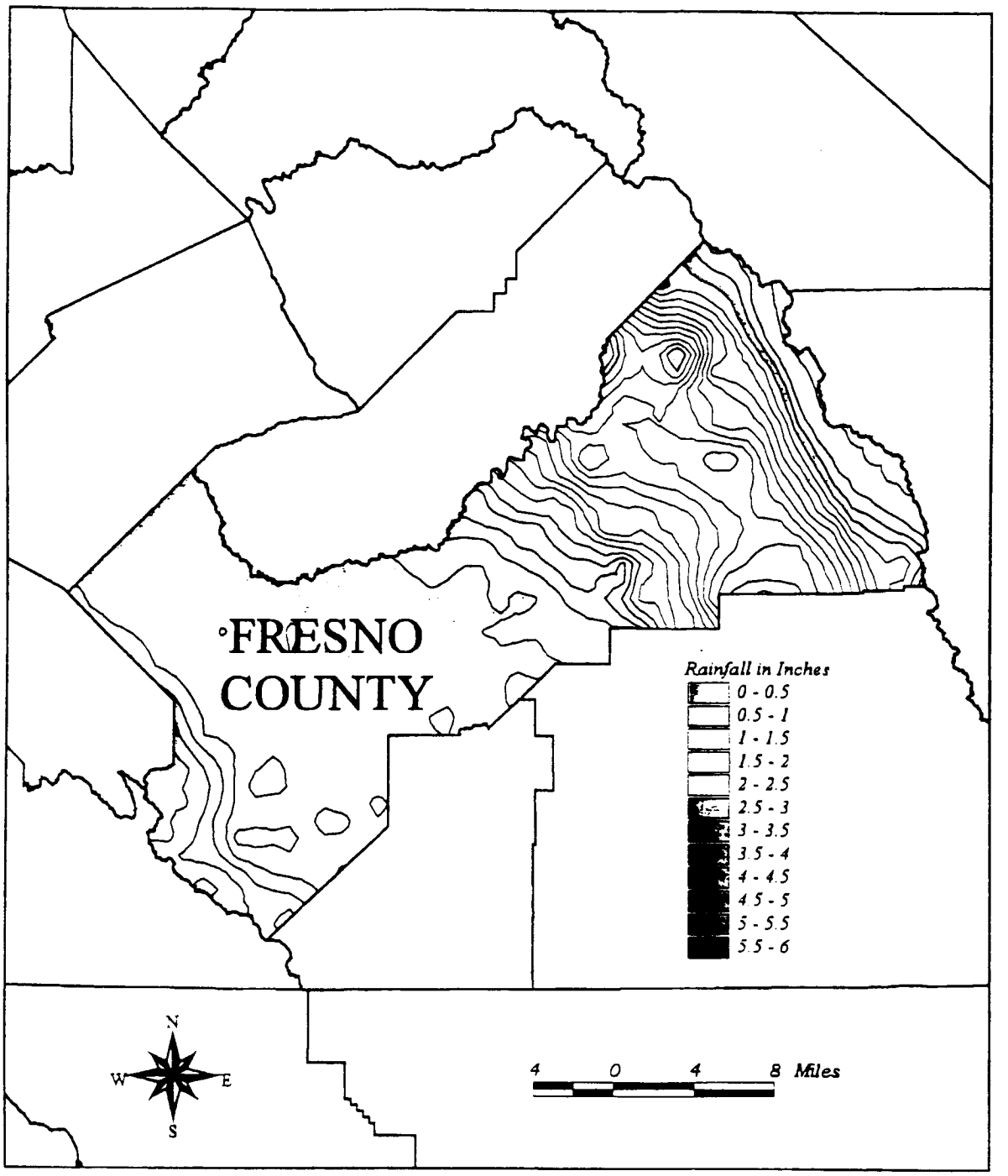
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Contra Costa County
Figure B-2d



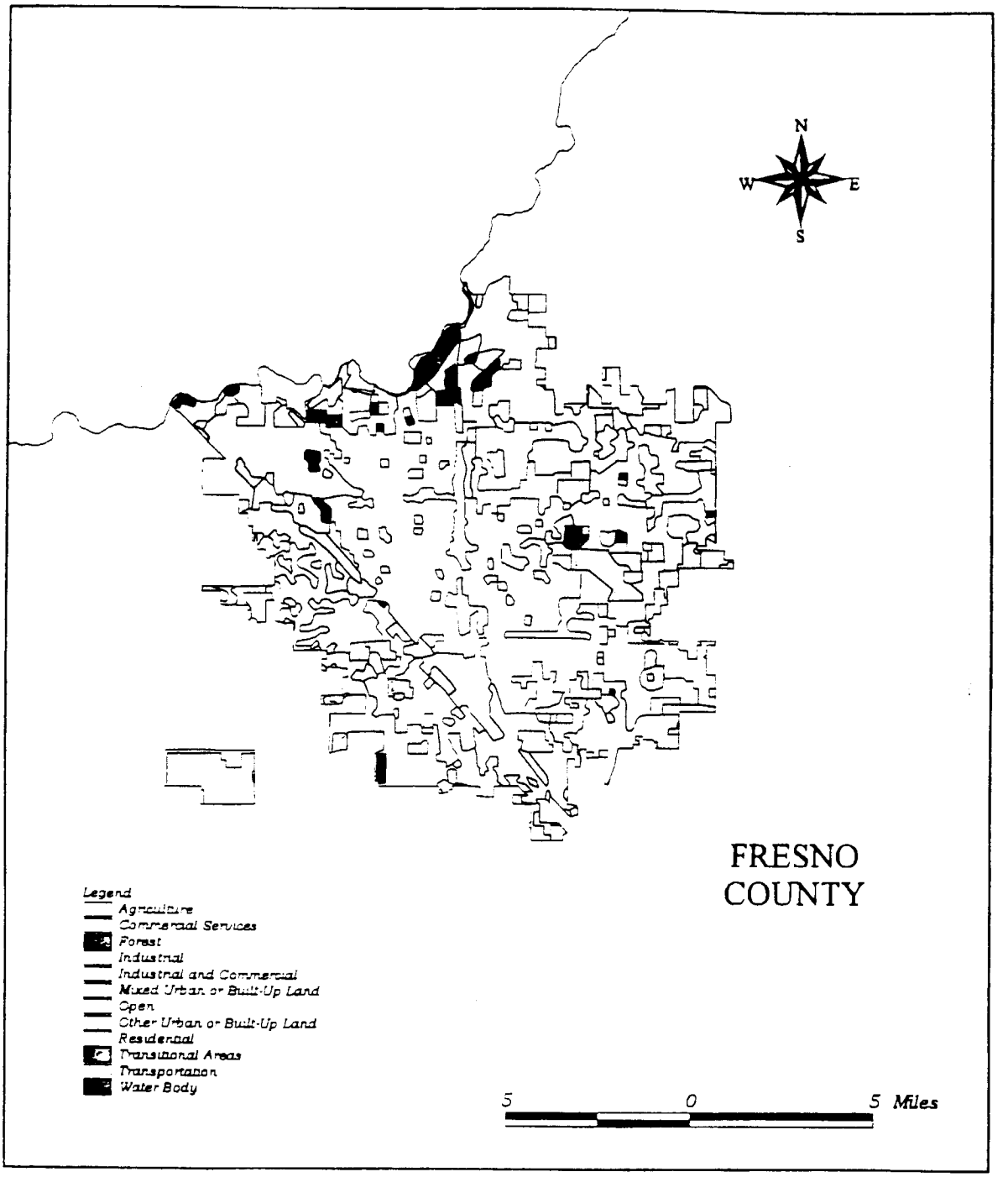
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Fresno County
Figure B-3a



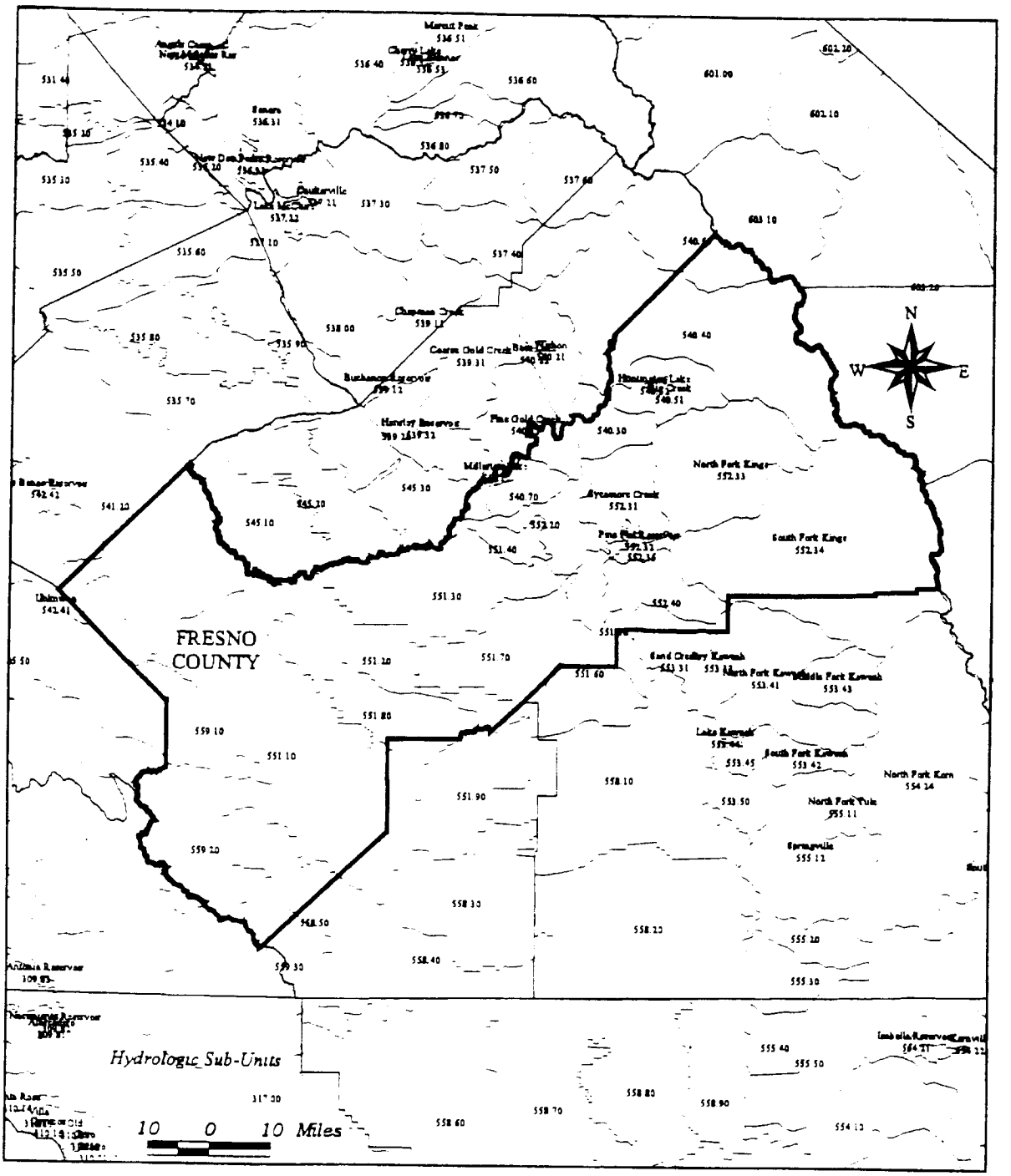
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Fresno County
Figure B-3b



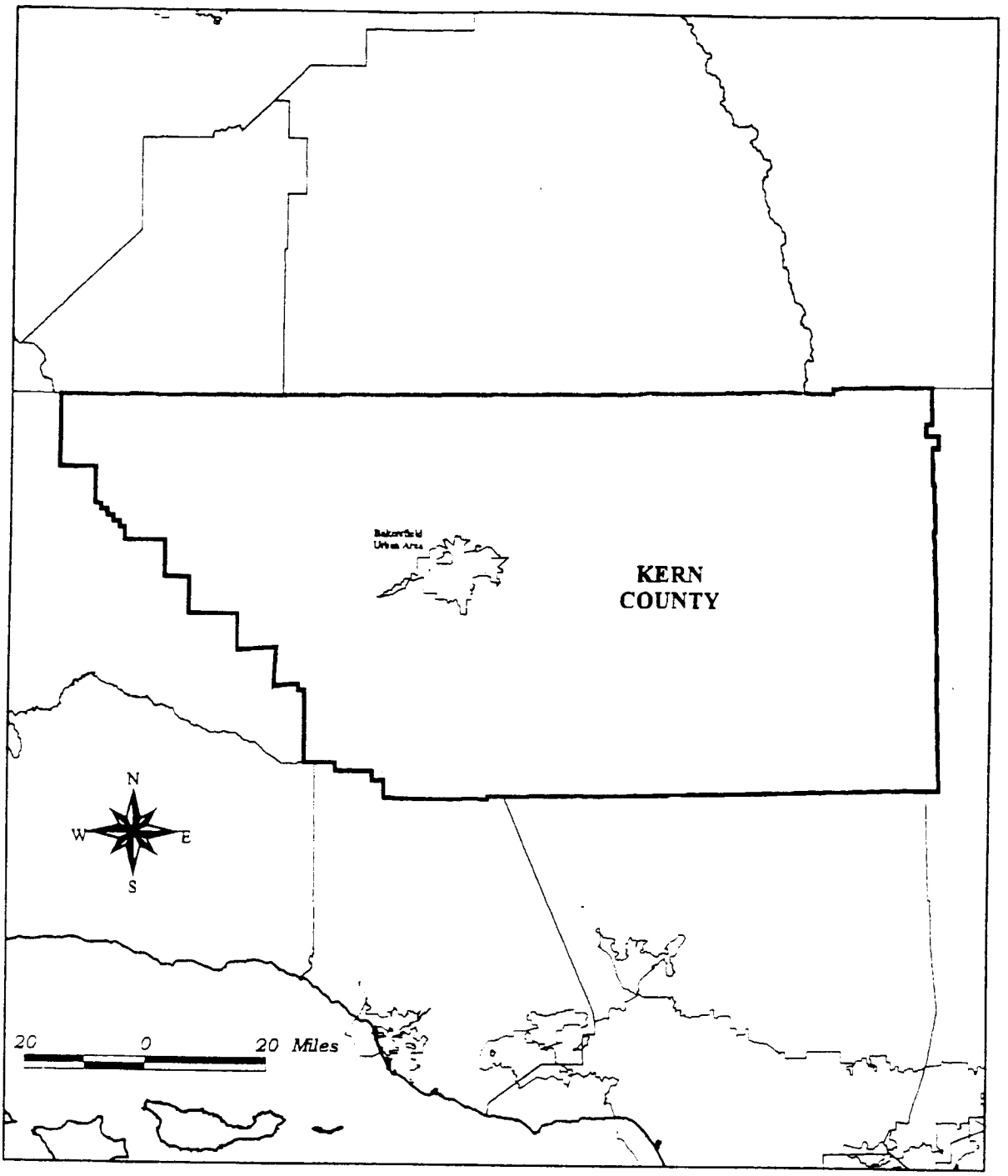
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Fresno County
Figure B-3c



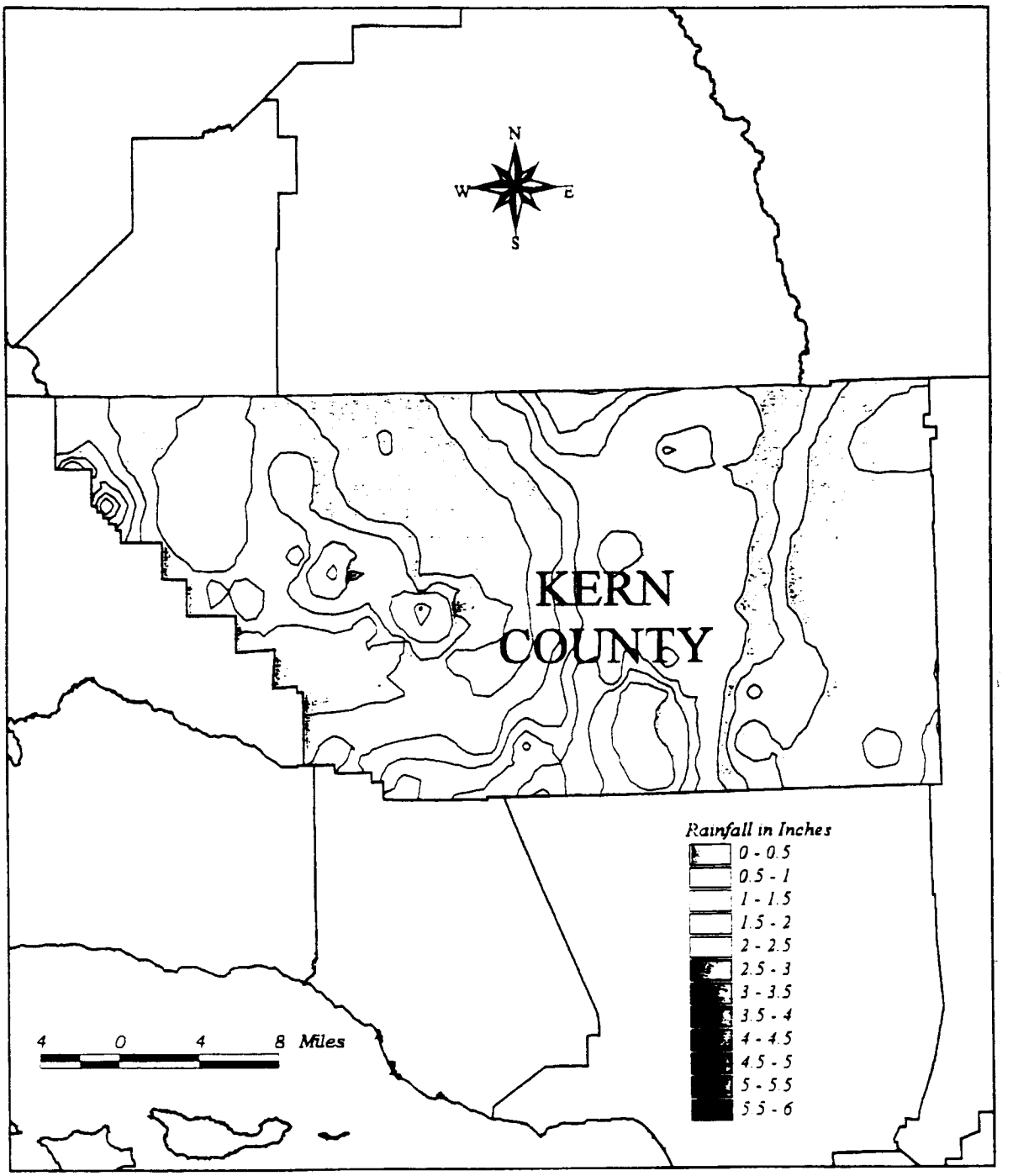
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Fresno County
Figure B-3d



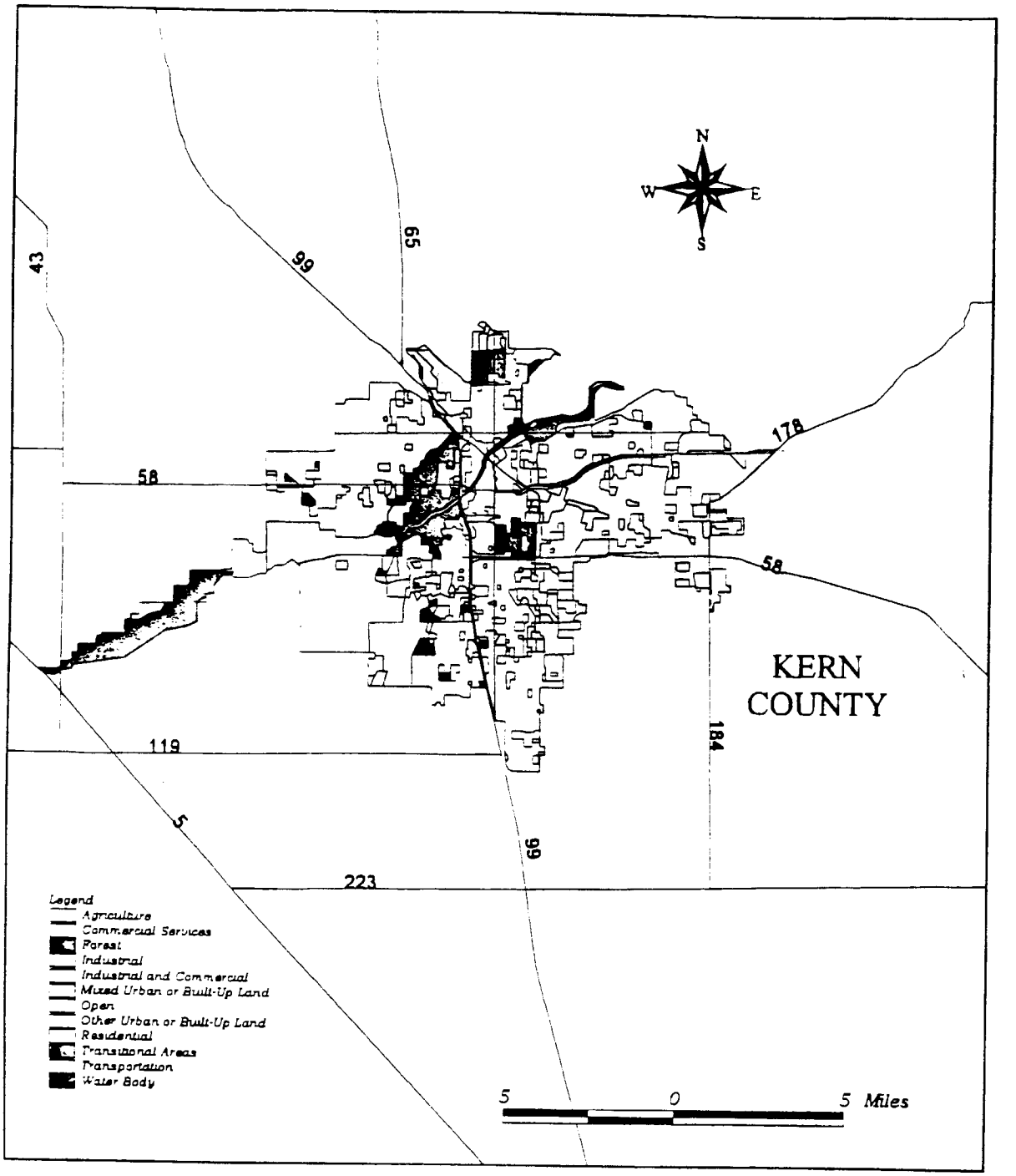
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Kern County
Figure B-4a



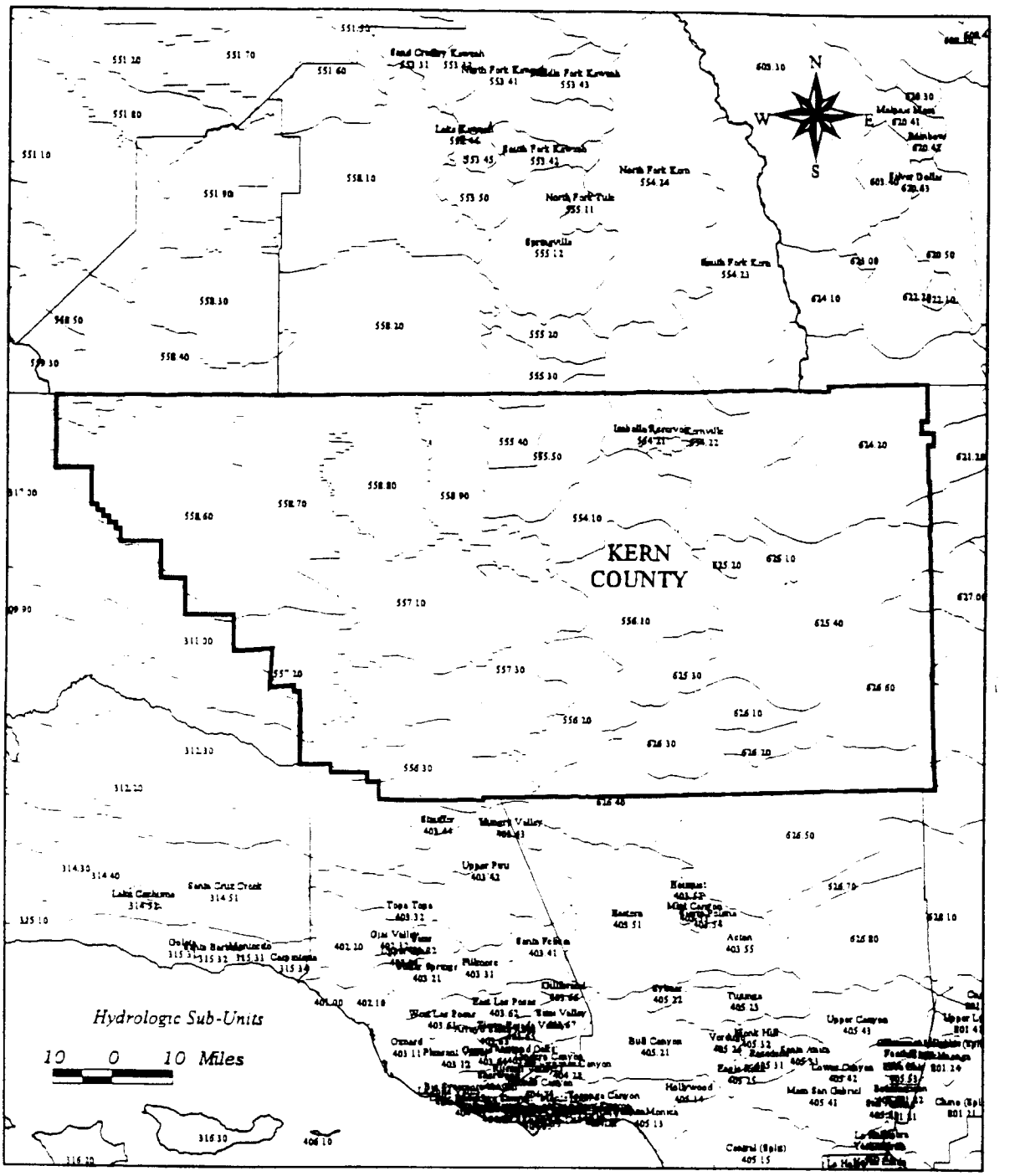
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Kern County
Figure B-4b



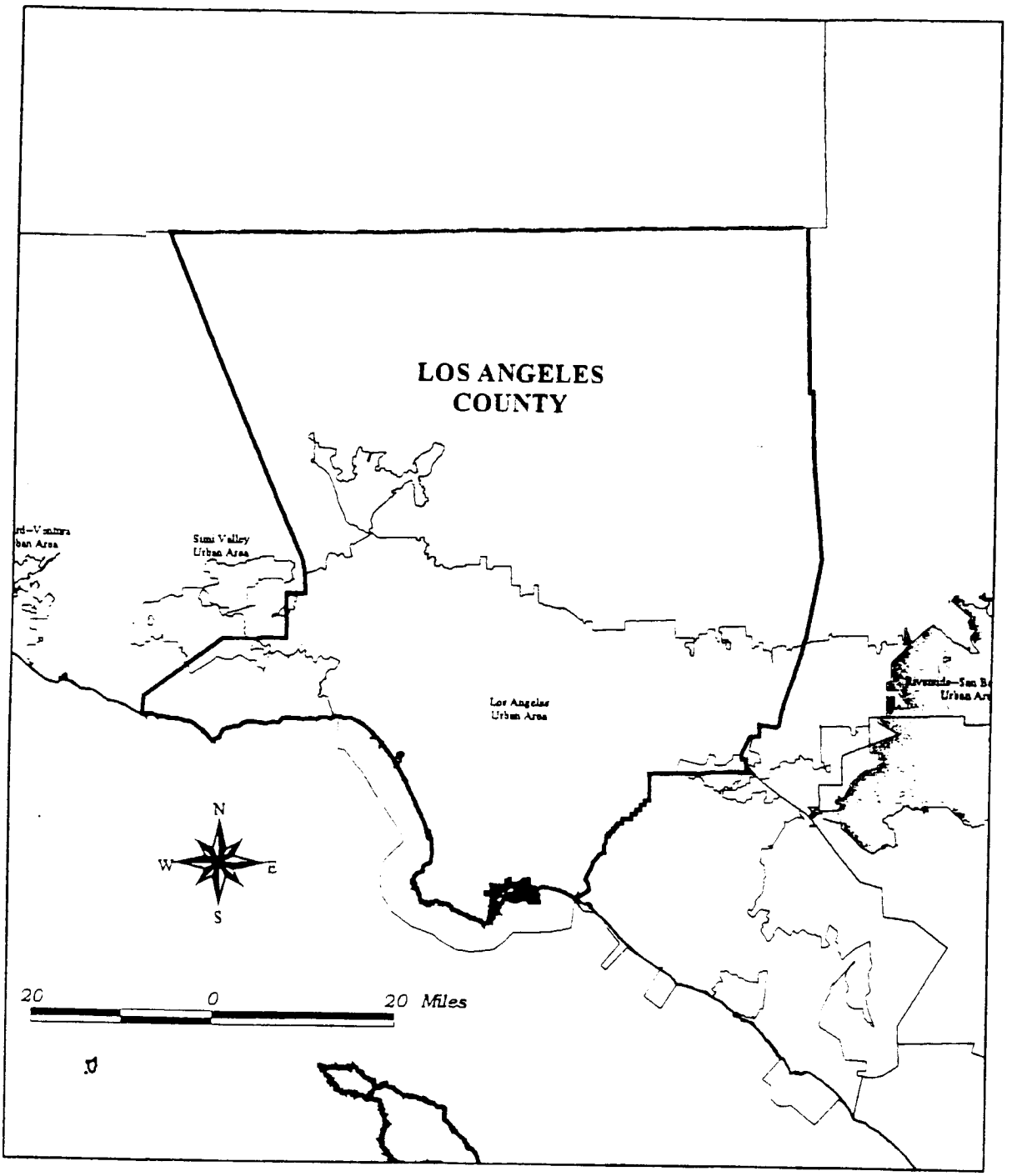
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Kern County
Figure B-4c



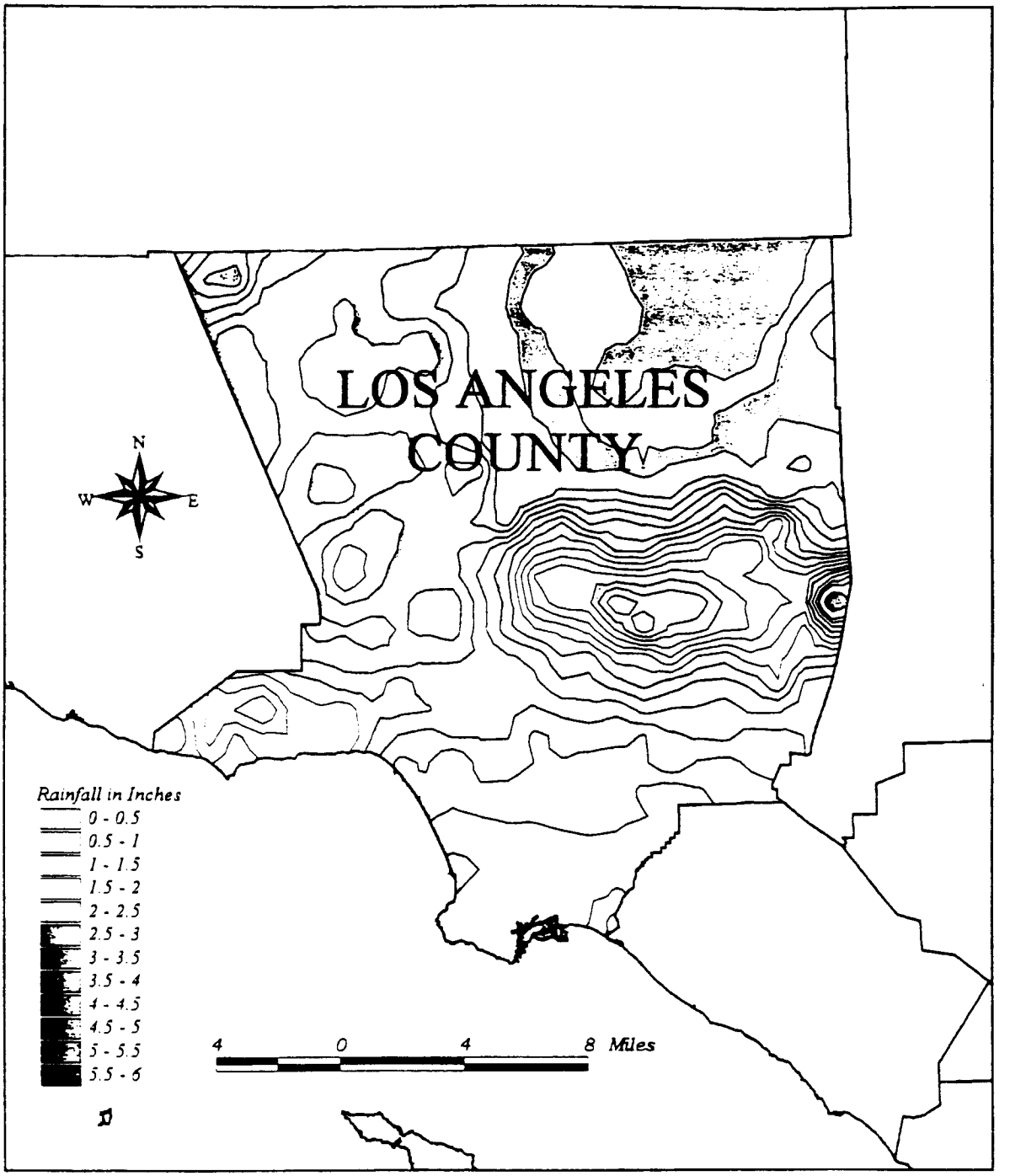
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Kern County
Figure B-4d



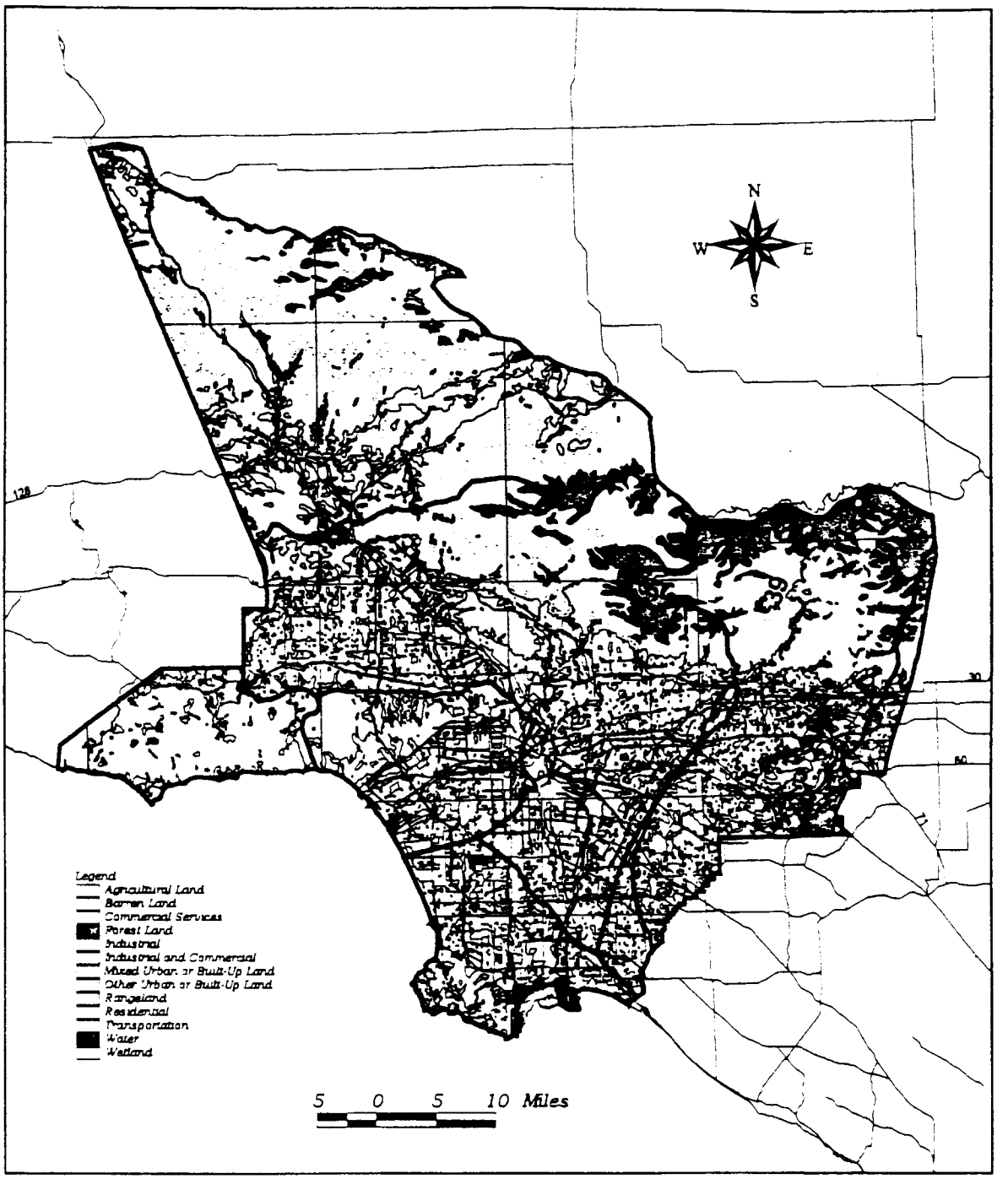
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Los Angeles County
Figure B-5a



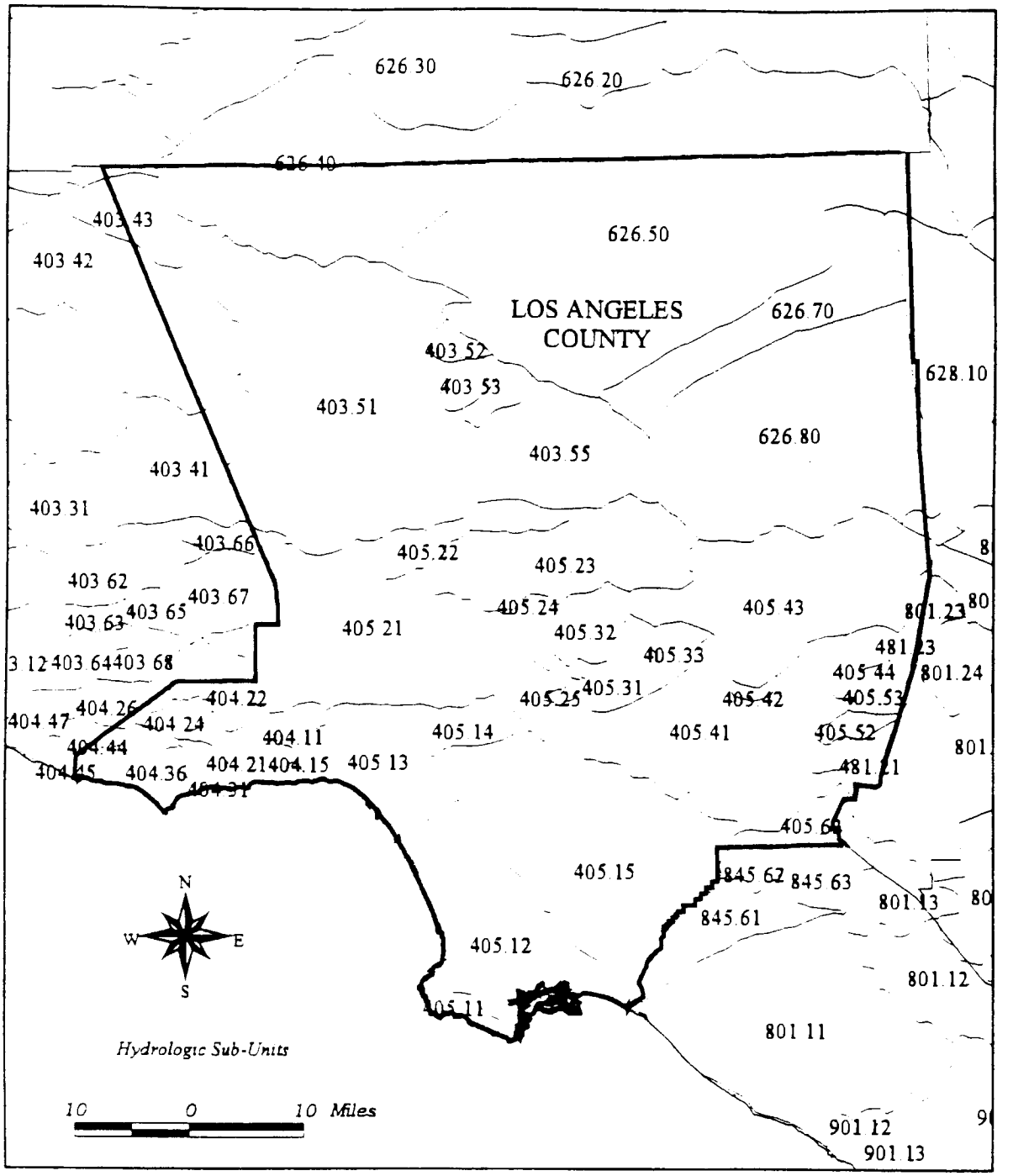
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Los Angeles County
Figure B-5b



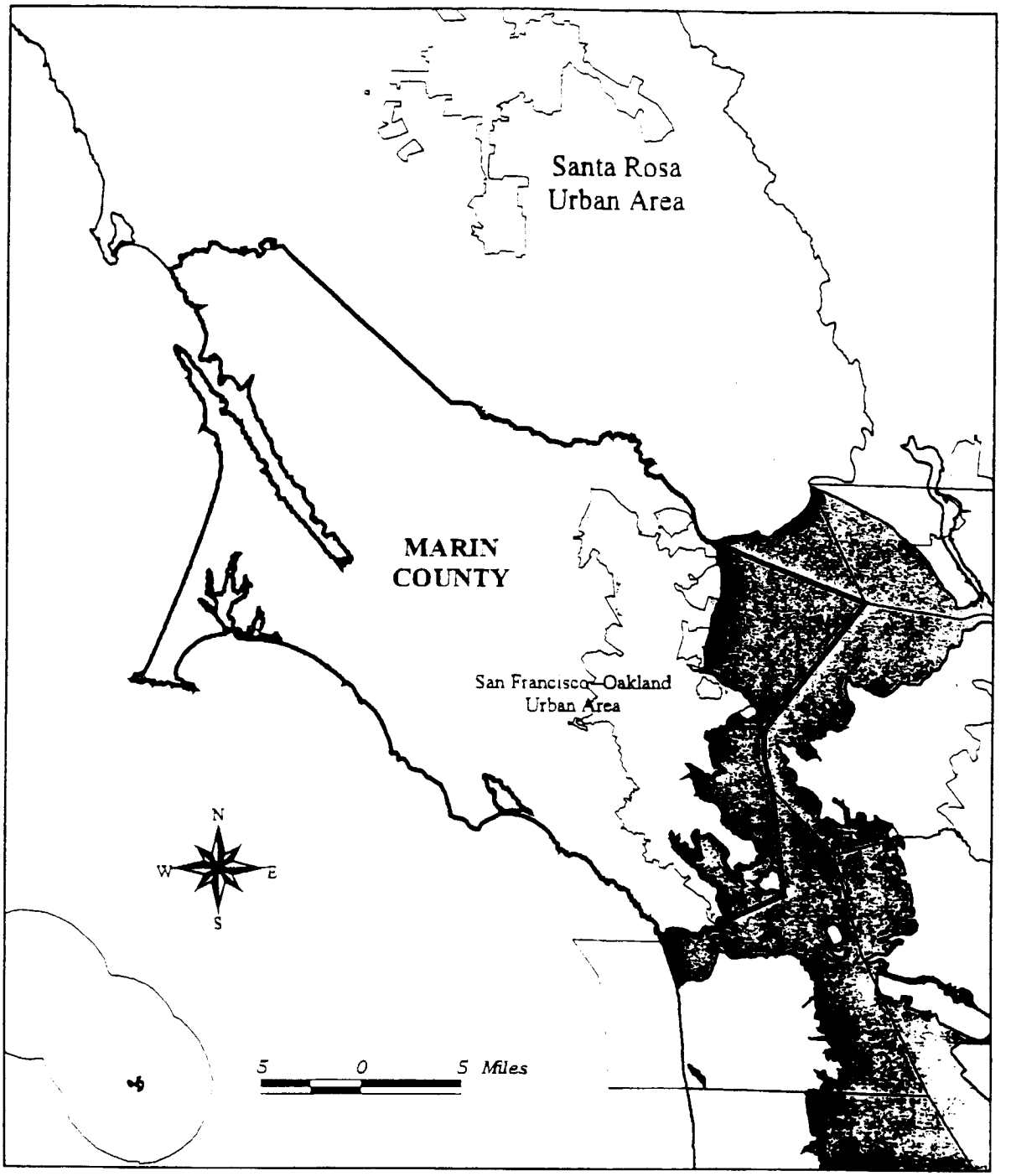
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Los Angeles Drainage Basins
Figure B-5c



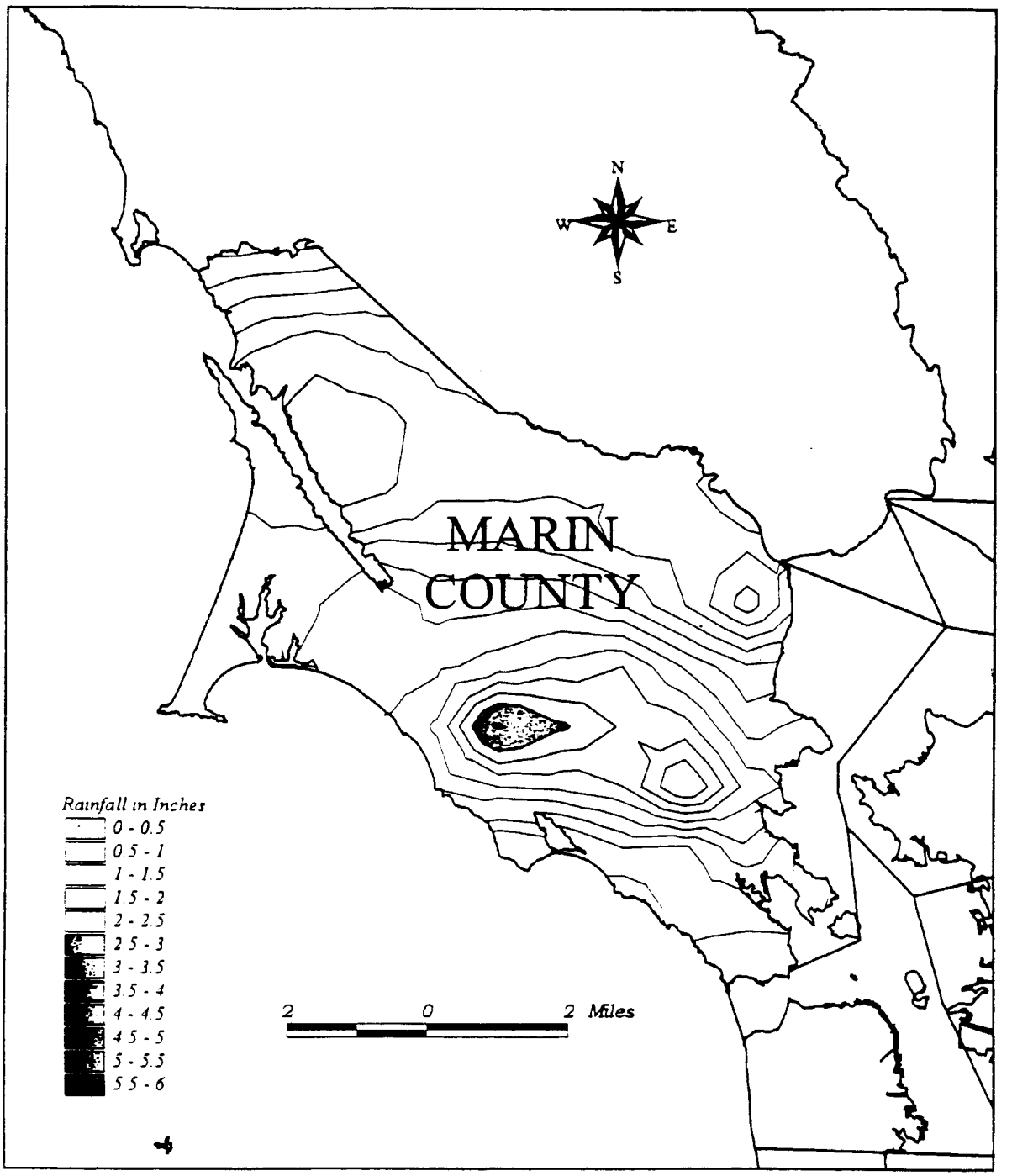
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Los Angeles County
Figure B-5d



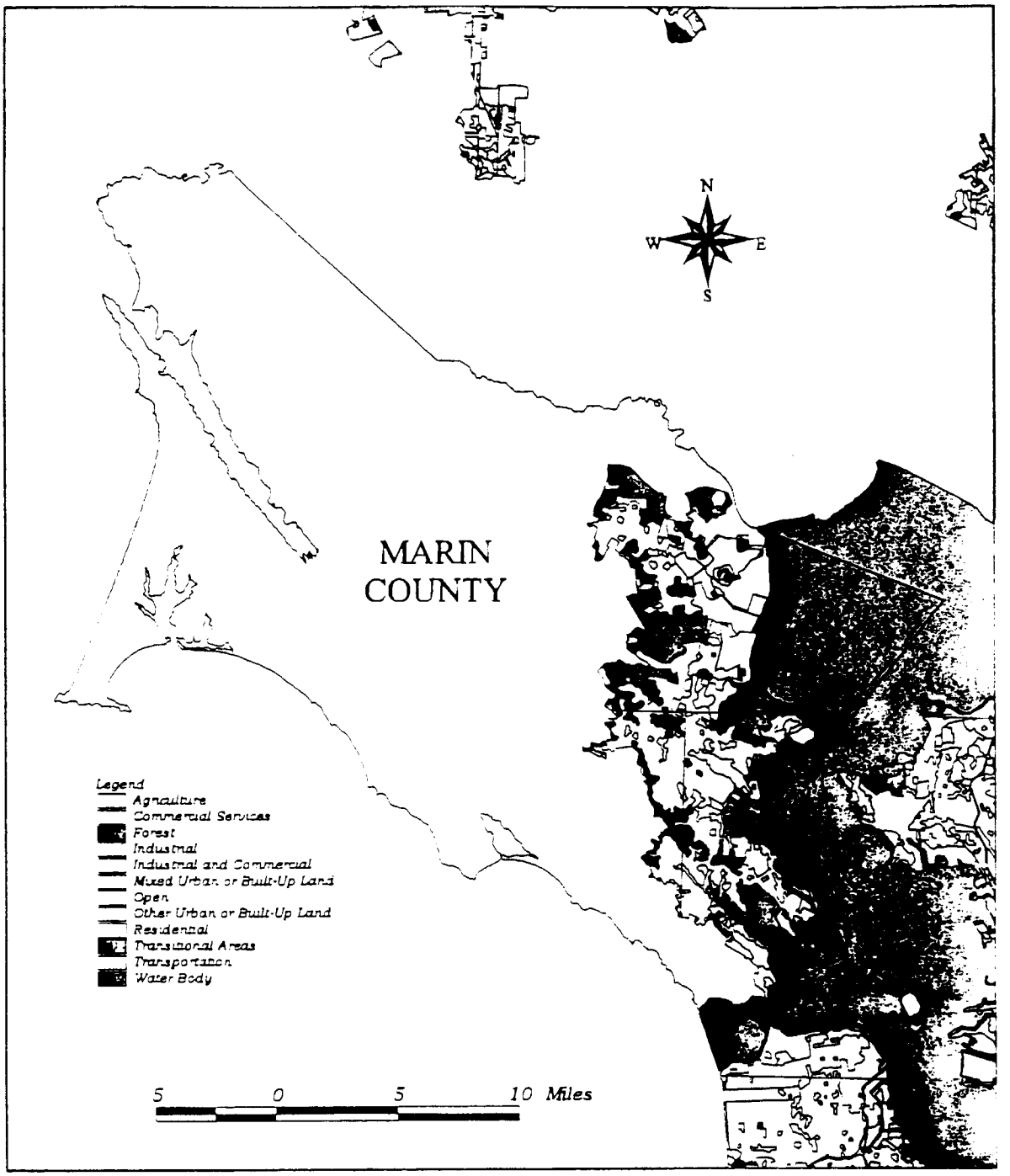
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Marin County
Figure B-6a



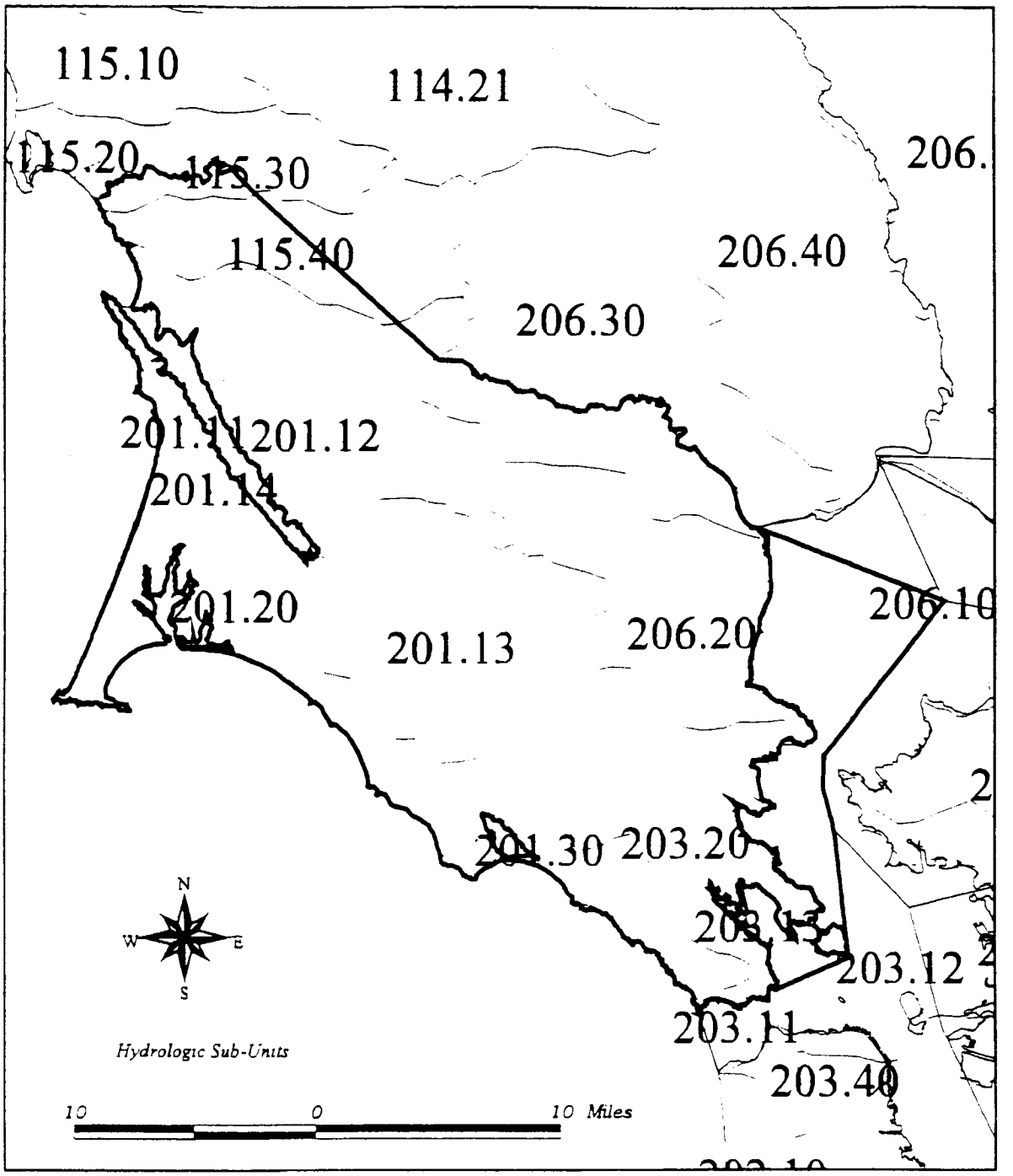
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Marin County
Figure B-6b



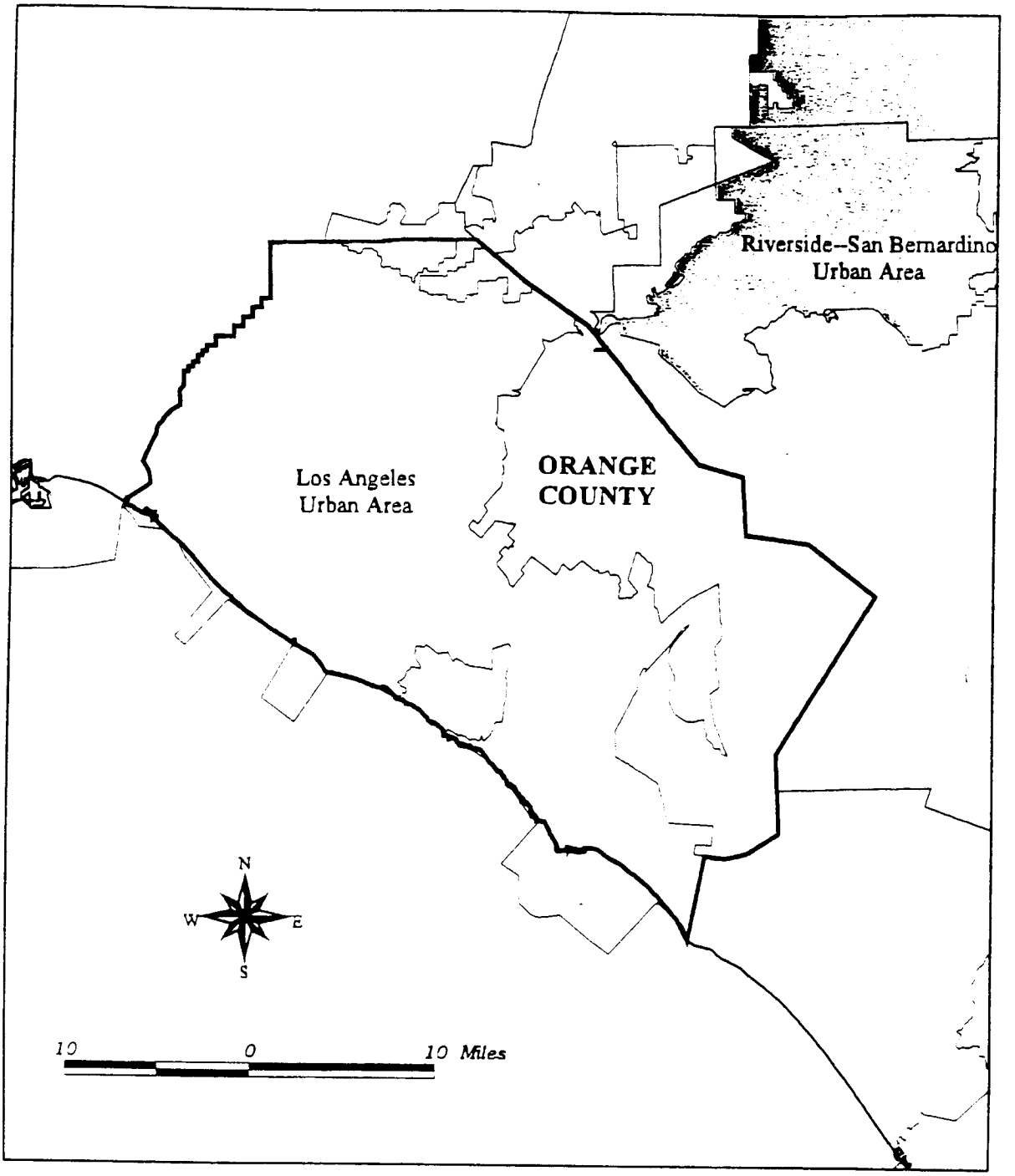
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Marin County
Figure B-6c



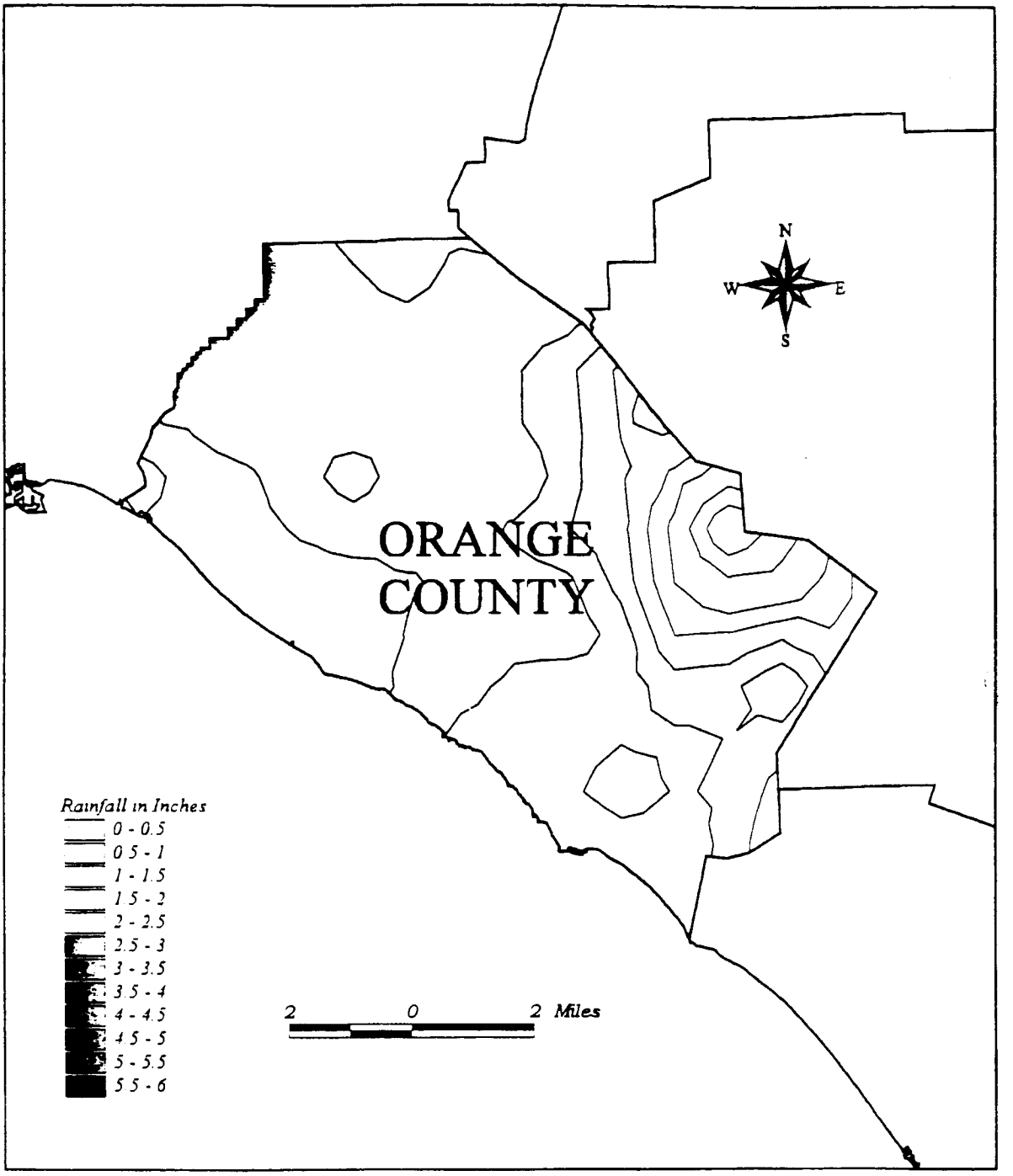
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Marin County
Figure B-6d



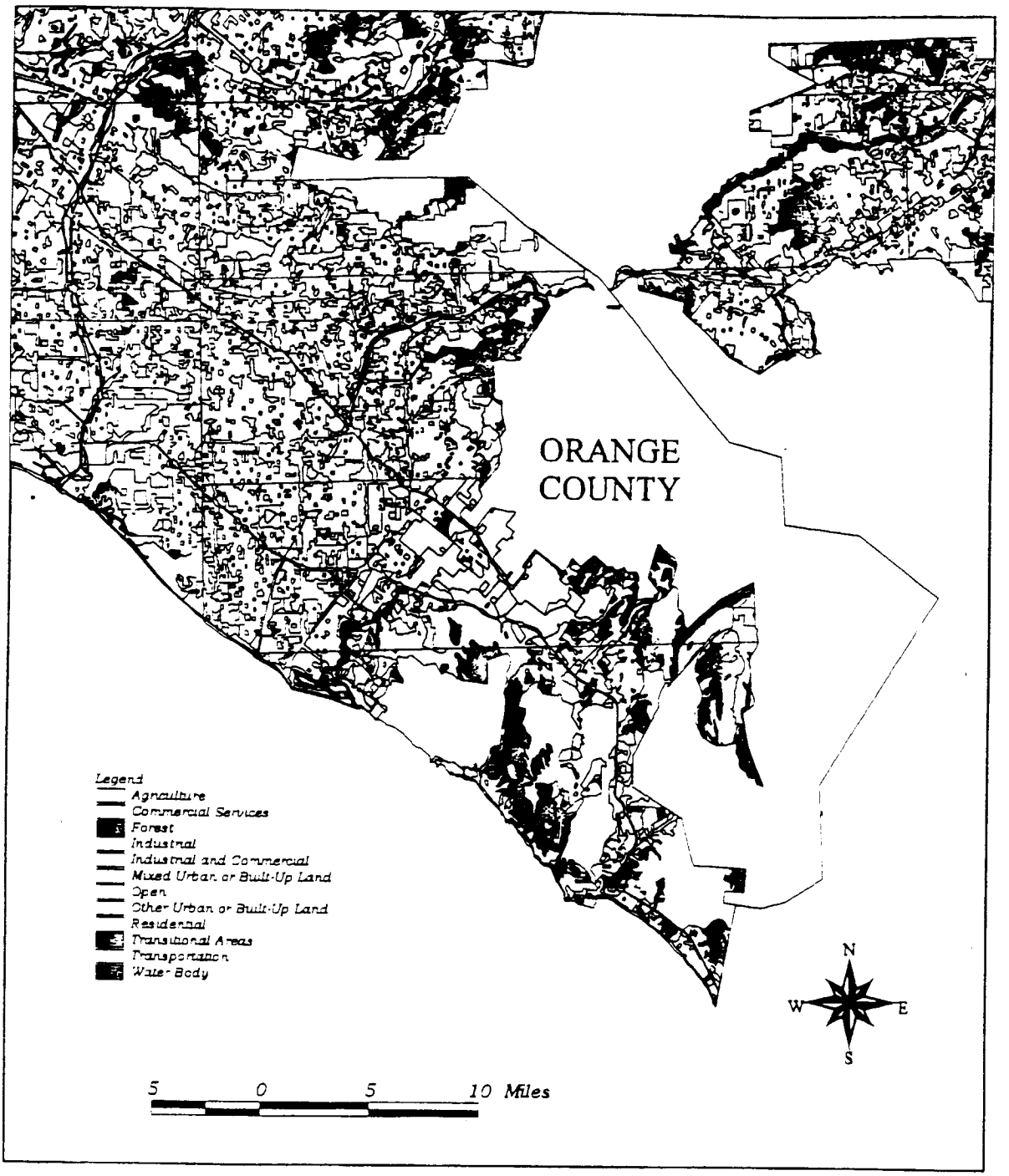
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Orange County
Figure B-7a



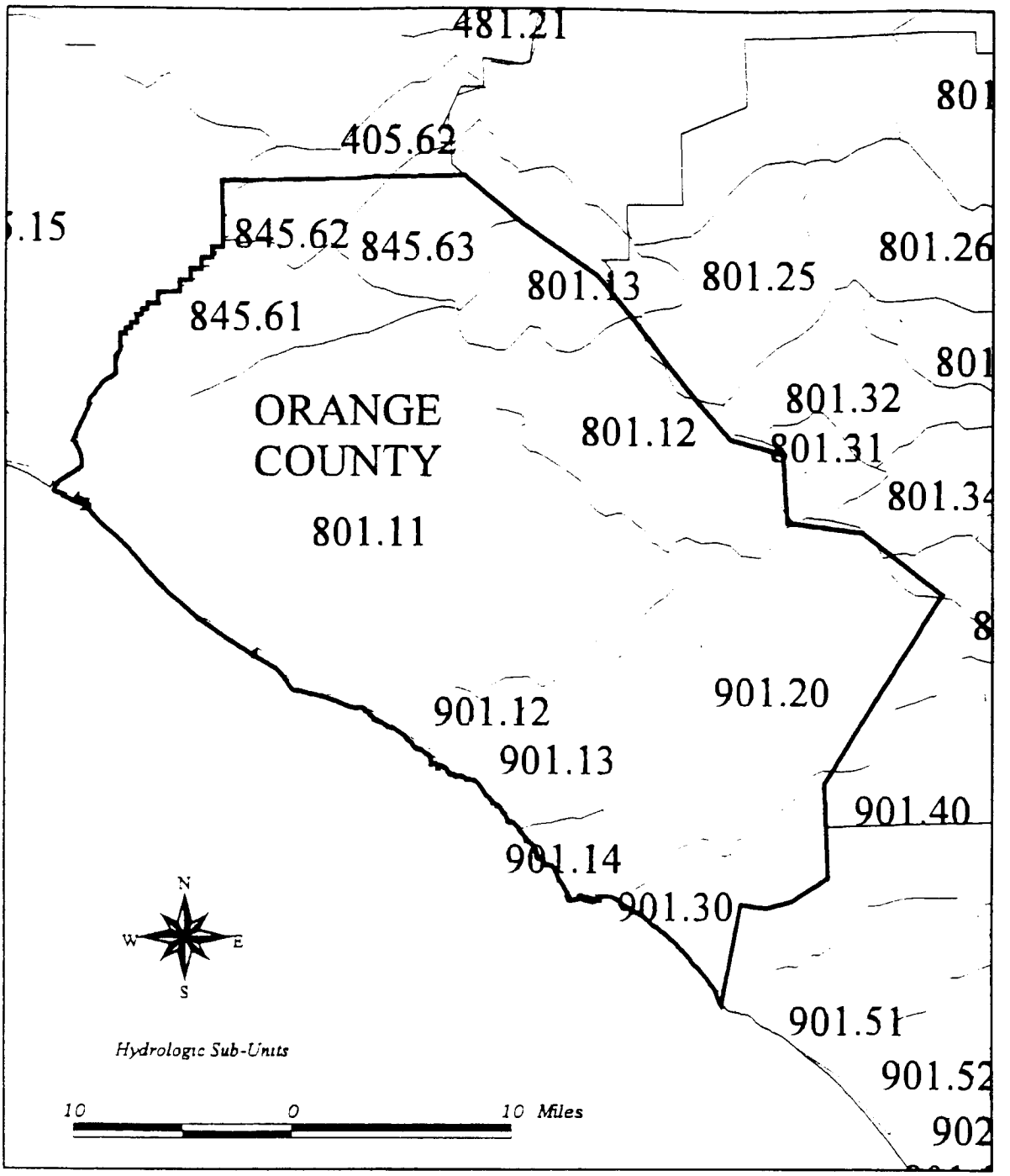
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Orange County
Figure B-7b



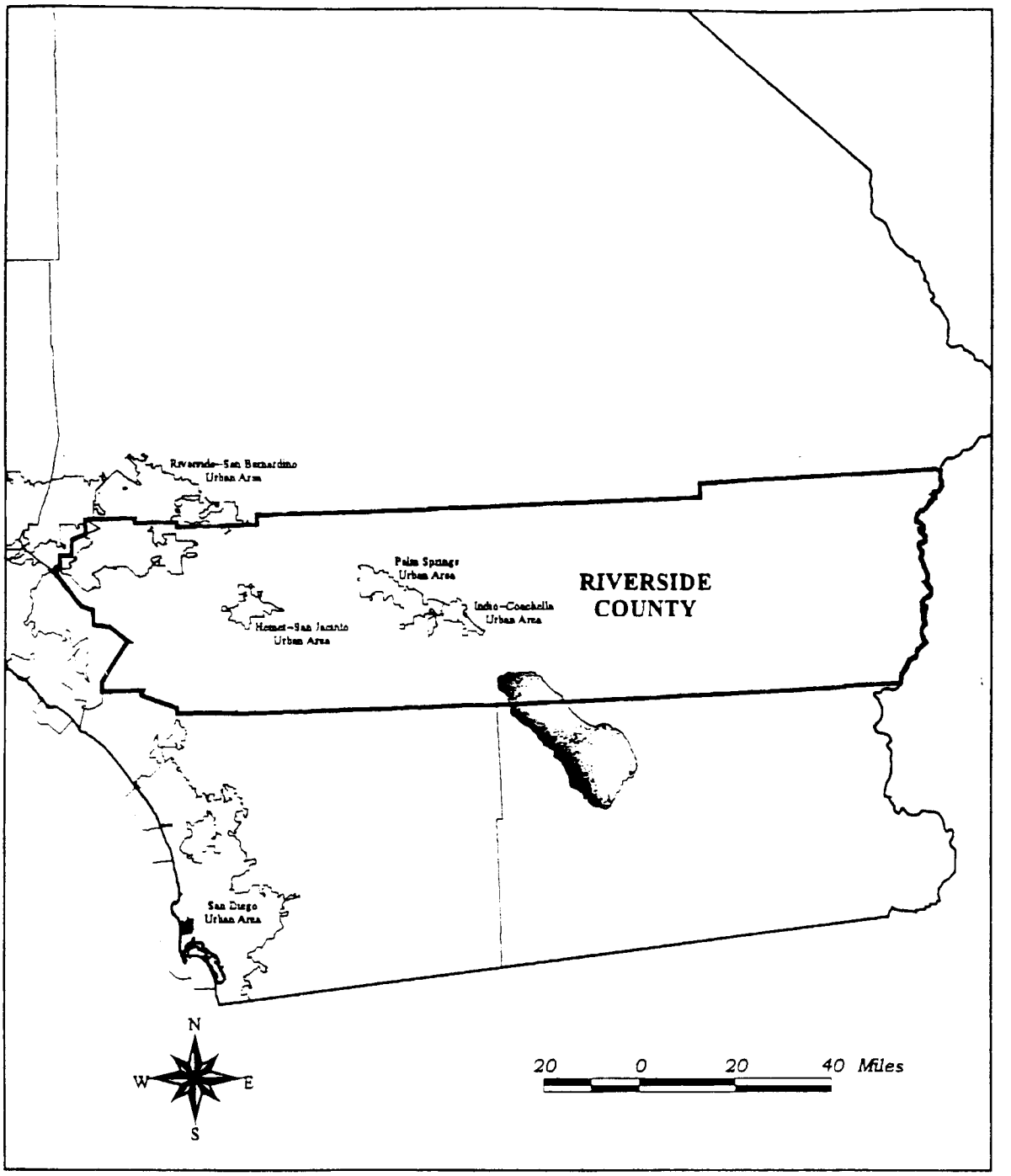
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Orange County
Figure B-7c



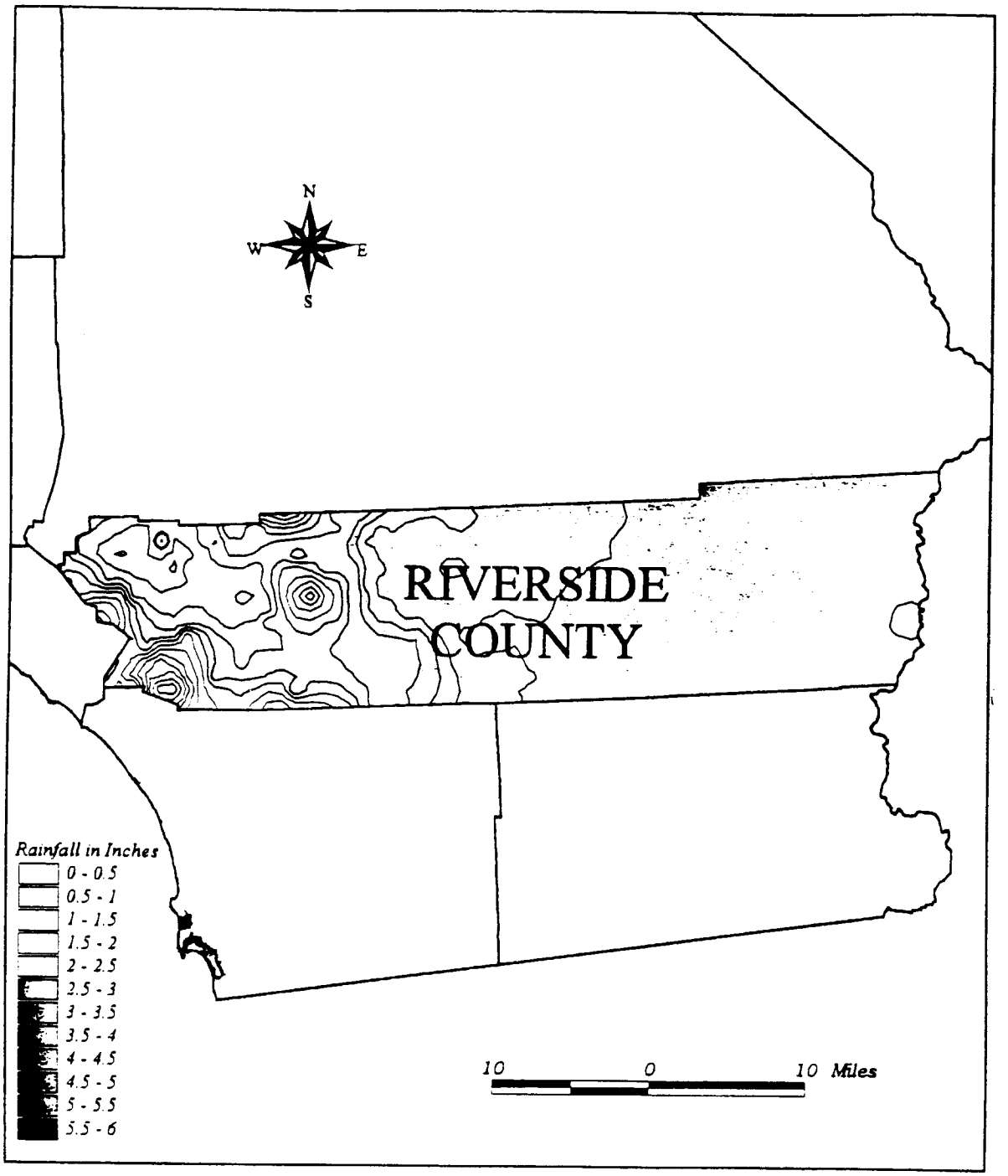
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Orange County
Figure B-7d



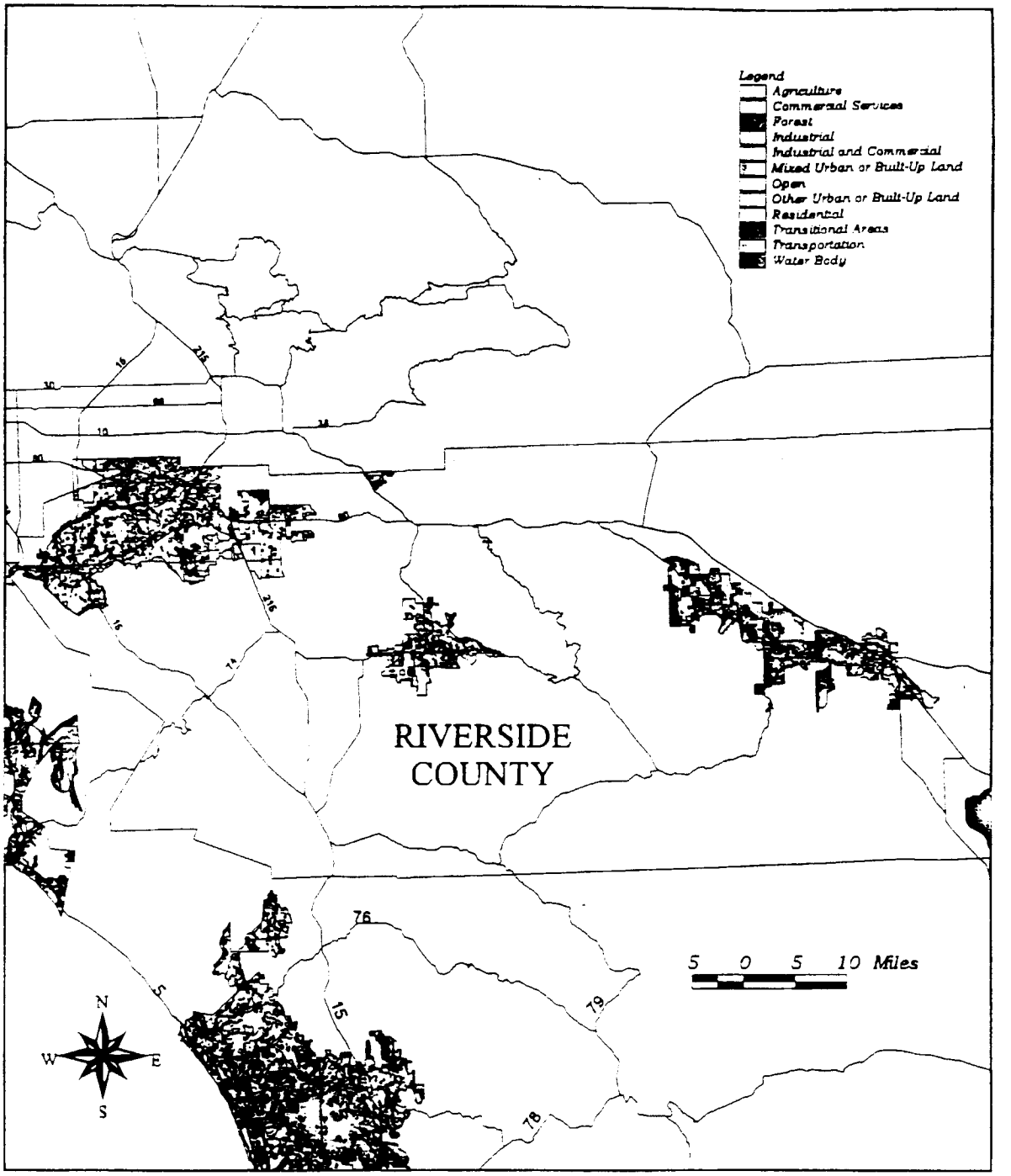
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Riverside County
Figure B-8a



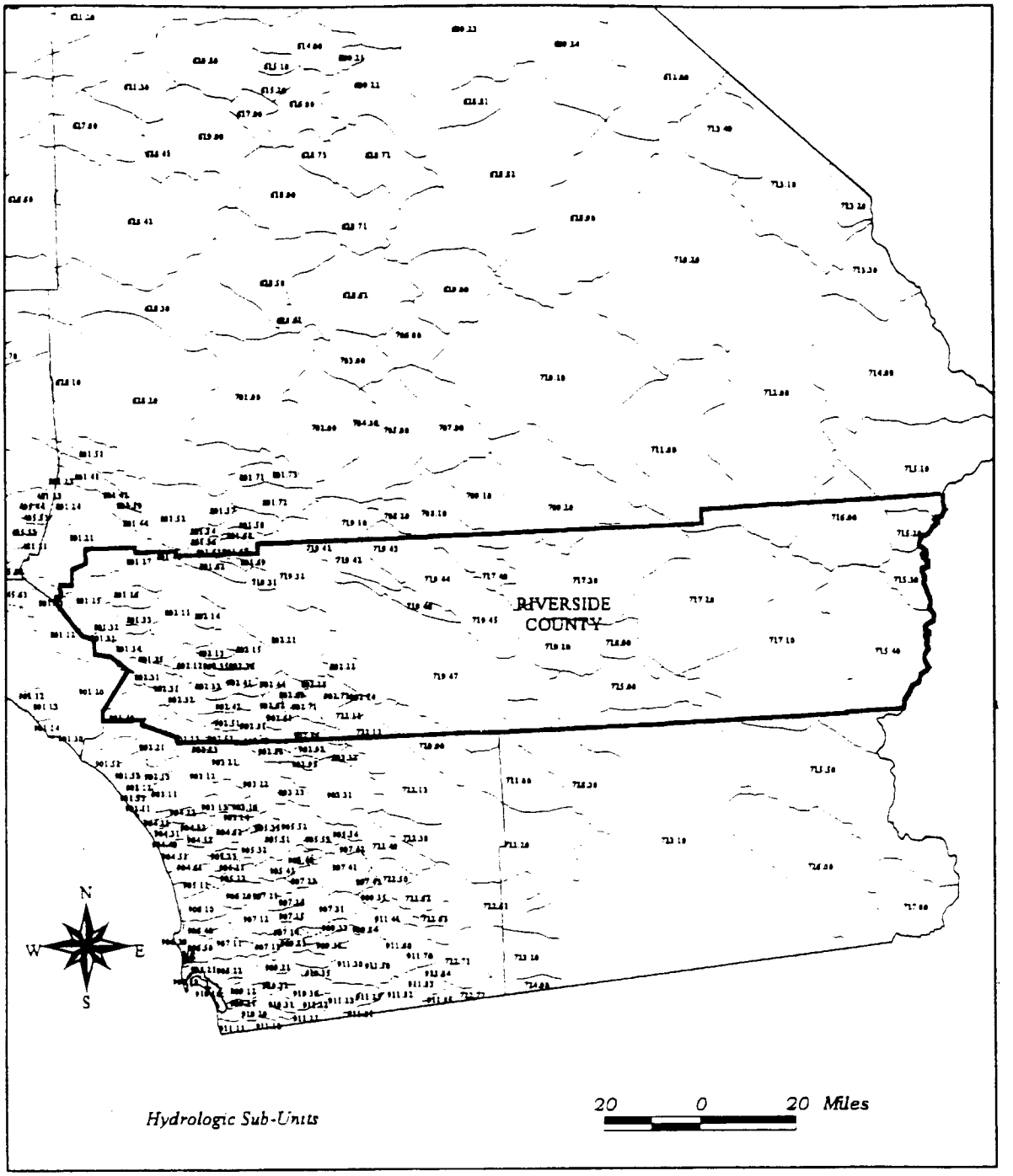
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Riverside County
Figure B-8b



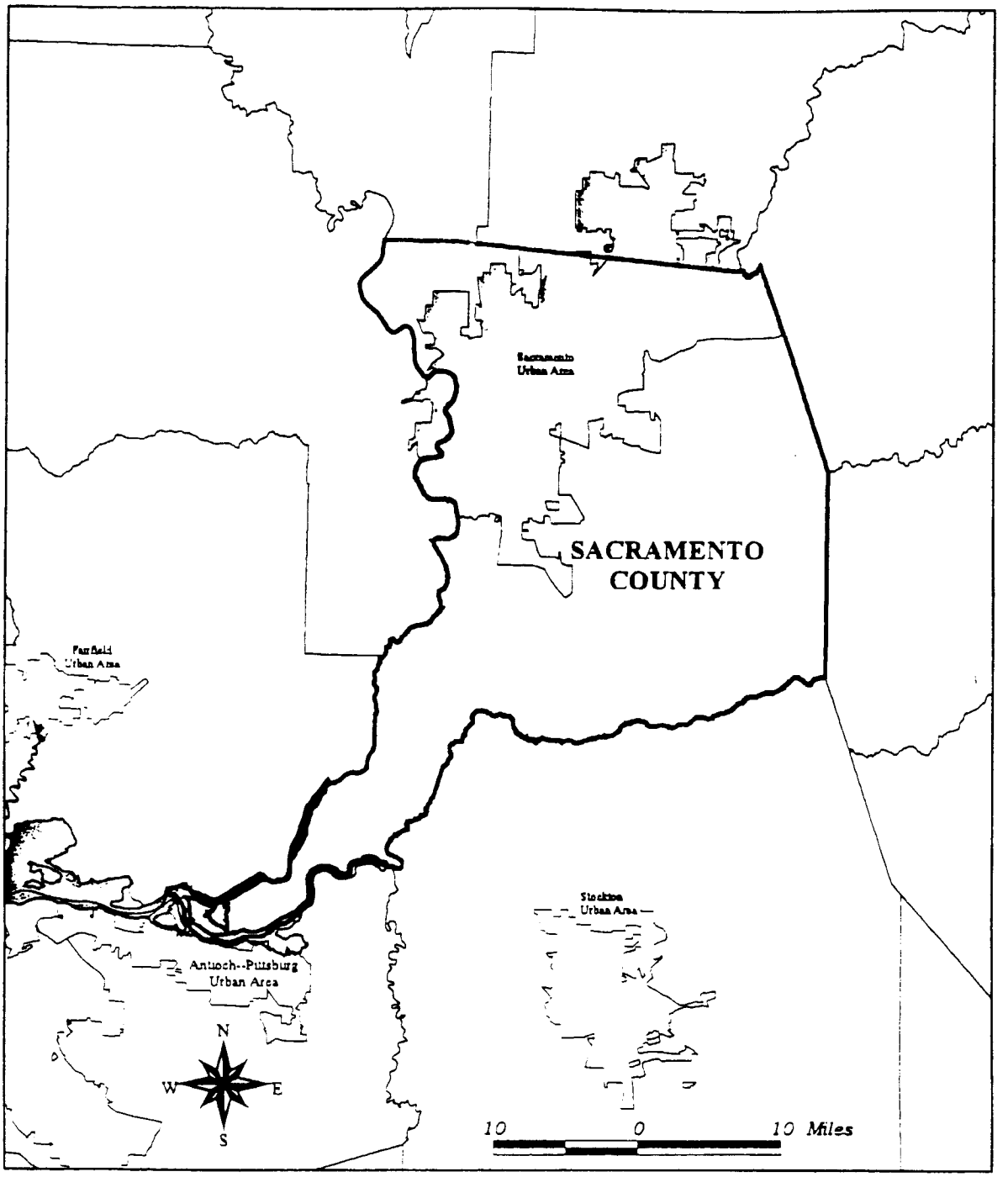
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Riverside County
Figure B-8c



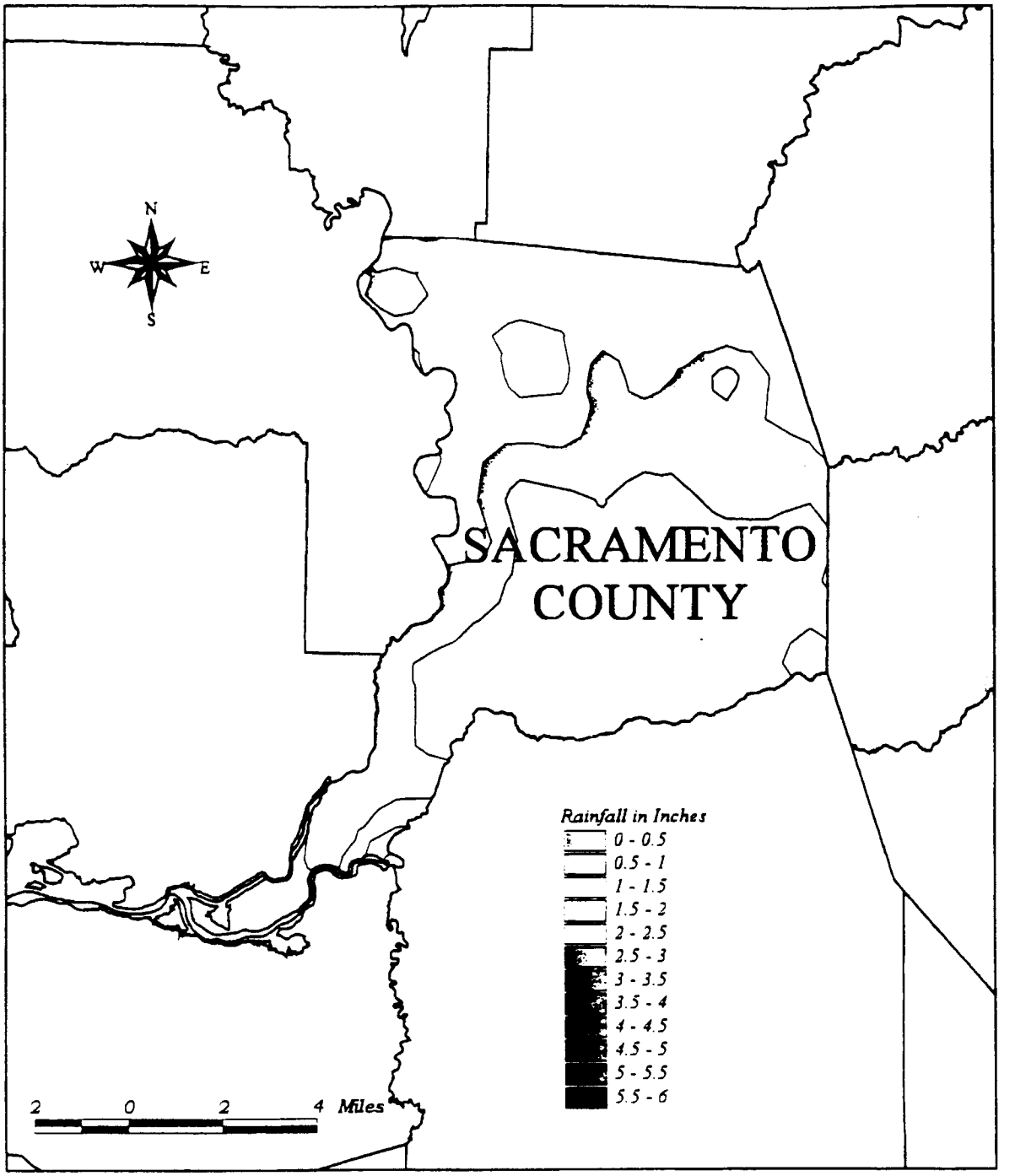
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Riverside County
Figure B-8d



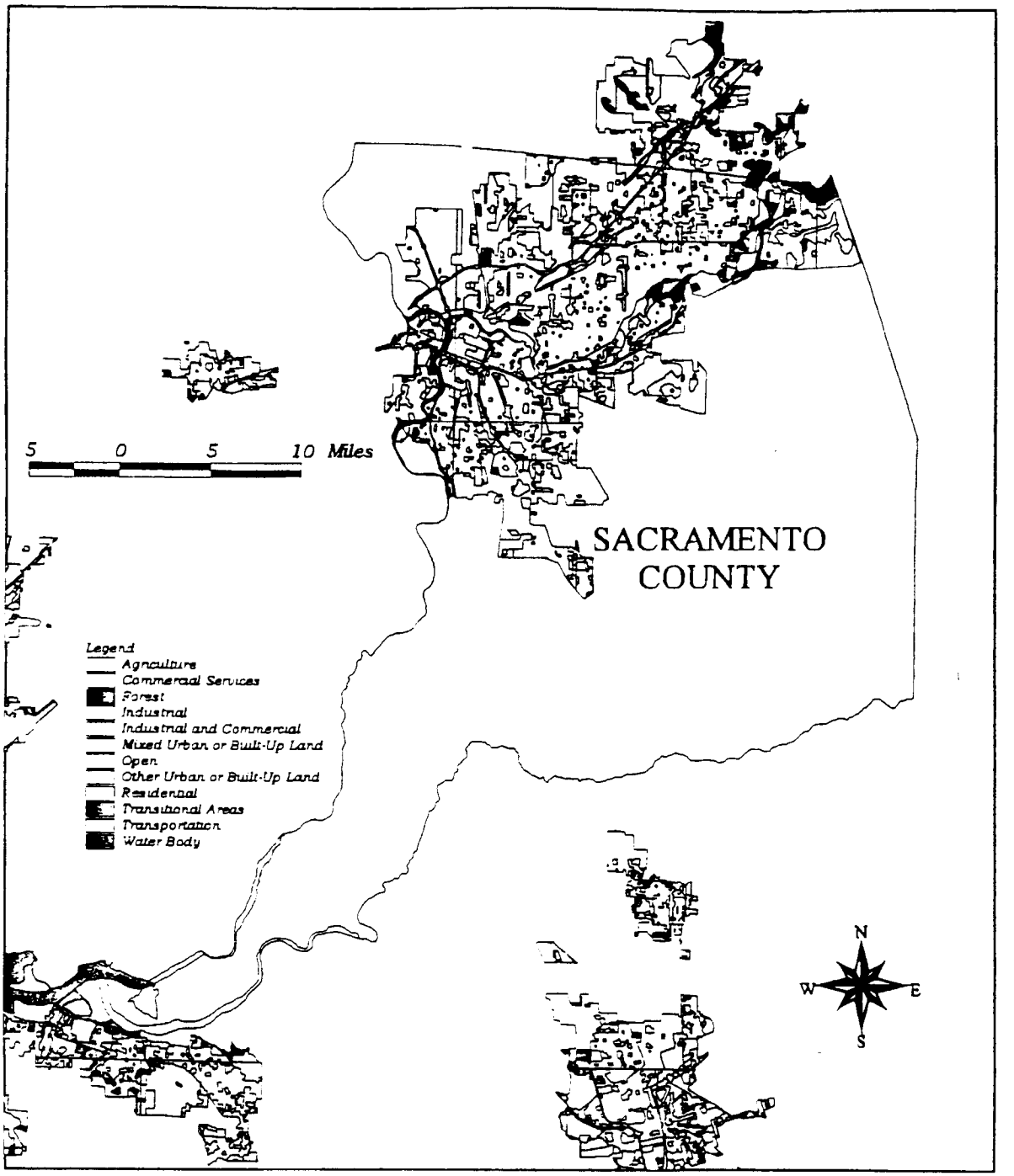
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Sacramento County
Figure B-9a



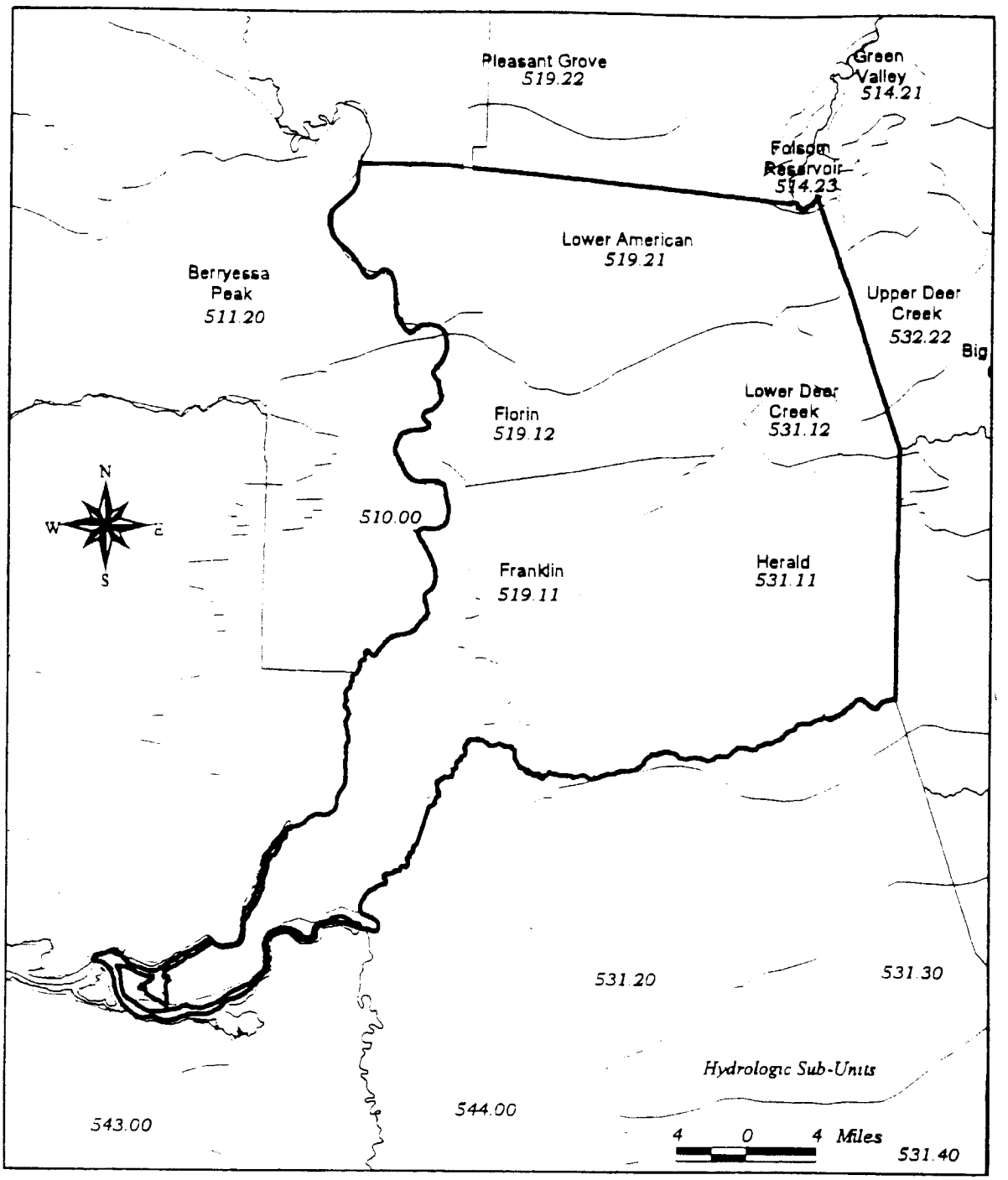
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Sacramento County
Figure B-9b



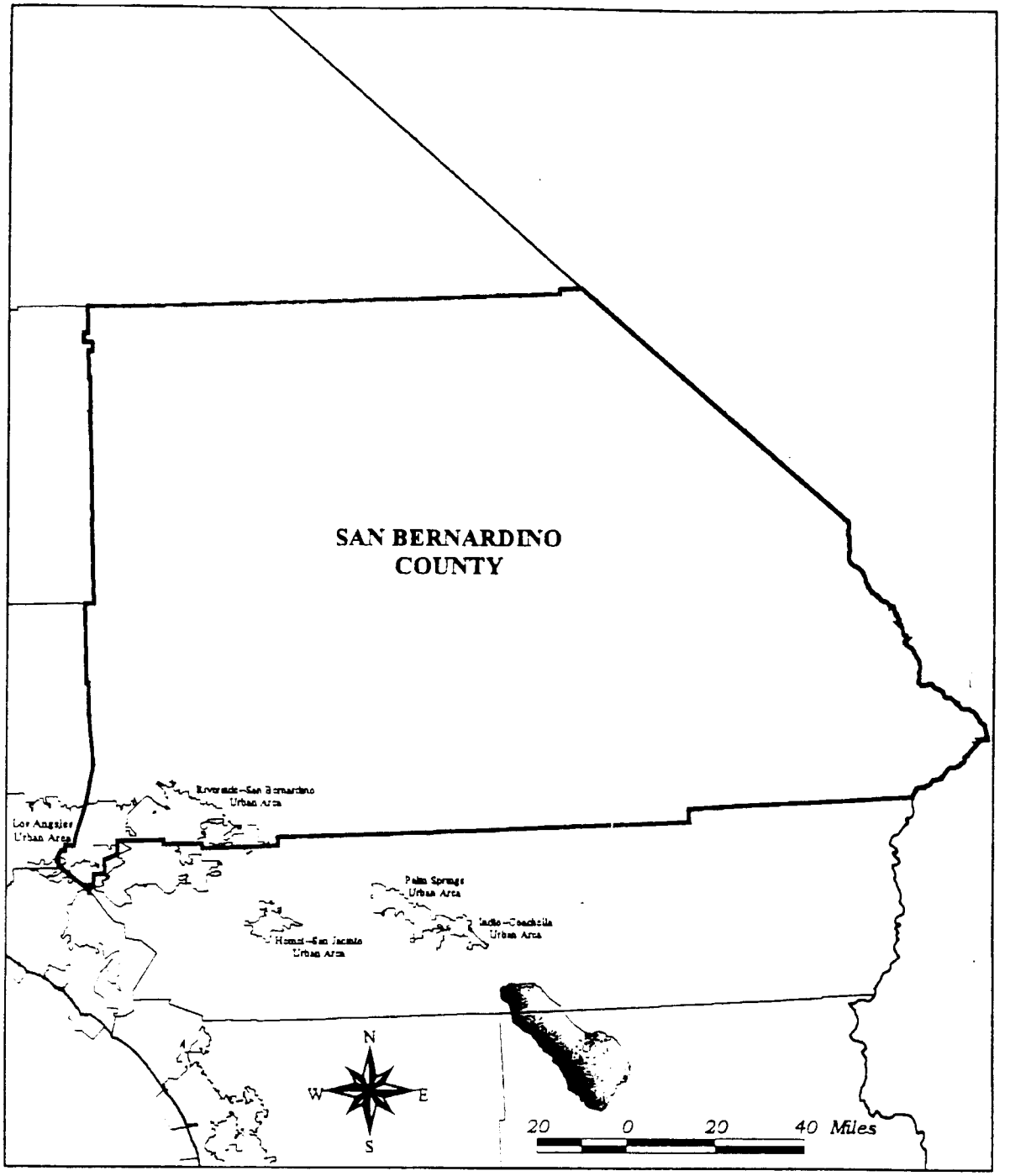
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Sacramento County
Figure B-9c



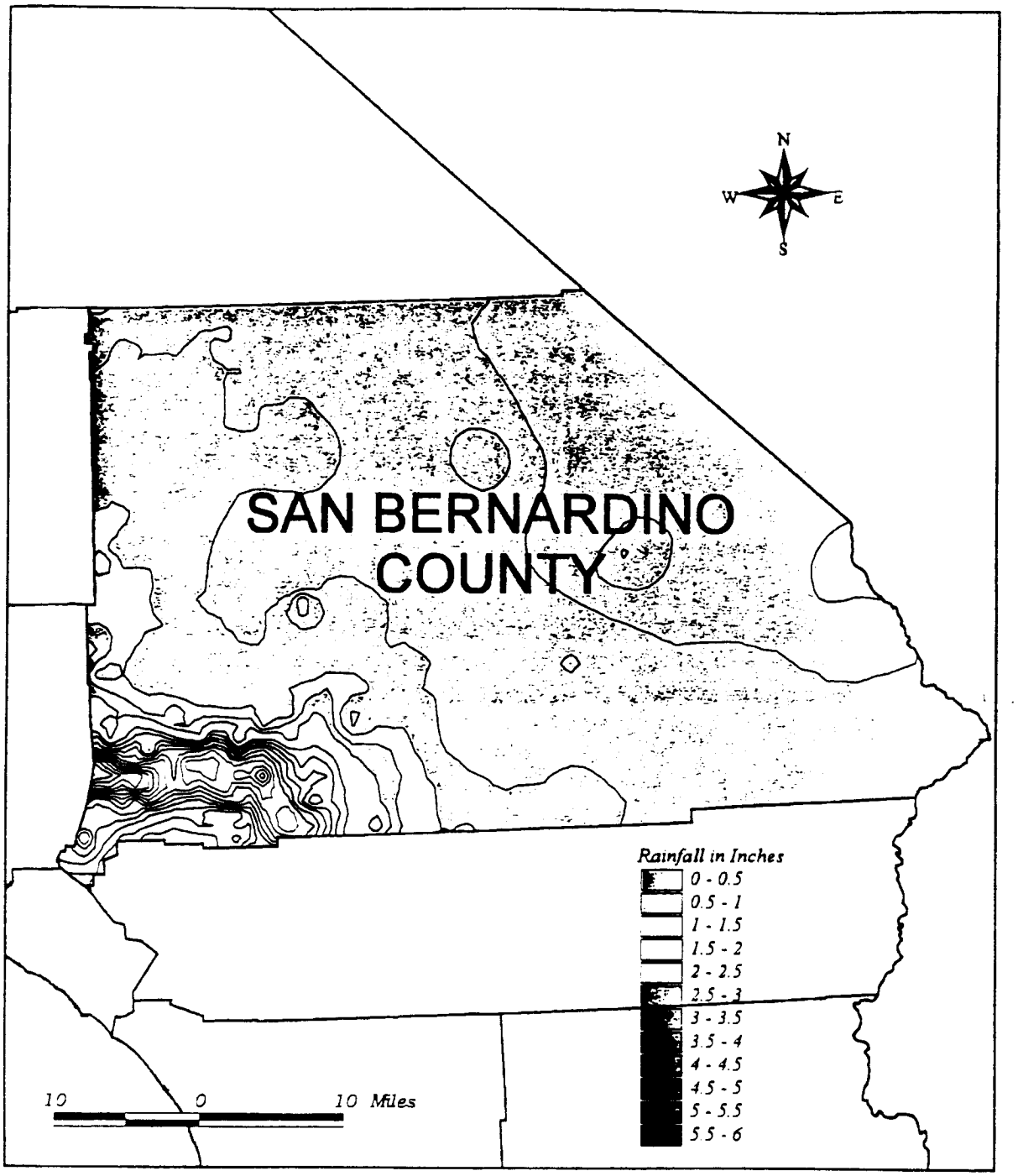
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Sacramento County
Figure B-9d



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Bernardino County
Figure B-10a

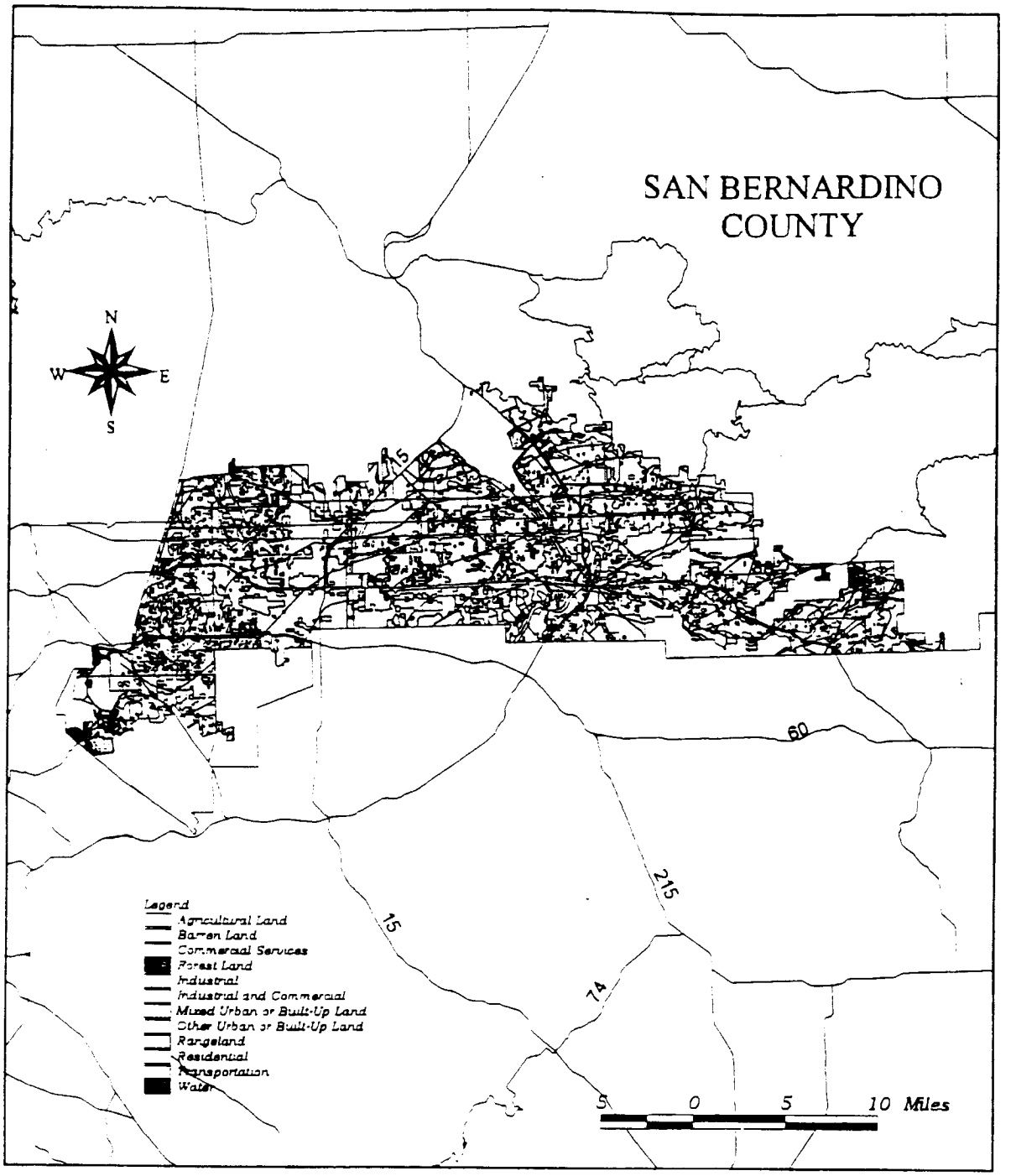


BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas

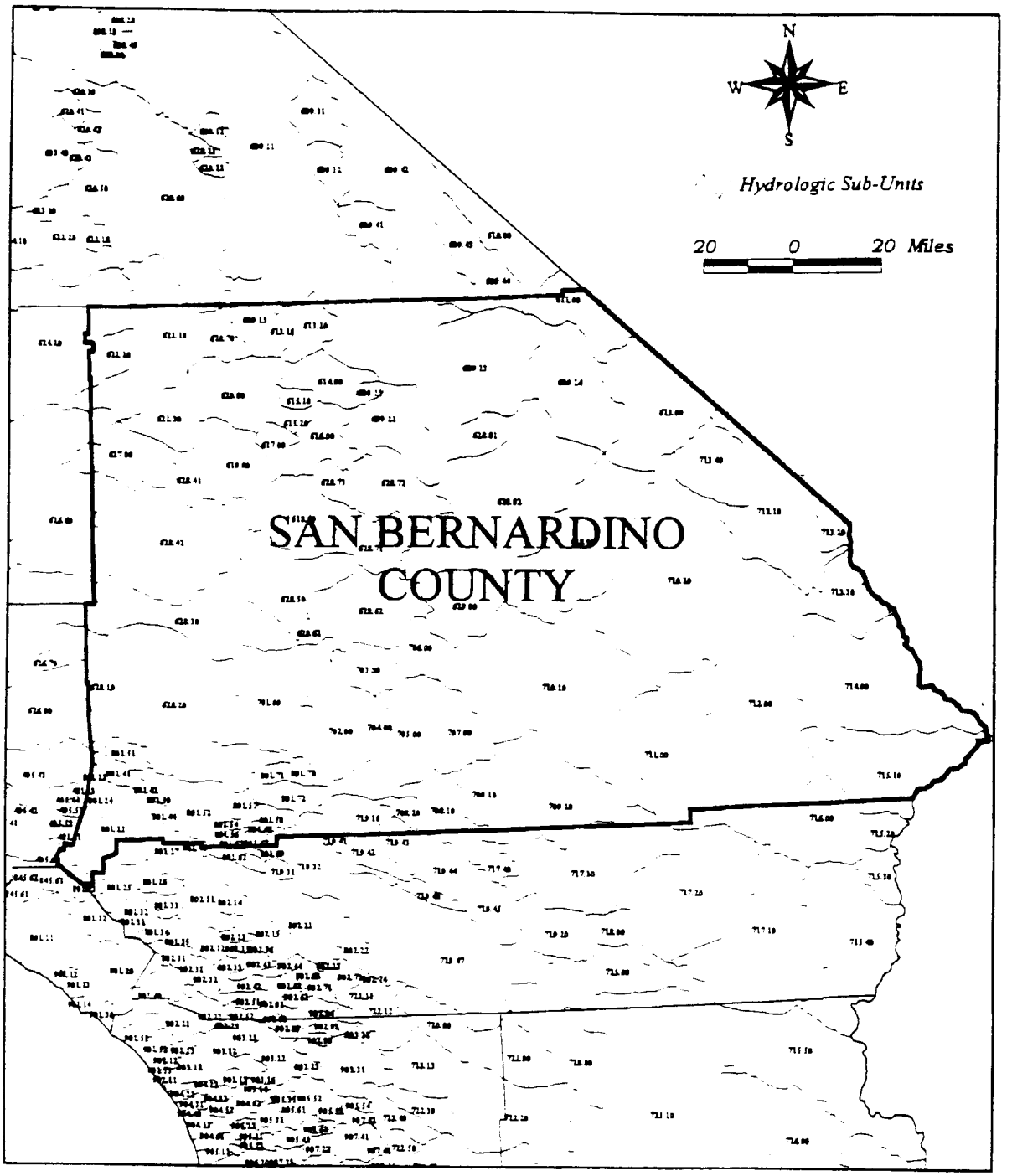
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Bernardino County

Figure B-10b



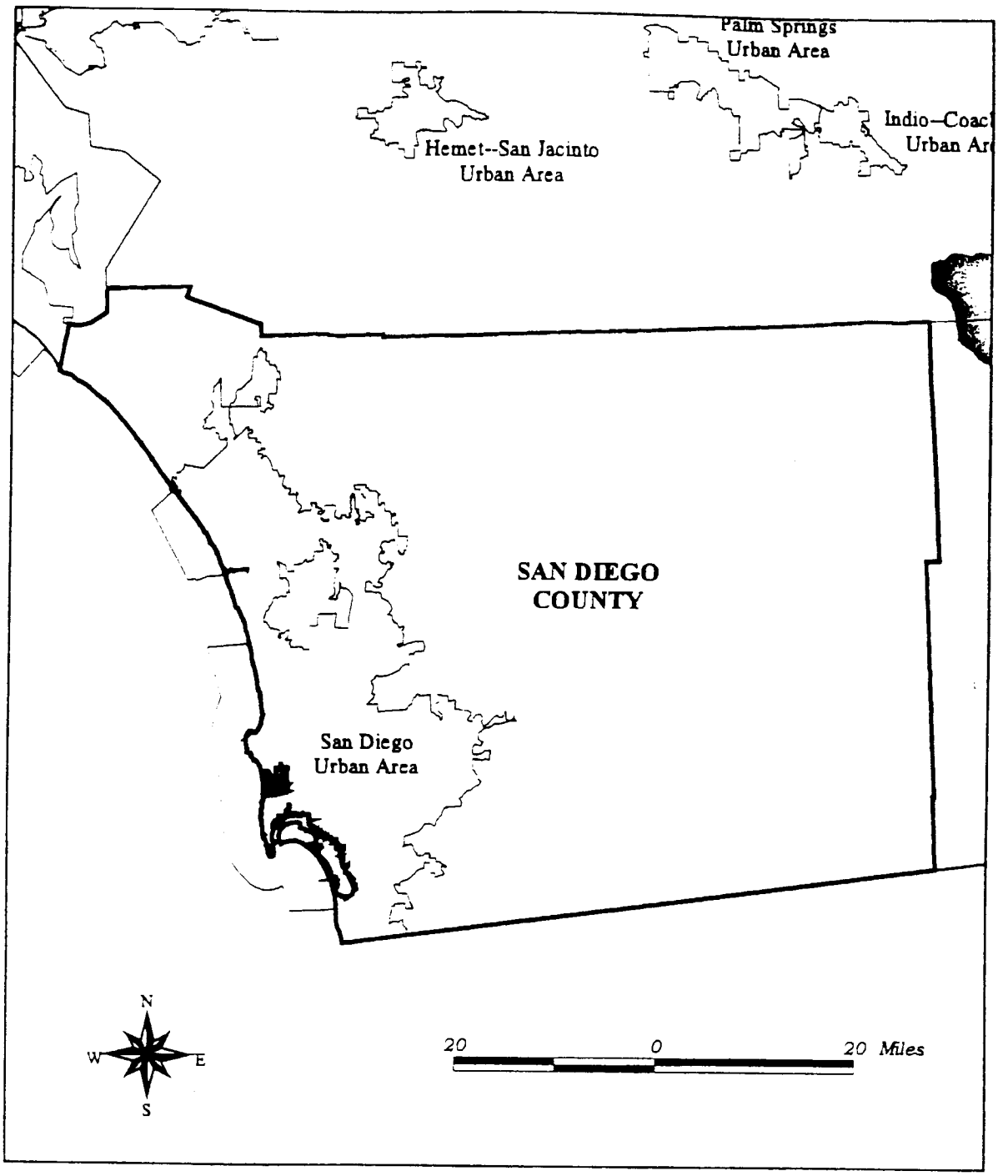
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Bernardino County
Figure B-10c



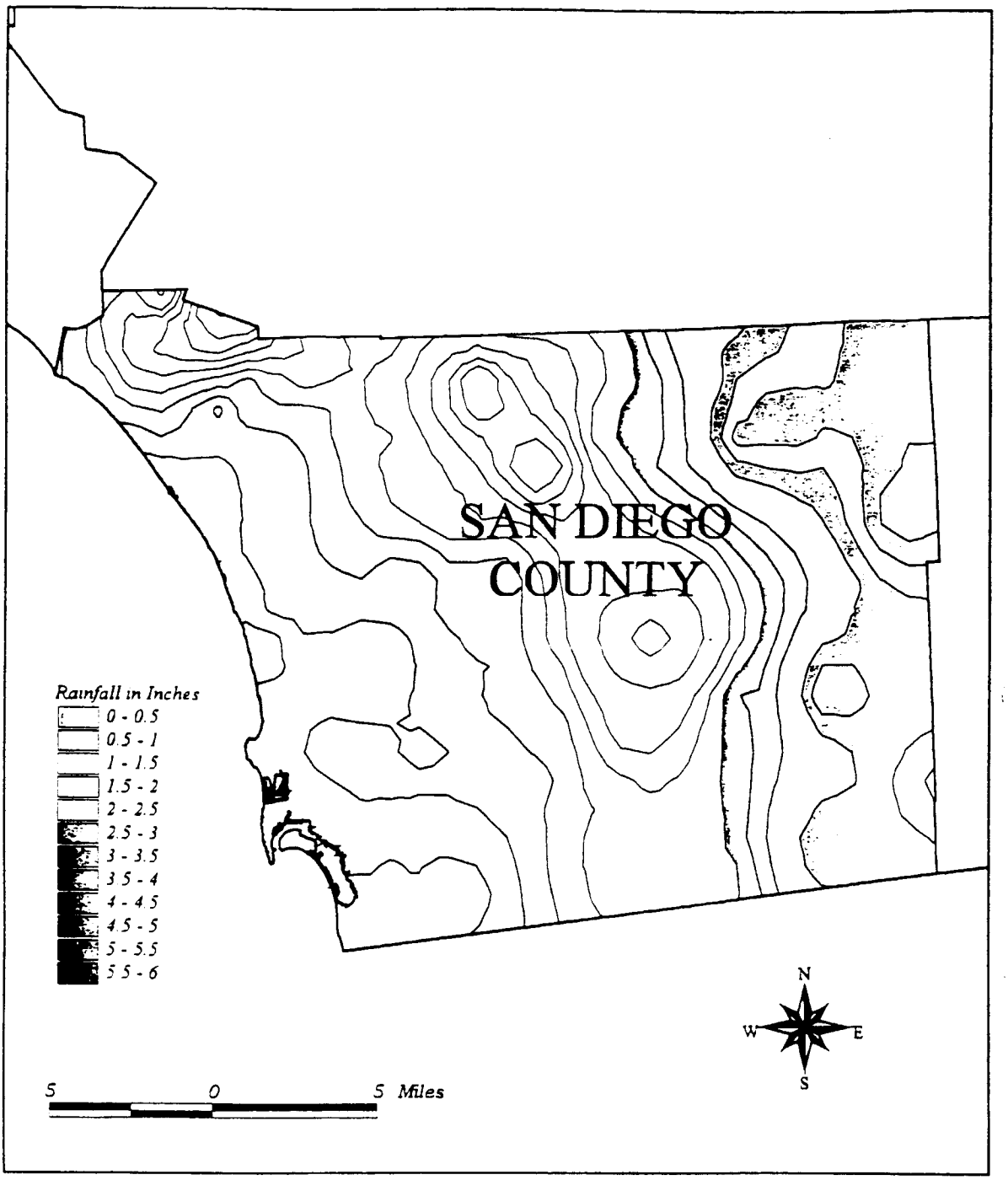
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Bernardino County
Figure B-10d



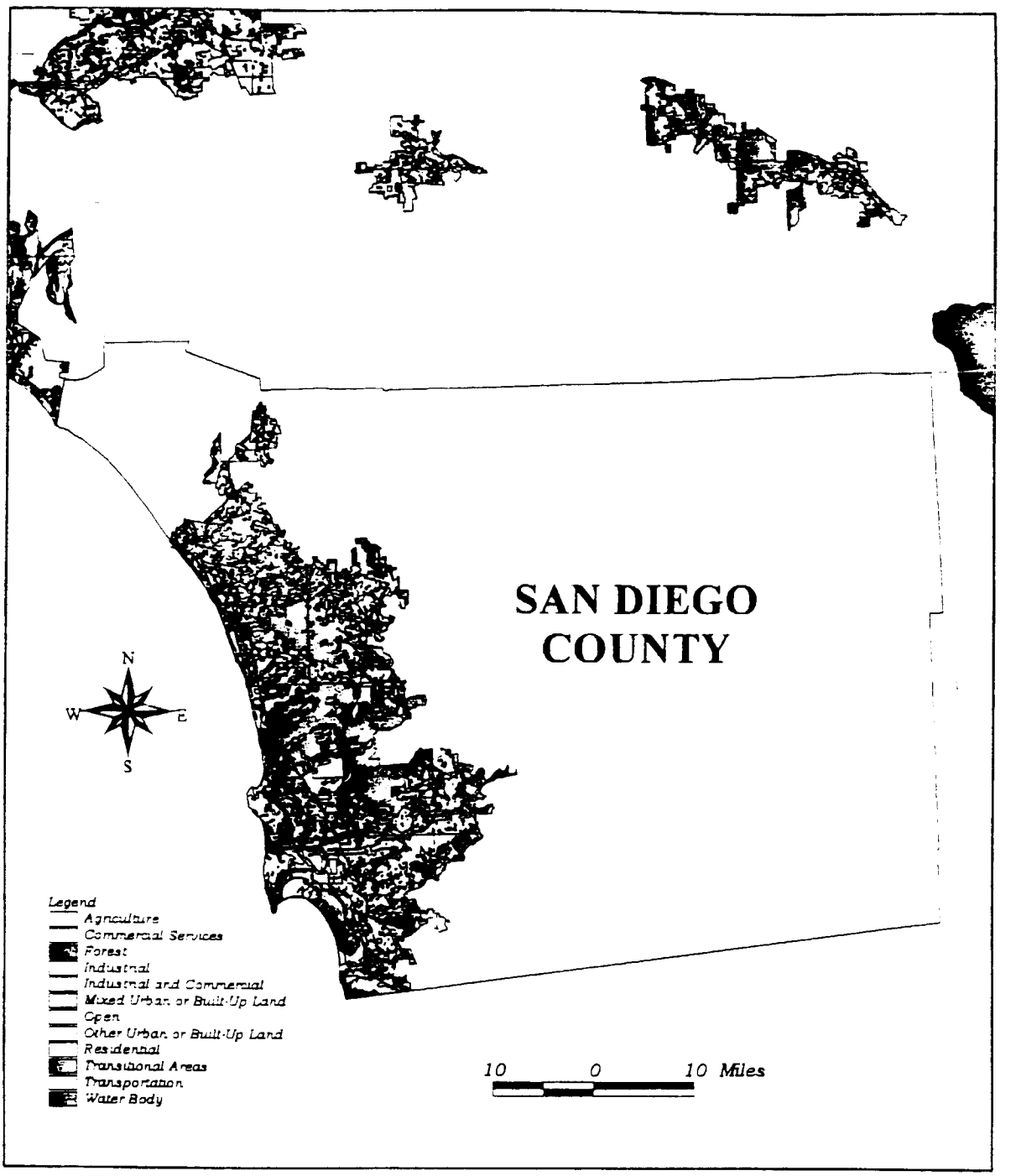
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Diego County
Figure B-11a



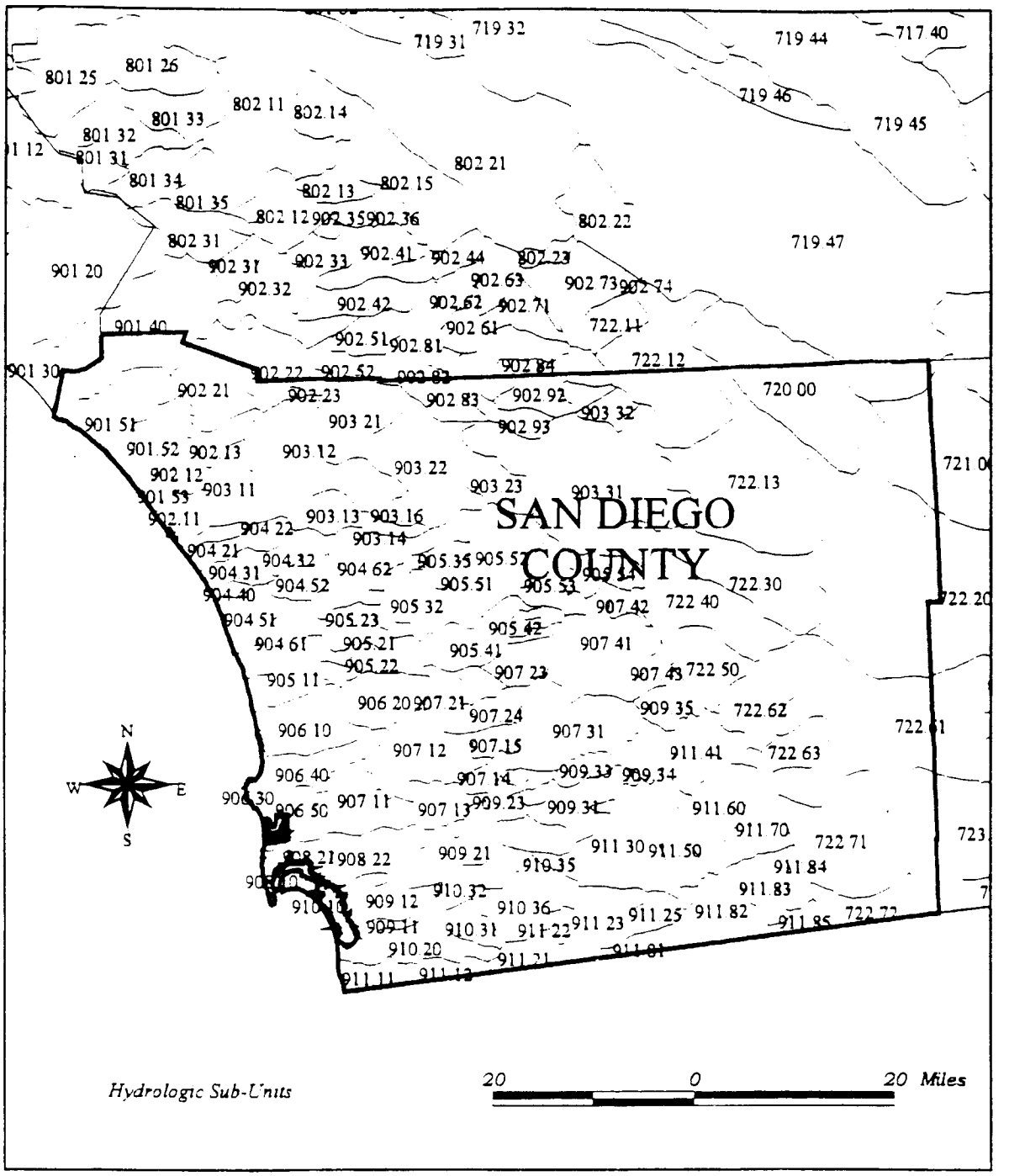
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Diego County
Figure B-11b



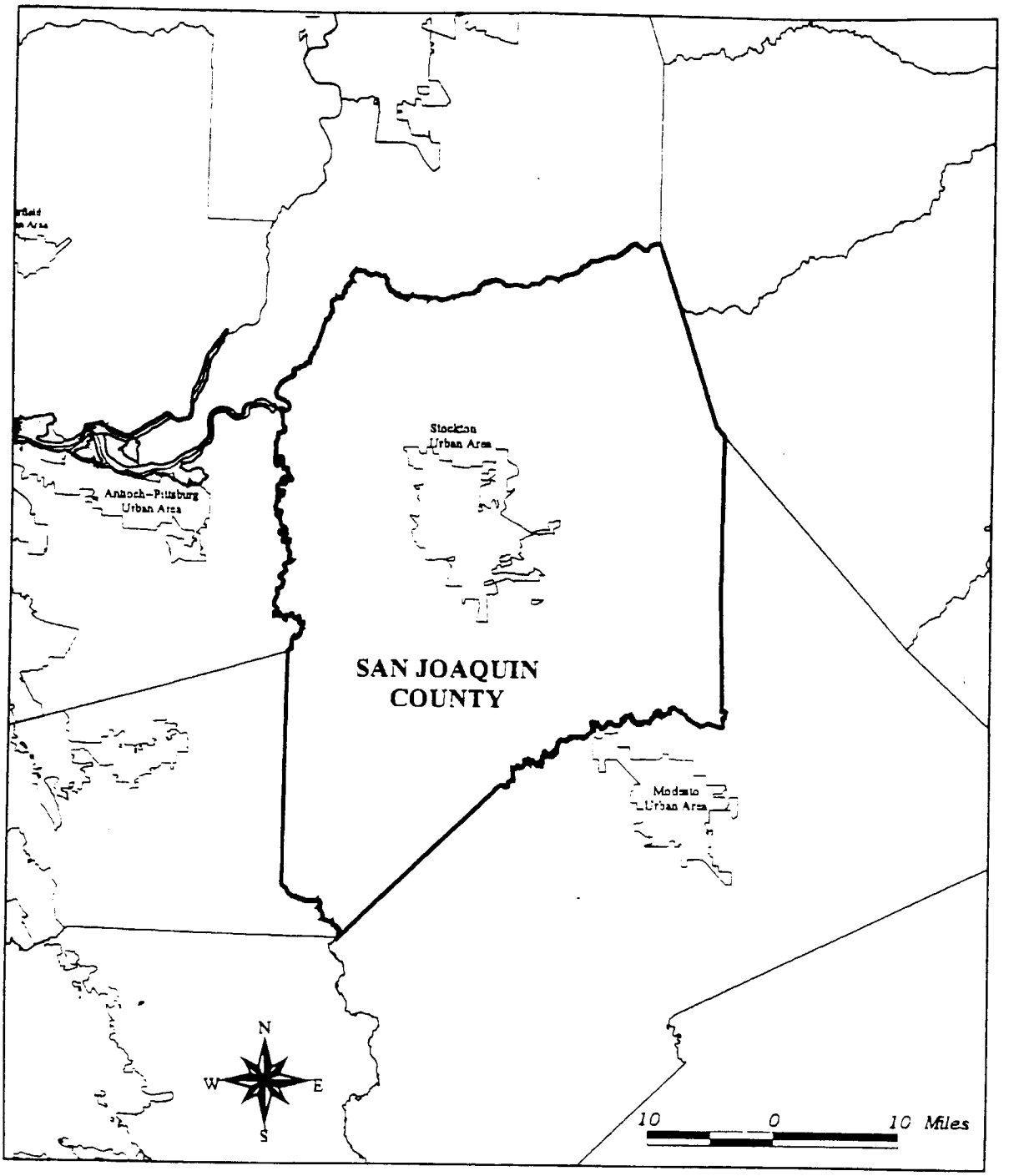
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Diego County
Figure B-11c



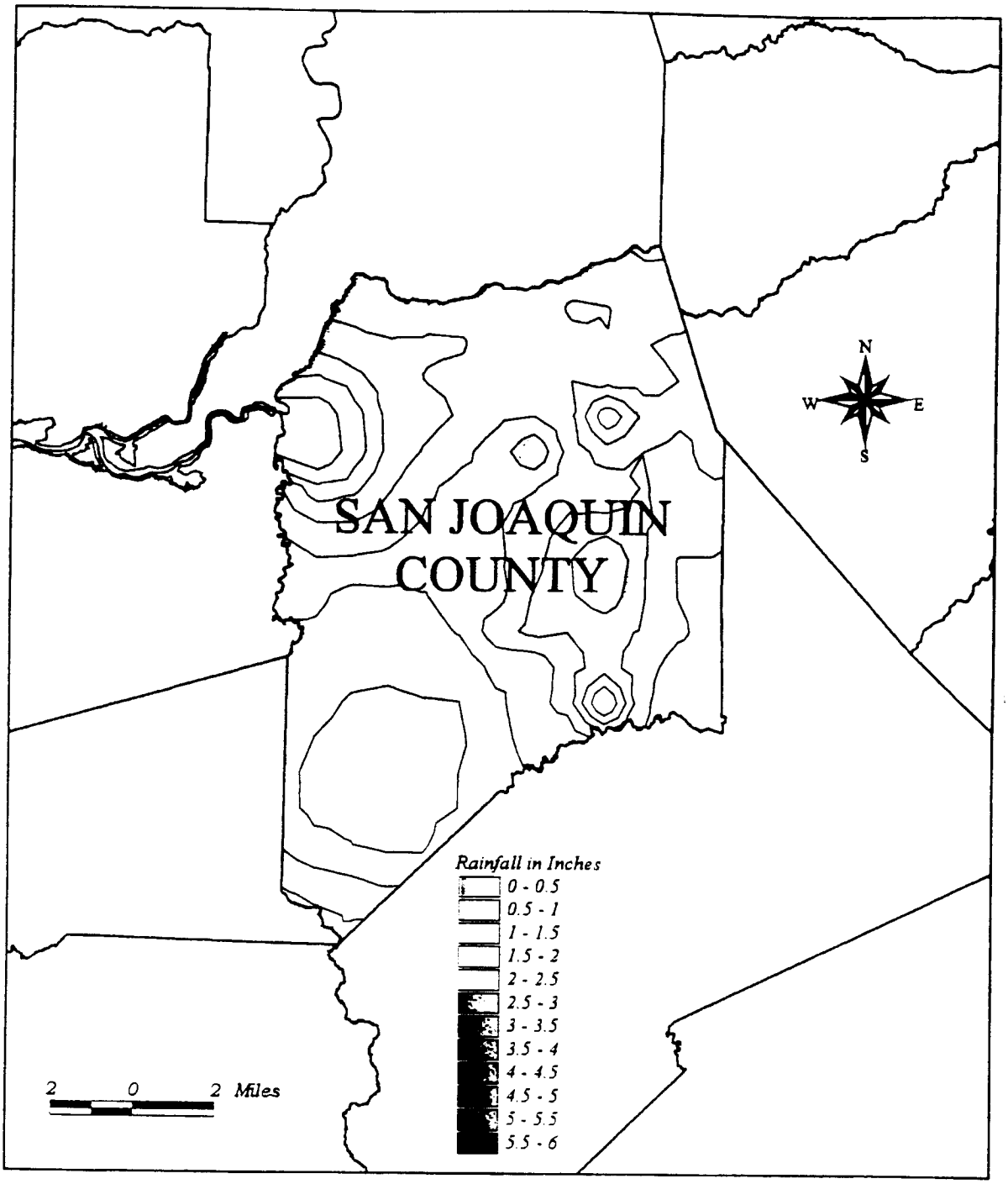
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Diego County
Figure B-11d



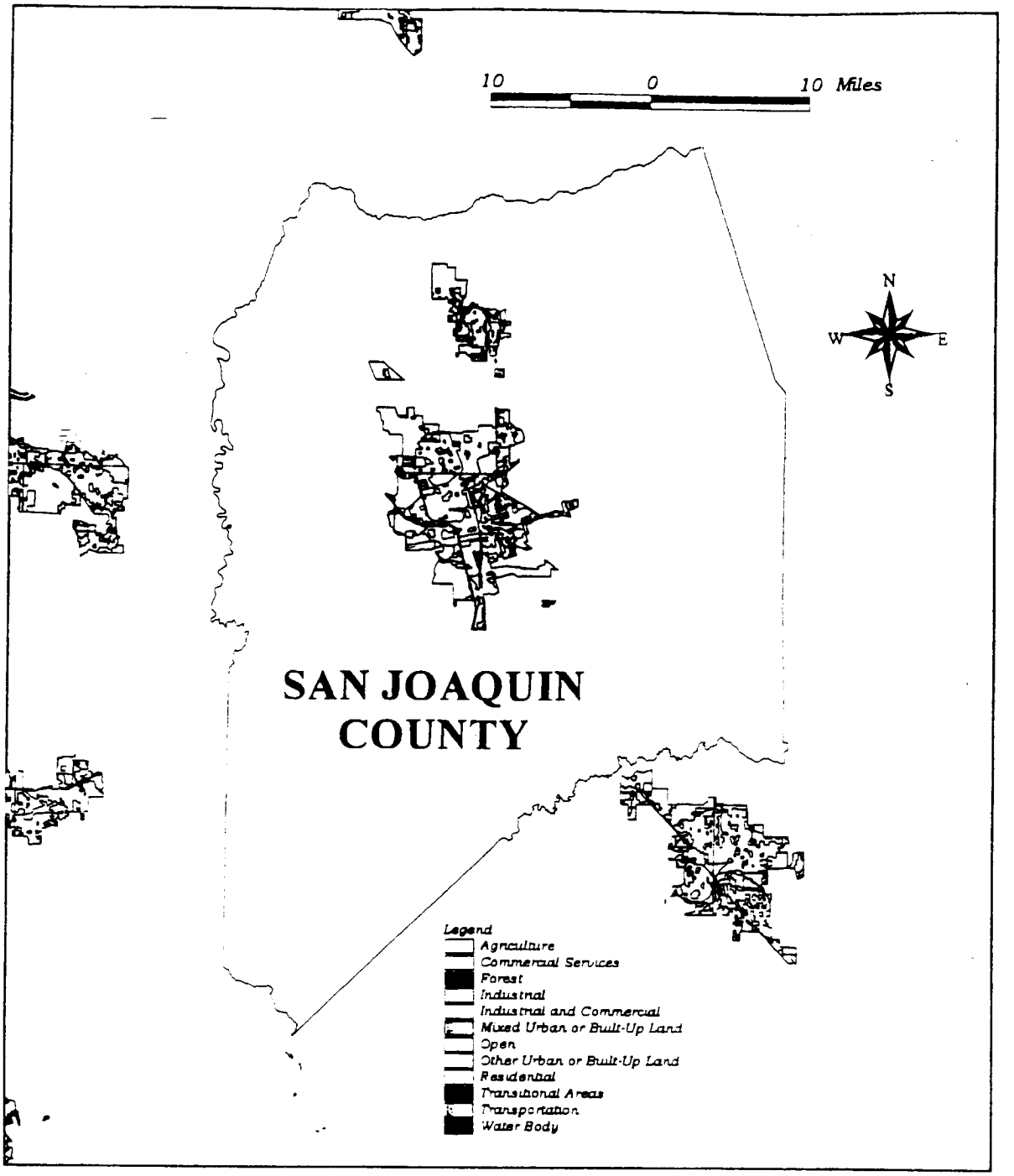
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Joaquin County
Figure B-12a



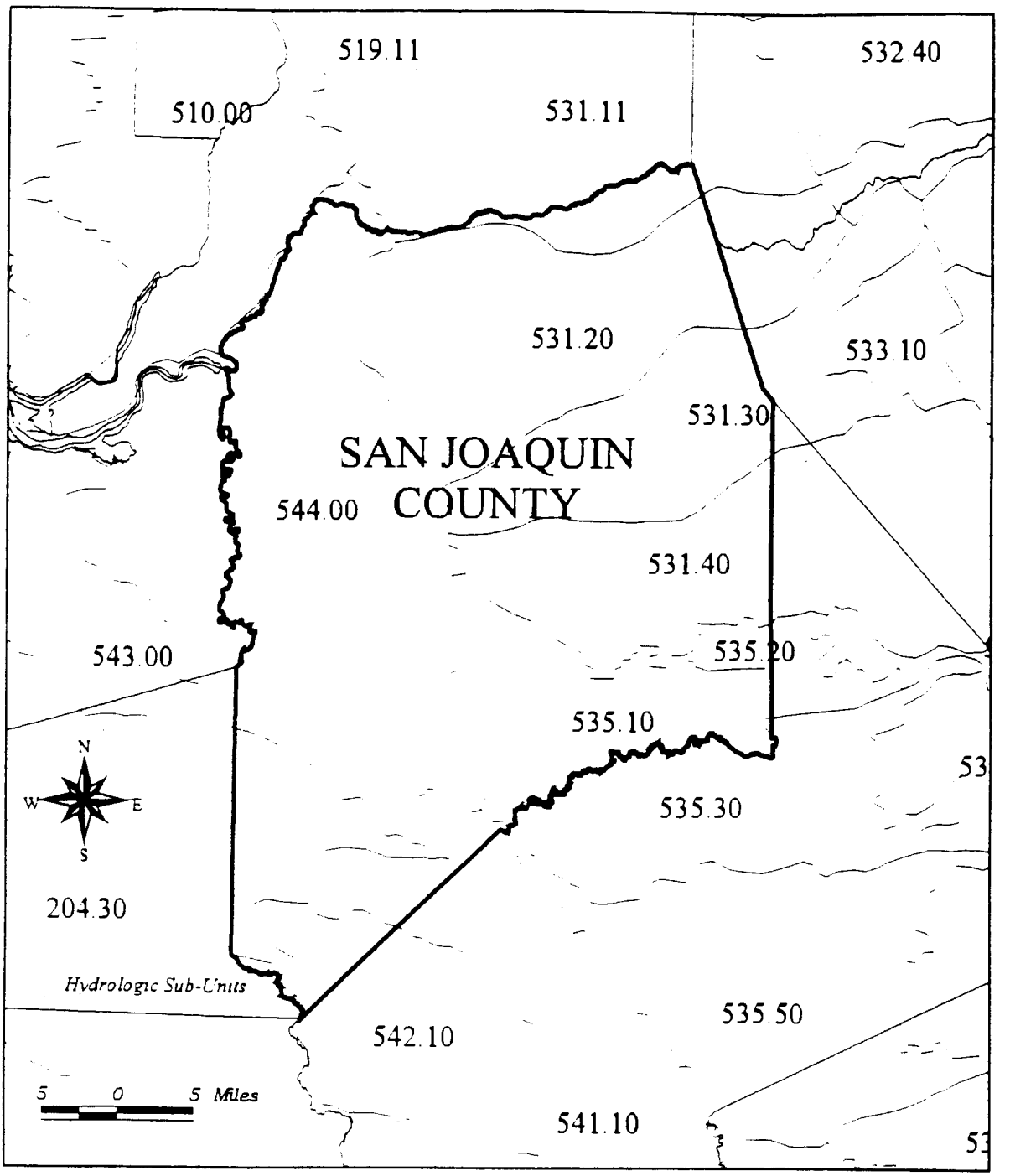
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Joaquin County
Figure B-12b



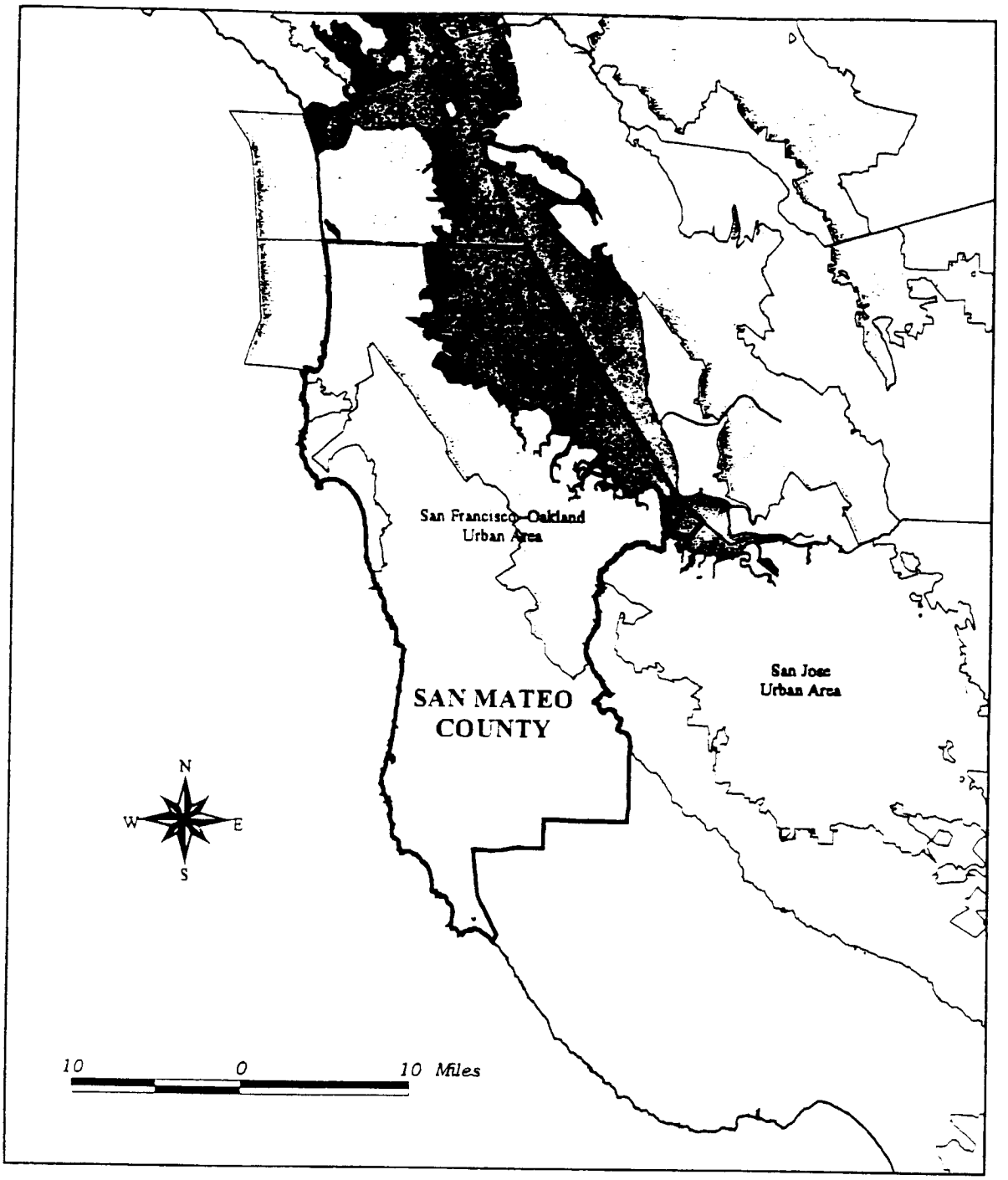
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Joaquin County
Figure B-12c



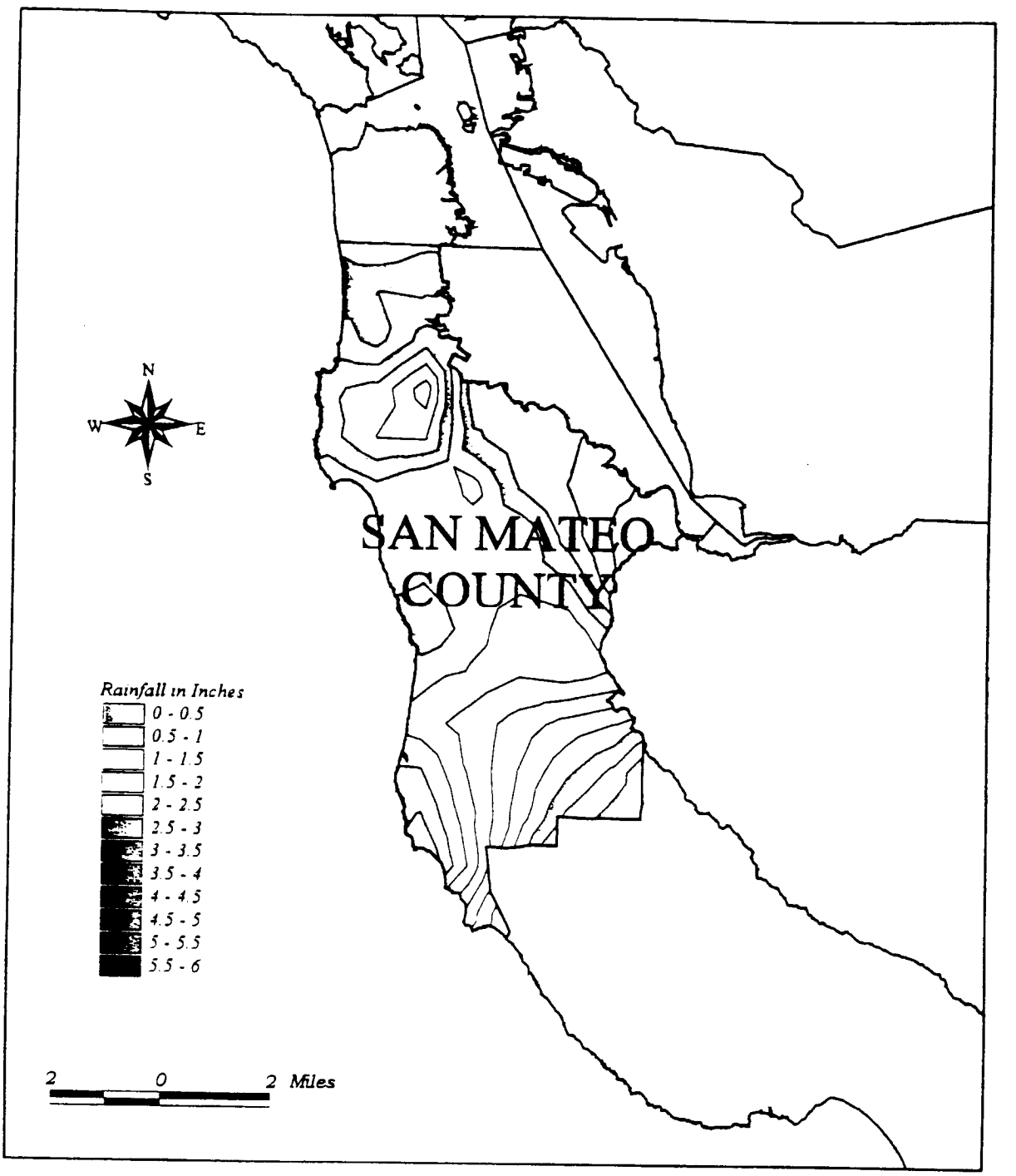
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Joaquin County
Figure B-12d



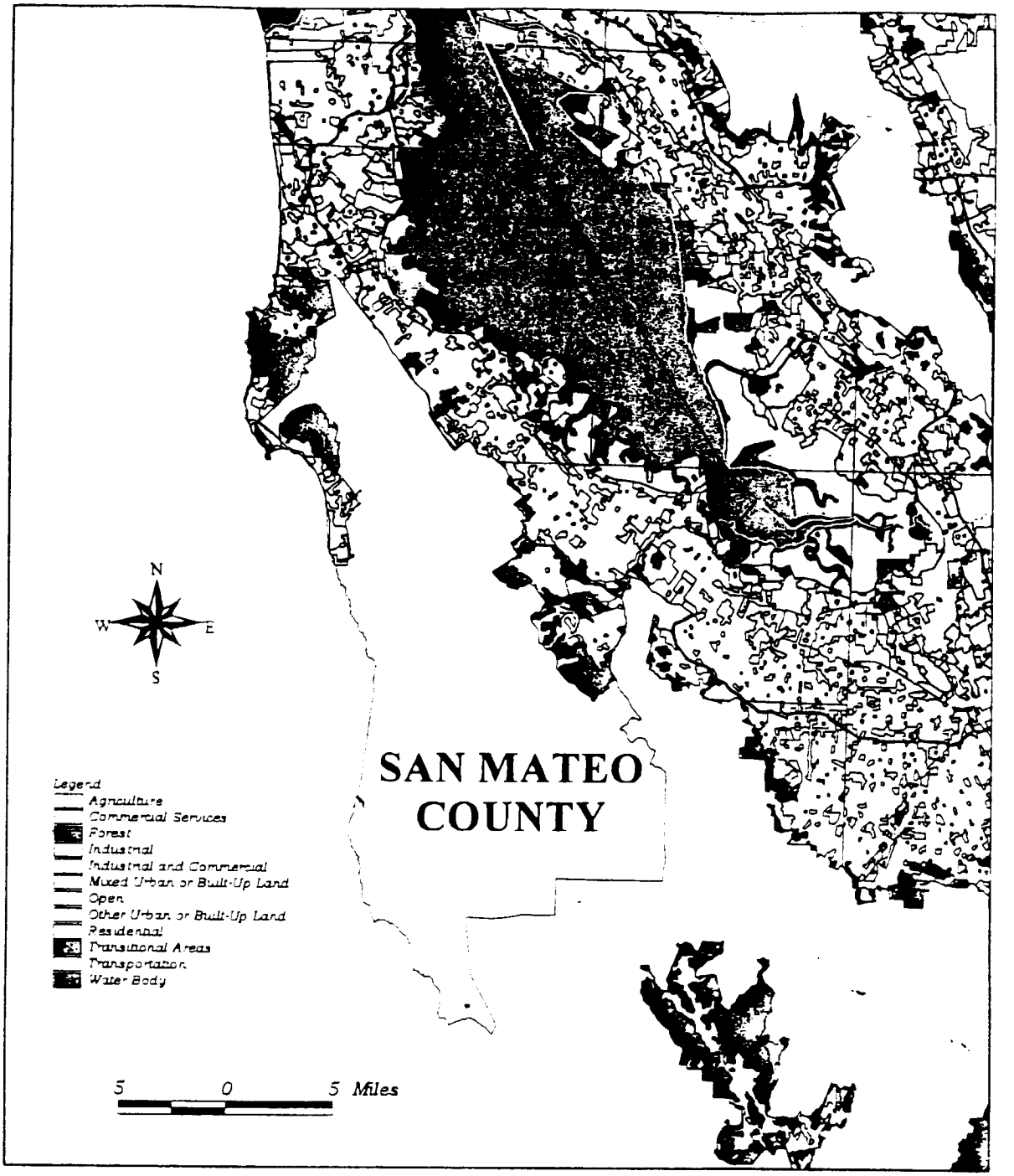
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in San Mateo County
Figure B-13a



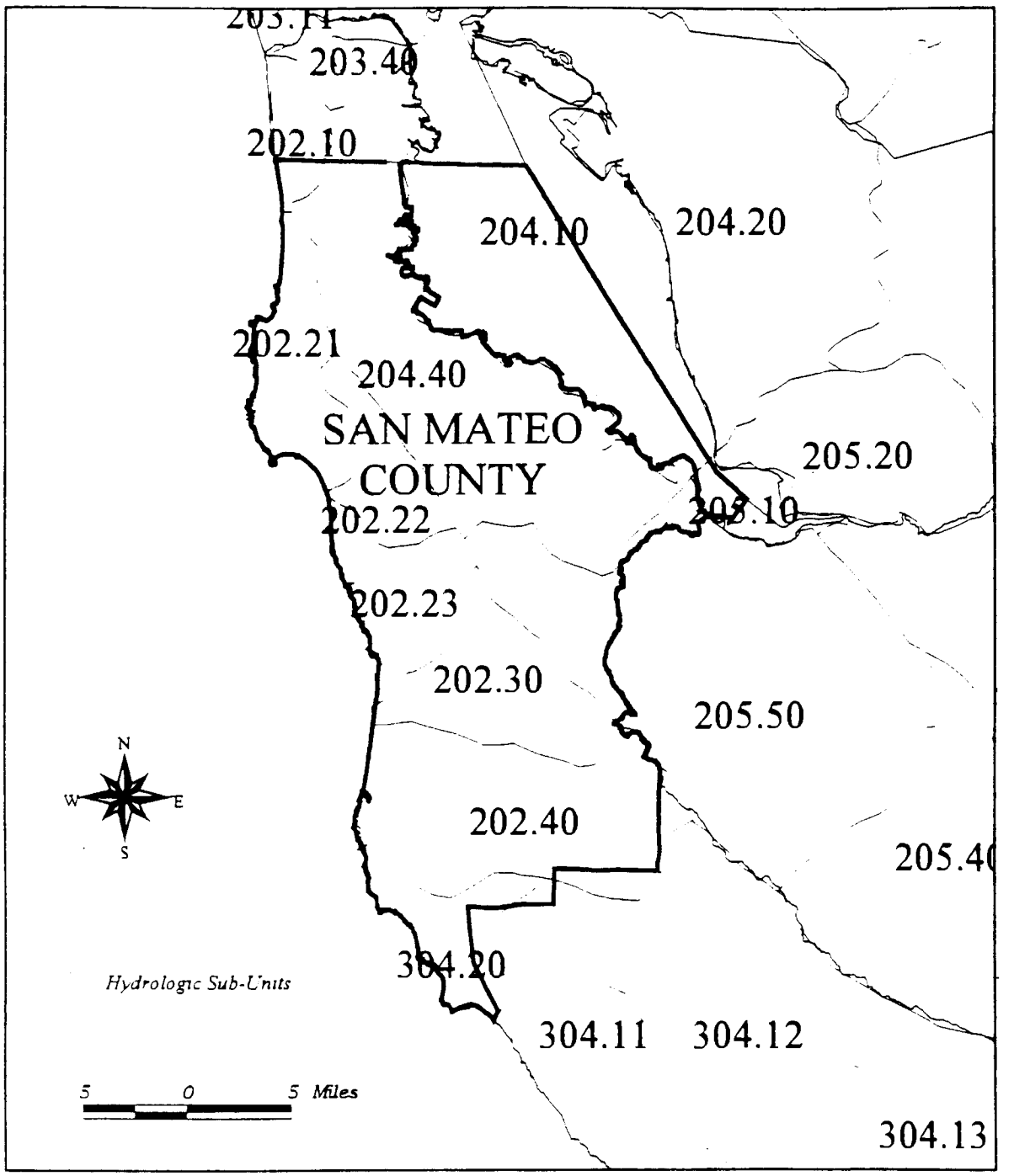
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in San Mateo County
Figure B-13b



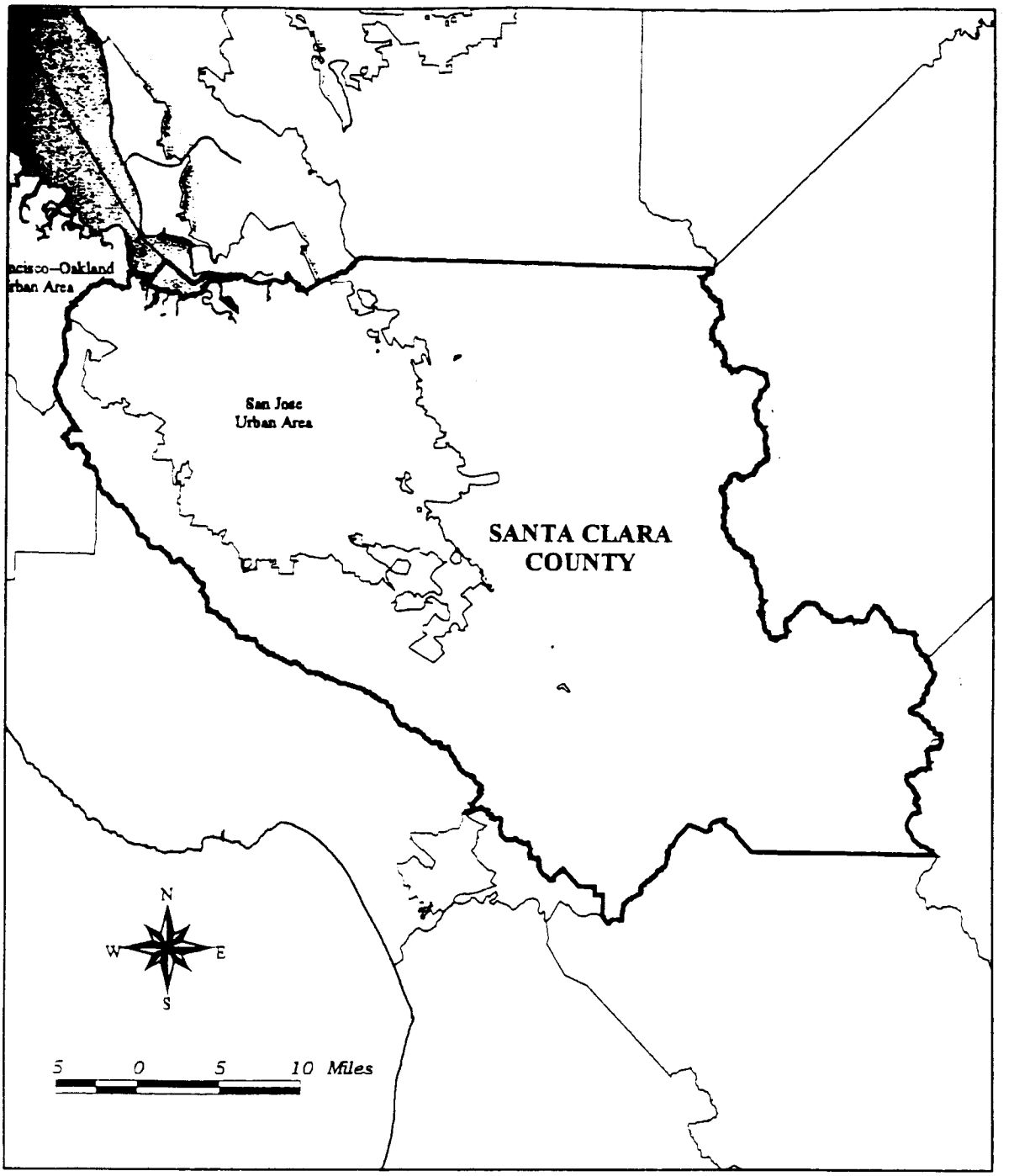
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in San Mateo County
Figure B-13c



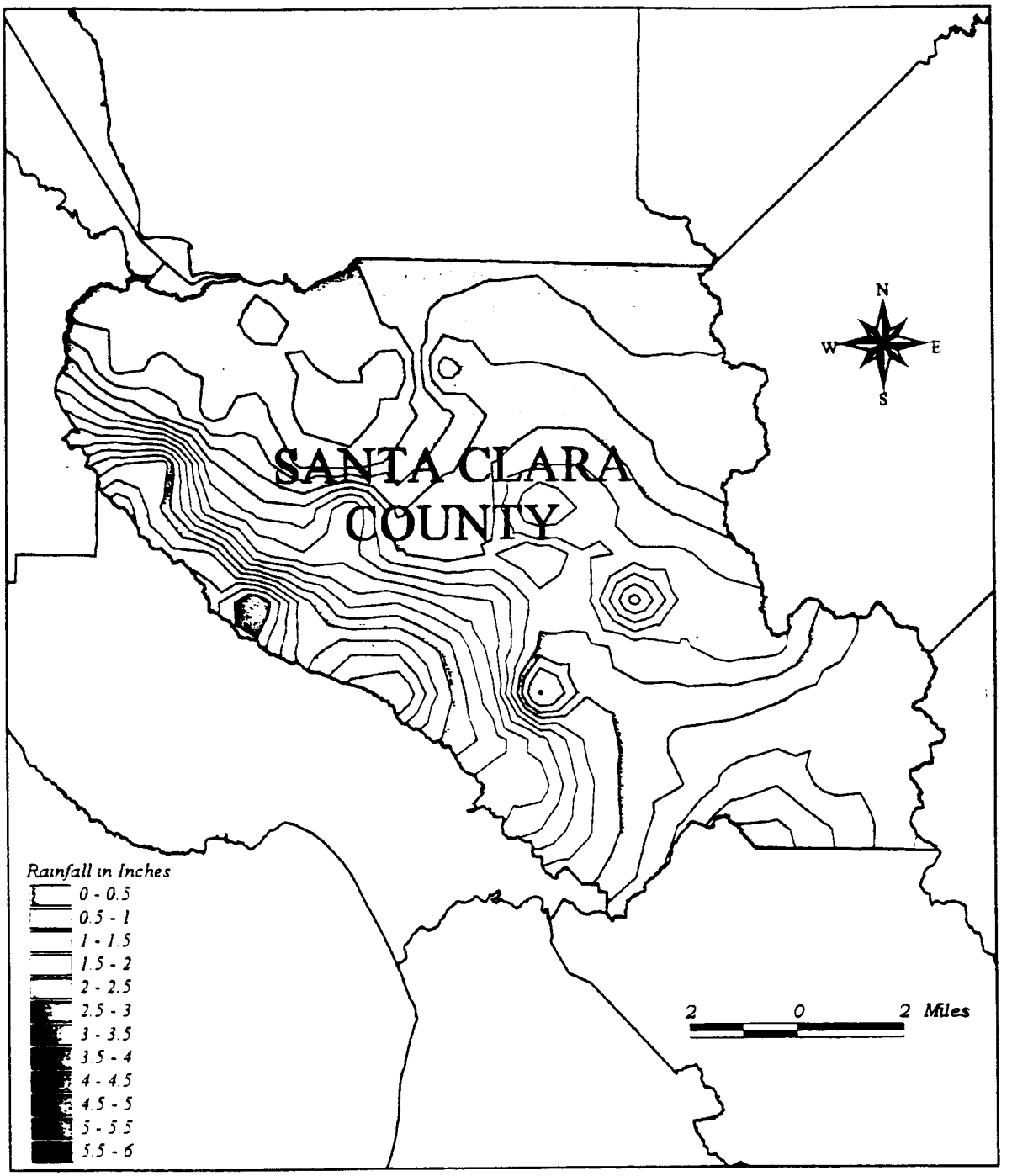
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in San Mateo County
Figure B-13d



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Santa Clara County
Figure B-14a

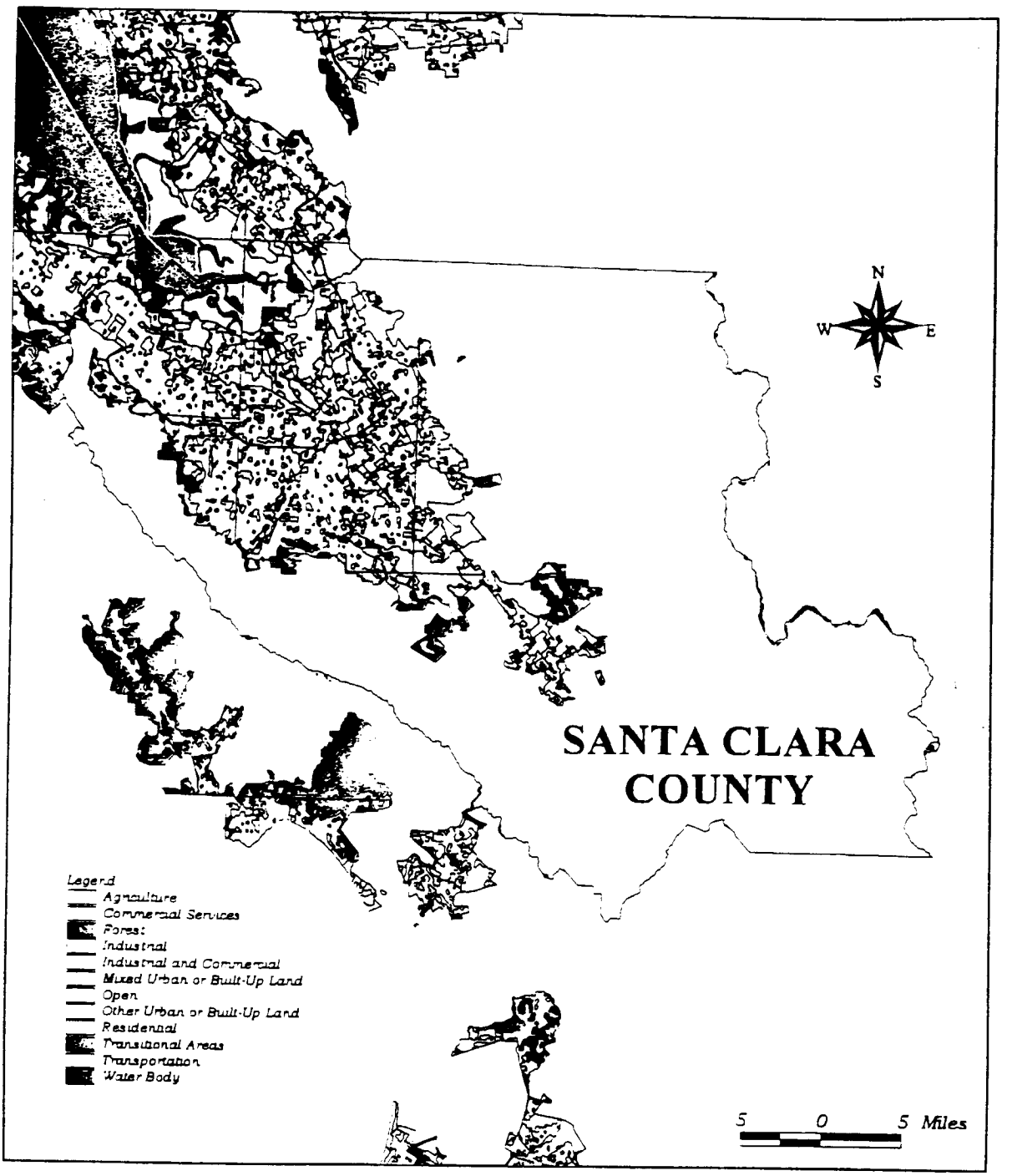


BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas

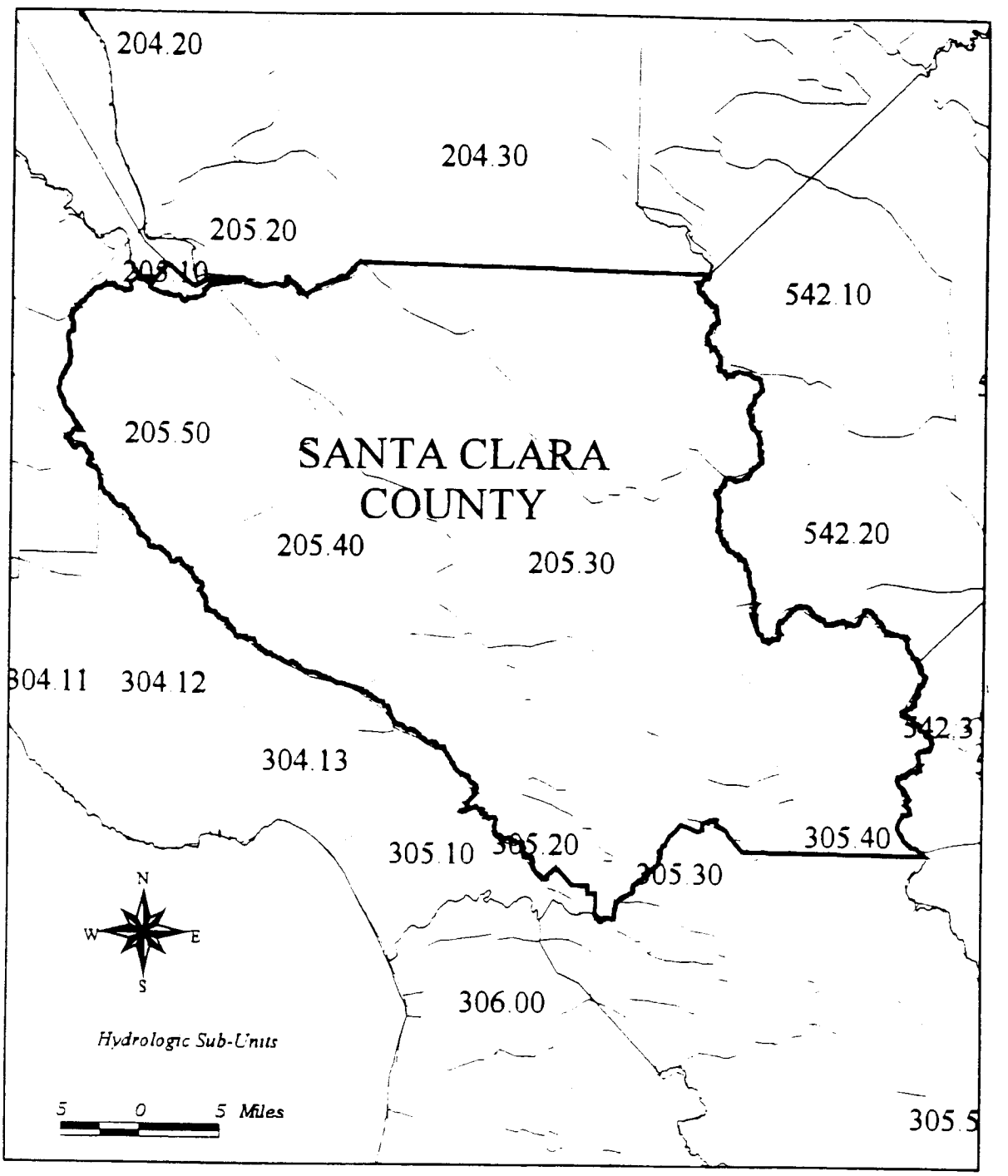
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Santa Clara County

Figure B-14b



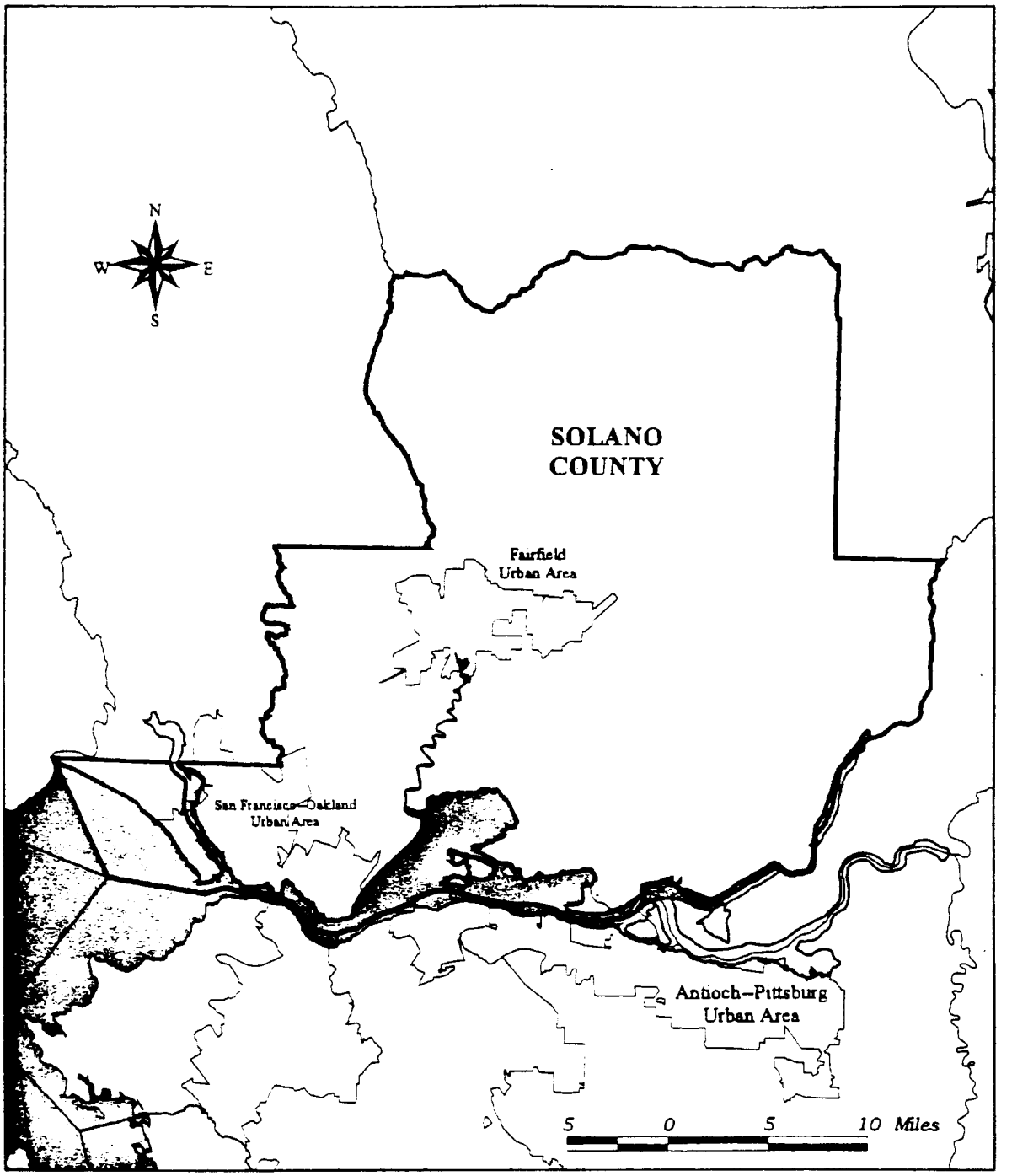
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Santa Clara County
Figure B-14c



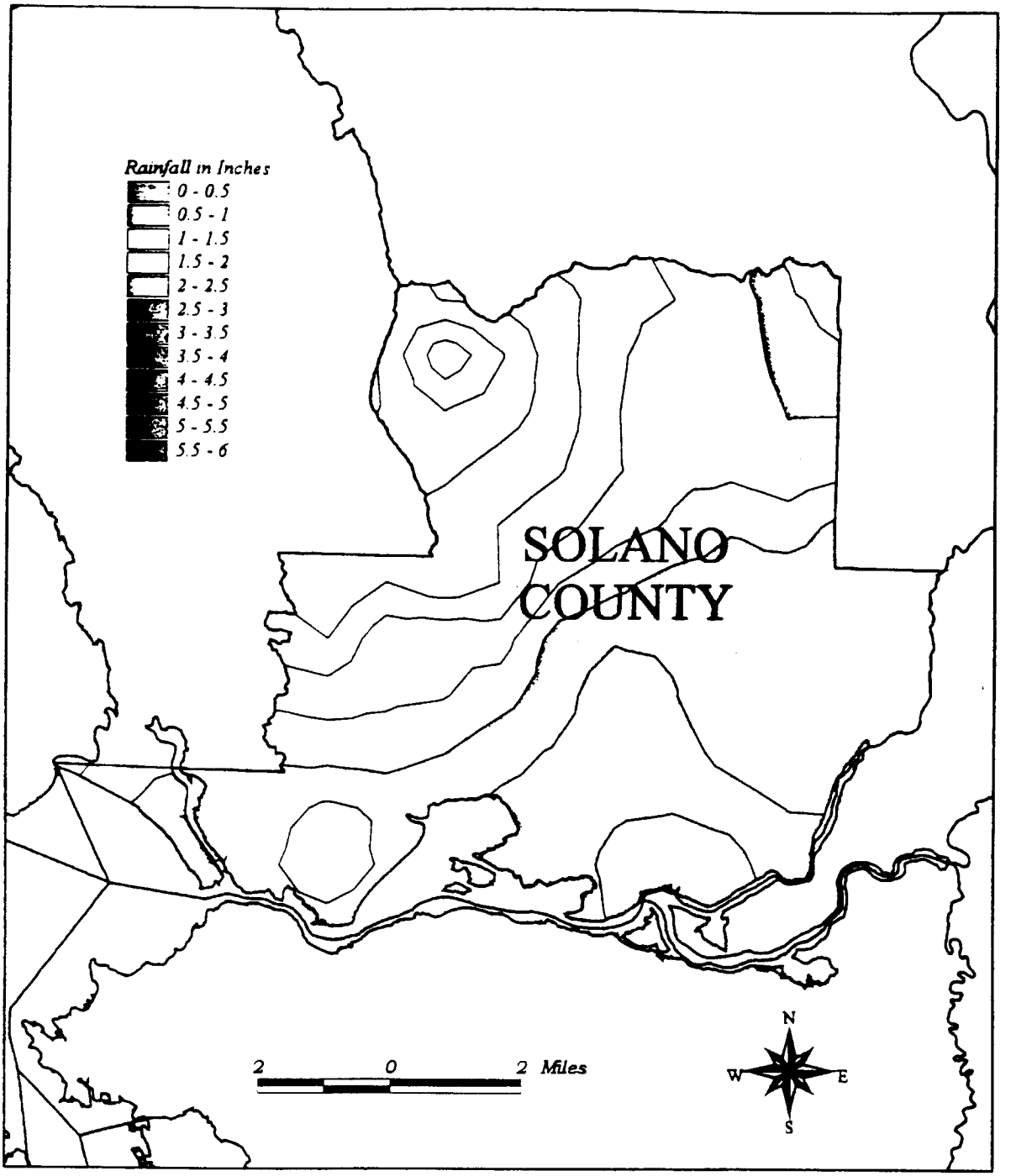
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Santa Clara County
Figure B-14d



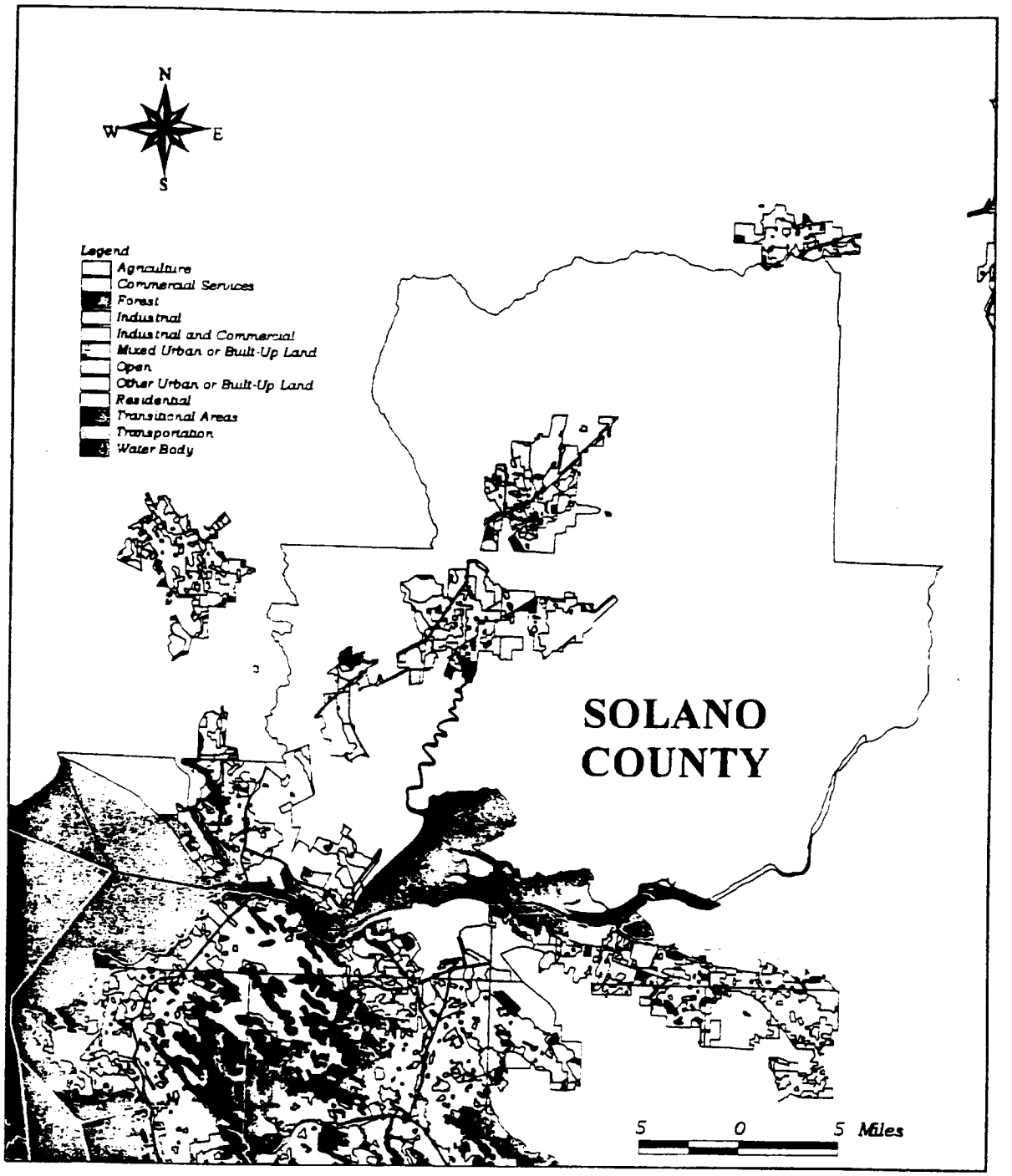
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Solano County
Figure B-15a



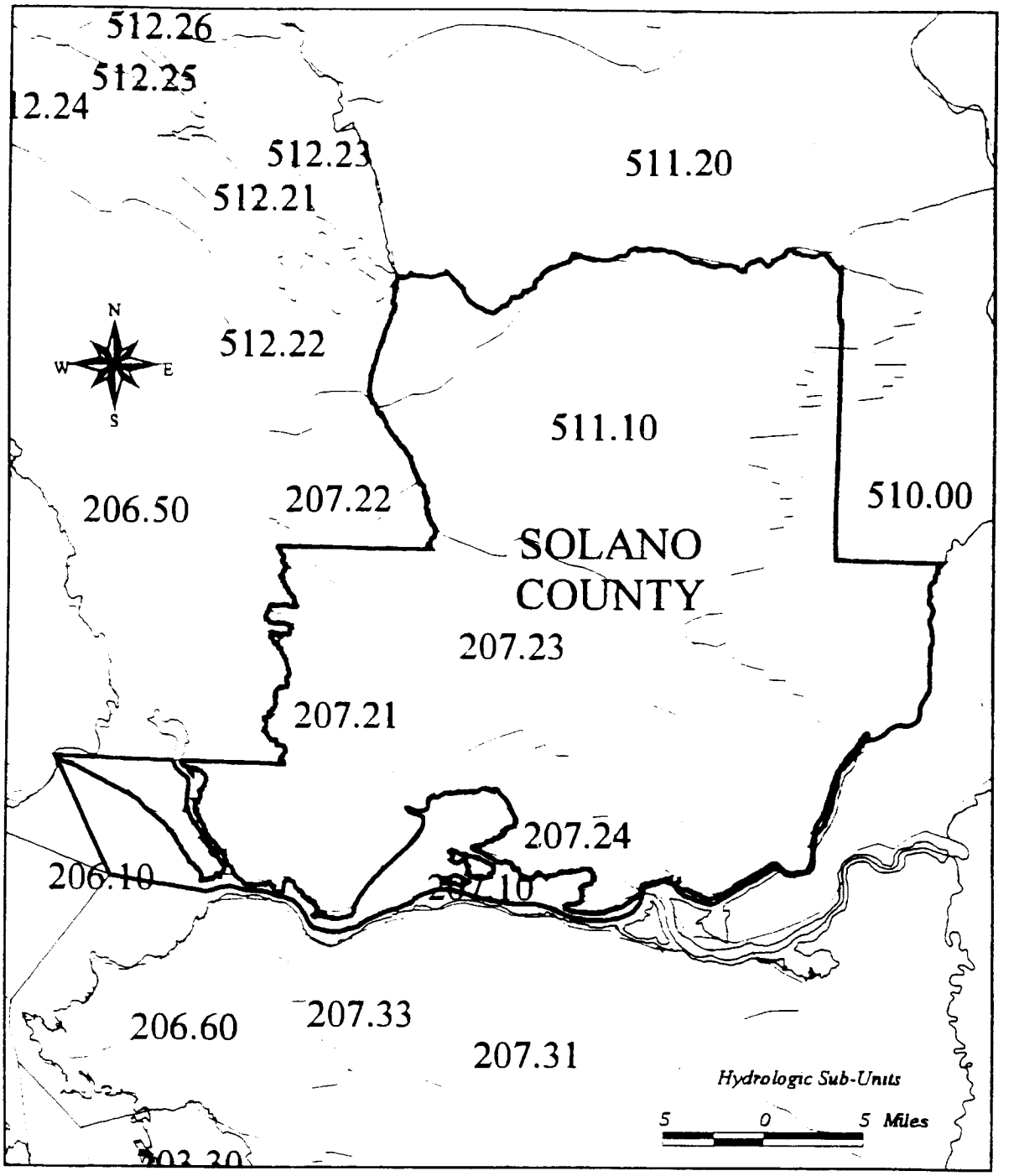
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Solano County
Figure B-15b



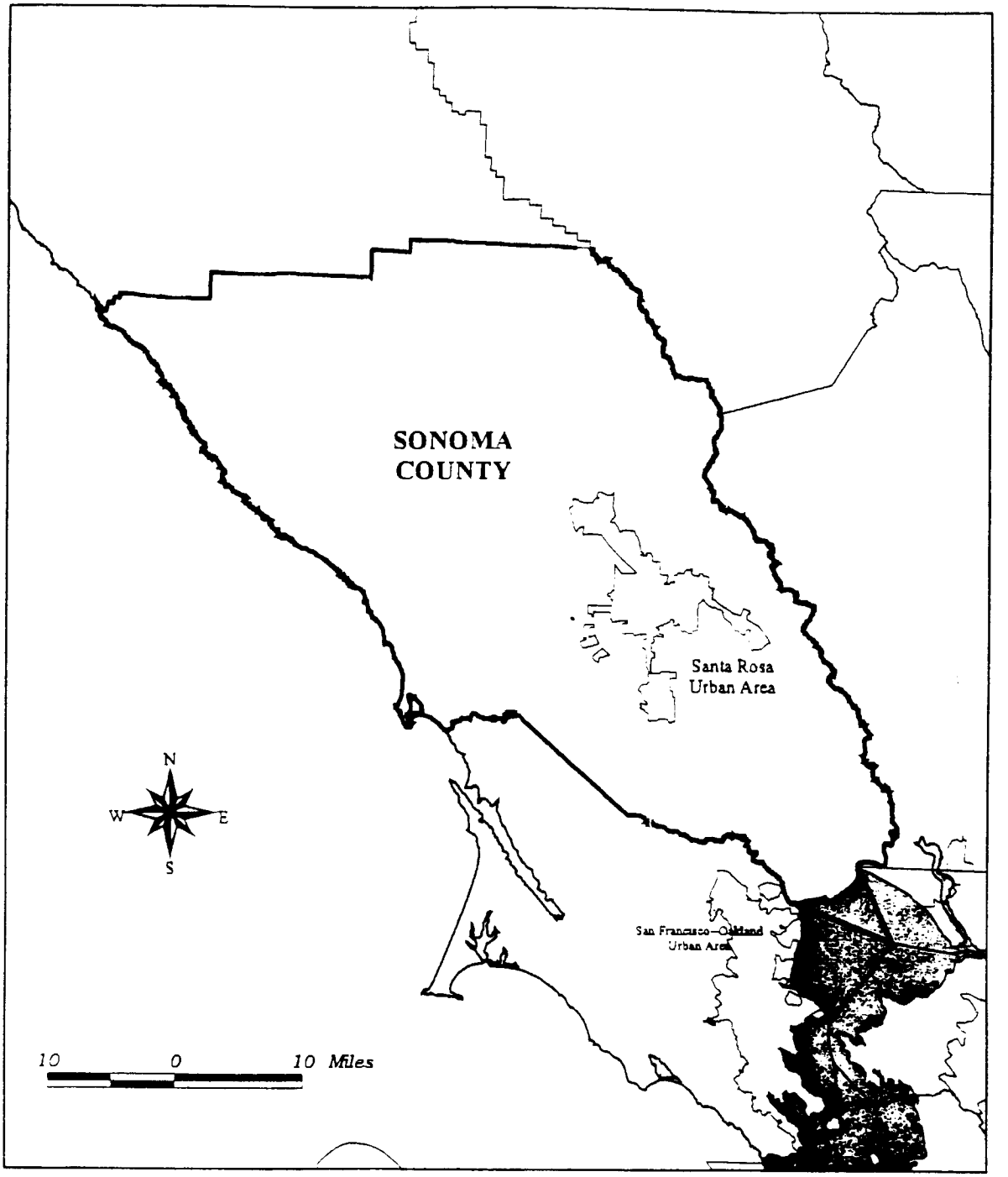
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Solano County
Figure B-15c



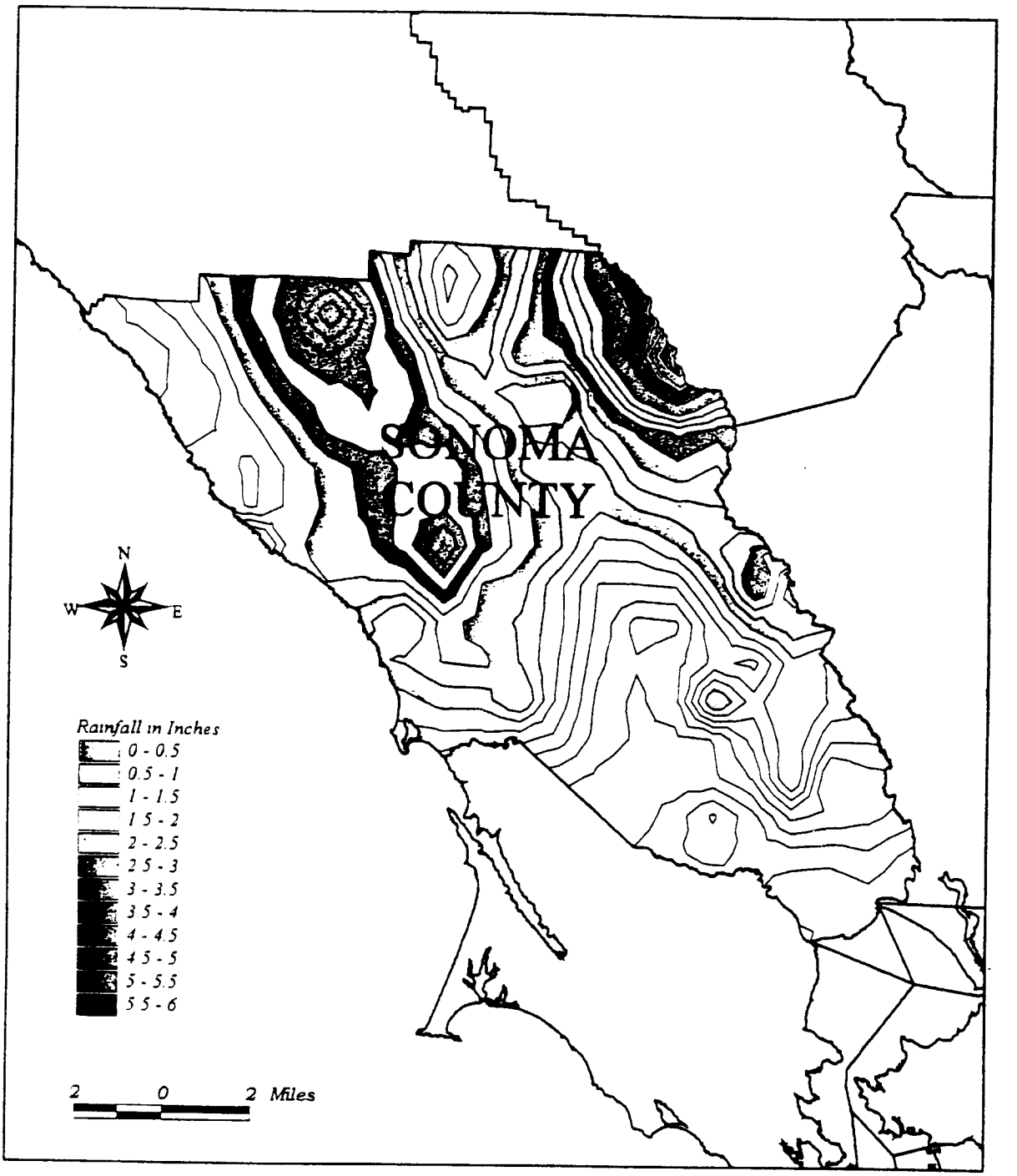
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Solano County
Figure B-15d



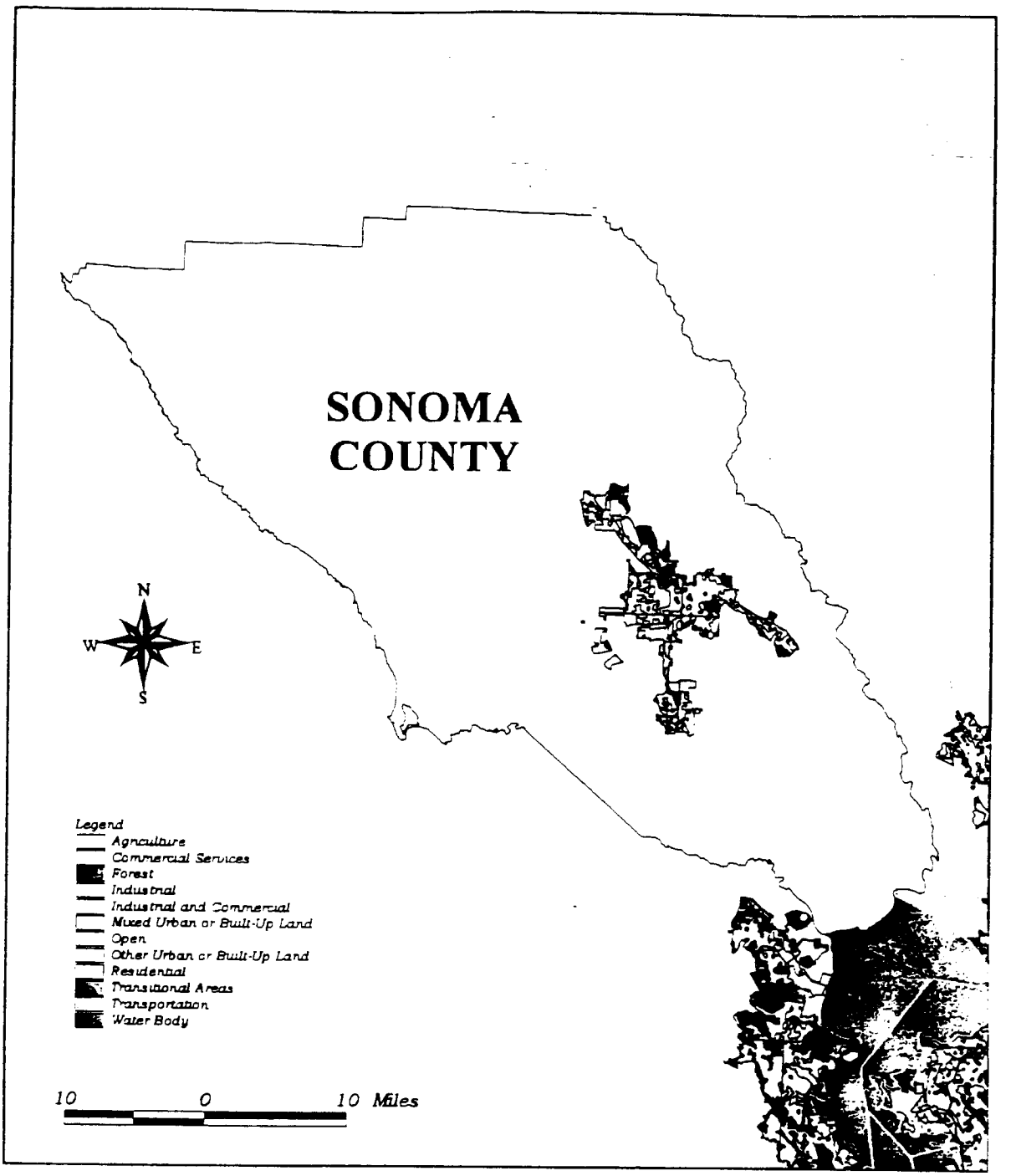
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Sonoma County
Figure B-16a



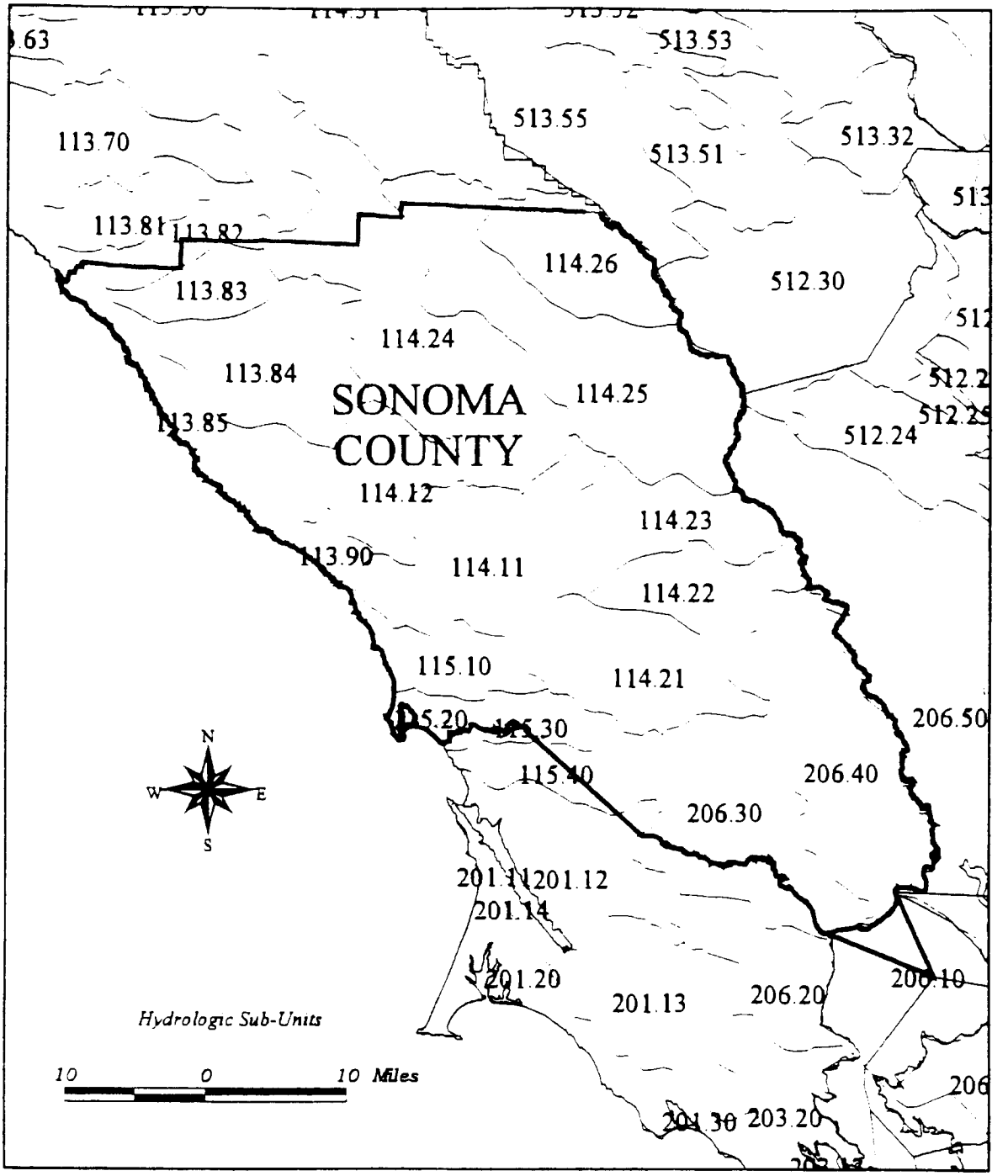
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Sonoma County
Figure B-16b



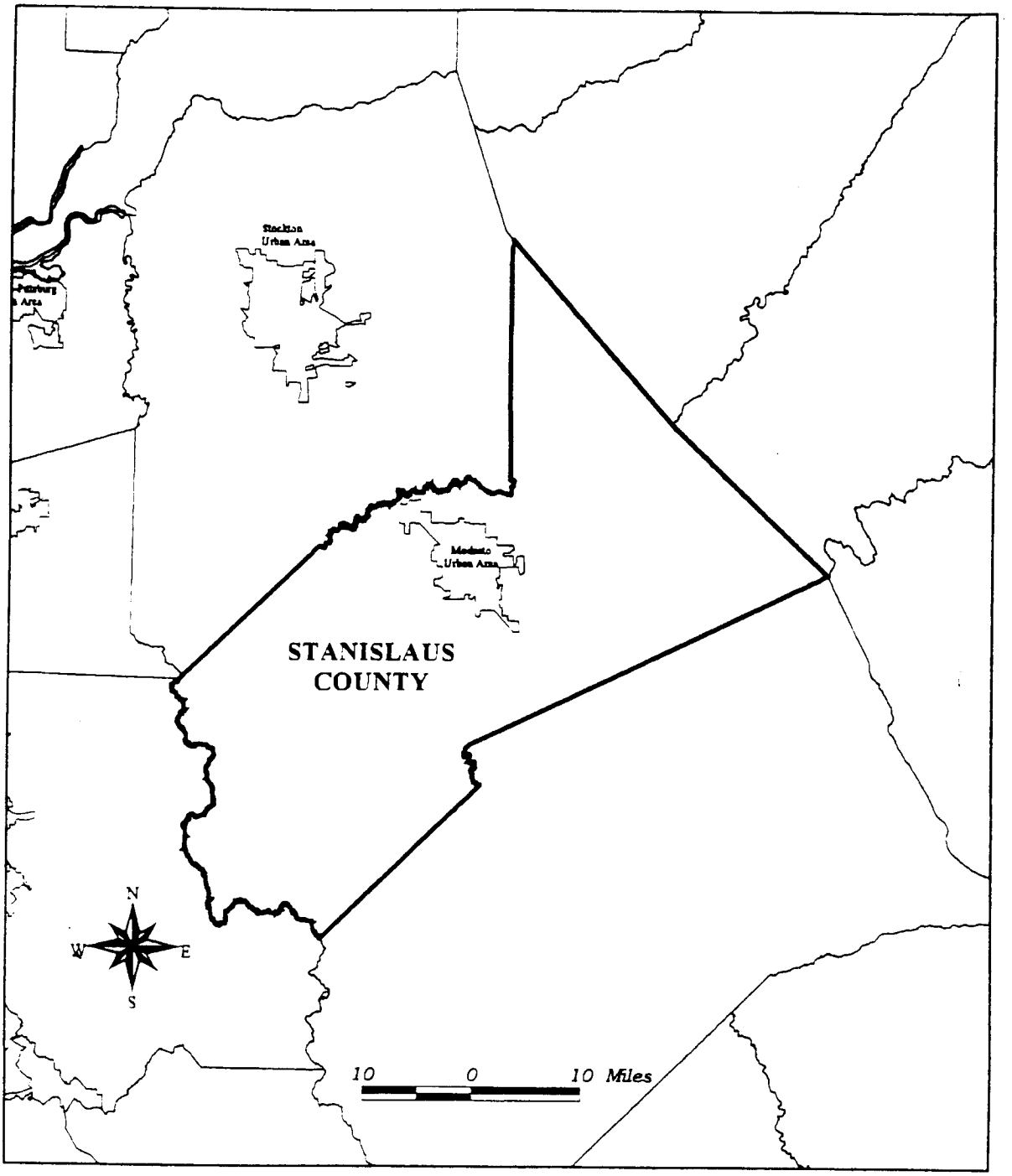
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Sonoma County
Figure B-16c



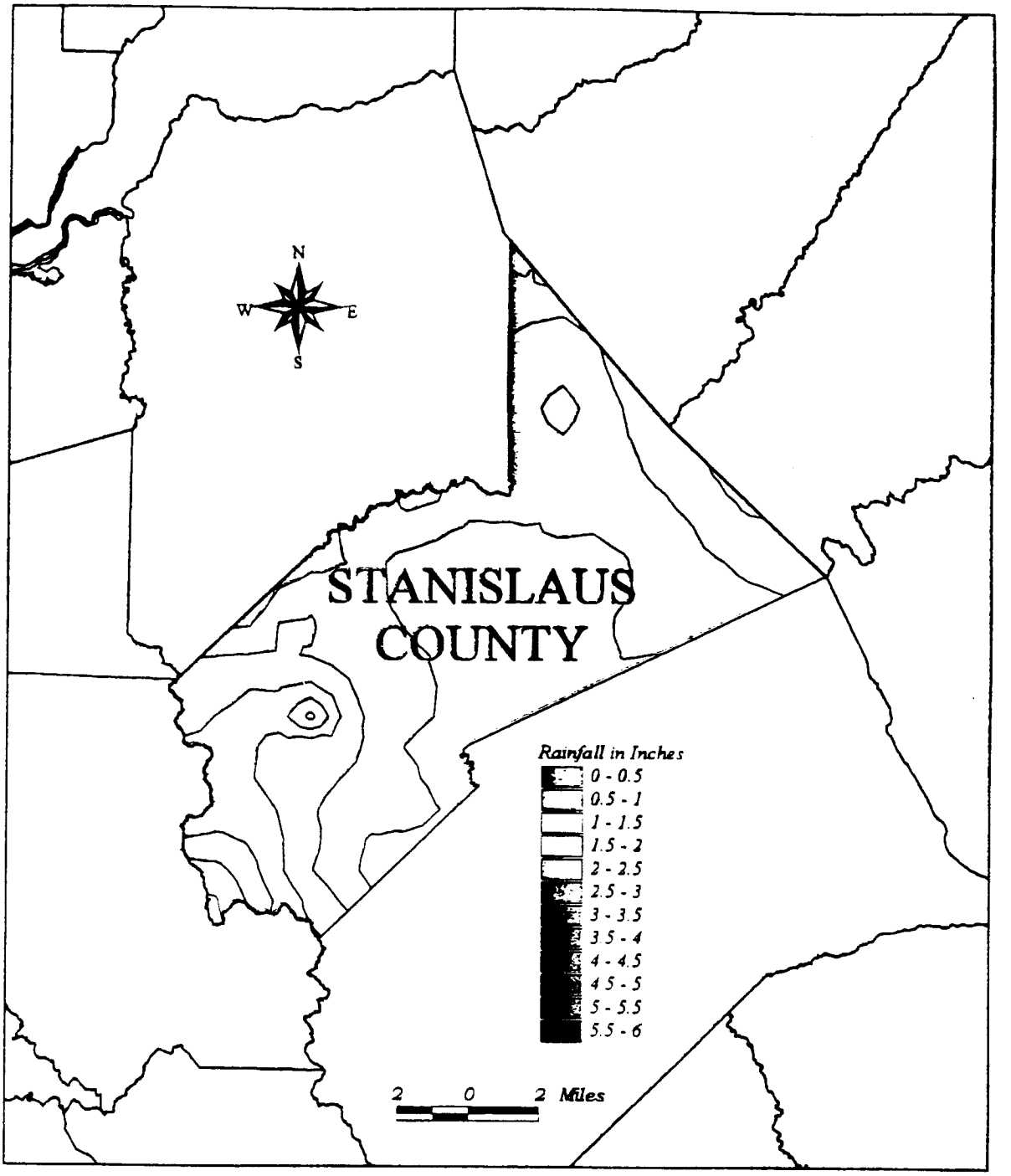
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Sonoma County
Figure B-16d



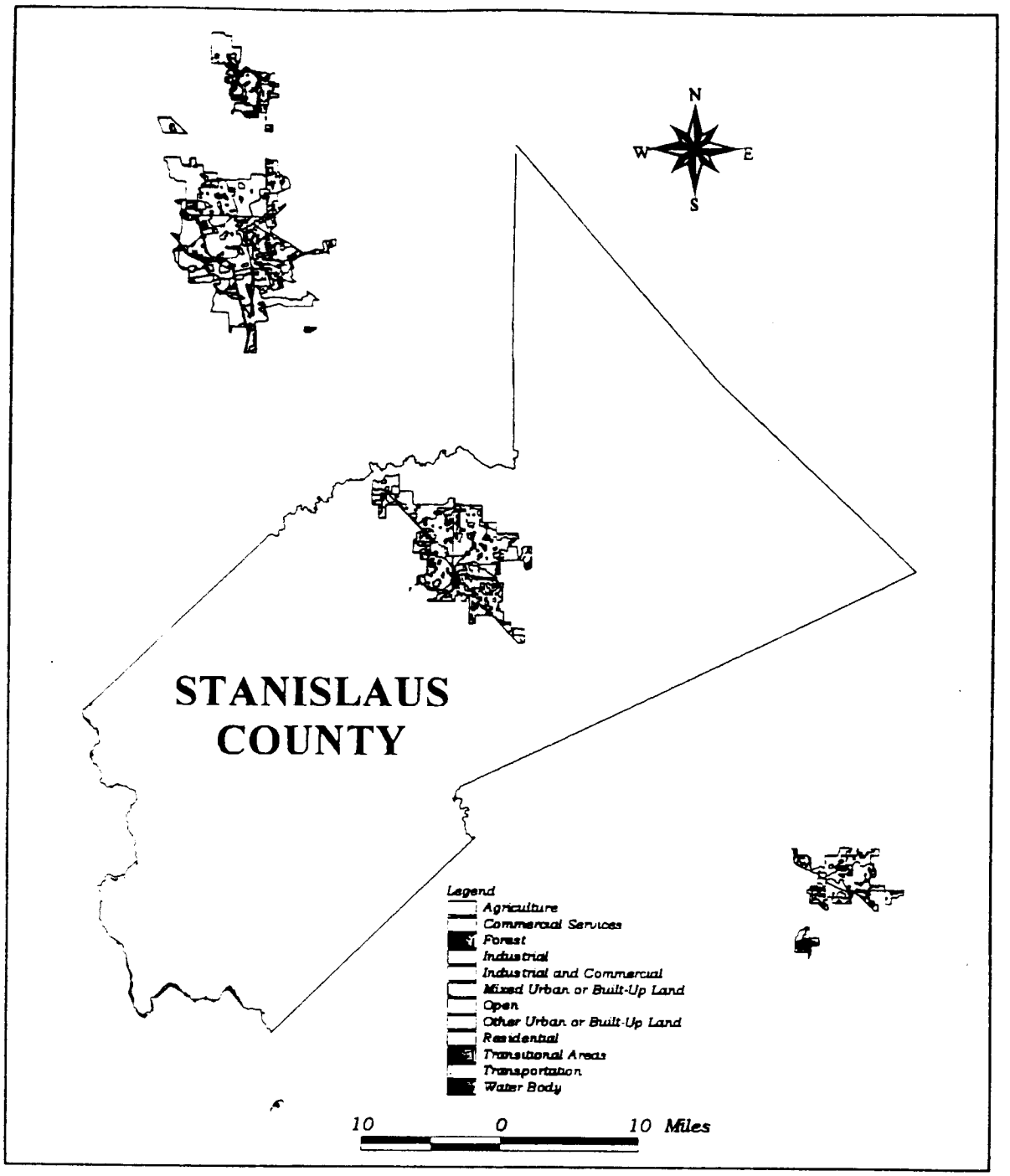
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Stanislaus County
Figure B-17a



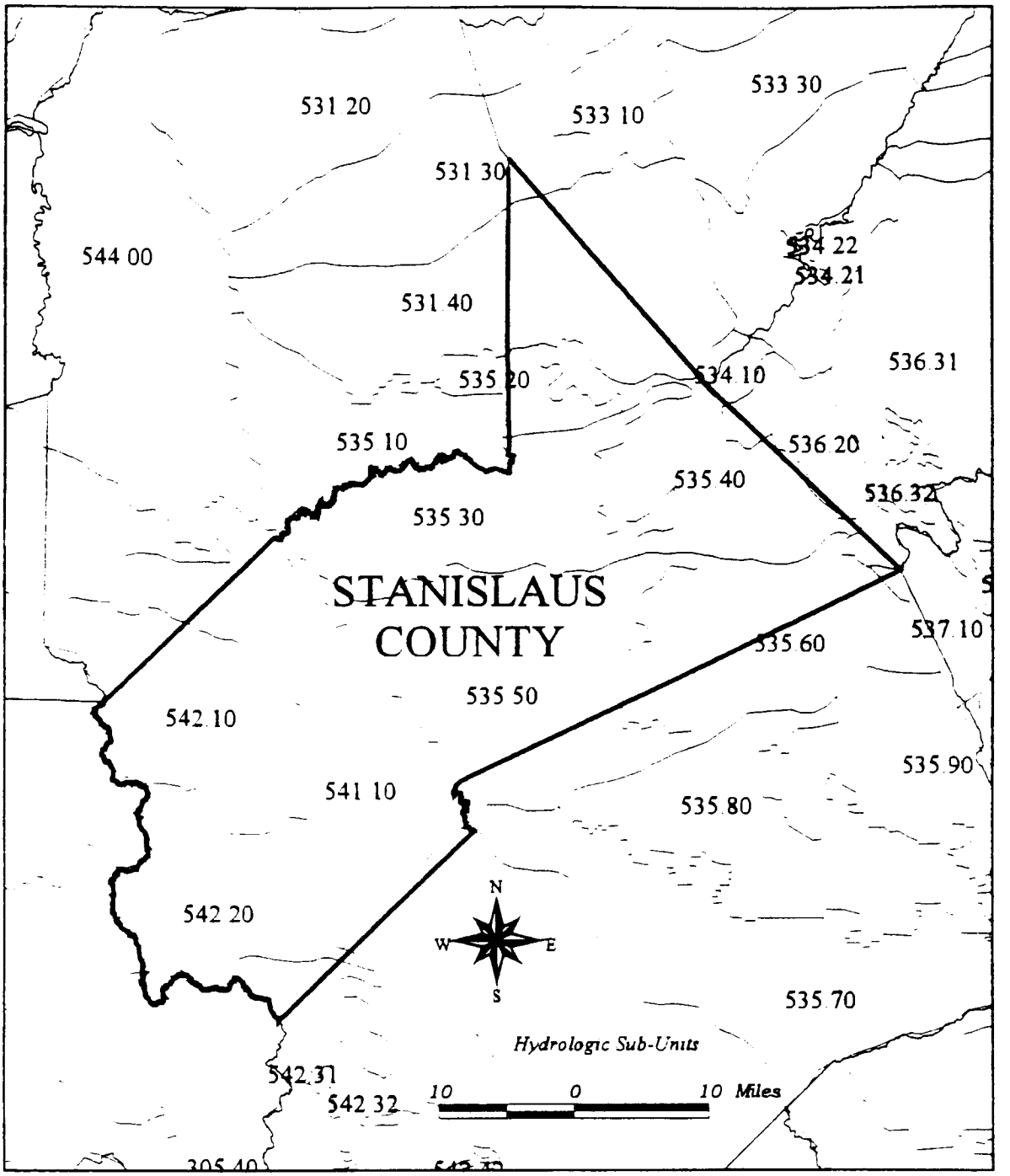
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Stanislaus County
Figure B-17b



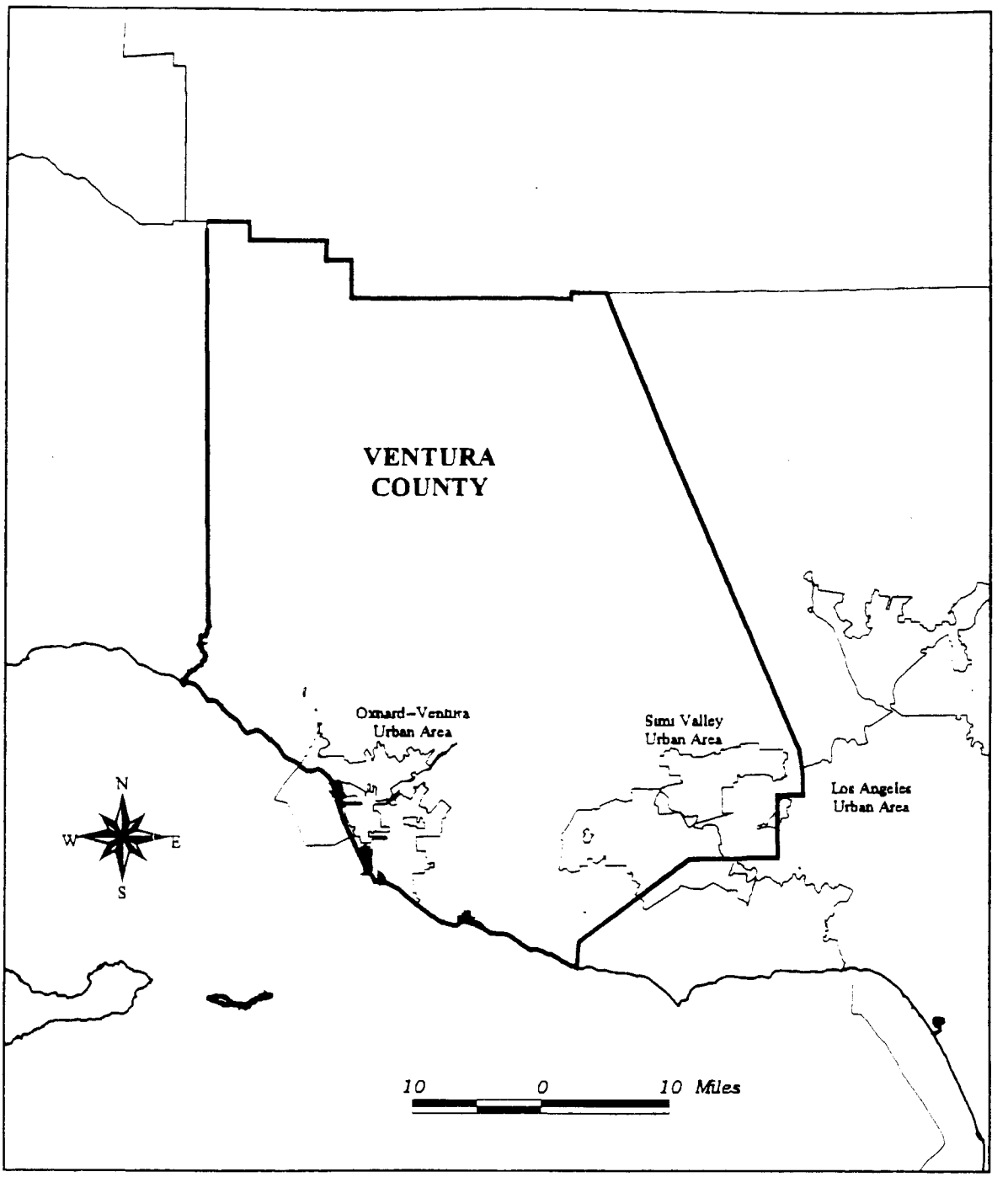
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Stanislaus County
Figure B-17c



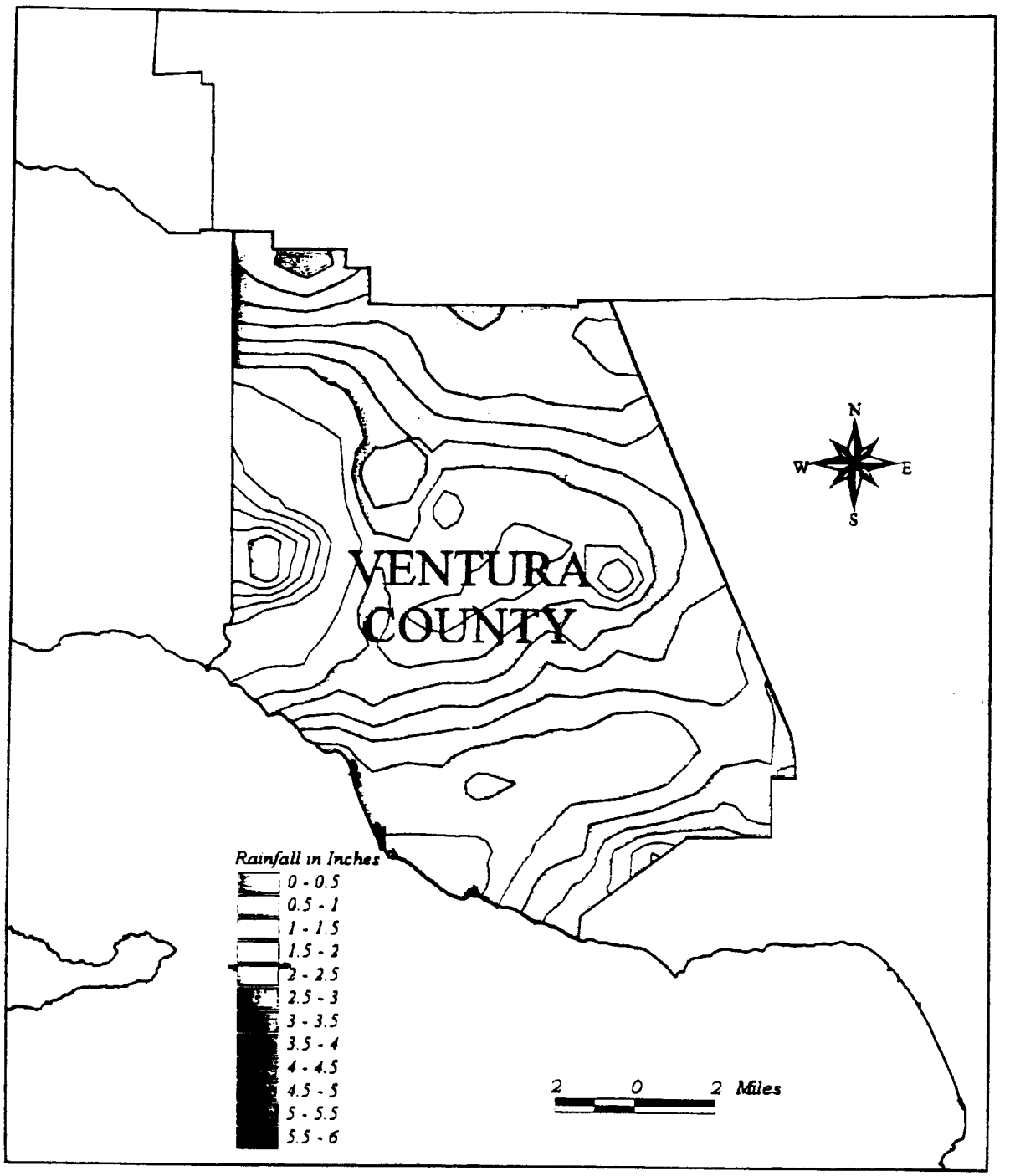
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Stanislaus County
Figure B-17d



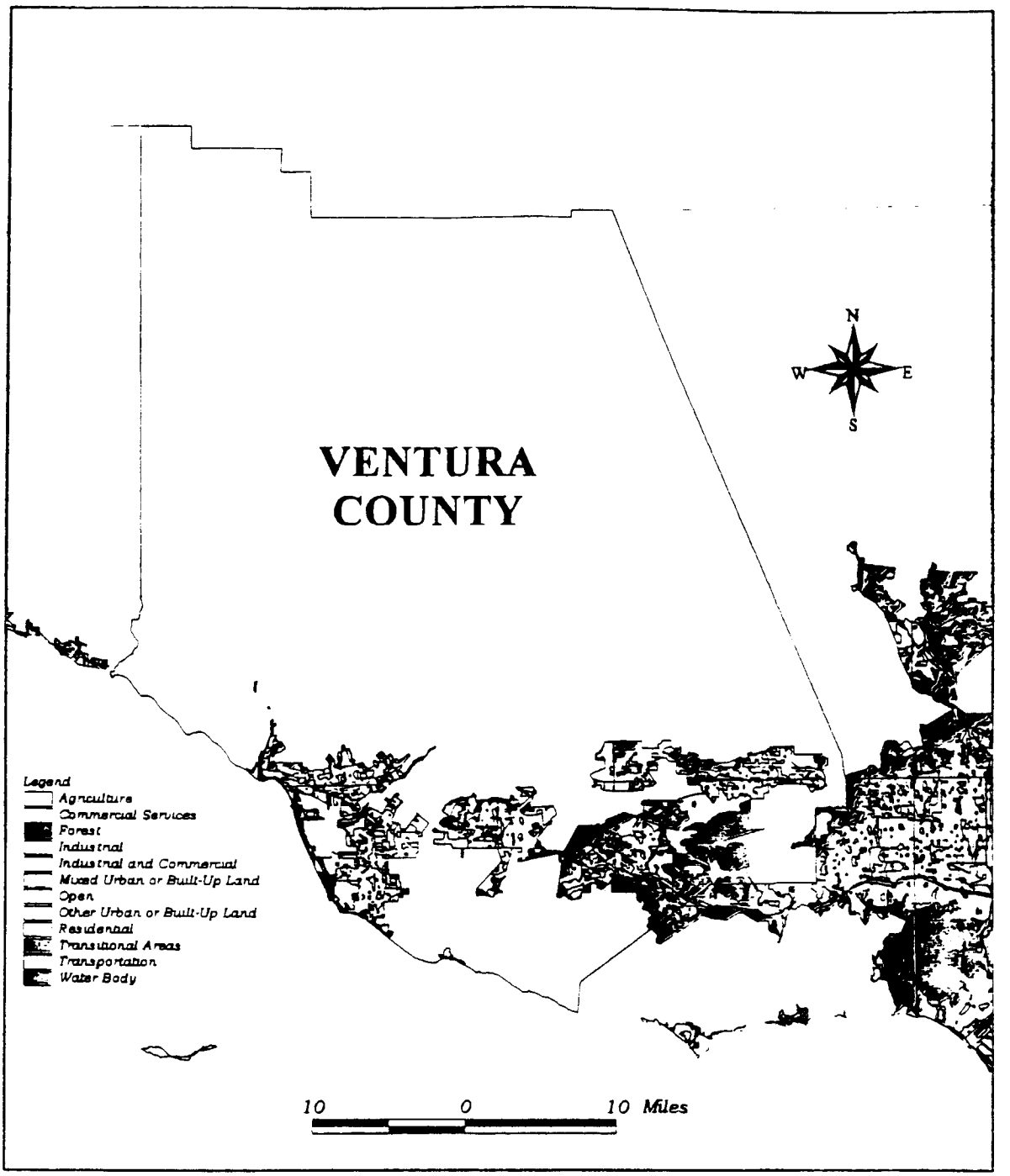
BROWN AND
CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Urbanized Areas in Ventura County
Figure B-18a



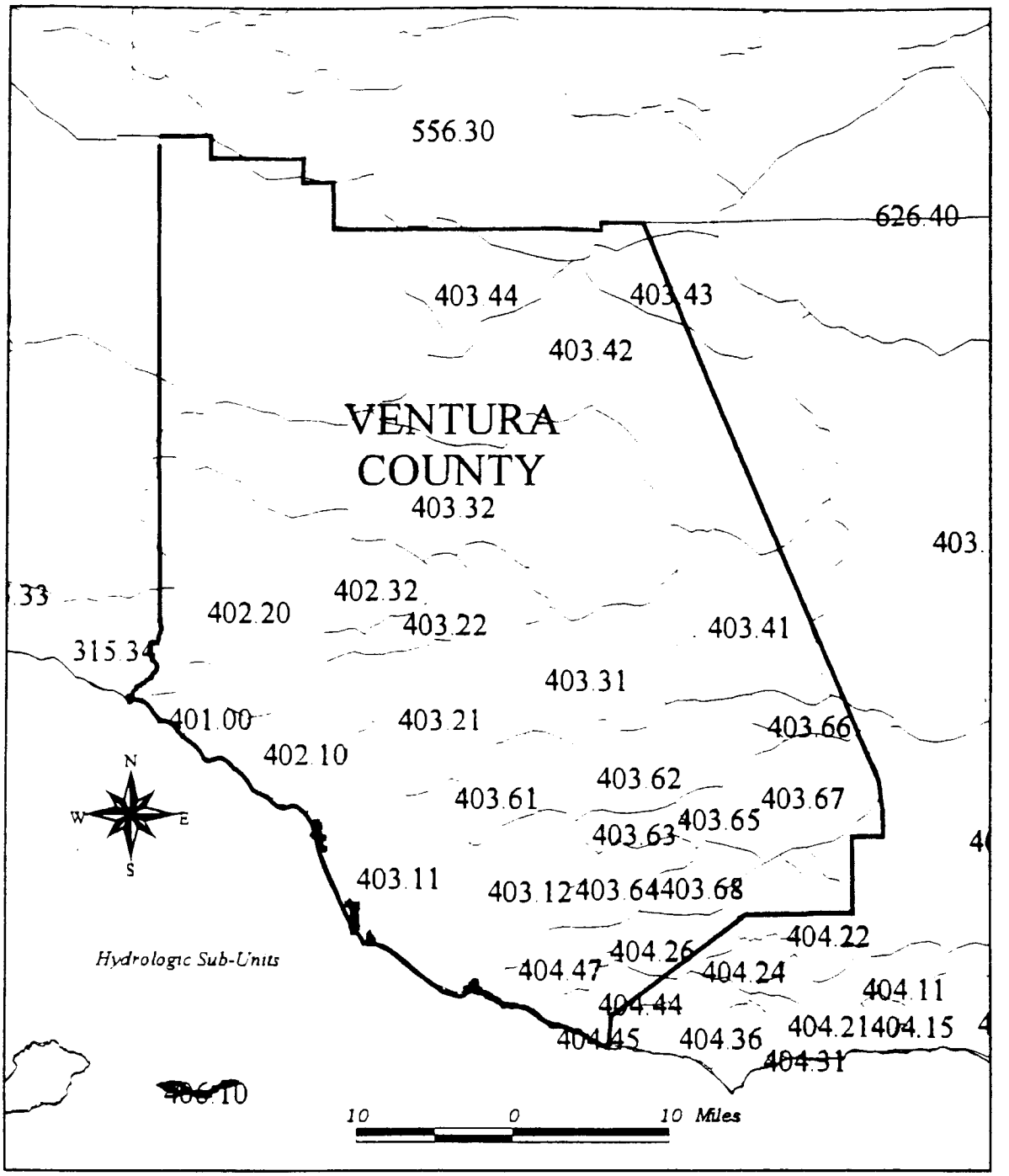
BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Rainfall Contours for 24-Hour Duration/1-Year Return Interval Storm in Ventura County
Figure B-18b



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Land Use in Ventura County
Figure B-18c



BROWN AND CALDWELL

Cost of Storm Water Treatment for California Urbanized Areas
Hydrologic Sub-Units in Ventura County
Figure B-18d

APPENDIX C

DATA TABLES

APPENDIX C

DATA TABLES

Table C-15
Urban Runoff Treatment Cost Calculations - Solano County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
207.21	Fairfield	7.95	36.35	1	36.35	17.27	7.95	9.61	9.61	$27.98	$30.43	$3.39	$33.82	$7.52	$1.75	$9.27	$26.94	$26.94	$0.0233	$0.1042	$0.0896	$0.1499
207.23	Fairfield	32.82	204.18	5	40.84	92.60	6.56	8.74	43.68	$134.95	$32.63	$18.15	$181.31	$8.06	$9.39	$49.70	$28.89	$144.43	$0.1125	$0.5633	$0.4844	$0.8100
511.1	Fairfield	0.00	0.03	1	0.03	0.23	0.00	0.18	0.18	$0.01	$0.41	$0.05	$0.46	$0.10	$0.02	$0.13	$0.36	$0.36	$0.0000	$0.0009	$0.0007	$0.0012
206.1	San Francisco--Oakland	19.11	4.61	1	4.61	5.01	19.11	14.91	14.91	$15.06	$8.32	$0.98	$9.80	$2.18	$0.51	$2.69	$7.81	$7.81	$0.0125	$0.0261	$0.0225	$0.0376
206.5	San Francisco--Oakland	25.98	164.56	4	41.14	74.41	6.49	8.69	34.76	$107.79	$32.78	$14.59	$145.70	$8.10	$7.55	$39.93	$29.02	$116.06	$0.0898	$0.4529	$0.3895	$0.6513
207.1	San Francisco--Oakland	5.55	9.68	1	9.68	7.81	5.55	8.04	8.04	$11.67	$13.76	$1.53	$15.29	$3.40	$0.79	$4.19	$12.18	$12.18	$0.0099	$0.0430	$0.0369	$0.0618
207.21	San Francisco--Oakland	17.67	102.18	3	34.06	49.83	5.89	8.28	24.83	$69.88	$29.27	$9.77	$97.57	$7.23	$5.05	$26.74	$25.91	$77.72	$0.0582	$0.2993	$0.2574	$0.4304
	Total:	**109.09**	**521.60**	**16**		**247.17**			**136.01**	**$367.54**			**$483.95**			**$132.65**		**$385.61**	**$0.31**	**$1.49**	**$1.28**	**$2.14**
	Cumulative Total:									–			**$851.49**			**$984.14**		**$1,369.65**	–	**$1.80**	**$3.08**	**$5.22**

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $196,020/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006381

Table C-16
Urban Runoff Treatment Cost Calculations - Sonoma County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
114.11	Santa Rosa	0.01	0.15	1	0.15	0.65	0.01	0.35	0.35	$0.06	$1.15	$0.17	$1.32	$0.28	$0.09	$0.37	$1.02	$1.02	$0.0001	$0.0027	$0.0023	$0.0039
114.21	Santa Rosa	18.15	132.43	3	44.14	58.22	6.05	8.39	25.16	$80.89	$34.19	$15.22	$117.80	$8.45	$7.87	$33.21	$30.27	$90.81	$0.0674	$0.3561	$0.3062	$0.5121
114.22	Santa Rosa	30.21	332.80	7	47.54	142.03	4.32	7.08	49.59	$165.61	$35.75	$37.12	$287.37	$8.83	$19.20	$81.02	$31.65	$221.52	$0.1380	$0.8732	$0.7510	$1.2557
114.23	Santa Rosa	14.38	112.09	3	37.36	52.68	4.79	7.47	22.40	$66.11	$30.94	$13.77	$106.58	$7.64	$7.12	$30.05	$27.39	$82.16	$0.0551	$0.3185	$0.2739	$0.4579
206.3	Santa Rosa	0.89	1.88	1	1.88	2.92	0.89	3.23	3.23	$2.05	$5.14	$0.76	$5.90	$1.27	$0.39	$1.66	$4.55	$4.55	$0.0017	$0.0143	$0.0123	$0.0206
206.4	Santa Rosa	3.80	22.21	1	22.21	12.85	3.80	6.65	6.65	$15.03	$22.64	$3.36	$26.00	$5.59	$1.74	$7.33	$20.04	$20.04	$0.0125	$0.0749	$0.0644	$0.1077
	Total:	**67.44**	**601.66**	**16**		**269.35**			**107.37**	**$329.75**												
	Cumulative Total:									–			**$544.97**			**$153.65**		**$420.10**	**$0.27**	**$1.64**	**$1.41**	**$2.36**
													$874.72			**$1,028.38**		**$1,448.48**	–	**$1.91**	**$3.32**	**$5.68**

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $261,360/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006382

Table C-17
Urban Runoff Treatment Cost Calculations - Stanislaus County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
535.3	Modesto	36.52	135.61	3	45.20	59.06	12.17	11.90	35.69	$116.16	$34.68	$5.14	$109.20	$8.57	$2.66	$28.37	$30.70	$92.11	$0.0968	$0.3618	$0.3111	$0.5203
535.5	Modesto	15.86	73.75	2	36.88	34.84	7.93	9.60	19.20	$56.30	$30.59	$3.04	$64.43	$7.58	$1.57	$16.74	$27.17	$54.34	$0.0469	$0.2104	$0.1810	$0.3026
204.3	San Jose	0.11	0.66	1	0.66	1.55	0.11	1.11	1.11	$0.41	$2.74	$0.14	$2.87	$0.68	$0.07	$0.75	$2.42	$2.42	$0.0003	$0.0071	$0.0061	$0.0102
205.3	San Jose	0.06	0.45	1	0.45	1.24	0.06	0.83	0.83	$0.26	$2.19	$0.11	$2.30	$0.54	$0.06	$0.60	$1.94	$1.94	$0.0002	$0.0055	$0.0047	$0.0079
305.4	San Jose	0.04	0.26	1	0.26	0.89	0.04	0.65	0.65	$0.15	$1.56	$0.08	$1.64	$0.39	$0.04	$0.43	$1.38	$1.38	$0.0001	$0.0038	$0.0033	$0.0054
542.1	San Jose	0.01	0.06	1	0.06	0.38	0.01	0.34	0.34	$0.04	$0.67	$0.03	$0.70	$0.17	$0.02	$0.18	$0.59	$0.59	$0.0000	$0.0015	$0.0013	$0.0021
542.2	San Jose	0.29	2.32	1	2.32	3.31	0.29	1.84	1.84	$1.31	$5.83	$0.29	$6.12	$1.44	$0.15	$1.59	$5.16	$5.16	$0.0011	$0.0165	$0.0142	$0.0237
542.31	San Jose	0.16	0.96	1	0.96	1.96	0.16	1.36	1.36	$0.62	$3.45	$0.17	$3.62	$0.85	$0.09	$0.94	$3.05	$3.05	$0.0005	$0.0092	$0.0079	$0.0132
	Total:	53.04	214.07	11		103.23			61.03	$175.24			$190.88			$49.68		$161.01	$0.15	$0.62	$0.53	$0.89
	Cumulative Total:									–			$366.11			$415.70		$576.70	–	$0.76	$1.29	$2.18

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $87,120/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-18
Urban Runoff Treatment Cost Calculations - Ventura County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
404.22	Los Angeles	0.00	0.01	1	0.01	0.13	0.00	0.12	0.12	$0.01	$0.22	$0.03	$0.25	$0.05	$0.02	$0.07	$0.20	$0.20	$0.0000	$0.0004	$0.0004	$0.0006
405.21	Los Angeles	0.98	6.26	1	6.26	6.01	0.98	3.37	3.37	$3.98	$10.59	$1.57	$12.16	$2.62	$0.81	$3.43	$9.38	$9.38	$0.0033	$0.0321	$0.0276	$0.0461
401	Oxnard--Ventura	0.04	0.35	1	0.35	1.07	0.04	0.71	0.71	$0.19	$1.88	$0.28	$2.16	$0.46	$0.14	$0.61	$1.66	$1.66	$0.0002	$0.0047	$0.0040	$0.0067
402.1	Oxnard--Ventura	5.41	44.21	1	44.21	19.42	5.41	7.93	7.93	$25.53	$34.22	$5.08	$39.30	$8.45	$2.63	$11.08	$30.30	$30.30	$0.0213	$0.1188	$0.1022	$0.1709
402.2	Oxnard--Ventura	0.06	0.52	1	0.52	1.34	0.06	0.84	0.84	$0.28	$2.37	$0.35	$2.72	$0.58	$0.18	$0.77	$2.10	$2.10	$0.0002	$0.0060	$0.0052	$0.0087
403.11	Oxnard--Ventura	48.18	245.44	5	49.09	103.42	9.64	10.59	52.93	$179.69	$36.44	$27.03	$209.24	$9.00	$13.98	$59.00	$32.26	$161.30	$0.1497	$0.6373	$0.5480	$0.9164
403.12	Oxnard--Ventura	24.58	69.63	2	34.81	33.66	12.29	11.95	23.91	$68.05	$29.65	$8.80	$68.11	$7.33	$4.55	$19.20	$26.25	$52.50	$0.0567	$0.2025	$0.1741	$0.2912
403.21	Oxnard--Ventura	1.43	4.90	1	4.90	5.19	1.43	4.08	4.08	$4.25	$9.14	$1.36	$10.50	$2.26	$0.70	$2.96	$8.09	$8.09	$0.0035	$0.0272	$0.0234	$0.0391
403.61	Oxnard--Ventura	1.59	5.58	1	5.58	5.61	1.59	4.30	4.30	$4.79	$9.89	$1.47	$11.35	$2.44	$0.76	$3.20	$8.75	$8.75	$0.0040	$0.0297	$0.0255	$0.0427
403.63	Oxnard--Ventura	0.49	0.90	1	0.90	1.88	0.49	2.39	2.39	$1.04	$3.31	$0.49	$3.80	$0.82	$0.25	$1.07	$2.93	$2.93	$0.0009	$0.0087	$0.0075	$0.0126
403.64	Oxnard--Ventura	20.78	150.05	4	37.51	70.40	5.19	7.77	31.09	$91.95	$31.01	$18.40	$142.45	$7.66	$9.52	$40.16	$27.45	$109.81	$0.0766	$0.4257	$0.3661	$0.6122
403.65	Oxnard--Ventura	1.43	6.36	1	6.36	6.07	1.43	4.08	4.08	$4.85	$10.70	$1.59	$12.26	$2.64	$0.82	$3.46	$9.47	$9.47	$0.0040	$0.0324	$0.0279	$0.0466
403.67	Oxnard--Ventura	0.08	0.35	1	0.35	1.07	0.08	0.96	0.96	$0.26	$1.88	$0.28	$2.16	$0.46	$0.14	$0.61	$1.67	$1.67	$0.0002	$0.0047	$0.0040	$0.0067
403.68	Oxnard--Ventura	17.29	123.88	3	41.29	55.94	5.76	8.19	24.56	$76.31	$32.85	$14.62	$113.17	$8.12	$7.56	$31.91	$29.08	$87.24	$0.0636	$0.3405	$0.2928	$0.4897
404.23	Oxnard--Ventura	7.71	35.46	1	35.46	17.02	7.71	9.47	9.47	$27.21	$29.98	$4.45	$34.43	$7.41	$2.30	$9.71	$26.54	$26.54	$0.0227	$0.1025	$0.0881	$0.1474
404.25	Oxnard--Ventura	7.48	71.17	2	35.58	34.10	3.74	6.59	13.19	$37.96	$30.04	$8.91	$69.00	$7.42	$4.61	$19.46	$26.60	$53.19	$0.0316	$0.2055	$0.1767	$0.2955
404.26	Oxnard--Ventura	2.75	21.13	1	21.13	12.47	2.75	5.65	5.65	$12.46	$21.98	$3.26	$25.24	$5.43	$1.69	$7.12	$19.46	$19.46	$0.0104	$0.0725	$0.0623	$0.1042
404.47	Oxnard--Ventura	0.18	0.86	1	0.86	1.83	0.18	1.43	1.43	$0.61	$3.22	$0.48	$3.69	$0.79	$0.25	$1.04	$2.85	$2.85	$0.0005	$0.0085	$0.0073	$0.0122
403.62	Simi Valley	11.33	21.18	1	21.16	12.49	11.33	11.48	11.48	$25.32	$22.01	$3.26	$25.27	$5.44	$1.69	$7.13	$19.48	$19.48	$0.0211	$0.0726	$0.0624	$0.1044
403.63	Simi Valley	1.83	1.66	1	1.66	2.71	1.83	4.61	4.61	$2.76	$4.77	$0.71	$5.48	$1.18	$0.37	$1.55	$4.23	$4.23	$0.0023	$0.0132	$0.0113	$0.0189
403.65	Simi Valley	1.39	4.44	1	4.44	4.89	1.39	4.02	4.02	$3.98	$8.62	$1.28	$9.90	$2.13	$0.66	$2.79	$7.63	$7.63	$0.0033	$0.0255	$0.0219	$0.0366
403.67	Simi Valley	30.18	186.95	4	46.74	80.33	7.55	9.37	37.47	$124.04	$35.39	$21.00	$162.54	$8.74	$10.86	$45.83	$31.32	$125.30	$0.1034	$0.4933	$0.4242	$0.7094
403.68	Simi Valley	1.91	10.45	1	10.45	8.18	1.91	4.71	4.71	$7.23	$14.41	$2.14	$16.54	$3.56	$1.11	$4.66	$12.75	$12.75	$0.0060	$0.0452	$0.0389	$0.0650
404.22	Simi Valley	0.18	1.17	1	1.17	2.20	0.18	1.45	1.45	$0.73	$3.88	$0.58	$4.45	$0.96	$0.30	$1.26	$3.43	$3.43	$0.0006	$0.0104	$0.0090	$0.0150
404.23	Simi Valley	0.62	3.98	1	3.98	4.58	0.62	2.68	2.68	$2.51	$8.08	$1.20	$9.27	$2.00	$0.62	$2.61	$7.15	$7.15	$0.0021	$0.0237	$0.0204	$0.0341
	Total:	187.88	1,016.89	39		492.00			257.42	$705.97			$995.47			$280.67		$767.38	$0.59	$2.94	$2.53	$4.23
	Cumulative Total:									--			$1,701.44			$1,982.11		$2,749.49	--	$3.53	$6.06	$10.30

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $261,360/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-19
Urban Runoff Costs Summary

County	Runoff (MG per rainfall event)	Number of Treatment Units	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)				Annual Operations and Maintenance Costs ($ million/year)			
				Collection System	Level 1	Level 2	Level 3				
				Total Cost	Total Cost (including Collection)	Total Cost (including Collection)	Total Cost (including Collection)	Collection System	Level 1 (including Collection)	Level 2 (including Collection)	Level 3 (including Collection)
Alameda	1,816	43	371	$1,180.36	$2,775.39	$3,229.11	$4,445.58	$0.9836	$5.7682	$9.8827	$16.7628
Contra Costa	1,888	47	428	$1,280.10	$2,992.70	$3,479.86	$4,785.98	$1.0668	$6.1749	$10.5677	$17.9131
Fresno	480	13	133	$416.48	$808.27	$910.05	$1,240.53	$0.3471	$1.6391	$2.7502	$4.6082
Kern	279	8	92	$274.26	$517.59	$582.24	$782.77	$0.2285	$1.0061	$1.6748	$2.7928
Los Angeles	21,684	480	3,772	$12,486.25	$32,938.99	$39,087.27	$53,603.58	$10.4052	$67.5535	$116.6996	$198.8777
Marin	1,127	28	188	$566.47	$1,723.94	$2,083.72	$2,866.44	$0.4721	$3.5303	$6.1603	$10.5580
Orange	2,885	70	620	$1,998.75	$4,667.94	$5,446.44	$7,419.10	$1.6656	$9.3978	$16.0473	$27.1661
Riverside	1,110	35	357	$1,061.90	$2,038.68	$2,299.72	$3,109.37	$0.8849	$4.0185	$6.7134	$11.2195
Sacramento	1,810	41	352	$1,146.88	$2,627.12	$3,024.65	$4,230.63	$0.9557	$5.7060	$9.7910	$16.6218
San Bernardino	1,914	61	476	$1,394.22	$3,130.75	$3,601.97	$5,000.84	$1.1618	$6.5649	$11.2114	$18.9809
San Diego	3,666	106	882	$2,605.48	$5,920.53	$6,820.16	$9,490.66	$2.1712	$12.5172	$21.4145	$36.2919
San Joaquin	314	9	87	$249.86	$530.46	$605.02	$836.26	$0.2082	$1.1023	$1.8713	$3.1570
San Mateo	1,514	37	292	$923.12	$2,333.7[illegible]	$2,751.57	$3,772.99	$0.7693	$4.7797	$8.2286	$13.9956
Santa Clara	2,364	55	441	$1,458.59	$3,729.80	$4,426.76	$5,992.20	$1.2155	$7.3856	$12.6918	$21.5643
Solano	522	16	136	$367.54	$851.49	$984.14	$1,369.65	$0.3063	$1.7960	$3.0771	$5.2193
Sonoma	602	16	107	$329.75	$874.72	$1,028.38	$1,448.48	$0.2748	$1.9145	$3.3246	$5.6824
Stanislaus	214	11	61	$175.24	$366.1[illegible]	$415.70	$576.70	$0.1460	$0.7618	$1.2913	$2.1767
Ventura	1,017	39	257	$705.97	$1,701.44	$1,982.11	$2,749.49	$0.5883	$3.5318	$6.0631	$10.2958
Cumulative Total:	**45,205**	**1115**	**9,055**	**$28,621**	**$70,530**	**$82,759**	**$113,721**	**$23.85**	**$145.15**	**$249.46**	**$423.88**
Present Worth[a]:					**$72,502**	**$86,149**	**$119,482**				

a - Present worth costs calculated using an interest rate of 4 percent and a 20 year period. Includes project costs and operations and maintenance costs.

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Table C-7
Urban Runoff Treatment Cost Calculations - Orange County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[e] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
405.12	Los Angeles	0.18	0.77	1	0.77	1.71	0.18	1.45	1.45	$0.59	$3.01	$0.60	$3.61	$0.74	$0.31	$1.05	$2.67	$2.67	$0.0005	$0.0079	$0.0068	$0.0113
405.15	Los Angeles	3.20	20.95	1	20.95	12.41	3.20	6.10	6.10	$13.38	$21.86	$4.32	$26.19	$5.40	$2.24	$7.64	$19.35	$19.35	$0.0112	$0.0720	$0.0620	$0.1036
405.62	Los Angeles	0.00	0.01	1	0.01	0.09	0.00	0.10	0.10	$0.00	$0.15	$0.03	$0.18	$0.04	$0.02	$0.05	$0.13	$0.13	$0.0000	$0.0003	$0.0002	$0.0004
801.11	Los Angeles	261.83	1,430.57	29	49.33	601.58	9.03	10.25	297.14	$1,011.36	$36.55	$209.64	$1,269.60	$9.03	$108.45	$370.30	$32.35	$938.29	$0.8428	$3.7083	$3.1890	$5.3324
801.12	Los Angeles	2.14	9.39	1	9.39	7.67	2.14	4.99	4.99	$7.25	$13.51	$2.67	$16.18	$3.34	$1.38	$4.72	$11.96	$11.96	$0.0060	$0.0421	$0.0362	$0.0605
801.13	Los Angeles	17.68	76.07	2	36.03	35.49	8.84	10.14	20.28	$60.40	$31.27	$12.37	$74.91	$7.72	$6.40	$21.85	$27.68	$55.36	$0.0503	$0.2148	$0.1848	$0.3089
845.61	Los Angeles	64.43	427.53	9	47.50	182.52	7.16	9.12	82.11	$274.13	$35.73	$63.60	$385.19	$8.83	$32.90	$112.35	$31.63	$284.68	$0.2284	$1.1221	$0.9650	$1.6136
845.62	Los Angeles	15.99	102.59	3	34.20	49.95	5.33	7.87	23.62	$66.62	$29.34	$17.41	$105.42	$7.25	$9.00	$30.75	$25.97	$77.91	$0.0555	$0.3001	$0.2581	$0.4316
845.63	Los Angeles	21.36	113.16	3	37.72	52.98	7.12	9.10	27.30	$80.96	$31.11	$18.46	$111.81	$7.69	$9.55	$32.61	$27.54	$82.63	$0.0675	$0.3205	$0.2756	$0.4609
901.11	Los Angeles	0.59	4.36	1	4.36	4.84	0.59	2.61	2.61	$2.56	$8.53	$1.69	$10.22	$2.11	$0.87	$2.98	$7.55	$7.55	$0.0021	$0.0252	$0.0217	$0.0362
901.12	Los Angeles	6.20	41.18	1	41.18	18.61	6.20	8.49	8.49	$26.34	$32.80	$6.49	$39.28	$6.10	$3.36	$11.46	$29.03	$29.03	$0.0219	$0.1133	$0.0974	$0.1629
901.13	Los Angeles	31.92	184.47	4	46.12	79.69	7.98	9.63	38.53	$126.70	$35.10	$27.77	$168.18	$8.67	$14.37	$49.05	$31.07	$124.29	$0.1056	$0.4889	$0.4205	$0.7031
901.14	Los Angeles	8.52	56.06	2	28.03	29.55	4.26	7.04	14.08	$35.86	$26.04	$10.30	$62.37	$6.43	$5.33	$18.19	$23.05	$46.10	$0.0299	$0.1751	$0.1506	$0.2518
901.2	Los Angeles	55.57	287.15	6	47.86	122.22	9.26	10.38	62.26	$208.66	$35.89	$42.59	$257.94	$6.87	$22.03	$75.23	$31.77	$190.63	$0.1739	$0.7518	$0.6465	$1.0811
901.3	Los Angeles	17.10	112.46	3	37.49	52.78	5.70	8.14	24.42	$72.20	$31.00	$18.39	$111.39	$7.66	$9.51	$32.49	$27.44	$82.32	$0.0602	$0.3192	$0.2745	$0.4589
901.4	Los Angeles	2.78	17.74	1	17.74	11.23	2.78	5.69	5.69	$11.46	$19.79	$3.91	$23.70	$4.89	$2.02	$6.91	$17.52	$17.52	$0.0095	$0.0644	$0.0554	$0.0927
801.13	Palm Springs	0.08	0.46	1	0.46	1.25	0.08	0.95	0.95	$0.29	$2.20	$0.44	$2.64	$0.54	$0.23	$0.77	$1.95	$1.95	$0.0002	$0.0056	$0.0048	$0.0080
801.13	Riverside	0.00	0.02	1	0.02	0.18	0.00	0.15	0.15	$0.01	$0.32	$0.06	$0.38	$0.08	$0.03	$0.11	$0.28	$0.28	$0.0000	$0.0006	$0.0006	$0.0009
	Total:	509.56	2,884.92	70		1,264.76			620.27	$1,998.75			$2,669.19			$778.51		$1,972.66	$1.67	$7.73	$6.65	$11.12
	Cumulative Total:									–			$4,667.94			$5,446.44		$7,419.10	–	$9.40	$16.05	$27.17

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $348,480/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-8
Urban Runoff Treatment Cost Calculations - Riverside County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
802.13	Hemet–San Jacinto	0.07	0.16	1	0.16	0.67	0.07	0.89	0.89	$0.16	$1.19	$0.09	$1.28	$0.29	$0.05	$0.34	$1.05	$1.05	$0.0001	$0.0028	$0.0024	$0.0040
802.15	Hemet–San Jacinto	22.74	51.74	2	25.87	28.17	11.37	11.50	23.00	$56.22	$24.61	$3.68	$53.31	$6.13	$1.90	$14.16	$21.97	$43.93	$0.0469	$0.1660	$0.1427	$0.2386
802.21	Hemet–San Jacinto	21.22	47.04	1	47.04	20.16	21.22	15.71	15.71	$52.17	$35.52	$2.63	$38.16	$8.78	$1.36	$10.14	$31.45	$31.45	$0.0435	$0.1239	$0.1065	$0.1781
902.36	Hemet–San Jacinto	0.06	0.09	1	0.09	0.46	0.06	0.84	0.84	$0.11	$0.82	$0.06	$0.88	$0.20	$0.03	$0.23	$0.72	$0.72	$0.0001	$0.0018	$0.0016	$0.0026
901.4	Los Angeles	0.04	0.25	1	0.25	0.87	0.04	0.64	0.64	$0.15	$1.53	$0.11	$1.65	$0.38	$0.06	$0.44	$1.36	$1.36	$0.0001	$0.0037	$0.0032	$0.0053
801.13	Riverside	3.25	20.66	1	20.66	12.30	3.25	6.14	6.14	$13.38	$21.68	$1.61	$23.29	$5.36	$0.83	$6.19	$19.19	$19.19	$0.0112	$0.0714	$0.0614	$0.1026
801.21	Riverside	32.85	104.79	3	34.93	50.59	10.95	11.28	33.85	$96.52	$29.71	$6.61	$95.75	$7.34	$3.42	$25.44	$26.30	$78.91	$0.0804	$0.3044	$0.2618	$0.4377
801.25	Riverside	40.69	164.46	4	41.11	74.39	10.17	10.88	43.50	$134.86	$32.77	$9.72	$140.78	$8.09	$5.03	$37.41	$29.00	$116.02	$0.1124	$0.4527	$0.3893	$0.6510
801.26	Riverside	47.06	99.58	2	49.79	41.72	23.53	16.54	33.08	$113.13	$36.76	$5.45	$78.96	$9.08	$2.82	$20.98	$32.54	$65.07	$0.0943	$0.2573	$0.2213	$0.3701
801.27	Riverside	59.05	235.76	5	47.15	100.95	11.81	11.72	58.60	$194.87	$35.57	$13.19	$191.06	$8.79	$6.82	$50.76	$31.49	$157.45	$0.1624	$0.6203	$0.5334	$0.8920
801.32	Riverside	1.86	10.73	1	10.73	8.31	1.86	4.65	4.65	$7.23	$14.63	$1.09	$15.72	$3.62	$0.56	$4.18	$12.95	$12.95	$0.0060	$0.0460	$0.0396	$0.0662
801.45	Riverside	0.09	0.38	1	0.38	1.12	0.09	1.02	1.02	$0.29	$1.98	$0.15	$2.13	$0.49	$0.08	$0.57	$1.75	$1.75	$0.0002	$0.0049	$0.0042	$0.0071
801.62	Riverside	0.05	0.24	1	0.24	0.85	0.05	0.77	0.77	$0.17	$1.49	$0.11	$1.60	$0.37	$0.06	$0.43	$1.32	$1.32	$0.0001	$0.0036	$0.0031	$0.0052
801.63	Riverside	0.87	6.30	1	6.30	6.04	0.87	3.18	3.18	$3.76	$10.63	$0.79	$11.42	$2.63	$0.41	$3.03	$9.41	$9.41	$0.0031	$0.0322	$0.0277	$0.0463
801.67	Riverside	1.78	14.47	1	14.47	9.94	1.78	4.55	4.55	$8.26	$17.51	$1.30	$18.81	$4.33	$0.67	$5.00	$15.50	$15.50	$0.0069	$0.0562	$0.0484	$0.0809
802.11	Riverside	36.71	63.31	2	31.65	31.79	18.36	14.61	29.22	$79.21	$28.01	$4.15	$80.17	$6.92	$2.15	$15.99	$24.79	$49.59	$0.0560	$0.1900	$0.1634	$0.2732
719.47	Indio–Coachella	27.88	35.55	1	35.55	17.04	27.88	18.01	18.01	$51.81	$30.03	$1.48	$31.52	$7.42	$1.15	$8.57	$26.58	$26.58	$0.0432	$0.1027	$0.0883	$0.1477
719.47	Palm Springs	89.92	254.67	6	42.44	113.73	14.99	13.20	79.21	$249.58	$33.40	$9.91	$210.30	$8.25	$7.69	$57.19	$29.56	$177.39	$0.2080	$0.6937	$0.5968	$0.9976
	Total:	386.17	1,110.18	35		519.10			356.84	$1,061.90			$976.78			$261.04		$809.65	$0.88	$3.13	$2.69	$4.51
	Cumulative Total:									–			$2,038.68			$2,299.72		$3,109.37	–	$4.02	$6.71	$11.22

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $130,680/acre for western Riverside County (Hemet-San Jacinto, Los Angeles, Riverside) and $87,120/acre for eastern Riverside County (Indio-Coachella, Palm Springs)
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-9
Urban Runoff Treatment Cost Calculations - Sacramento County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
510	Sacramento	8.89	32.66	1	32.66	16.20	8.89	10.17	10.17	$28.01	$28.54	$2.47	$31.01	$7.05	$1.28	$8.33	$25.26	$25.26	$0.0233	$0.0970	$0.0834	$0.1395
511.2	Sacramento	0.07	0.15	1	0.15	0.63	0.07	0.93	0.93	$0.16	$1.11	$0.10	$1.21	$0.27	$0.05	$0.32	$0.98	$0.98	$0.0001	$0.0026	$0.0022	$0.0037
514.23	Sacramento	1.07	0.15	1	0.15	0.65	1.07	3.52	3.52	$0.62	$1.14	$0.10	$1.24	$0.28	$0.05	$0.33	$1.01	$1.01	$0.0005	$0.0027	$0.0023	$0.0038
519.11	Sacramento	22.71	39.68	1	39.68	18.20	22.71	16.25	16.25	$49.47	$32.67	$2.78	$34.85	$7.92	$1.44	$9.36	$28.39	$28.39	$0.0412	$0.1105	$0.0950	$0.1589
519.12	Sacramento	64.42	494.32	10	49.43	207.70	6.44	8.66	86.55	$294.90	$36.60	$31.67	$397.62	$9.04	$16.38	$106.79	$32.40	$323.95	$0.2457	$1.2805	$1.1012	$1.8413
519.21	Sacramento	164.55	1,218.00	25	48.72	514.75	6.58	8.75	218.71	$739.67	$36.28	$78.46	$985.44	$8.96	$40.60	$264.65	$32.11	$802.86	$0.6164	$3.1702	$2.7263	$4.5587
519.22	Sacramento	16.92	24.84	1	24.84	13.74	16.92	14.03	14.03	$33.58	$24.22	$2.10	$26.31	$5.98	$1.08	$7.07	$21.44	$21.44	$0.0280	$0.0808	$0.0694	$0.1161
531.11	Sacramento	0.19	0.51	1	0.51	1.33	0.19	1.48	1.48	$0.48	$2.35	$0.20	$2.56	$0.58	$0.11	$0.69	$2.09	$2.08	$0.0004	$0.0060	$0.0051	$0.0086
	Total:	278.81	1,810.31	41		773.21			351.63	$1,146.88			$1,480.24			$397.53		$1,205.98	$0.96	$4.75	$4.09	$6.83
	Cumulative Total:									--			$2,627.12			$3,024.65		$4,230.63	--	$5.71	$9.79	$16.62

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $152,460/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-10
Urban Runoff Treatment Cost Calculations - San Bernardino County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
405.62	Los Angeles	0.08	0.40	1	0.40	1.16	0.08	0.95	0.95	$0.28	$2.04	$0.20	$2.24	$0.50	$0.10	$0.61	$1.81	$1.81	$0.0002	$0.0051	$0.0044	$0.0073
405.63	Los Angeles	0.26	1.12	1	1.12	2.14	0.26	1.73	1.73	$0.85	$3.78	$0.37	$4.15	$0.93	$0.19	$1.13	$3.35	$3.35	$0.0007	$0.0101	$0.0087	$0.0146
481.21	Los Angeles	1.86	16.78	1	16.78	10.86	1.86	4.65	4.65	$9.11	$19.14	$1.89	$21.03	$4.73	$0.98	$5.71	$16.94	$16.94	$0.0076	$0.0621	$0.0534	$0.0893
481.22	Los Angeles	0.08	0.56	1	0.56	1.41	0.08	0.97	0.97	$0.33	$2.49	$0.25	$2.73	$0.61	$0.13	$0.74	$2.20	$2.20	$0.0003	$0.0064	$0.0055	$0.0091
481.23	Los Angeles	0.62	4.02	1	4.02	4.61	0.62	2.69	2.69	$2.53	$8.12	$0.80	$8.93	$2.01	$0.42	$2.42	$7.19	$7.19	$0.0021	$0.0238	$0.0205	$0.0343
801.13	Los Angeles	0.04	0.17	1	0.17	0.69	0.04	0.65	0.65	$0.12	$1.22	$0.12	$1.34	$0.30	$0.06	$0.36	$1.08	$1.08	$0.0001	$0.0029	$0.0025	$0.0041
801.21	Los Angeles	115.76	597.70	12	49.81	250.38	9.65	10.59	127.09	$434.72	$36.78	$43.63	$484.78	$9.08	$22.57	$131.55	$32.54	$390.51	$0.3623	$1.5444	$1.3282	$2.2208
801.21	Riverside-San Bernardino	45.73	193.44	4	48.36	81.99	11.43	11.53	46.12	$155.38	$36.12	$14.29	$158.76	$8.92	$7.39	$43.08	$31.97	$127.89	$0.1295	$0.5047	$0.4341	$0.7258
801.23	Los Angeles	1.26	6.79	1	6.79	6.31	1.26	3.83	3.83	$4.72	$11.12	$1.10	$12.22	$2.75	$0.57	$3.32	$9.84	$9.84	$0.0039	$0.0339	$0.0291	$0.0487
801.24	Los Angeles	12.74	60.51	2	30.25	30.94	6.37	8.61	17.21	$45.59	$27.26	$5.39	$59.91	$6.73	$2.79	$16.26	$24.13	$48.26	$0.0380	$0.1843	$0.1585	$0.2650
801.27	Riverside-San Bernardino	20.68	88.91	2	44.46	38.98	10.34	10.96	21.93	$70.76	$34.34	$6.79	$75.47	$8.48	$3.51	$20.48	$30.40	$60.79	$0.0590	$0.2385	$0.2051	$0.3430
801.42	Riverside-San Bernardino	0.42	4.09	1	4.09	4.65	0.42	2.22	2.22	$2.10	$8.20	$0.81	$9.01	$2.03	$0.42	$2.44	$7.26	$7.26	$0.0018	$0.0241	$0.0207	$0.0346
801.43	Riverside-San Bernardino	2.04	10.73	1	10.73	8.30	2.04	4.87	4.87	$7.57	$14.63	$1.45	$16.08	$3.61	$0.75	$4.36	$12.95	$12.95	$0.0063	$0.0460	$0.0396	$0.0662
801.44	Riverside-San Bernardino	30.07	152.35	4	38.09	71.05	7.52	9.35	37.40	$111.47	$31.30	$12.38	$137.57	$7.73	$6.40	$37.33	$27.70	$110.82	$0.0929	$0.4301	$0.3699	$0.6185
801.45	Riverside-San Bernardino	3.01	13.46	1	13.46	9.52	3.01	5.92	5.92	$10.35	$16.77	$1.66	$18.43	$4.14	$0.86	$5.00	$14.84	$14.84	$0.0086	$0.0536	$0.0461	$0.0770
801.52	Riverside-San Bernardino	87.98	516.03	11	46.91	221.41	8.00	9.64	106.08	$351.88	$35.43	$38.58	$428.69	$8.76	$19.96	$116.33	$31.39	$345.33	$0.2932	$1.3600	$1.1696	$1.9557
801.53	Riverside-San Bernardino	6.54	30.89	1	30.89	15.66	6.54	8.72	8.72	$23.34	$27.60	$2.73	$30.33	$6.82	$1.41	$8.23	$24.43	$24.43	$0.0195	$0.0934	$0.0804	$0.1344
801.54	Riverside-San Bernardino	2.51	10.33	1	10.33	8.12	2.51	5.40	5.40	$8.25	$14.31	$1.41	$15.72	$3.53	$0.73	$4.27	$12.66	$12.66	$0.0069	$0.0449	$0.0386	$0.0645
801.55	Riverside-San Bernardino	4.35	16.84	1	16.84	10.89	4.35	7.12	7.12	$13.96	$19.19	$1.90	$21.08	$4.74	$0.98	$5.72	$16.98	$16.98	$0.0116	$0.0622	$0.0535	$0.0895
801.56	Riverside-San Bernardino	4.07	20.98	1	20.98	12.42	4.07	6.88	6.88	$15.10	$21.89	$2.16	$24.05	$5.41	$1.12	$6.53	$19.37	$19.37	$0.0126	$0.0721	$0.0620	$0.1037
801.58	Riverside-San Bernardino	1.74	7.93	1	7.93	6.93	1.74	4.50	4.50	$6.01	$12.21	$1.21	$13.42	$3.02	$0.62	$3.64	$10.81	$10.81	$0.0050	$0.0376	$0.0323	$0.0540
801.59	Riverside-San Bernardino	0.85	6.71	1	6.71	6.27	0.85	3.15	3.15	$3.85	$11.05	$1.09	$12.14	$2.73	$0.57	$3.29	$9.78	$9.78	$0.0032	$0.0336	$0.0289	$0.0483
801.61	Riverside-San Bernardino	6.18	31.08	1	31.08	15.72	6.18	8.48	8.48	$22.78	$27.73	$2.74	$30.44	$6.84	$1.42	$8.26	$24.52	$24.52	$0.0190	$0.0938	$0.0807	$0.1349
801.62	Riverside-San Bernardino	0.42	1.78	1	1.78	2.82	0.42	2.22	2.22	$1.37	$4.97	$0.49	$5.47	$1.23	$0.25	$1.48	$4.40	$4.40	$0.0011	$0.0138	$0.0119	$0.0198
801.64	Riverside-San Bernardino	4.31	16.63	1	16.63	10.80	4.31	7.08	7.08	$13.80	$19.03	$1.88	$20.92	$4.70	$0.97	$5.68	$16.85	$16.85	$0.0115	$0.0617	$0.0531	$0.0887
801.65	Riverside-San Bernardino	1.32	4.60	1	4.60	4.99	1.32	3.92	3.92	$3.95	$8.80	$0.87	$9.67	$2.17	$0.45	$2.62	$7.79	$7.79	$0.0033	$0.0261	$0.0224	$0.0375
801.66	Riverside-San Bernardino	4.17	16.84	1	16.84	10.89	4.17	6.96	6.96	$13.65	$19.13	$1.90	$21.08	$4.74	$0.98	$5.72	$16.98	$16.98	$0.0114	$0.0622	$0.0535	$0.0895
801.67	Riverside-San Bernardino	9.57	49.20	1	49.20	20.71	9.57	10.55	10.55	$35.85	$36.49	$3.61	$40.10	$9.02	$1.87	$10.88	$32.30	$32.30	$0.0299	$0.1276	$0.1098	$0.1836
801.88	Riverside-San Bernardino	2.10	9.09	1	9.09	7.52	2.10	4.94	4.94	$7.07	$13.25	$1.31	$14.56	$3.27	$0.68	$3.95	$11.73	$11.73	$0.0059	$0.0412	$0.0354	$0.0592
801.69	Riverside-San Bernardino	0.25	0.85	1	0.85	1.81	0.25	1.70	1.70	$0.72	$3.19	$0.32	$3.51	$0.79	$0.16	$0.95	$2.82	$2.82	$0.0006	$0.0084	$0.0072	$0.0121
845.62	Los Angeles	1.07	6.46	1	6.46	6.12	1.07	3.52	3.52	$4.23	$10.73	$1.07	$11.86	$2.67	$0.55	$3.22	$9.55	$9.55	$0.0035	$0.0327	$0.0282	$0.0471
845.63	Los Angeles	3.57	16.57	1	16.57	10.78	3.57	6.44	6.44	$12.54	$19.00	$1.88	$20.87	$4.69	$0.97	$5.66	$16.81	$16.81	$0.0104	$0.0616	$0.0529	$0.0885
	Total:	375.65	1,913.86	61		896.88			475.89	$1,394.22			$1,736.53			$471.22		$1,398.87	$1.16	$5.40	$4.65	$7.77
	Cumulative Total:									–			$3,130.75			$3,601.97		$5,000.84	–	$6.56	$11.21	$18.98

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $174,240/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-11
Urban Runoff Treatment Cost Calculations - San Diego County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[a]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
901.4	Los Angeles	0.04	0.37	1	0.37	1.10	0.04	0.71	0.71	$0.20	$1.94	$0.19	$2.13	$0.48	$0.10	$0.58	$1.72	$1.72	$0.0002	$0.0048	$0.0041	$0.0089
902.11	San Diego	1.69	9.82	1	9.82	7.88	1.69	4.44	4.44	$6.60	$13.86	$1.37	$15.25	$3.43	$0.71	$4.14	$12.29	$12.29	$0.0055	$0.0434	$0.0373	$0.0824
902.12	San Diego	0.57	3.58	1	3.58	4.30	0.57	2.57	2.57	$2.28	$7.56	$0.75	$8.33	$1.87	$0.39	$2.26	$6.71	$6.71	$0.0019	$0.0221	$0.0190	$0.0317
902.13	San Diego	6.98	47.43	1	47.43	20.26	6.98	9.01	9.01	$30.06	$35.70	$3.53	$39.23	$8.82	$1.83	$10.65	$31.60	$31.60	$0.0251	$0.1246	$0.1071	$0.1791
902.21	San Diego	0.72	5.21	1	5.21	5.38	0.72	2.89	2.89	$3.10	$9.49	$0.94	$10.43	$2.34	$0.49	$2.83	$8.40	$8.40	$0.0026	$0.0284	$0.0244	$0.0408
902.22	San Diego	1.32	8.72	1	8.72	7.34	1.32	3.92	3.92	$5.49	$12.92	$1.28	$14.20	$3.19	$0.66	$3.85	$11.44	$11.44	$0.0046	$0.0401	$0.0344	$0.0576
903.11	San Diego	34.40	112.01	3	37.34	52.65	11.47	11.55	34.64	$102.21	$30.93	$9.17	$101.95	$7.64	$4.75	$27.66	$27.38	$82.13	$0.0852	$0.3183	$0.2737	$0.4577
903.12	San Diego	9.45	35.53	1	35.53	17.04	9.45	10.48	10.48	$30.15	$30.02	$2.97	$32.99	$7.42	$1.54	$8.95	$26.57	$26.57	$0.0251	$0.1026	$0.0883	$0.1476
903.14	San Diego	0.06	0.16	1	0.16	0.67	0.08	0.93	0.93	$0.17	$1.16	$0.12	$1.30	$0.29	$0.06	$0.35	$1.05	$1.05	$0.0001	$0.0028	$0.0024	$0.0040
904.1	San Diego	8.13	38.97	1	38.97	18.01	8.13	9.72	9.72	$29.32	$31.73	$3.14	$34.87	$7.84	$1.62	$9.46	$28.09	$28.09	$0.0244	$0.1092	$0.0939	$0.1570
904.21	San Diego	11.68	69.29	2	34.64	33.56	5.84	8.24	16.48	$46.80	$29.57	$5.85	$64.98	$7.30	$3.02	$17.63	$26.17	$52.34	$0.0390	$0.2018	$0.1736	$0.2902
904.22	San Diego	9.99	54.61	2	27.31	29.09	5.00	7.62	15.25	$38.32	$25.63	$5.07	$56.33	$6.33	$2.62	$15.29	$22.69	$45.38	$0.0319	$0.1721	$0.1480	$0.2474
904.31	San Diego	16.60	76.23	2	38.11	35.54	9.30	10.40	20.80	$62.02	$31.31	$8.19	$68.81	$7.73	$3.20	$18.67	$27.72	$55.43	$0.0517	$0.2151	$0.1850	$0.3094
904.32	San Diego	8.67	29.80	1	29.80	15.33	8.67	10.04	10.04	$26.39	$27.01	$2.67	$29.68	$6.67	$1.38	$8.05	$23.91	$23.91	$0.0220	$0.0912	$0.0784	$0.1312
904.4	San Diego	4.69	18.44	1	18.44	11.49	4.69	7.38	7.38	$15.17	$20.25	$2.00	$22.26	$5.00	$1.04	$6.04	$17.93	$17.93	$0.0126	$0.0661	$0.0569	$0.0951
904.51	San Diego	27.54	106.28	3	36.09	51.60	9.18	10.33	31.00	$89.89	$30.36	$8.99	$99.90	$7.49	$4.65	$27.11	$26.83	$80.46	$0.0749	$0.3112	$0.2678	$0.4475
904.52	San Diego	19.35	82.83	2	41.41	37.35	9.67	10.61	21.21	$66.00	$32.91	$6.51	$72.33	$8.13	$3.37	$19.63	$29.13	$58.26	$0.0550	$0.2275	$0.1956	$0.3271
904.53	San Diego	2.09	5.47	1	5.47	5.54	2.09	4.93	4.93	$5.43	$9.77	$0.97	$10.73	$2.41	$0.50	$2.91	$8.65	$8.65	$0.0045	$0.0293	$0.0252	$0.0421
904.61	San Diego	15.79	75.62	2	37.81	35.37	7.90	8.58	19.17	$56.91	$31.16	$6.16	$68.48	$7.70	$3.19	$18.58	$27.58	$55.16	$0.0474	$0.2140	$0.1840	$0.3077
904.62	San Diego	27.30	156.29	4	39.07	72.15	6.82	8.91	35.63	$107.61	$31.78	$12.57	$139.69	$7.85	$6.50	$37.91	$28.13	$112.53	$0.0897	$0.4375	$0.3783	$0.6291
905.11	San Diego	15.66	64.58	2	32.29	32.17	7.83	9.54	19.08	$52.26	$28.34	$5.61	$62.30	$7.00	$2.90	$16.90	$25.09	$50.18	$0.0436	$0.1925	$0.1656	$0.2769
905.12	San Diego	6.00	24.62	1	24.62	13.67	6.00	8.35	8.35	$19.91	$24.00	$2.38	$26.47	$5.95	$1.23	$7.18	$21.32	$21.32	$0.0166	$0.0803	$0.0690	$0.1154
905.21	San Diego	14.98	66.57	2	33.28	32.76	7.49	9.33	18.66	$51.91	$28.86	$5.71	$63.44	$7.13	$2.95	$17.21	$25.55	$51.10	$0.0433	$0.1965	$0.1690	$0.2825
905.22	San Diego	9.27	53.28	2	26.64	28.67	4.63	7.34	14.68	$36.43	$25.26	$5.00	$55.51	$6.24	$2.58	$15.06	$22.36	$44.71	$0.0304	$0.1693	$0.1456	$0.2434
905.23	San Diego	2.59	14.14	1	14.14	9.80	2.59	5.49	5.49	$9.84	$17.27	$1.71	$18.98	$4.27	$0.88	$5.15	$15.29	$15.29	$0.0082	$0.0554	$0.0476	$0.0796
905.24	San Diego	2.28	12.28	1	12.28	9.01	2.28	5.15	5.15	$8.59	$15.87	$1.57	$17.44	$3.92	$0.81	$4.73	$14.05	$14.05	$0.0072	$0.0504	$0.0433	$0.0724
905.32	San Diego	5.00	15.64	1	15.64	10.41	5.00	7.62	7.62	$14.40	$18.34	$1.81	$20.16	$4.53	$0.94	$5.47	$16.24	$16.24	$0.0120	$0.0592	$0.0509	$0.0852
906.1	San Diego	50.88	247.20	5	49.44	103.86	10.18	10.88	54.39	$185.33	$36.60	$18.10	$201.09	$9.04	$9.36	$54.57	$32.40	$161.99	$0.1544	$0.6403	$0.5506	$0.9207
906.2	San Diego	32.22	161.64	4	40.41	73.62	8.05	9.68	38.71	$118.84	$32.43	$12.83	$142.54	$8.01	$6.64	$38.68	$28.71	$114.82	$0.0991	$0.4475	$0.3848	$0.6435
906.3	San Diego	8.09	51.91	2	25.96	28.22	4.04	6.86	13.71	$33.58	$24.86	$4.92	$54.65	$6.14	$2.54	$14.83	$22.01	$44.02	$0.0280	$0.1663	$0.1430	$0.2392
906.4	San Diego	38.95	237.30	5	47.46	101.34	7.79	9.52	47.59	$158.79	$35.71	$17.66	$196.22	$8.82	$9.13	$53.25	$31.61	$158.07	$0.1323	$0.6230	$0.5358	$0.8959
906.5	San Diego	9.58	59.59	2	29.79	30.66	4.79	7.46	14.93	$39.23	$27.01	$5.34	$59.36	$6.67	$2.76	$16.11	$23.91	$47.82	$0.0327	$0.1824	$0.1569	$0.2623
907.11	San Diego	55.38	360.11	8	45.01	157.08	6.92	8.97	71.78	$233.09	$34.60	$27.37	$304.14	$8.55	$14.16	$82.53	$30.63	$245.00	$0.1942	$0.9621	$0.8274	$1.3835
907.12	San Diego	37.53	197.16	4	49.29	82.94	9.38	10.44	41.78	$142.14	$36.53	$14.45	$160.58	$9.02	$7.48	$43.57	$32.34	$129.35	$0.1184	$0.5112	$0.4396	$0.7351
907.13	San Diego	24.05	168.97	4	42.24	75.60	6.01	8.36	33.45	$105.13	$33.30	$13.17	$146.38	$8.23	$6.81	$39.72	$29.48	$117.92	$0.0876	$0.4610	$0.3964	$0.6629
907 14	San Diego	6.04	33.71	1	33.71	16.51	6.04	8.38	8.38	$23.47	$29.09	$2.88	$31.96	$7.19	$1.49	$8.67	$25.75	$25.75	$0.0196	$0.0991	$0.0852	$0.1425
907.15	San Diego	0.00	0.01	1	0.01	0.15	0.00	0.18	0.18	$0.01	$0.27	$0.03	$0.29	$0.07	$0.01	$0.08	$0.24	$0.24	$0.0000	$0.0005	$0.0005	$0.0008
907.31	San Diego	0.00	0.01	1	0.01	0.15	0.00	0.14	0.14	$0.01	$0.27	$0.03	$0.30	$0.07	$0.01	$0.08	$0.24	$0.24	$0.0000	$0.0005	$0.0005	$0.0008
908.1	San Diego	7.38	48.64	1	48.64	20.57	7.38	9.27	9.27	$31.31	$36.24	$3.58	$39.83	$8.95	$1.85	$10.81	$32.08	$32.08	$0.0261	$0.1267	$0.1089	$0.1821
908.21	San Diego	11.53	89.89	2	44.84	39.18	5.76	8.19	16.37	$53.07	$34.52	$6.83	$75.86	$8.53	$3.53	$20.59	$30.56	$61.11	$0.0442	$0.2399	$0.2063	$0.3450
908.22	San Diego	30.95	219.33	5	43.87	96.67	6.19	8.48	42.42	$135.94	$34.06	$16.84	$187.17	$8.42	$8.71	$50.79	$30.15	$150.77	$0.1133	$0.5910	$0.5062	$0.8498
908.31	San Diego	3.74	27.13	1	27.13	14.49	3.74	6.60	6.60	$16.52	$25.53	$2.52	$28.06	$6.31	$1.31	$7.61	$22.60	$22.60	$0.0138	$0.0857	$0.0737	$0.1232
908.32	San Diego	4.14	28.55	1	28.55	14.94	4.14	6.94	6.94	$17.84	$26.33	$2.60	$28.93	$6.50	$1.35	$7.85	$23.30	$23.30	$0.0149	$0.0886	$0.0762	$0.1275
909.11	San Diego	7.74	39.06	1	39.06	18.03	7.74	9.49	9.49	$28.65	$31.77	$3.14	$34.92	$7.85	$1.63	$9.47	$28.13	$28.13	$0.0239	$0.1094	$0.0940	$0.1573
909.12	San Diego	34.57	205.62	5	41.12	93.00	6.91	8.97	44.83	$139.00	$32.77	$16.20	$180.06	$8.10	$8.38	$48.86	$29.01	$145.05	$0.1158	$0.5660	$0.4867	$0.8139
909.21	San Diego	19.75	102.99	3	34.33	50.07	6.58	8.75	26.25	$74.19	$29.41	$8.72	$96.94	$7.26	$4.51	$26.31	$26.03	$78.09	$0.0618	$0.3009	$0.2588	$0.4327
909.22	San Diego	2.64	15.65	1	15.65	10.42	2.64	5.54	5.54	$10.47	$18.35	$1.81	$20.17	$4.53	$0.94	$5.47	$16.25	$16.25	$0.0087	$0.0592	$0.0510	$0.0852
909.23	San Diego	0.44	2.72	1	2.72	3.64	0.44	2.27	2.27	$1.74	$6.42	$0.63	$7.05	$1.59	$0.33	$1.91	$5.68	$5.68	$0.0015	$0.0183	$0.0158	$0.0264
910.1	San Diego	7.29	45.40	1	45.40	19.74	7.29	9.21	9.21	$30.03	$34.78	$3.44	$38.21	$8.59	$1.78	$10.37	$30.78	$30.78	$0.0250	$0.1210	$0.1040	$0.1739
910.2	San Diego	17.34	80.21	2	40.10	36.64	8.67	10.04	20.08	$61.47	$32.28	$6.38	$70.94	$7.97	$3.30	$19.25	$28.57	$57.15	$0.0512	$0.2226	$0.1914	$0.3201
910.31	San Diego	0.02	0.05	1	0.05	0.31	0.02	0.49	0.49	$0.05	$0.55	$0.05	$0.60	$0.14	$0.03	$0.16	$0.49	$0.49	$0.0000	$0.0012	$0.0010	$0.0017
911.11	San Diego	14.07	47.23	1	47.23	20.21	14.07	12.79	12.79	$42.57	$35.61	$3.52	$39.13	$8.80	$1.82	$10.62	$31.52	$31.52	$0.0355	$0.1242	$0.1068	$0.1786
911.12	San Diego	1.84	6.20	1	6.20	5.97	1.84	4.63	4.63	$5.44	$10.53	$1.04	$11.57	$2.60	$0.54	$3.14	$9.32	$9.32	$0.0045	$0.0318	$0.0274	$0.0458
	Total:	691.02	3,665.87	106		1,712.18			882.43	$2,605.48			$3,315.10			$899.58		$2,670.50	$2.17	$10.35	$8.90	$14.88
	Cumulative Total:									–			$5,920.58			$6,820.16		$9,490.66	–	$12.52	$21.41	$36.29

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997)
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $174,240/acre
h - Project cost = ($1.6629M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-12
Urban Runoff Treatment Cost Calculations - San Joaquin County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
531.2	Stockton	16.03	49.44	1	49.44	20.77	16.03	13.65	13.65	$46.53	$36.60	$2.71	$39.31	$9.04	$1.40	$10.45	$32.40	$32.40	$0.0388	$0.1281	$0.1101	$0.1842
531.3	Stockton	16.96	98.06	2	49.03	41.34	8.48	9.93	19.86	$67.38	$36.42	$5.40	$78.24	$9.00	$2.79	$20.79	$32.24	$64.47	$0.0561	$0.2547	$0.2190	$0.3663
531.4	Stockton	13.59	57.39	2	28.69	29.97	6.79	8.89	17.78	$45.82	$26.41	$3.92	$56.73	$6.52	$2.03	$15.07	$23.37	$46.75	$0.0382	$0.1779	$0.1530	$0.2558
535.1	Stockton	4.31	6.62	1	6.62	6.22	4.31	7.08	7.08	$8.61	$10.95	$0.81	$11.77	$2.71	$0.42	$3.13	$9.70	$9.70	$0.0072	$0.0333	$0.0286	$0.0479
544	Stockton	23.93	102.63	3	34.21	49.96	7.98	9.63	28.89	$81.52	$29.34	$6.53	$94.56	$7.25	$3.38	$25.12	$25.98	$77.93	$0.0679	$0.3002	$0.2582	$0.4317
	Total:	74.83	314.14	9		148.26			87.27	$249.86			$280.60			$74.66		$231.24	$0.21	$0.89	$0.77	$1.29
	Cumulative Total:									–			$530.46			$605.02		$836.26	–	$1.10	$1.87	$3.16

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $130,680/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-13
Urban Runoff Treatment Cost Calculations - San Mateo County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[e] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
202.1	San Francisco--Oakland	3.73	35.40	1	35.40	17.00	3.73	6.59	6.59	$18.92	$29.95	$6.66	$36.62	$7.40	$3.45	$10.85	$26.51	$26.51	$0.0158	$0.1024	$0.0880	$0.1472
202.21	San Francisco--Oakland	24.94	190.98	4	47.75	81.37	6.24	8.51	34.06	$114.00	$35.84	$31.90	$175.26	$8.85	$16.50	$51.92	$31.73	$126.91	$0.0950	$0.5004	$0.4303	$0.7196
202.22	San Francisco--Oakland	1.32	4.82	1	4.82	5.14	1.32	3.92	3.92	$4.05	$9.06	$2.02	$11.07	$2.24	$1.04	$3.28	$8.02	$8.02	$0.0034	$0.0269	$0.0232	$0.0387
202.23	San Francisco--Oakland	2.66	14.26	1	14.26	9.85	2.66	5.56	5.56	$10.02	$17.36	$3.86	$21.22	$4.29	$2.00	$6.29	$15.37	$15.37	$0.0084	$0.0557	$0.0479	$0.0801
202.3	San Francisco--Oakland	0.35	3.65	1	3.65	4.35	0.35	2.03	2.03	$1.81	$7.66	$1.71	$9.37	$1.89	$0.88	$2.78	$6.78	$6.78	$0.0015	$0.0223	$0.0192	$0.0321
204.1	San Francisco--Oakland	78.40	31.55	1	31.55	15.86	78.40	30.19	30.19	$81.71	$27.95	$6.22	$34.17	$6.90	$3.22	$10.12	$24.74	$24.74	$0.0681	$0.0948	$0.0815	$0.1363
204.4	San Francisco--Oakland	111.96	986.45	20	49.32	414.85	5.60	8.07	161.36	$549.17	$36.55	$162.64	$893.58	$9.03	$84.13	$264.70	$32.35	$647.04	$0.4576	$2.5572	$2.1991	$3.6772
205.1	San Francisco--Oakland	4.10	1.21	1	1.21	2.24	4.10	6.90	6.90	$3.51	$3.95	$0.88	$4.82	$0.97	$0.45	$1.43	$3.49	$3.49	$0.0029	$0.0106	$0.0092	$0.0153
205.5	San Francisco--Oakland	29.23	245.03	5	49.01	103.31	5.85	8.25	41.23	$139.84	$36.41	$40.50	$222.53	$8.99	$20.95	$65.92	$32.23	$161.14	$0.1165	$0.6365	$0.5474	$0.9153
202.4	San Jose	0.01	0.07	1	0.07	0.41	0.01	0.26	0.26	$0.03	$0.73	$0.16	$0.89	$0.18	$0.08	$0.26	$0.64	$0.64	$0.0000	$0.0016	$0.0014	$0.0023
205.5	San Jose	0.01	0.10	1	0.10	0.49	0.01	0.39	0.39	$0.05	$0.86	$0.19	$1.06	$0.21	$0.10	$0.31	$0.77	$0.77	$0.0000	$0.0020	$0.0017	$0.0028
	Total:	256.72	1,513.53	37		654.88			292.49	$923.12			$1,410.60			$417.86		$1,021.41	$0.77	$4.01	$3.45	$5.77
	Cumulative Total:									–			$2,333.71			$2,751.57		$3,772.99	–	$4.78	$8.23	$14.00

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $392,040/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

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Table C-14
Urban Runoff Treatment Cost Calculations - Santa Clara County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[e] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
204.4	San Francisco--Oakland	0.00	0.00	1	0.00	0.03	0.00	0.04	0.04	$0.00	$0.06	$0.02	$0.08	$0.02	$0.01	$0.02	$0.05	$0.05	$0.0000	$0.0001	$0.0001	$0.0001
205.2	San Francisco--Oakland	0.05	0.19	1	0.19	0.75	0.05	0.75	0.75	$0.15	$1.32	$0.37	$1.69	$0.32	$0.19	$0.52	$1.16	$1.16	$0.0001	$0.0031	$0.0027	$0.0045
205.5	San Francisco--Oakland	0.23	1.63	1	1.63	2.69	0.23	1.63	1.63	$0.97	$4.73	$1.35	$6.08	$1.17	$0.70	$1.87	$4.19	$4.19	$0.0008	$0.0130	$0.0112	$0.0188
202.4	San Jose	0.00	0.03	1	0.03	0.22	0.00	0.15	0.15	$0.01	$0.39	$0.11	$0.50	$0.10	$0.06	$0.15	$0.34	$0.34	$0.0000	$0.0008	$0.0007	$0.0011
204.3	San Jose	0.10	0.64	1	0.64	1.53	0.10	1.08	1.08	$0.39	$2.69	$0.77	$3.46	$0.67	$0.40	$1.06	$2.36	$2.39	$0.0003	$0.0070	$0.0060	$0.0100
205.1	San Jose	5.44	2.40	1	2.40	3.38	5.44	7.96	7.96	$5.74	$5.85	$1.69	$7.64	$1.47	$0.88	$2.35	$5.27	$5.27	$0.0048	$0.0168	$0.0145	$0.0242
205.2	San Jose	0.33	0.93	1	0.93	1.91	0.33	1.97	1.97	$0.87	$3.36	$0.96	$4.32	$0.83	$0.49	$1.33	$2.98	$2.98	$0.0007	$0.0089	$0.0077	$0.0128
205.3	San Jose	116.50	617.05	13	47.47	263.51	8.96	10.21	132.70	$442.84	$35.71	$132.00	$596.30	$8.82	$68.29	$182.98	$31.62	$411.00	$0.3690	$1.6200	$1.3931	$2.3295
205.4	San Jose	75.80	647.97	13	49.84	271.36	5.83	8.23	107.04	$366.28	$36.78	$135.93	$614.05	$9.09	$70.32	$188.43	$32.56	$423.24	$0.3052	$1.6739	$1.4395	$2.4070
205.5	San Jose	137.79	1,092.94	22	49.68	458.31	6.26	8.53	187.75	$841.34	$36.71	$229.58	$1,037.10	$9.07	$118.76	$318.25	$32.49	$714.83	$0.5344	$2.8265	$2.4307	$4.0644
	Total:	336.25	2,363.77	55		1,003.68			441.07	$1,458.59			$2,271.21			$696.96		$1,565.44	$1.22	$6.17	$5.31	$8.87
	Cumulative Total:									--			$3,729.80			$4,426.76		$5,992.20	--	$7.39	$12.69	$21.56

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $500,940/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006393

Table C-5
Urban Runoff Treatment Cost Calculations - Los Angeles County

Hydrologic Sub-Unit	Hydrologic Sub-Unit Name	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
481.21	Santa Ana	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0000	$0.0000	$0.0000	$0.0000
481.22	San Gabriel	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0000	$0.0000	$0.0000	$0.0000
481.22	Santa Ana	3.03	26.65	1	26.65	14.34	3.03	5.93	5.93	$14.72	$25.26	$6.24	$31.50	$6.24	$3.23	$9.47	$22.36	$22.36	$0.0123	$0.0846	$0.0726	$0.1217
481.23	San Gabriel	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0000	$0.0000	$0.0000	$0.0000
481.23	Santa Ana	19.40	206.00	5	41.20	93.10	3.88	6.72	33.58	$104.22	$32.61	$40.55	$204.59	$8.10	$20.98	$61.50	$29.04	$145.21	$0.0869	$0.5667	$0.4873	$0.8149
801.21	Santa Ana	0.01	0.10	1	0.10	0.51	0.01	0.35	0.35	$0.05	$0.50	$0.22	$1.13	$0.22	$0.12	$0.34	$0.80	$0.80	$0.0000	$0.0021	$0.0018	$0.0030
845.61	San Gabriel	0.11	0.85	1	0.85	1.82	0.11	1.13	1.13	$0.48	$3.20	$0.79	$4.00	$0.79	$0.41	$1.20	$2.84	$2.84	$0.0004	$0.0084	$0.0073	$0.0121
845.62	San Gabriel	0.24	1.31	1	1.31	2.35	0.24	1.68	1.68	$0.89	$4.15	$1.02	$5.17	$1.02	$0.53	$1.55	$3.67	$3.67	$0.0007	$0.0112	$0.0097	$0.0162
845.63	San Gabriel	0.22	0.91	1	0.91	1.89	0.22	1.59	1.59	$0.70	$3.33	$0.82	$4.15	$0.82	$0.43	$1.25	$2.95	$2.95	$0.0006	$0.0088	$0.0076	$0.0127
845.63	San Gabriel	0.00	0.00	1	0.00	0.05	0.00	0.08	0.08	$0.00	$0.09	$0.02	$0.11	$0.02	$0.01	$0.03	$0.08	$0.08	$0.0000	$0.0002	$0.0001	$0.0002
	Total:	2,681.20	21,684.32	480		9,307.07			3,771.89	$12,486.25			$20,462.76			$6,148.27		$14,516.31	$10.41	$57.15	$49.15	$82.18
	Cumulative Total:									–			$32,938.99			$39,087.27		$53,603.58	–	$67.55	$116.70	$198.88

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $435,600/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006394

Table C-6
Urban Runoff Treatment Cost Calculations - Marin County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
201.3	San Francisco–Oakland	0.36	4.20	1	4.20	4.73	0.36	2.05	2.05	$1.97	$8.34	$2.58	$10.92	$2.06	$1.33	$3.39	$7.36	$7.38	$0.0016	$0.0246	$0.0211	$0.0353
203.12	San Francisco–Oakland	24.39	20.21	1	20.21	12.14	24.39	16.84	16.84	$36.27	$21.40	$6.61	$28.01	$5.29	$3.42	$8.71	$18.94	$18.94	$0.0302	$0.0703	$0.0605	$0.1011
203.13	San Francisco–Oakland	4.12	7.79	1	7.79	6.85	4.12	6.92	6.92	$9.14	$12.07	$3.73	$15.81	$2.98	$1.93	$4.91	$10.69	$10.69	$0.0076	$0.0371	$0.0319	$0.0534
203.2	San Francisco–Oakland	45.56	660.13	14	47.15	282.66	3.25	6.15	86.13	$286.43	$35.57	$153.91	$651.93	$8.79	$79.62	$202.65	$31.49	$440.86	$0.2387	$1.7368	$1.4936	$2.4976
206.1	San Francisco–Oakland	1.35	3.97	1	3.97	4.57	1.35	3.97	3.97	$3.71	$8.06	$2.49	$10.55	$1.99	$1.29	$3.28	$7.13	$7.13	$0.0031	$0.0236	$0.0203	$0.0340
206.2	San Francisco–Oakland	40.97	403.88	9	44.88	176.39	4.55	7.28	65.48	$212.31	$34.53	$96.05	$406.84	$8.53	$49.68	$126.46	$30.57	$275.12	$0.1769	$1.0801	$0.9289	$1.5532
206.3	San Francisco–Oakland	3.80	27.11	1	27.11	14.48	3.80	6.65	6.65	$16.64	$25.52	$7.89	$33.41	$6.30	$4.08	$10.38	$22.59	$22.59	$0.0139	$0.0856	$0.0736	$0.1231
	Total:	**120.66**	**1,127.29**	**28**		**501.84**			**188.03**	**$566.47**			**$1,157.46**			**$359.78**		**$782.72**	**$0.47**	**$3.06**	**$2.63**	**$4.48**
	Cumulative Total:									–			**$1,723.94**			**$2,083.72**		**$2,866.44**	–	**$3.53**	**$6.16**	**$10.64**

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $544,500/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006395

Table C-1
Urban Runoff Treatment Cost Calculations - Alameda County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
203.12	San Francisco--Oakland	14.73	2.87	1	2.87	3.76	14.73	13.09	13.09	$10.36	$6.63	$1.07	$7.70	$1.64	$0.55	$2.19	$5.67	$5.87	$0.0086	$0.0190	$0.0164	$0.0273
203.3	San Francisco--Oakland	21.85	146.44	3	48.81	61.84	7.28	9.20	27.61	$93.46	$36.32	$17.51	$126.47	$8.97	$9.06	$35.98	$32.15	$96.46	$0.0779	$0.3809	$0.3276	$0.5478
204.1	San Francisco--Oakland	34.06	22.79	1	22.79	13.05	34.06	19.90	19.90	$45.59	$23.00	$3.70	$26.69	$5.68	$1.91	$7.59	$20.36	$20.36	$0.0380	$0.0762	$0.0655	$0.1096
204.2	San Francisco--Oakland	133.94	1,095.78	22	49.81	459.02	6.09	8.41	185.10	$633.15	$36.76	$129.97	$938.74	$9.08	$67.23	$267.03	$32.54	$715.94	$0.5276	$2.8314	$2.4349	$4.0715
204.3	San Francisco--Oakland	56.04	288.28	6	48.05	122.51	9.34	10.42	62.53	$209.97	$35.98	$34.69	$250.55	$8.89	$17.94	$71.27	$31.85	$191.08	$0.1750	$0.7538	$0.6482	$1.0839
205.2	San Francisco--Oakland	49.46	257.17	6	42.86	114.40	8.24	9.79	58.74	$186.03	$33.59	$32.39	$233.96	$8.30	$16.76	$66.55	$29.74	$178.43	$0.1550	$0.6983	$0.6005	$1.0041
206.6	San Francisco--Oakland	0.33	1.74	1	1.74	2.79	0.33	1.95	1.95	$1.19	$4.91	$0.79	$5.70	$1.21	$0.41	$1.62	$4.34	$4.34	$0.0010	$0.0136	$0.0117	$0.0195
205.2	San Jose	0.03	0.26	1	0.26	0.90	0.03	0.60	0.60	$0.14	$1.58	$0.25	$1.83	$0.39	$0.13	$0.52	$1.40	$1.40	$0.0001	$0.0038	$0.0033	$0.0055
205.3	San Jose	0.13	0.68	1	0.68	1.59	0.13	1.25	1.25	$0.47	$2.80	$0.45	$3.25	$0.69	$0.23	$0.92	$2.47	$2.47	$0.0004	$0.0072	$0.0062	$0.0104
542.1	San Jose	0.00	0.00	1	0.00	0.08	0.00	0.09	0.09	$0.00	$0.03	$0.02	$0.15	$0.03	$0.01	$0.04	$0.12	$0.12	$0.0000	$0.0002	$0.0002	$0.0003
	Total:	310.57	1,816.01	43		779.93			370.86	$1,160.36			$1,595.03			$453.71		$1,216.47	$0.98	$4.78	$4.11	$6.88
	Cumulative Total:									–			$2,775.39			$3,229.11		$4,445.58	–	$5.77	$9.88	$16.76

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $283,140/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006396

Table C-2
Urban Runoff Treatment Cost Calculations - Contra Costa County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
207.1	Antioch--Pittsburg	4.64	3.86	1	3.86	4.50	4.64	7.35	7.35	$6.77	$7.93	$1.27	$9.20	$1.96	$0.66	$2.62	$7.02	$7.02	$0.0056	$0.0232	$0.0200	$0.0334
207.31	Antioch--Pittsburg	21.54	92.82	2	46.41	40.00	10.77	11.19	22.38	$73.84	$35.24	$11.32	$81.80	$8.70	$5.86	$23.27	$31.19	$62.38	$0.0615	$0.2455	$0.2111	$0.3530
543	Antioch--Pittsburg	22.77	100.32	3	33.44	49.29	7.59	9.39	28.18	$78.59	$28.95	$13.95	$100.79	$7.15	$7.22	$28.67	$25.62	$76.87	$0.0655	$0.2956	$0.2542	$0.4251
544	Antioch--Pittsburg	15.76	29.35	1	29.35	15.19	15.76	13.54	13.54	$35.30	$26.77	$4.30	$31.07	$6.61	$2.23	$8.84	$23.70	$23.70	$0.0294	$0.0903	$0.0777	$0.1299
203.12	San Francisco--Oakland	11.33	7.49	1	7.49	6.70	11.33	11.48	11.48	$14.87	$11.80	$1.90	$13.69	$2.91	$0.98	$3.90	$10.44	$10.44	$0.0124	$0.0362	$0.0311	$0.0520
203.3	San Francisco--Oakland	15.52	94.03	2	47.02	40.31	7.76	9.50	19.00	$63.10	$35.51	$11.41	$82.44	$8.77	$5.90	$23.45	$31.44	$62.87	$0.0526	$0.2476	$0.2130	$0.3561
204.2	San Francisco--Oakland	8.82	93.66	2	46.83	40.21	4.41	7.16	14.32	$47.47	$35.43	$11.39	$82.24	$8.75	$5.89	$23.39	$31.36	$62.72	$0.0396	$0.2470	$0.2124	$0.3552
204.3	San Francisco--Oakland	15.10	72.77	2	36.38	34.56	7.55	9.37	18.74	$54.57	$30.45	$9.79	$70.68	$7.52	$5.06	$20.11	$26.95	$53.91	$0.0455	$0.2086	$0.1794	$0.2999
206.1	San Francisco--Oakland	35.91	4.96	1	4.96	5.23	35.91	20.43	20.43	$21.41	$9.21	$1.48	$10.69	$2.28	$0.77	$3.04	$8.15	$8.15	$0.0178	$0.0274	$0.0236	$0.0395
206.6	San Francisco--Oakland	58.29	404.98	9	45.00	176.68	6.48	8.68	78.10	$253.59	$34.59	$50.02	$361.32	$8.54	$25.88	$102.78	$30.62	$275.57	$0.2113	$1.0821	$0.9306	$1.5560
207.1	San Francisco--Oakland	2.25	1.81	1	1.81	2.85	2.25	5.12	5.12	$3.20	$5.03	$0.81	$5.84	$1.24	$0.42	$1.66	$4.45	$4.45	$0.0027	$0.0140	$0.0120	$0.0201
207.31	San Francisco--Oakland	48.12	298.51	6	49.75	125.10	8.02	9.66	57.94	$198.07	$36.74	$35.42	$255.84	$9.08	$18.32	$72.78	$32.52	$195.12	$0.1651	$0.7716	$0.6636	$1.1096
207.32	San Francisco--Oakland	67.92	472.14	10	47.21	202.06	6.79	8.89	88.87	$295.76	$35.60	$57.21	$413.22	$8.79	$29.59	$117.54	$31.51	$315.15	$0.2465	$1.2417	$1.0678	$1.7855
207.33	San Francisco--Oakland	31.02	211.47	5	42.29	94.57	6.20	8.49	42.47	$133.57	$33.33	$26.78	$193.41	$8.23	$13.85	$55.02	$29.50	$147.51	$0.1113	$0.5767	$0.4960	$0.8293
543	San Francisco--Oakland	0.00	0.02	1	0.02	0.17	0.00	0.21	0.21	$0.01	$0.30	$0.05	$0.35	$0.07	$0.03	$0.10	$0.27	$0.27	$0.0000	$0.0006	$0.0005	$0.0009
	Total:	359.00	1,888.19	47		837.42			428.14	$1,280.10			$1,712.60			$487.16		$1,306.13	$1.07	$5.11	$4.39	$7.35
	Cumulative Total:									–			$2,992.70			$3,479.86		$4,785.98	–	$6.17	$10.57	$17.91

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $283,140/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006397

Table C-3
Urban Runoff Treatment Cost Calculations - Fresno County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
545.2	Fresno	0.56	0.63	1	0.63	1.52	0.56	2.55	2.55	$0.93	$2.67	$0.13	$2.80	$0.66	$0.07	$0.73	$2.36	$2.36	$0.0008	$0.0069	$0.0059	$0.0099
545.3	Fresno	3.85	9.15	1	9.15	7.55	3.85	6.69	6.69	$9.61	$13.30	$0.66	$13.96	$3.29	$0.34	$3.63	$11.78	$11.78	$0.0080	$0.0414	$0.0356	$0.0595
551.3	Fresno	128.11	470.00	10	47.00	201.51	12.81	12.21	122.05	$405.24	$35.50	$17.56	$372.60	$8.77	$9.08	$96.79	$31.43	$314.29	$0.3377	$1.2379	$1.0646	$1.7801
551.4	Fresno	0.41	0.50	1	0.50	1.31	0.41	2.19	2.19	$0.71	$2.32	$0.11	$2.43	$0.57	$0.06	$0.63	$2.05	$2.05	$0.0006	$0.0059	$0.0050	$0.0084
	Total:	132.94	480.28	13		211.89			133.49	$416.48			$391.79			$101.78		$330.48	$0.35	$1.29	$1.11	$1.86
	Cumulative Total:									–			$808.27			$910.05		$1,240.53	–	$1.64	$2.75	$4.61

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $87,120/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006398

Table C-4
Urban Runoff Treatment Cost Calculations - Kern County

Hydrologic Sub-Unit	Urbanized Area	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
557.1	Bakersfield	93.04	265.74	6	44.29	116.67	15.51	13.43	80.57	$259.48	$34.26	$15.25	$220.81	$8.46	$7.89	$58.67	$30.33	$181.97	$0.2162	$0.7138	$0.6138	$1.0264
557.3	Bakersfield	4.98	9.48	1	9.48	7.71	4.98	7.61	7.61	$11.12	$13.59	$1.01	$14.60	$3.36	$0.52	$3.88	$12.03	$12.03	$0.0093	$0.0424	$0.0364	$0.0609
558.9	Bakersfield	1.53	3.42	1	3.42	4.19	1.53	4.22	4.22	$3.66	$7.38	$0.55	$7.92	$1.82	$0.28	$2.10	$6.53	$6.53	$0.0030	$0.0214	$0.0184	$0.0308
	Total:	**99.55**	**278.65**	**8**		**128.57**			**92.40**	**$274.26**			**$243.33**			**$64.65**		**$200.53**	**$0.23**	**$0.78**	**$0.67**	**$1.12**
	Cumulative Total:									–			**$517.59**			**$582.24**		**$782.77**	–	**$1.01**	**$1.67**	**$2.79**

Costs based on storage of a 24-hour duration event with subsequent treatment of a 72-hour period.
a - Operations and maintenance costs based on 10 rainfall events per year.
b - Based on a maximum treatment unit size of 50 MG
c - Level 1 treatment unit area = (2.0 acres) * (Treatment unit size) ^ 0.6. Level 2 and Level 3 total treatment unit area = 1.52 times Level 1 treatment unit area
d - Interceptor system length based on the sum of the lengths of two sides and the diagonal of an assumed square tributary area.
e - Project cost = ($2,867,310) * (Length, mi) * (Diameter) ^ 1.0256, where interceptor diameter is calculated relative to that used for the study area used in Caltrans (1997).
f - Project cost = ($3.5239M) * (Treatment unit size, MG) ^ 0.6
g - Land cost = $130,680/acre
h - Project cost = ($1.6829M) * (Treatment unit size, MG) ^ 0.6
i - Project cost = ($6.0304M) * (Treatment unit size, MG) ^ 0.6
j - Annual operations and maintenance cost = 0.1 percent of interceptor system construction cost
k - Annual operations and maintenance cost = ($9,384) * (Storage unit size, MG) ^ 0.67
l - Annual operations and maintenance cost = ($8,070) * (Storage unit size, MG) ^ 0.67
m - Annual operations and maintenance cost = ($13,494) * (Storage unit size, MG) ^ 0.67

R0006399

Table C-5
Urban Runoff Treatment Cost Calculations - Los Angeles County

Hydrologic Sub-Unit	Hydrologic Sub-Unit Name	Area (sq mi)	Runoff (MG per rainfall event)	Number of Treatment Units[b]	Storage Unit Size (MG)	Total Level 1 Treatment Unit Area[c] (acres)	Tributary Runoff Area (sq mi/ treatment unit)	Interceptor System Length[d] (mi/unit)	Total Interceptor System Length (mi)	Project Cost ($ million @ ENR CCI 6710)									Annual Operations and Maintenance Costs[a] ($ million/year)			
										Collection System	Level 1			Level 2			Level 3					
										Total Cost[e]	Treatment Unit Cost[f]	Land Cost[g]	Total Cost	Treatment Unit Incremental Cost[h]	Land Cost[g]	Total Incremental Cost	Treatment Unit Incremental Cost[i]	Total Incremental Cost	Collection System[j]	Level 1[k]	Level 2[l]	Level 3[m]
403.41	Santa Clara	18.63	120.48	3	40.16	55.01	6.21	8.50	25.50	$78.09	$32.31	$23.96	$120.88	$7.98	$12.40	$36.34	$28.60	$85.80	$0.0651	$0.3342	$0.2874	$0.4806
403.41	Santa Clara	0.00	0.00	1	0.00	0.00	0.00	0.01	0.01	$0.00	$0.00	$0.00	$0.01	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0000	$0.0000	$0.0000	$0.0000
403.42	Santa Clara	72.21	451.29	10	45.13	196.65	7.22	9.16	91.63	$297.97	$34.65	$85.66	$432.16	$8.56	$44.31	$129.91	$30.67	$306.72	$0.2483	$1.2047	$1.0360	$1.7323
403.43	Santa Clara	34.27	138.12	3	46.04	59.71	11.42	11.53	34.58	$113.59	$35.67	$26.01	$131.21	$8.66	$13.45	$39.44	$31.04	$93.13	$0.0947	$0.3683	$0.3150	$0.5267
403.51	Santa Clara	450.08	2,975.54	60	49.59	1,248.62	7.50	9.34	560.37	$1,912.48	$36.67	$543.90	$2,743.90	$9.06	$281.36	$824.84	$32.46	$1,947.48	$1.5937	$7.6996	$6.6214	$11.0718
403.52	Santa Clara	11.53	44.67	1	44.67	19.54	11.53	11.58	11.58	$37.46	$34.44	$8.51	$42.95	$8.51	$4.40	$12.91	$30.48	$30.48	$0.0312	$0.1196	$0.1029	$0.1720
403.53	Santa Clara	16.16	70.97	2	35.49	34.05	8.08	9.69	19.39	$55.73	$30.09	$14.83	$74.82	$7.41	$7.67	$22.49	$26.55	$53.11	$0.0464	$0.2051	$0.1764	$0.2949
403.54	Santa Clara	15.70	74.61	2	37.30	35.08	7.85	9.56	19.11	$56.36	$30.51	$15.28	$77.10	$7.64	$7.91	$23.18	$27.36	$54.72	$0.0470	$0.2121	$0.1824	$0.3050
403.55	Santa Clara	137.85	676.25	14	48.30	286.78	9.85	10.70	149.81	$504.41	$36.09	$124.92	$630.21	$8.92	$64.62	$189.45	$31.95	$447.29	$0.4203	$1.7652	$1.5180	$2.5383
403.66	Santa Clara	1.25	8.18	1	8.18	7.06	1.25	3.82	3.82	$5.17	$12.43	$3.07	$15.51	$3.07	$1.59	$4.66	$11.01	$11.01	$0.0043	$0.0384	$0.0330	$0.0552
403.67	Santa Clara	4.31	28.28	1	28.28	14.86	4.31	7.08	7.08	$18.12	$26.18	$6.47	$32.65	$6.47	$3.35	$9.81	$23.17	$23.17	$0.0151	$0.0881	$0.0757	$0.1267
404.11	Malibu	18.29	177.55	4	44.39	77.88	4.57	7.29	29.17	$94.05	$34.31	$33.93	$171.15	$8.47	$17.55	$51.45	$30.37	$121.47	$0.0784	$0.4766	$0.4098	$0.6853
404.12	Malibu	2.56	26.13	1	26.13	14.17	2.56	5.46	5.46	$13.41	$24.96	$6.17	$31.13	$6.17	$3.19	$9.36	$22.10	$22.10	$0.0112	$0.0835	$0.0718	$0.1201
404.13	Malibu	1.25	12.56	1	12.56	9.13	1.25	3.81	3.81	$6.44	$16.08	$3.98	$20.06	$3.97	$2.06	$6.03	$14.24	$14.24	$0.0054	$0.0511	$0.0440	$0.0735
404.14	Malibu	0.98	9.99	1	9.99	7.96	0.98	3.37	3.37	$5.06	$14.02	$3.47	$17.49	$3.46	$1.79	$5.26	$12.41	$12.41	$0.0042	$0.0439	$0.0377	$0.0631
404.15	Malibu	5.31	53.83	2	26.92	28.84	2.66	5.56	11.11	$27.73	$25.41	$12.56	$63.39	$6.28	$6.50	$19.06	$22.49	$44.99	$0.0231	$0.1704	$0.1466	$0.2451
404.16	Malibu	3.55	37.83	1	37.83	17.69	3.55	6.42	6.42	$19.08	$31.17	$7.71	$38.88	$7.70	$3.99	$11.69	$27.59	$27.59	$0.0159	$0.1070	$0.0921	$0.1539
404.21	Malibu	24.11	240.41	5	48.08	102.14	4.82	7.49	37.44	$125.77	$35.69	$44.49	$224.46	$8.89	$23.02	$67.47	$31.86	$159.31	$0.1048	$0.6285	$0.5405	$0.9037
404.22	Malibu	13.96	126.49	3	42.16	56.64	4.65	7.36	22.07	$69.31	$33.27	$24.67	$124.47	$8.22	$12.76	$37.42	$29.45	$88.34	$0.0578	$0.3453	$0.2970	$0.4966
404.23	Malibu	6.20	40.40	1	40.40	18.40	6.20	8.49	8.49	$26.09	$32.42	$8.02	$40.44	$8.01	$4.15	$12.16	$28.70	$28.70	$0.0217	$0.1119	$0.0962	$0.1608
404.24	Malibu	13.47	125.24	3	41.75	56.30	4.49	7.23	21.68	$67.72	$33.07	$24.52	$123.72	$8.17	$12.69	$37.19	$29.27	$87.81	$0.0564	$0.3430	$0.2950	$0.4933
404.25	Malibu	4.21	45.86	1	45.86	19.86	4.21	7.00	7.00	$22.94	$34.55	$8.65	$43.64	$8.64	$4.47	$13.12	$30.97	$30.97	$0.0191	$0.1218	$0.1047	$0.1751
404.26	Malibu	1.07	10.40	1	10.40	8.15	1.07	3.53	3.53	$5.41	$14.36	$3.55	$17.91	$3.55	$1.84	$5.38	$12.71	$12.71	$0.0045	$0.0451	$0.0387	$0.0648
404.31	Malibu	7.33	74.27	2	37.13	34.99	3.67	6.53	13.06	$38.42	$30.82	$15.24	$76.89	$7.61	$7.88	$23.11	$27.29	$54.57	$0.0320	$0.2114	$0.1818	$0.3040
404.32	Malibu	4.49	44.31	1	44.31	19.45	4.49	7.22	7.22	$23.27	$34.27	$8.47	$42.74	$8.47	$4.38	$12.85	$30.34	$30.34	$0.0194	$0.1190	$0.1023	$0.1711
404.33	Malibu	2.51	21.51	1	21.51	12.61	2.51	5.40	5.40	$12.01	$22.22	$5.49	$27.71	$5.49	$2.84	$8.33	$19.67	$19.67	$0.0100	$0.0733	$0.0631	$0.1055
404.34	Malibu	3.48	27.68	1	27.68	14.67	3.48	6.36	6.36	$16.09	$25.84	$6.39	$32.23	$6.38	$3.30	$9.69	$22.88	$22.88	$0.0134	$0.0868	$0.0747	$0.1249
404.35	Malibu	6.06	47.04	1	47.04	20.16	6.06	8.39	8.39	$27.88	$35.52	$8.78	$44.31	$8.78	$4.54	$13.32	$31.45	$31.45	$0.0232	$0.1239	$0.1065	$0.1781
404.36	Malibu	10.56	97.71	2	48.85	41.25	5.28	7.84	15.67	$53.07	$36.34	$17.97	$90.64	$8.98	$9.29	$27.25	$32.17	$64.33	$0.0442	$0.2541	$0.2185	$0.3654
404.37	Malibu	10.47	103.52	3	34.51	50.22	3.49	6.37	19.11	$54.15	$29.50	$21.88	$110.37	$7.29	$11.32	$33.18	$26.11	$78.33	$0.0451	$0.3019	$0.2597	$0.4342
404.41	Malibu	4.40	39.28	1	39.28	18.09	4.40	7.16	7.16	$21.67	$31.88	$7.88	$39.76	$7.88	$4.08	$11.95	$28.22	$28.22	$0.0181	$0.1098	$0.0944	$0.1579
404.42	Malibu	4.04	28.25	1	28.25	14.85	4.04	6.85	6.85	$17.53	$26.18	$6.47	$32.63	$6.46	$3.35	$9.81	$23.16	$23.16	$0.0146	$0.0880	$0.0757	$0.1266
404.43	Malibu	2.80	17.48	1	17.48	11.13	2.80	5.70	5.70	$11.40	$19.51	$4.85	$24.46	$4.84	$2.51	$7.35	$17.36	$17.36	$0.0095	$0.0638	$0.0549	$0.0917
404.44	Malibu	5.96	39.60	1	39.60	18.18	5.96	8.32	8.32	$25.31	$32.04	$7.92	$39.96	$7.91	$4.10	$12.01	$28.36	$28.36	$0.0211	$0.1104	$0.0949	$0.1587
404.44	Malibu	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0000	$0.0000	$0.0000	$0.0000
404.45	Malibu	0.00	0.01	1	0.01	0.15	0.00	0.16	0.16	$0.01	$0.27	$0.07	$0.34	$0.07	$0.03	$0.10	$0.24	$0.24	$0.0000	$0.0005	$0.0005	$0.0008
405.11	Dominguez	15.66	90.71	2	45.36	39.45	7.83	9.54	19.09	$62.22	$34.75	$17.18	$86.69	$8.59	$8.89	$26.06	$30.77	$61.53	$0.0519	$0.2418	$0.2079	$0.3476
405.12	Dominguez	140.45	1,013.45	21	48.26	429.93	6.69	8.82	185.19	$623.27	$36.07	$187.28	$944.80	$8.91	$96.88	$284.01	$31.93	$670.57	$0.5194	$2.6461	$2.2756	$3.8051
405.12	Santa Monica Bay	21.15	140.39	3	46.80	60.29	7.05	9.05	27.16	$89.98	$35.41	$26.26	$132.50	$8.75	$13.59	$39.83	$31.35	$94.04	$0.0750	$0.3703	$0.3184	$0.5325
405.13	Santa Monica Bay	84.96	682.84	14	48.77	288.45	6.07	8.40	117.60	$397.96	$36.30	$125.65	$633.89	$8.97	$65.00	$190.55	$32.14	$449.90	$0.3316	$1.7767	$1.5279	$2.5548
405.14	Santa Monica Bay	33.98	262.39	6	43.73	115.79	5.66	8.12	48.69	$155.81	$34.03	$50.44	$254.44	$8.40	$26.09	$76.49	$30.10	$180.59	$0.1298	$0.7077	$0.6086	$1.0177
405.15	Los Angeles River	166.01	1,208.66	25	48.35	512.38	6.64	8.79	219.68	$740.02	$36.11	$223.19	$1,125.97	$8.92	$115.46	$338.48	$31.97	$799.16	$0.6167	$3.1539	$2.7123	$4.5353
405.15	San Gabriel	100.21	673.38	14	48.10	286.05	7.16	9.12	127.73	$429.13	$36.90	$124.60	$628.60	$8.89	$64.46	$188.96	$31.87	$446.15	$0.3576	$1.7601	$1.5137	$2.5310
405.15	San Gabriel	0.00	0.02	1	0.02	0.19	0.00	0.17	0.17	$0.01	$0.33	$0.08	$0.41	$0.08	$0.04	$0.12	$0.29	$0.29	$0.0000	$0.0007	$0.0006	$0.0009
405.15	Santa Monica Bay	54.09	474.34	10	47.43	202.62	5.41	7.93	79.31	$264.57	$35.70	$88.26	$445.27	$8.82	$45.66	$133.85	$31.60	$316.03	$0.2205	$1.2456	$1.0712	$1.7911
405.21	Los Angeles River	280.44	2,322.24	47	49.41	975.92	5.97	8.33	391.49	$1,333.58	$36.53	$425.11	$2,144.63	$9.04	$219.91	$644.69	$32.39	$1,522.15	$1.1113	$6.0164	$5.1740	$8.6515
405.22	Los Angeles River	43.31	298.73	6	49.79	125.16	7.22	9.16	54.97	$187.98	$36.73	$54.52	$275.04	$9.08	$28.20	$82.68	$32.53	$195.21	$0.1567	$0.7720	$0.6639	$1.1101
405.23	Los Angeles River	143.65	1,438.78	29	49.61	603.65	4.95	7.59	220.09	$751.31	$36.64	$262.95	$1,326.55	$9.06	$136.02	$398.77	$32.47	$941.52	$0.6261	$3.7225	$3.2013	$5.3529
405.24	Los Angeles River	18.87	203.14	5	40.63	92.32	3.77	6.62	33.12	$102.05	$32.53	$40.21	$202.88	$8.04	$20.80	$60.99	$28.80	$143.99	$0.0850	$0.5614	$0.4828	$0.8073
405.25	Los Angeles River	3.41	31.46	1	31.46	15.84	3.41	6.30	8.30	$17.02	$27.50	$6.90	$34.80	$6.89	$3.57	$10.46	$24.70	$24.70	$0.0142	$0.0946	$0.0814	$0.1360
405.31	Los Angeles River	36.18	418.58	9	46.51	180.22	4.02	6.84	61.54	$203.22	$35.24	$78.50	$396.04	$8.72	$40.61	$119.05	$31.23	$281.09	$0.1693	$1.1063	$0.9514	$1.5909
405.32	Los Angeles River	37.07	470.36	10	47.04	201.60	3.71	6.57	65.66	$218.08	$35.52	$87.82	$443.03	$8.77	$45.43	$133.18	$31.44	$314.44	$0.1817	$1.2386	$1.0651	$1.7810
405.33	Los Angeles River	18.26	245.33	5	49.08	103.40	3.65	6.52	32.58	$110.61	$36.44	$45.04	$227.23	$9.00	$23.30	$68.31	$32.26	$161.28	$0.0922	$0.6372	$0.5480	$0.9162
405.41	Los Angeles River	92.40	906.65	19	47.72	386.36	4.86	7.52	142.88	$478.08	$35.83	$168.30	$849.05	$8.85	$87.06	$255.23	$31.72	$602.61	$0.3984	$2.3761	$2.0434	$3.4167
405.41	San Gabriel	134.51	1,105.07	23	48.05	469.63	5.85	8.25	189.67	$636.88	$35.98	$204.57	$1,032.03	$8.89	$105.82	$310.24	$31.85	$732.48	$0.5307	$2.8895	$2.4849	$4.1551
405.42	San Gabriel	4.68	33.97	1	33.97	16.58	4.68	7.38	7.38	$20.75	$29.23	$7.22	$36.44	$7.22	$3.74	$10.96	$25.87	$25.87	$0.0173	$0.0996	$0.0856	$0.1432
405.43	San Gabriel	219.54	2,717.54	55	49.41	1,142.04	3.99	6.81	374.70	$1,276.41	$36.53	$497.47	$2,509.69	$9.04	$257.34	$754.43	$32.39	$1,781.25	$1.0637	$7.0405	$6.0547	$10.1242
405.43	San Gabriel	0.00	0.00	1	0.00	0.00	0.00	0.00	0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.0000	$0.0000	$0.0000	$0.0000
405.44	San Gabriel	20.42	212.20	5	42.44	94.77	4.08	6.89	34.46	$108.57	$33.40	$41.28	$208.26	$8.25	$21.35	$62.60	$29.56	$147.81	$0.0905	$0.5780	$0.4971	$0.8312
405.51	San Gabriel	10.58	74.06	2	37.03	34.93	5.29	7.84	15.69	$46.10	$30.77	$15.22	$76.76	$7.60	$7.87	$23.07	$27.24	$54.48	$0.0384	$0.2110	$0.1815	$0.3035
405.52	San Gabriel	8.62	69.48	2	34.74	33.62	4.31	7.08	14.16	$40.26	$29.62	$14.64	$73.88	$7.32	$7.58	$22.21	$26.22	$52.43	$0.0335	$0.2022	$0.1739	$0.2908
405.53	San Gabriel	11.10	73.75	2	36.88	34.84	5.55	8.03	16.07	$47.11	$30.69	$15.18	$76.57	$7.58	$7.85	$23.02	$27.17	$54.34	$0.0393	$0.2104	$0.1810	$0.3026
405.62	San Gabriel	21.65	111.71	3	37.24	52.57	7.22	9.16	27.48	$80.98	$30.88	$22.90	$115.53	$7.63	$11.85	$34.73	$27.33	$81.99	$0.0675	$0.3177	$0.2732	$0.4569
405.62	San Gabriel	0.00	0.00	1	0.00	0.04	0.00	0.05	0.05	$0.00	$0.07	$0.02	$0.08	$0.02	$0.01	$0.02	$0.06	$0.06	$0.0000	$0.0001	$0.0001	$0.0002
405.62	San Gabriel	0.00	0.03	1	0.03	0.24	0.00	0.23	0.23	$0.02	$0.42	$0.10	$0.52	$0.10	$0.05	$0.16	$0.37	$0.37	$0.0000	$0.0009	$0.0007	$0.0012
405.63	San Gabriel	2.52	10.49	1	10.49	8.20	2.52	5.41	5.41	$8.33	$14.44	$3.57	$18.01	$3.57	$1.85	$5.41	$12.78	$12.78	$0.0069	$0.0453	$0.0390	$0.0652
481.21	Santa Ana	15.38	122.92	3	40.97	55.67	5.13	7.72	23.16	$71.68	$32.70	$24.25	$122.34	$8.08	$12.55	$36.78	$28.94	$86.83	$0.0597	$0.3387	$0.2913	$0.4871

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
E40 0993 00	Berkeley	Alameda	-122.250	37.870	299	40	24.04	3.91	2.54	1.10
E40 0993 00	Berkeley	Alameda	-122.250	37.870	299	107	23.70	4.08	2.65	1.15
E40 1583 80	Castro Valley	Alameda	-122.081	37.698	255	13	19.19	2.89	1.88	0.81
E40 1648 00	Chabot Res	Alameda	-122.120	37.730	245	115	22.04	3.17	2.06	0.89
E40 2213 00	Cull Canyon	Alameda	-122.062	37.770	620	6	16.60	3.25	2.11	0.91
E40 2213 ??	Cull Canyon	Alameda	-122.062	37.776	620	19	27.90	5.19	3.37	1.46
E40 4357 00	Jenson Ranch	Alameda	-122.023	37.718	850	86	24.02	3.85	2.50	1.08
E40 5639 01	Mills College	Alameda	-122.183	37.763	200	11	25.75	3.65	2.37	1.03
E40 6332 01	Oakland 39th Ave	Alameda	-122.192	37.793	250	27	27.30	4.67	3.03	1.31
E40 6335 00	Oakland AP	Alameda	-122.200	37.733	3	83	20.39	3.30	2.14	0.93
E40 6335 00	Oakland AP	Alameda	-122.200	37.733	3	32	18.75	3.22	2.09	0.91
E40 6336 00	Oakland Museum	Alameda	-122.267	37.800	30	25	20.30	3.57	2.32	1.00
E40 6856 70	Piedmont FS	Alameda	-122.232	37.823	330	14	19.63	3.73	2.42	1.05
E40 8846 00	Temescal Reservoir	Alameda	-122.230	37.848	450	26	21.95	3.35	2.17	0.94
E40 9185 02	Upper San Leandro Dam	Alameda	-122.097	37.765	475	45	26.76	4.22	2.74	1.19
E50 0051 50	Alameda East Portal	Alameda	-121.867	37.550	775	8	19.90	2.74	1.78	0.77
E50 0146 00	Altamont	Alameda	-121.779	37.762	275	46	12.82	2.27	1.47	0.64
E50 0310 20	Arroyo Del Valle AC16	Alameda	-121.750	37.617	700	18	15.15	2.65	1.72	0.75
E50 0310 20	Arroyo Del Valle WTP	Alameda	-121.784	37.631	640	19	16.81	2.77	1.80	0.78
E50 1281 00	Calaveras Dam	Alameda	-121.820	37.490	805	83	21.94	3.18	2.06	0.89
E50 1583 80	Castro Valley	Alameda	-122.081	37.698	255	11	19.19	2.89	1.88	0.81
E50 1623 06	Centerville 54	Alameda	-122.335	37.557	52	68	18.17	2.61	1.69	0.73
E50 1958 00	Concannon Winery	Alameda	-121.748	37.669	580	10	15.39	2.64	1.71	0.74
E50 2326 00	Decoto	Alameda	-122.021	37.597	65	5	32.97	3.22	2.09	0.91
E50 2525 00	Dublin 1 W	Alameda	-121.938	37.698	450	18	23.10	3.88	2.52	1.09
E50 3863 00	Hayward Corp Yard	Alameda	-122.097	37.647	755	22	17.02	3.34	2.17	0.94
E50 3963 00	Hayward 6 ESE	Alameda	-121.986	37.652	715	45	25.87	4.75	3.08	1.34
E50 4997 00	Livermore	Alameda	-122.806	37.691	405	99	14.24	2.53	1.64	0.71
E50 4997 03	Livermore 2E	Alameda	-121.742	37.670	470	13	13.85	2.59	1.68	0.73
E50 4997 40	Livermore 5NE	Alameda	-121.683	37.695	685	17	13.58	2.52	1.64	0.71
E50 5719 15	Mission San Jose	Alameda	-121.944	37.536	120	8	17.45	2.03	1.32	0.57
E50 5735 50	Mocho Well	Alameda	-121.872	37.687	345	8	12.98	2.33	1.51	0.66
E50 5735 50	Mocho Well 34	Alameda	-121.876	37.687	345	27	17.55	3.49	2.26	0.98
E50 5818 51	Mission Cr T K Rch	Alameda	-121.885	37.525	1,400	44	22.03	3.11	2.02	0.87
E50 6144 00	Newark	Alameda	-122.029	37.522	14	47	14.26	2.20	1.43	0.62
E50 6199 01	Niles	Alameda	-121.960	37.580	100	42	18.38	2.96	1.92	0.83
E50 6199 01	Niles	Alameda	-121.960	37.580	100	27	16.52	2.77	1.80	0.78
E50 6199 ??	Niles 2 S	Alameda	-121.978	37.562	60	20	17.58	2.62	1.70	0.74
E50 6750 40	Patterson Pass WTP	Alameda	-121.683	37.746	685	28	13.36	2.48	1.61	0.70
E50 6991 09	Pleasanton 2.4 NE	Alameda	-121.848	37.680	370	18	16.78	3.25	2.11	0.91
E50 6991 09	Pleasanton Pumps	Alameda	-121.900	37.660	320	49	20.03	3.57	2.32	1.00
E50 7712 50	San Antonio	Alameda	-121.830	37.580	449	19	18.70	3.65	2.37	1.03
E50 7842 01	San Leandro	Alameda	-122.150	37.717	48	12	23.56	3.34	2.17	0.94
E50 7842 04	San Leandro 2 NE	Alameda	-122.150	37.717	48	9	21.51	3.32	2.15	0.93
E50 8670 01	Sunol	Alameda	-121.880	37.590	220	83	19.92	3.16	2.05	0.89
E50 9525 00	Wente Winery	Alameda	-121.724	37.663	775	18	13.46	2.44	1.58	0.69
E60 6144 00	Newark	Alameda	-122.029	37.522	14	46	14.21	2.21	1.43	0.62
B80 0232 00	Antioch PP	Contra Costa	-121.728	37.984	60	99	12.51	2.30	1.56	0.73
B80 1060 00	Brentwood 6 SW	Contra Costa	-121.774	37.883	325	35	16.19	3.20	2.17	1.01
B90 0227 00	Antioch Fiberboard	Contra Costa	-121.737	38.017	30	25	13.93	2.63	1.78	0.83
B90 0832 50	Buxler Pump 14	Contra Costa	-121.625	37.940	14	16	10.21	1.77	1.20	0.56
B90 0832 50	Buxler Pump 14	Contra Costa	-121.625	37.940	14	8	9.95	1.69	1.15	0.53
B90 1059 00	Brentwood	Contra Costa	-121.697	37.920	85	21	12.17	2.21	1.50	0.70
B90 1059 35	Brentwood CIMIS 47	Contra Costa	-121.659	37.093	45	10	11.34	1.72	1.17	0.54
B90 5130 50	Los Medanos	Contra Costa	-121.855	37.998	130	17	9.78	1.83	1.24	0.58
B90 5130 50	Los Medanos 19	Contra Costa	-121.855	37.998	130	9	11.09	1.78	1.21	0.56
B90 6339 00	Oakley Stirrup	Contra Costa	-121.735	37.935	65	5	14.91	2.98	2.02	0.94
E40 0064 00	Alamo 1N	Contra Costa	-122.033	37.867	410	17	22.33	4.51	2.93	1.27
E40 0451 70	Bald Peak	Contra Costa	-122.222	37.883	1,905	8	25.45	4.74	3.08	1.33
E40 0451 70	Bald Peak 32	Contra Costa	-122.222	37.883	1,905	8	27.31	4.25	2.76	1.20
E40 1216 00	Burton Ranch	Contra Costa	-122.083	37.867	530	18	24.29	4.66	3.02	1.31
E40 1962 00	Concord 3 E	Contra Costa	-121.983	37.967	200	18	16.28	3.13	2.03	0.88
E40 2177 00	Crockett C&H	Contra Costa	-122.217	38.051	9	34	18.59	3.35	2.17	0.94
E40 2177 80	Crockett C&H	Contra Costa	-122.217	38.051	9	15	18.20	3.34	2.17	0.94
E40 2279 50	Danville Wu	Contra Costa	-122.002	37.830	330	20	25.41	4.51	2.93	1.27
E40 2279 50	Danville Wu 17	Contra Costa	-122.002	37.830	330	20	25.41	4.52	2.93	1.27
E40 2533 20	Dublin FS	Contra Costa	-121.927	37.732	355	19	16.69	2.83	1.84	0.80
E40 2533 20	Dublin FS	Contra Costa	-121.927	37.732	355	20	16.69	2.94	1.91	0.83
E40 3652 00	Grizzley Peak	Contra Costa	-121.217	37.867	1,754	11	21.58	3.54	2.30	1.00
E40 4633 00	La Fayette	Contra Costa	-121.100	37.917	540	21	23.93	4.40	2.86	1.24
E40 4639 00	La Fayette Reservoir	Contra Costa	-121.100	37.767	460	59	26.94	4.50	2.92	1.27
E40 5366 50	Marsh Creek Fire Sta	Contra Costa	-121.865	37.897	680	18	19.71	3.63	2.36	1.02
E40 5366 50	Marsh Creek Fire Sta 17	Contra Costa	-121.865	37.897	680	17	20.29	3.86	2.50	1.09

R0006401

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
E40 5371 00	Martinez 3S	Contra Costa	-122.133	37.967	225	45	21.70	3.71	2.41	1.04
E40 5371 50	Martinez FCD	Contra Costa	-122.087	37.988	49	23	16.03	2.90	1.88	0.82
E40 5371 50	Martinez FCD	Contra Costa	-122.087	37.988	49	23	15.42	3.06	1.99	0.88
E40 5371 ??	Martinez 37	Contra Costa	-122.179	37.977	800	9	20.23	3.70	2.40	1.04
E40 5371 ??	Martinez 37	Contra Costa	-122.179	37.977	800	11	19.38	3.67	2.38	1.03
E40 5372 00	Martinez 3 SSE	Contra Costa	-122.100	37.957	260	20	20.31	3.75	2.43	1.05
E40 5378 00	Martinez Wtr Plt	Contra Costa	-122.117	38.017	40	88	18.40	3.27	2.12	0.92
E40 5856 50	Morgan Territory	Contra Costa	-121.795	37.818	2,030	13	23.93	4.43	2.87	1.25
E40 5856 50	Morgan Territory	Contra Costa	-121.795	37.818	2,030	13	23.79	4.48	2.91	1.26
E40 5915 00	Mt Diablo Junction	Contra Costa	-121.933	37.867	2,170	44	23.23	4.09	2.65	1.15
E40 5916 00	Mt Diablo St Pk	Contra Costa	-121.933	37.850	1,600	27	22.75	4.41	2.86	1.24
E40 5916 00	Mt Diablo St Pk 13	Contra Costa	-121.933	37.850	1,600	30	22.75	4.20	2.73	1.18
E40 5916 20	Mt Diablo	Contra Costa	-121.918	37.880	3,690	15	28.21	5.05	3.28	1.42
E40 5916 20	Mt Diablo 22	Contra Costa	-121.918	37.880	3,690	15	27.54	4.93	3.20	1.39
E40 5925 00	Mt Eden	Contra Costa	-122.108	37.630	35	21	17.58	5.15	3.34	1.45
E40 5925 00	Mt Eden	Contra Costa	-122.108	37.630	35	21	17.58	3.30	2.14	0.93
E40 6501 01	Orinda Filters	Contra Costa	-122.200	37.893	370	32	32.55	6.05	3.93	1.70
E40 6501 01	Orinda Filters	Contra Costa	-122.200	37.893	370	51	31.83	5.25	3.41	1.48
E40 6501 01	Orinda FS 18	Contra Costa	-122.170	37.895	700	22	28.22	4.72	3.06	1.33
E40 6502 00	Orinda Bowman	Contra Costa	-122.167	37.867	700	12	30.52	4.93	3.20	1.39
E40 6502 22	Orinda FS 18	Contra Costa	-122.170	37.894	700	41	28.93	4.79	3.11	1.35
E40 6503 07	Orinda 11 Ivy Dr	Contra Costa	-122.151	37.855	695	28	33.91	5.81	3.77	1.63
E40 6931 00	Pinole Cr GS	Contra Costa	-122.241	37.972	385	25	20.14	3.07	1.99	0.86
E40 7031 50	Point Richmond	Contra Costa	-122.561	37.908	10	43	21.27	3.19	2.07	0.90
E40 7414 50	Port Chicago	Contra Costa	-122.017	38.017	50	27	15.65	2.69	1.75	0.76
E40 7414 50	Richmond City Hall	Contra Costa	-122.350	37.933	55	19	19.21	3.81	2.47	1.07
E40 7414 50	Richmond City Hall 21	Contra Costa	-122.350	37.933	55	45	21.77	3.93	2.55	1.11
E40 7526 ??	Rockey Ridge	Contra Costa	-122.061	37.817	2,020	9	23.43	3.80	2.47	1.07
E40 7526 ??	Rockey Ridge	Contra Costa	-122.061	37.817	2,020	7	22.14	3.19	2.07	0.90
E40 7528 10	Rodeo Fire Station	Contra Costa	-122.270	38.035	30	22	18.22	3.30	2.14	0.93
E40 7528 10	Rodeo Fire Station 15	Contra Costa	-122.270	38.035	30	22	18.28	3.35	2.17	0.94
E40 7661 00	St Marys College	Contra Costa	-122.107	37.841	640	40	27.53	5.26	3.41	1.48
E40 7661 00	St Marys College 13	Contra Costa	-122.107	37.841	640	52	27.32	5.01	3.25	1.41
E40 7872 06	San Pablo Creek	Contra Costa	-122.203	37.897	345	17	23.84	3.91	2.54	1.10
E40 7872 07	San Pablo Filters	Contra Costa	-122.286	37.912	250	18	25.08	4.13	2.68	1.16
E40 7874 14	San Pablo Reservoir	Contra Costa	-122.262	37.941	330	67	26.12	4.07	2.64	1.14
E40 8324 50	Sabrante Filters	Contra Costa	-122.279	37.964	250	21	26.86	4.63	3.00	1.30
E40 8324 50	Sabrante Filters	Contra Costa	-122.279	37.964	250	28	24.53	3.61	2.34	1.02
E40 9185 00	Upper San Leaddro Filters	Contra Costa	-122.164	37.774	413	50	23.12	3.82	2.48	1.07
E40 9185 00	Upper San Leandro Filters	Contra Costa	-122.164	37.774	413	44	23.08	3.93	2.55	1.11
E40 9223 11	Valley Vista	Contra Costa	-122.130	37.821	550	15	27.49	3.99	2.59	1.12
E40 9420 00	Walnar School	Contra Costa	-122.083	37.950	120	12	21.00	4.80	3.11	1.35
E40 9421 01	Walnut Creek Filters	Contra Costa	-122.085	37.913	384	16	22.74	4.18	2.71	1.18
E40 9421 01	Walnut Creek Filters	Contra Costa	-122.085	37.913	384	28	22.16	3.82	2.48	1.07
E40 9423 00	Walnut Creek 2 ESE	Contra Costa	-122.033	37.883	250	26	20.79	3.52	2.28	0.99
E40 9423 07	Walnut Creek Johnson	Contra Costa	-122.058	37.924	95	10	22.37	3.91	2.54	1.10
E40 9423 ??	Walnut Creek Treat	Contra Costa	-122.029	37.938	83	9	18.29	3.56	2.31	1.00
E40 9425 80	Walnut Cr Glenhaxen	Contra Costa	-121.058	37.880	180	7	16.29	3.23	2.10	0.91
E40 9426 80	Walnut Cr FTC 33	Contra Costa	-122.029	37.938	25	9	15.44	2.35	1.52	0.66
E40 9426 80	Walnut Cr FTC 33	Contra Costa	-122.029	37.938	25	9	12.28	2.64	1.71	0.74
E40 9427 00	Walnut Creek 4 E	Contra Costa	-121.983	37.900	400	21	16.52	3.44	2.23	0.97
E40 9429 50	Walnut Creek 2 ENE	Contra Costa	-122.044	37.935	80	44	17.89	3.77	2.45	1.06
E40 9429 50	Walnut Creek 2 NE	Contra Costa	-122.044	37.935	80	15	15.72	3.78	2.45	1.06
E50 0068 00	Alamo Creek	Contra Costa	-121.891	37.802	800	46	17.63	2.97	1.93	0.84
E50 2428 00	Diablo PO	Contra Costa	-121.963	37.837	500	20	18.49	2.79	1.81	0.78
E50 2533 20	Dublin Fire Sta	Contra Costa	-121.927	37.732	355	19	16.69	2.83	1.84	0.80
E50 8785 00	Tassajara Creek	Contra Costa	-121.848	37.788	750	43	15.95	2.65	1.72	0.75
E50 8785 50	Tassajara Creek Wood	Contra Costa	-121.941	37.803	520	39	19.50	3.16	2.05	0.89
E50 9502 00	Wedeman Ranch	Contra Costa	-121.983	37.765	750	19	20.87	4.41	2.86	1.24
B00 3063 00	Firebaugh SW	Fresno	-120.617	36.851	187	6	8.21	1.57	1.06	0.50
B00 4979 00	Little Panoche Det Dam	Fresno	-120.800	36.783	2,650	7	6.58	1.82	1.23	0.58
B00 5520 00	Mendota VDL Farms	Fresno	-120.800	36.749	230	14	7.19	1.43	0.97	0.45
B00 5526 00	Mendota 1 NNW	Fresno	-120.386	36.773	172	17	6.30	1.26	0.85	0.40
B00 5528 00	Mendota Dam	Fresno	-120.372	36.788	166	90	7.38	1.59	1.08	0.50
B00 5529 00	Mendota Halfway Pump	Fresno	-120.392	36.469	450	12	8.99	1.43	0.97	0.45
B00 6677 00	Panoche Creek	Fresno	-120.583	36.683	370	6	5.99	1.89	1.28	0.60
B00 7099 11	Poso Canal Co HQ	Fresno	-120.501	36.982	125	34	7.87	1.46	0.99	0.46
B60 0049 00	Ahwahnee 2 NNW	Fresno	-119.735	37.389	2,680	25	29.15	4.06	2.75	1.28
B60 0544 50	Batterson RS	Fresno	-119.626	37.432	2,100	19	31.00	4.55	3.09	1.44
B70 0379 00	Auberry 1 NW	Fresno	-119.508	37.090	2,140	81	24.68	4.02	2.73	1.27
B70 0755 00	Big Creek PH 1	Fresno	-119.242	37.204	4,930	54	31.33	4.92	3.34	1.56
B70 3093 00	Florence Lake	Fresno	-118.974	37.273	7,345	56	25.67	3.67	2.49	1.16
B70 3093 00	Florence Lake	Fresno	-118.974	37.273	7,345	66	23.02	3.86	2.62	1.22

R0006402

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
B70 3261 00	Friant GC	Fresno	-119.717	36.983	410	79	13.70	2.49	1.69	0.79
B70 3261 00	Friant GC	Fresno	-119.717	36.983	410	11	13.65	2.04	1.38	0.65
B70 4176 00	Huntington Lake	Fresno	-119.229	37.229	7,020	54	40.47	5.66	3.84	1.79
B70 4176 00	Huntington Lake	Fresno	-119.229	37.229	7,020	69	34.76	5.07	3.44	1.60
B70 4442 00	Kaiser Meadows	Fresno	-119.100	37.300	9,300	5	48.51	6.95	4.71	2.20
B70 5496 00	Meadow Lake	Fresno	-119.023	37.229	4,480	27	28.54	4.61	3.13	1.46
B70 5893 00	Mountain Rest	Fresno	-119.370	37.055	4,100	5	30.47	6.15	4.17	1.95
B70 8140 01	Shaver Lake	Fresno	-119.302	37.147	5,393	23	37.43	5.33	3.61	1.69
B70 8951 00	Tollhouse	Fresno	-119.400	37.017	1,790	29	27.07	4.60	3.12	1.45
B80 4979 00	Little Panoche Det Dam	Fresno	-120.800	36.783	2,650	7	6.58	1.82	1.23	0.58
B80 5550 00	Mercey Hot Springs	Fresno	-120.867	36.700	1,170	24	8.15	2.04	1.38	0.65
C00 1490 00	Cantua Ranch	Fresno	-120.389	36.476	290	20	7.53	1.97	1.25	0.53
C00 1851 00	Clovis 7SE	Fresno	-119.700	36.833	375	30	12.29	2.21	1.41	0.59
C00 1864 00	Coalinga	Fresno	-120.350	36.150	671	86	7.44	1.72	1.10	0.46
C00 1867 00	Coalinga 1 SE	Fresno	-120.344	36.128	663	54	7.37	1.99	1.27	0.53
C00 3084 00	Five Points Diemar	Fresno	-120.103	36.372	263	48	6.86	1.70	1.08	0.45
C00 3085 00	Five Points CIMIS 2	Fresno	-120.113	36.336	285	13	9.42	2.51	1.60	0.67
C00 3257 00	Fresno	Fresno	-119.717	36.770	331	94	10.21	2.06	1.31	0.55
C00 3257 00	Fresno	Fresno	-119.717	36.770	331	109	10.07	2.11	1.34	0.56
C00 3258 80	Fresno Westside FS	Fresno	-120.273	36.141	600	27	6.47	1.72	1.10	0.46
C00 4188 00	Huron Ranch	Fresno	-120.100	36.267	335	53	6.92	1.78	1.13	0.47
C00 4453 00	Kearney FS	Fresno	-119.500	36.583	337	7	11.02	2.14	1.36	0.57
C00 4510 00	Kerman	Fresno	-120.050	36.717	216	18	8.01	1.75	1.11	0.47
C00 4564 20	Kingsburg 2 S	Fresno	-119.550	36.500	286	24	10.62	2.36	1.50	0.63
C00 4929 07	Laton	Fresno	-119.686	36.433	250	27	8.67	2.08	1.32	0.55
C00 5526 00	Mendota Murretta	Fresno	-120.455	36.650	261	17	6.86	1.48	0.94	0.39
C00 5526 16	Mendota	Fresno	-120.315	36.630	260	40	7.10	1.57	1.00	0.42
C00 6393 00	Oilfields	Fresno	-120.314	36.247	950	25	8.18	2.09	1.33	0.56
C00 6476 00	Orange Cove	Fresno	-119.311	36.622	431	53	12.79	2.48	1.58	0.66
C00 6678 00	Panoche Junction	Fresno	-120.450	36.533	420	24	5.63	1.55	0.99	0.41
C00 6712 00	Parlier CIMIS 39	Fresno	-119.503	36.598	337	11	14.30	2.77	1.76	0.74
C00 7354 80	Reedley MVFD	Fresno	-119.450	36.617	347	38	11.94	2.37	1.51	0.63
C00 7460 00	Riverdale	Fresno	-119.311	36.622	413	63	8.00	1.83	1.17	0.49
C00 7460 70	Riverdale 3 E	Fresno	-119.796	36.431	230	3	12.24	2.34	1.49	0.62
C00 7800 02	Sanger 1 NE	Fresno	-119.543	36.725	375	42	11.59	2.25	1.43	0.60
C00 7800 03	Sanger RS	Fresno	-119.555	36.730	375	31	11.30	2.14	1.36	0.57
C00 7816 00	San Joaquin	Fresno	-120.188	36.607	174	75	7.11	1.61	1.03	0.43
C00 9006 00	Tranquility Glotz	Fresno	-120.237	36.633	165	27	7.47	2.05	1.31	0.55
C00 9391 50	Westside FS	Fresno	-120.100	36.333	275	9	8.09	2.03	1.29	0.54
C00 9560 00	Westhaven	Fresno	-119.994	36.227	285	55	7.01	1.79	1.14	0.48
C10 0009 00	Academy	Fresno	-119.540	36.883	545	11	13.36	3.06	1.95	0.82
C10 0451 50	Bald Mtn	Fresno	-119.400	37.070	4,720	5	34.94	5.95	3.79	1.59
C10 0880 80	Blastingame	Fresno	-119.446	36.960	1,050	31	19.76	3.58	2.28	0.95
C10 1664 00	Charlett Lake	Fresno	-118.422	36.797	10,400	11	30.55	4.37	2.78	1.17
C10 1720 00	Balch PH	Fresno	-119.087	36.909	1,720	58	29.20	5.40	3.44	1.44
C10 1720 00	Balch PH	Fresno	-119.087	36.909	1,720	42	27.56	4.62	2.94	1.23
C10 1821 00	Cliff Camp	Fresno	-118.967	36.983	6,174	18	38.09	6.50	4.14	1.73
C10 2439 01	Dinkey Meadow	Fresno	-119.150	37.100	5,550	14	34.71	6.44	4.10	1.72
C10 3894 00	Helm Creek	Fresno	-118.967	37.133	8,200	8	35.38	5.17	3.29	1.38
C10 6857 00	Piedra	Fresno	-119.383	36.817	580	35	16.63	3.20	2.04	0.85
C10 6896 00	Pine Flat Dam	Fresno	-119.330	36.830	615	47	19.28	3.99	2.54	1.06
C10 6896 00	Pine Flat Dam	Fresno	-119.330	36.830	615	32	19.07	4.01	2.55	1.07
C10 6902 00	Pinehurst	Fresno	-119.015	36.598	2,050	32	30.36	5.81	3.70	1.55
C10 8474 80	Squaw Valley	Fresno	-119.206	36.749	1,750	33	21.90	4.34	2.76	1.16
C10 9025 00	Trimmer RS	Fresno	-119.288	36.902	1,540	44	25.05	5.53	3.52	1.48
C10 9749 00	Wishon Dam	Fresno	-118.975	37.067	6,560	39	44.42	8.08	5.15	2.16
C20 5708 00	Miramonte HC	Fresno	-119.083	36.667	3,005	39	25.84	4.54	2.89	1.21
C70 0353 05	Associated Oil #3	Fresno	-120.630	36.152	1,850	14	16.69	3.60	2.29	0.96
C70 0827 00	Bitterwater Pump Sta	Fresno	-120.113	35.558	1,540	21	7.87	2.04	1.30	0.54
C70 1864 02	Coalinga Roberts	Fresno	-120.444	36.038	1,350	27	14.09	3.24	2.06	0.86
C70 1869 00	Coalinga 14 WNW	Fresno	-120.567	36.233	1,640	23	15.43	3.43	2.18	0.91
C70 2785 00	El Rancho Cantua	Fresno	-120.479	36.413	1,020	24	7.04	2.14	1.36	0.57
C70 3258 01	Fresno Co Road Camp	Fresno	-120.600	36.308	1,800	7	15.37	3.73	2.38	0.99
C70 5320 00	Maple Ranch	Fresno	-120.483	36.039	2,640	9	19.60	4.77	3.04	1.27
C70 6708 00	Parkfield 8 NNW	Fresno	-120.483	36.017	2,640	28	12.74	2.86	1.82	0.76
C70 8438 35	Spanish Lake	Fresno	-120.526	36.262	4,840	9	15.82	3.24	2.06	0.86
G10 7128 00	Prather Tallman Ranch	Fresno	-119.660	37.040	1,300	8	26.16	4.34	2.71	1.03
C00 0332 00	Arvin	Kern	-118.817	35.200	445	34	6.34	1.67	1.06	0.45
C00 0332 30	Arvin FS	Kern	-118.833	35.210	440	20	6.12	1.69	1.08	0.45
C00 0332 50	Arvin Edison	Kern	-118.776	35.209	510	15	8.27	2.18	1.39	0.58
C00 0440 00	Bakersfield 1W	Kern	-119.038	35.378	400	56	6.48	1.60	1.02	0.43
C00 0440 40	Bakersfield Greenlee	Kern	-119.081	35.077	383	20	7.72	2.13	1.36	0.57
C00 0442 00	Bakersfield AP	Kern	-119.043	35.427	494	96	6.03	1.51	0.96	0.40

R0006403

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
C00 0442 00	Bakersfield AP	Kern	-119.043	35.427	494	58	6.05	1.43	0.91	0.38
C00 0631 00	Belleview	Kern	-119.116	35.336	369	8	6.41	1.44	0.92	0.38
C00 0875 00	Blackwells Corner	Kern	-119.894	35.621	271	28	5.86	1.77	1.13	0.47
C00 0875 50	Blackwells Corner CIMIS 54	Kern	-119.958	35.650	705	9	8.49	2.08	1.32	0.55
C00 1171 50	Buena Vista	Kern	-119.267	35.235	340	19	4.41	1.50	0.96	0.40
C00 1174 00	Buena Vista Ranch	Kern	-119.317	35.350	310	78	5.78	1.67	1.06	0.45
C00 1244 50	Buttonwillow	Kern	-119.469	35.401	275	60	5.43	1.46	0.93	0.39
C00 1244 50	Buttonwillow FS	Kern	-119.469	35.401	275	20	4.76	1.32	0.84	0.35
C00 2012 00	Delano	Kern	-119.246	35.773	323	52	6.99	1.66	1.06	0.44
C00 2012 01	Delano Govt Camp	Kern	-119.183	35.810	394	24	7.78	1.93	1.23	0.51
C00 2355 50	Del Kern Station	Kern	-119.012	35.266	345	13	6.15	1.83	1.17	0.49
C00 2408 00	Devil's Den	Kern	-119.973	35.765	500	27	6.76	1.86	1.18	0.50
C00 2436 00	Di Giorgio	Kern	-118.850	35.252	483	13	6.34	1.83	1.17	0.49
C00 3428 01	Gin Yard	Kern	-119.236	35.153	295	32	5.13	1.73	1.10	0.46
C00 3747 00	Hanford	Kern	-119.665	36.329	242	86	8.21	1.82	1.16	0.49
C00 4513 50	Kern Co Comm Center	Kern	-118.964	35.411	450	19	5.48	1.52	0.97	0.41
C00 4534 00	Kettleman City	Kern	-119.965	35.993	310	55	7.05	1.72	1.10	0.46
C00 5151 00	Lost Hills	Kern	-119.765	35.617	285	56	6.01	1.53	0.97	0.41
C00 5151 30	Lost Hills DWR	Kern	-119.694	35.614	312	38	6.31	1.65	1.05	0.44
C00 5460 50	Mc Farland	Kern	-119.228	35.674	450	19	5.69	1.39	0.89	0.37
C00 5757 00	Magunden	Kern	-118.922	36.362	440	62	6.47	1.54	0.98	0.41
C00 6230 50	North Belridge	Kern	-119.791	35.551	630	29	5.66	1.79	1.14	0.48
C00 6651 00	Paloma ranch	Kern	-119.192	35.181	300	8	5.41	1.56	0.99	0.42
C00 7098 11	Poso Ranch	Kern	-119.236	36.608	370	56	5.94	1.55	0.99	0.41
C00 7436 11	Rio Bravo FS	Kern	-118.869	35.431	450	16	6.48	1.59	1.01	0.42
C00 7555 00	Rosedale Ranch	Kern	-119.128	36.428	380	55	5.82	1.53	0.97	0.41
C00 7753 00	San Emigdio Ranch	Kern	-119.188	35.008	280	56	8.38	2.13	1.36	0.57
C00 7753 00	San Emigdio Ranch	Kern	-119.188	35.008	280	5	6.72	1.97	1.25	0.53
C00 7987 80	Santiago Ranch	Kern	-119.204	35.076	500	6	5.88	1.72	1.10	0.46
C00 8123 11	Shafter CIMIS 5	Kern	-119.281	35.533	360	13	7.78	1.90	1.21	0.51
C00 8375 00	South Belridge	Kern	-119.709	35.455	575	53	5.99	1.68	1.07	0.45
C00 8595 00	Stratford CIMIS 15	Kern	-119.850	36.158	193	13	7.67	2.07	1.32	0.55
C00 8707 00	South Lake FS	Kern	-118.390	35.647	190	5	5.51	1.60	1.02	0.43
C00 8839 00	Tejon Rancho	Kern	-118.744	35.027	1,425	98	11.22	2.27	1.45	0.61
C00 9052 00	Tulefield	Kern	-119.017	35.150	300	11	5.01	1.41	0.90	0.38
C00 9145 00	US Cotton Field Sta	Kern	-119.278	35.533	367	46	5.99	1.59	1.01	0.42
C00 9411 01	Wait	Kern	-119.043	35.420	300	19	5.90	1.47	0.94	0.39
C00 9452 00	Wasco	Kern	-119.333	35.593	333	69	6.47	1.72	1.10	0.46
C00 9499 50	Weed Patch 8 SW	Kern	-118.922	35.139	390	8	6.80	1.53	0.97	0.41
C00 9614 00	Wheeler Ridge	Kern	-118.950	34.967	1,675	5	6.79	1.57	1.00	0.42
C00 9614 10	Wheeler Ridge WSD	Kern	-119.086	35.058	484	23	7.84	2.17	1.38	0.58
C00 9724 60	Wind Gap	Kern	-119.753	35.936	210	17	8.66	2.12	1.35	0.57
C40 3463 00	Glennville	Kern	-118.702	35.724	3,140	67	19.37	3.57	2.27	0.95
C40 3465 00	Glennville Fulton	Kern	-118.667	35.733	3,500	45	21.55	3.46	2.20	0.92
C40 3465 00	Glennville Fulton	Kern	-118.667	35.733	3,500	32	17.48	4.19	2.67	1.12
C40 6391 00	Smoot Ranch	Kern	-118.898	35.520	805	13	8.01	1.83	1.17	0.49
C40 9805 00	Woody	Kern	-118.843	35.701	1,630	33	12.23	2.21	1.41	0.59
C50 0981 00	Borel PH	Kern	-118.517	35.583	2,280	8	12.12	3.07	1.96	0.82
C50 4303 00	Isabella Dam	Kern	-118.480	35.650	2,660	48	10.40	2.80	1.78	0.75
C50 4303 00	Isabella Dam	Kern	-118.480	35.650	2,660	29	10.18	2.78	1.77	0.74
C50 4513 00	Kern Canyon PH PG&E	Kern	-118.795	35.441	700	45	8.73	1.87	1.19	0.50
C50 4519 00	Kern Riv Intake SCE	Kern	-118.476	35.945	3,642	59	17.02	4.15	2.64	1.11
C50 4520 00	Kern River PH 1	Kern	-118.783	35.467	970	77	10.62	2.18	1.39	0.58
C50 4523 00	Kern River PH 3	Kern	-118.435	35.776	2,703	47	12.79	2.95	1.88	0.79
C50 6462 80	Onyz 2	Kern	-118.233	35.683	2,700	37	8.65	2.38	1.52	0.63
C50 9512 00	Weldon 1 WSW	Kern	-118.300	35.667	2,680	47	8.13	2.05	1.31	0.55
C50 9754 00	Wofford Heights	Kern	-118.450	35.717	2,700	78	10.46	2.74	1.75	0.73
C60 0571 01	Bear Valley	Kern	-118.640	35.117	4,100	33	19.97	3.44	2.19	0.92
C60 1296 01	Caliente	Kern	-118.633	35.300	1,290	26	12.02	2.75	1.75	0.73
C60 1296 02	Caliente 11 E	Kern	-118.483	35.300	2,450	6	19.66	3.39	2.16	0.90
C60 2222 00	Cummings Valley	Kern	-118.583	35.117	3,825	9	10.53	2.08	1.32	0.55
C60 2583 20	Edmonson Pump	Kern	-118.825	34.944	450	5	11.15	3.48	2.22	0.93
C60 2583 20	Edmonson Pump	Kern	-118.825	34.944	450	21	8.28	2.39	1.52	0.64
C60 4463 00	Keene	Kern	-118.565	35.224	2,575	9	14.83	2.88	1.83	0.77
C60 4463 00	Keene FS	Kern	-118.565	35.224	2,575	42	14.95	2.77	1.76	0.74
C60 4863 00	Lebec	Kern	-118.864	34.833	3,590	50	12.79	3.56	2.27	0.95
C60 5098 00	Lorsime	Kern	-118.480	35.335	2,720	52	8.31	2.07	1.32	0.55
C60 6754 00	Pattiway	Kern	-119.381	34.941	3,868	71	9.87	2.44	1.55	0.65
C60 8826 00	Tehachapi	Kern	-118.442	35.134	3,975	75	11.01	2.55	1.62	0.68
C60 8826 01	Tehachapi #1	Kern	-118.448	35.112	4,150	15	11.35	2.91	1.85	0.78
C60 8826 02	Tehachapi #2	Kern	-118.448	35.092	4,700	10	15.16	3.46	2.20	0.92
C60 8826 04	Tehachapi #4	Kern	-118.424	35.075	5,100	17	15.37	2.96	1.89	0.79
C60 8826 08	Tehachapi #8	Kern	-118.417	35.064	5,000	18	17.11	3.95	2.52	1.05

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
C60 8826 09	Tehachapi #9	Kern	-118.490	35.060	5,500	17	18.61	4.56	2.90	1.22
C60 8826 12	Tehachapi #12	Kern	-118.447	35.071	5,500	15	18.61	4.56	2.90	1.22
C60 8826 13	Tehachapi #13	Kern	-118.447	35.079	5,200	15	16.82	4.27	2.72	1.14
C60 8826 16	Tehachapi #16	Kern	-118.483	35.071	6,300	17	18.42	4.25	2.71	1.13
C60 8826 18	Tehachapi #18	Kern	-118.461	35.057	6,100	12	21.55	4.00	2.55	1.07
C60 8826 26	Tehachapi #26	Kern	-118.411	35.093	4,400	16	11.35	2.92	1.86	0.78
C60 8826 28	Tehachapi #28	Kern	-118.414	35.130	4,100	16	8.72	1.82	1.16	0.49
C60 8826 30	Tehachapi #30	Kern	-118.404	35.111	4,150	16	10.83	2.32	1.48	0.62
C60 8832 00	Tehachapi AP	Kern	-118.442	35.134	3,975	54	11.01	2.32	1.48	0.62
C60 9417 10	Walker Basin	Kern	-118.543	35.388	3,450	9	16.05	4.51	2.87	1.20
C70 0215 00	Annette	Kern	-120.178	35.651	2,140	22	10.74	2.54	1.62	0.68
C70 0220 00	Antelope Valley	Kern	-120.167	35.713	1,205	26	8.95	2.14	1.36	0.57
C70 0353 01	Associated Oil A	Kern	-120.325	36.280	1,200	7	5.58	1.52	0.97	0.41
C70 0353 02	Associated Oil #1	Kern	-120.392	36.145	825	13	6.36	1.64	1.04	0.44
C70 0353 03	Associated Oil #2	Kern	-120.477	36.090	1,343	15	9.88	2.51	1.60	0.67
C70 0353 04	Associated Oil #2H	Kern	-120.575	36.110	1,153	7	9.26	2.84	1.81	0.76
C70 1545 00	Cameras	Kern	-119.800	35.533	720	9	5.71	1.52	0.97	0.41
C70 3005 00	Fellows	Kern	-119.544	35.179	1,340	30	6.60	1.87	1.19	0.50
C70 4424 00	Junction	Kern	-119.960	35.645	703	32	6.01	2.01	1.28	0.54
C70 5338 00	Mancopa	Kern	-119.383	35.080	680	79	5.99	1.84	1.17	0.49
C70 5338 01	Mancopa FS	Kern	-118.400	35.067	885	33	6.00	1.99	1.27	0.53
C70 5480 01	McKittrick FS	Kern	-119.622	35.306	1,051	46	5.88	1.77	1.13	0.47
C70 5480 01	McKittrick FS	Kern	-119.622	35.306	1,051	12	4.83	1.27	0.81	0.34
C70 5602 00	Middlewater	Kern	-119.817	35.500	800	51	5.15	1.48	0.94	0.39
C70 5607 01	Midway	Kern	-119.462	35.172	1,070	27	5.19	1.43	0.91	0.38
C70 6909 00	Pine Mtn FS	Kern	-119.168	34.851	5,400	6	13.57	3.19	2.03	0.85
C70 8679 01	Sunset	Kern	-119.388	35.097	639	8	6.76	1.77	1.13	0.47
C70 8752 00	Taft	Kern	-119.465	35.142	1,025	49	5.61	1.58	1.01	0.42
C70 8755 00	Taft KTKR	Kern	-119.472	35.147	1,030	36	5.76	1.71	1.09	0.46
W24 1773 00	China Lake Armitage	Kern	-117.683	35.683	2,220	42	3.77	1.89	1.06	0.28
W24 4278 50	Inyokern FS	Kern	-117.683	35.649	2,430	23	4.04	1.91	1.07	0.28
W25 1488 00	Cantil	Kern	-117.967	35.300	2,010	19	4.02	2.03	1.14	0.30
W25 7253 00	Randsberg	Kern	-117.650	35.367	3,522	21	6.07	2.52	1.42	0.38
W25 7253 00	Randsberg	Kern	-117.650	35.367	3,522	57	6.07	2.57	1.45	0.38
W26 0418 00	Bacuks Ranch	Kern	-118.183	34.950	2,645	15	4.50	1.73	0.97	0.26
W26 0979 00	Boron	Kern	-117.651	35.000	2,460	29	5.32	2.04	1.15	0.30
W26 0979 00	Boron	Kern	-117.651	35.000	2,460	37	5.08	1.47	0.83	0.22
W26 5756 00	Mojave	Kern	-118.167	35.050	2,735	16	6.05	2.14	1.20	0.32
W26 5756 00	Mojave	Kern	-118.167	35.050	2,735	44	5.53	2.26	1.27	0.34
W26 5758 00	Mojave 2 ENE	Kern	-118.150	35.033	2,680	6	5.76	3.68	2.07	0.55
W26 7253 50	Randsburg FS	Kern	-117.651	35.368	3,520	21	6.07	2.52	1.42	0.38
W26 7560 75	Rosamond	Kern	-118.164	35.864	2,350	13	5.12	1.89	1.06	0.28
U03 0014 00	Acton Escondido	Los Angeles	-118.257	34.429	3,100	34	10.01	2.78	1.68	0.52
U03 0014 00	Acton Escondido Cyn	Los Angeles	-118.275	34.492	2,940	48	10.41	3.20	1.93	0.60
U03 0014 00	Acton Escondido NWS	Los Angeles	-118.257	34.429	3,100	11	12.58	3.42	2.07	0.64
U03 1013 00	Boquet Canyon	Los Angeles	-118.363	34.587	3,055	69	17.86	4.56	2.76	0.86
U03 1013 00	Boquet Canyon	Los Angeles	-118.363	34.587	3,055	38	16.24	4.45	2.69	0.84
U03 1561 21	Castaic Junction	Los Angeles	-118.606	34.440	1,001	28	11.82	3.63	2.19	0.68
U03 1562 11	Castaic Pat Sta	Los Angeles	-118.616	34.464	1,066	13	12.98	3.97	2.40	0.75
U03 2516 00	Dry Canyon Res 127	Los Angeles	-118.523	34.482	1,511	75	13.76	4.19	2.53	0.79
U03 2734 00	Elizabeth Lake 123	Los Angeles	-118.433	34.667	3,280	14	20.56	6.97	4.21	1.31
U03 2735 00	Elizbeth Lake 128	Los Angeles	-118.561	34.608	2,075	64	22.34	6.09	3.68	1.14
U03 2735 00	Elizbeth Lake 128	Los Angeles	-118.561	34.608	2,075	16	21.79	6.48	3.92	1.22
U03 3511 11	Gorman Sheriff 298	Los Angeles	-118.822	34.787	2,680	31	12.32	2.83	1.71	0.53
U03 5256 00	Magic Mtn	Los Angeles	-118.287	34.396	4,450	12	15.89	3.90	2.36	0.73
U03 5637 00	Mill Creek Summit RS	Los Angeles	-118.081	34.390	4,990	21	22.44	6.04	3.65	1.13
U03 6164 00	Newhall Soledad 32	Los Angeles	-118.533	34.383	1,240	100	17.64	5.94	3.59	1.12
U03 6164 00	Newhall Soledad 32	Los Angeles	-118.533	34.383	1,240	56	18.87	5.42	3.27	1.02
U03 6891 00	Piru Cyn PS 321	Los Angeles	-118.431	34.675	3,290	60	18.81	5.59	3.38	1.05
U03 7734 00	Sandberg PS	Los Angeles	-118.712	34.743	4,025	38	15.26	5.17	3.12	0.97
U03 7735 00	Sandberg WB	Los Angeles	-118.733	34.750	4,517	58	13.63	5.07	3.06	0.95
U03 7735 00	Sandberg WB	Los Angeles	-118.733	34.750	4,517	41	12.69	4.16	2.51	0.78
U03 8014 00	Saungus PH#1 125	Los Angeles	-118.454	34.590	2,105	75	18.16	4.69	2.83	0.88
U03 9049 00	Tujunga Mill Cr 470	Los Angeles	-118.090	34.388	4,650	28	16.19	4.37	2.64	0.82
U03 9345 00	Vincent Pat Sta	Los Angeles	-118.141	34.488	3,135	68	8.60	2.81	1.70	0.53
U04 2867 01	Escondido Cyn 2	Los Angeles	-118.774	34.048	1,050	47	19.06	5.30	3.20	1.00
U04 4867 00	Lechuza PS	Los Angeles	-118.880	34.077	1,620	22	23.95	5.36	3.24	1.01
U04 4867 00	Lechuza PS 352	Los Angeles	-118.880	34.077	1,620	35	23.08	6.84	4.13	1.29
U04 4867 00	Lechuza PS 352	Los Angeles	-118.880	34.077	1,620	63	22.11	6.93	4.19	1.30
U04 5269 45	Malibou Lakeside 4	Los Angeles	-118.754	34.103	800	48	22.56	8.66	5.23	1.63
U04 5790 11	Monte Nido 435	Los Angeles	-118.693	34.078	600	49	21.54	6.89	4.16	1.29
U04 8088 01	Seminole Hot Sp 3	Los Angeles	-118.792	34.107	875	50	20.78	7.48	4.52	1.41
U04 8967 00	Topanga Cyn 6	Los Angeles	-118.599	34.084	745	50	24.04	7.61	4.60	1.43

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Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
U04 8967 00	Topanga SP 6	Los Angeles	-118.599	34.084	745	67	24.18	8.09	4.89	1.52
U04 8967 50	Topanga Summit 19	Los Angeles	-118.844	34.140	1,520	17	22.16	7.41	4.48	1.39
U04 9990 11	Zuma Cyn 386	Los Angeles	-118.827	34.083	1,500	51	26.35	9.01	5.44	1.69
U05	Franklin Canyon 12	Los Angeles	-118.000	34.000		32	18.70	6.39	3.86	1.20
U05 0115 00	Aliso Canyon Oat Mtn	Los Angeles	-118.557	34.315	2,367	43	22.88	5.73	3.46	1.08
U05 0115 00	Aliso Canyon Oat Mtn	Los Angeles	-118.557	34.315	2,367	35	21.25	5.97	3.61	1.12
U05 0144 00	Altadena 176	Los Angeles	-118.138	34.182	1,125	67	21.95	6.65	4.02	1.25
U05 0208 20	Angeles Crest Hwy	Los Angeles	-117.978	34.344	5,920	17	21.62	7.75	4.68	1.46
U05 0327 00	Arroyo Seco RS	Los Angeles	-118.170	34.209	1,220	58	22.25	7.89	4.77	1.48
U05 0355 00	Associated Oil Anaheim 1	Los Angeles	-117.883	33.900	340	18	11.31	3.85	2.33	0.72
U05 0410 00	Azusa	Los Angeles	-117.905	34.134	612	23	17.08	6.00	3.63	1.13
U05 0410 01	Azusa Foothill Rch 99	Los Angeles	-117.892	34.076	615	61	19.48	6.04	3.65	1.13
U05 0410 30	Azusa	Los Angeles	-117.899	34.107	545	20	24.70	5.53	3.34	1.04
U05 0431 01	Baily Debris Dam	Los Angeles	-118.061	34.124	1,179	44	23.42	6.86	4.15	1.29
U05 0431 01	Baily Debris Dam 179	Los Angeles	-118.061	34.124	1,179	80	23.51	7.47	4.51	1.40
U05 0455 00	Baldwin Park 347	Los Angeles	-117.961	34.093	1,386	48	17.53	5.95	3.60	1.12
U05 0509 00	Bameson Park	Los Angeles	-117.850	33.933	575	17	12.60	5.32	3.21	1.00
U05 0619 00	Bel Air Hotel	Los Angeles	-118.446	34.860	540	53	18.79	5.85	3.53	1.10
U05 0619 00	Bel Air Hotel	Los Angeles	-118.446	34.860	540	59	18.79	5.80	3.50	1.09
U05 0722 11	Beverly Hills City Hall	Los Angeles	-118.399	34.074	290	15	18.07	5.17	3.12	0.97
U05 0722 11	Beverly Hills City Hall	Los Angeles	-118.399	34.074	3	60	17.01	5.13	3.10	0.96
U05 0758 00	Big Daulton Dam	Los Angeles	-117.810	34.168	1,575	31	24.00	8.06	4.87	1.51
U05 0785 01	Big Santa Anita Dam 63	Los Angeles	-118.019	34.185	1,400	60	25.40	8.09	4.89	1.52
U05 0798 00	Big Tujunga Dam	Los Angeles	-118.188	34.292	2,315	69	26.50	9.31	5.63	1.75
U05 0818 00	Birmington Gen Hosp	Los Angeles	-118.507	34.189	724	31	13.50	4.41	2.66	0.83
U05 1043 51	Braq Park 210	Los Angeles	-118.273	34.188	1,250	42	18.18	5.93	3.58	1.11
U05 1090 11	Briggs Terrace 373	Los Angeles	-118.225	34.238	2,225	35	26.06	7.73	4.67	1.45
U05 1192 00	Burbank FD	Los Angeles	-118.307	34.182	680	23	14.80	5.26	3.18	0.99
U05 1194 00	Burbank Valley PP	Los Angeles	-118.428	34.186	655	57	15.99	5.17	3.12	0.97
U05 1194 00	Burbank Valley PP	Los Angeles	-118.428	34.186	655	53	15.21	4.58	2.77	0.86
U05 1274 00	Calabasas 5	Los Angeles	-118.637	34.157	924	60	17.62	5.97	3.61	1.12
U05 1370 10	Camp Baldy 354	Los Angeles	-117.670	34.260	4,527	12	32.65	14.43	8.72	2.71
U05 1440 00	Camp Rincon 349	Los Angeles	-117.863	34.241	1,510	42	27.91	10.40	6.28	1.95
U05 1484 00	Canoga Park PC	Los Angeles	-118.573	34.181	794	47	16.46	5.24	3.17	0.98
U05 1613 01	Cedar Springs	Los Angeles	-117.876	34.356	6,780	42	32.58	9.19	5.55	1.73
U05 1665 01	Charter Oaks	Los Angeles	-117.834	34.100	850	32	19.42	6.09	3.68	1.14
U05 1680 00	Chatsworth 24	Los Angeles	-118.655	34.256	957	18	17.94	4.92	2.97	0.92
U05 1682 00	Chatsworth Res 23	Los Angeles	-118.622	34.229	900	62	15.64	4.51	2.73	0.85
U05 1682 00	Chatsworth Res 23	Los Angeles	-118.622	34.233	906	47	14.06	4.19	2.53	0.79
U05 1682 11	Chatsworth PS 259	Los Angeles	-118.604	34.278	1,254	33	18.68	5.57	3.37	1.05
U05 1777 02	Claremont Indian Hill 91	Los Angeles	-117.720	34.123	1,403	56	18.09	5.54	3.35	1.04
U05 1798 11	Clear Creek School 47	Los Angeles	-118.171	34.278	3,200	41	30.77	9.72	5.87	1.83
U05 1798 11	Clear Creek School 47	Los Angeles	-118.171	34.278	3,200	62	30.22	9.93	6.00	1.87
U05 1883 00	Cogswell Dam 334	Los Angeles	-117.960	34.243	2,330	52	33.79	12.17	7.35	2.29
U05 1883 00	Cogswell Dam 334	Los Angeles	-117.960	34.243	2,330	36	31.74	11.34	6.85	2.13
U05 1895 50	Coldbrook RS 78	Los Angeles	-117.841	34.291	3,260	18	29.58	7.66	4.63	1.44
U05 1896 00	Colbys 53	Los Angeles	-118.111	34.200	3,675	94	28.41	9.64	5.82	1.81
U05 1896 00	Colbys 53	Los Angeles	-118.111	34.200	3,675	45	26.23	9.10	5.50	1.71
U05 2089 02	Covina Griffith 107	Los Angeles	-117.816	34.070	975	14	15.60	4.83	2.92	0.91
U05 2090 00	Covina Temple 193	Los Angeles	-117.875	34.082	580	67	17.98	4.95	2.99	0.93
U05 2199 00	Crystal Lake 283	Los Angeles	-117.837	34.327	5,770	64	36.26	10.65	6.44	2.00
U05 2199 00	Crystal Lake 283	Los Angeles	-117.837	34.327	5,770	31	35.26	10.93	6.60	2.05
U05 2214 00	Culver City 246	Los Angeles	-118.400	34.017	60	64	13.71	3.97	2.40	0.75
U05 2438 01	Dillon Ranch 34	Los Angeles	-118.350	34.467	2,200	8	23.19	6.23	3.76	1.17
U05 2494 00	Downey City Hall	Los Angeles	-118.134	33.938	116	70	14.49	4.43	2.68	0.83
U05 2681 30	Edison Intake 75	Los Angeles	-117.858	34.211	1,275	33	27.45	9.08	5.49	1.71
U05 2779 01	El Monte 108	Los Angeles	-118.041	34.058	275	33	16.02	4.73	2.86	0.89
U05 2801 00	El Sereno 380	Los Angeles	-118.811	34.081	525	27	16.51	5.15	3.11	0.97
U05 2961 11	Failing Springs 51	Los Angeles	-117.872	34.302	4,010	44	31.18	8.66	5.23	1.63
U05 3018 00	Fenner Canyon	Los Angeles	-117.774	34.390	5,380	11	24.33	8.45	5.11	1.59
U05 3091 00	Flint Ridge	Los Angeles	-118.196	34.183	1,345	41	21.03	6.84	4.13	1.29
U05 3218 40	Franklin Cyn 12	Los Angeles	-118.376	34.078	800	33	18.70	6.10	3.69	1.15
U05 3430 11	Girard Res 20	Los Angeles	-118.610	34.152	986	56	17.82	6.17	3.73	1.16
U05 3450 00	Glendale Stapenhorst	Los Angeles	-118.267	34.150	530	22	15.98	5.40	3.26	1.01
U05 3450 70	Glendale Gregg	Los Angeles	-118.242	34.196	1,350	20	24.24	5.51	3.33	1.04
U05 3452 00	Glendora West	Los Angeles	-117.859	34.140	822	113	22.24	6.15	3.72	1.16
U05 3452 60	Glendale 315	Los Angeles	-117.793	34.123	1,064	12	25.77	8.22	4.97	1.54
U05 3452 60	Glendora 314	Los Angeles	-117.881	34.148	865	9	20.69	6.79	4.10	1.28
U05 3535 00	Granada Hills 29	Los Angeles	-118.532	34.251	1,035	51	17.70	5.05	3.05	0.95
U05 3535 00	Griffith Park Zoo 375	Los Angeles	-118.532	34.251	1,035	30	18.49	7.33	4.43	1.38
U05 3663 00	Griffith Park	Los Angeles	-118.284	34.122	850	24	17.55	5.37	3.24	1.01
U05 3703 00	Haines Cyn Lower 364	Los Angeles	-118.264	34.264	2,450	60	23.35	7.85	4.74	1.47
U05 3704 00	Haines Cyn Upper 367	Los Angeles	-118.252	34.272	3,440	37	28.57	8.72	5.27	1.64

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
U05 3704 00	Haines Cyn Upper 367	Los Angeles	-118.252	34.272	3,440	63	28.41	9.16	5.53	1.72
U05 3751 00	Hansen Dam	Los Angeles	-118.400	34.269	1,110	45	15.13	4.58	2.77	0.86
U05 3751 00	Hansen Dam	Los Angeles	-118.399	34.269	1,110	47	15.04	4.15	2.51	0.78
U05 3910 00	Henninger Flats	Los Angeles	-118.088	34.194	850	42	26.22	7.55	4.56	1.42
U05 4017 00	Hoegees	Los Angeles	-118.034	34.209	2,650	55	37.91	12.80	7.73	2.40
U05 4017 00	Hoegees 57	Los Angeles	-118.034	34.209	2,650	42	37.55	10.98	6.63	2.06
U05 4021 15	Holiday Hill	Los Angeles	-117.681	34.357	8,150	16	19.55	4.93	2.98	0.93
U05 4031 11	Hollywood 136	Los Angeles	-118.325	34.091	305	34	15.51	7.19	4.34	1.35
U05 4032 11	Hollywood Dam 238	Los Angeles	-118.332	34.118	750	63	16.92	4.94	2.98	0.93
U05 4621 11	La Canada Arroyo Seco 50	Los Angeles	-118.185	34.198	1,155	55	21.39	6.86	4.15	1.29
U05 4628 00	La Crescenta 251	Los Angeles	-118.244	34.222	1,440	64	24.03	7.46	4.51	1.40
U05 4659 31	La Habra Heights	Los Angeles	-117.096	33.948	445	11	14.61	3.69	2.23	0.69
U05 4920 50	Lewis Ranch 517	Los Angeles	-117.886	34.420	4,615	51	15.74	6.38	3.85	1.20
U05 4920 50	Lewis Ranch 517	Los Angeles	-117.886	34.420	4,615	50	15.44	6.28	3.79	1.18
U05 4986 00	Little Tujunga 471	Los Angeles	-118.301	34.316	2,750	25	18.16	6.27	3.79	1.18
U05 4993 00	Live Oak Canyon	Los Angeles	-117.733	34.117	1,250	34	18.50	5.46	3.30	1.03
U05 5080 00	Long Beach 36	Los Angeles	-118.150	33.817	30	60	12.79	3.76	2.27	0.71
U05 5080 05	Long Beach 224	Los Angeles	-118.191	33.768	180	93	12.15	3.99	2.41	0.75
U05 5085 00	Long Beach NWS R	Los Angeles	-118.150	33.817	25	20	13.62	4.08	2.47	0.77
U05 5098 11	Loomis Ranch 54	Los Angeles	-118.048	34.349	4,325	42	18.38	6.37	3.85	1.20
U05 5098 11	Loomis Ranch 54	Los Angeles	-118.048	34.349	4,325	39	18.01	5.53	3.34	1.04
U05 5111 01	Los Angeles City College	Los Angeles	-118.291	34.087	310	49	11.61	5.30	3.20	1.00
U05 5111 03	Los Angeles Co Sur 291	Los Angeles	-118.255	33.949	121	41	13.29	4.33	2.62	0.81
U05 5111 17	Los Angeles Hancock Pk	Los Angeles	-118.360	34.064	1,975	42	15.23	4.82	2.91	0.91
U05 5112 00	Los Angeles Terminal Anex	Los Angeles	-118.235	34.069	175	23	15.81	4.69	2.83	0.88
U05 5114 00	Los Angeles AP	Los Angeles	-118.387	33.942	105	60	13.64	4.16	2.51	0.78
U05 5114 00	Los Angeles AP	Los Angeles	-118.387	33.942	105	48	12.06	3.86	2.33	0.73
U05 5115 00	Los Angeles CC	Los Angeles	-118.233	34.050	270	124	15.29	4.55	2.75	0.85
U05 5115 00	Los Angeles CC	Los Angeles	-118.233	34.050	270	97	14.56	4.30	2.60	0.81
U05 5115 40	Los Angeles Res 293	Los Angeles	-118.482	34.288	1,150	68	17.84	4.78	2.89	0.90
U05 5781 00	Monrovia 67	Los Angeles	-118.001	34.149	560	53	20.46	6.26	3.78	1.18
U05 5781 05	Monrovia Falls 150	Los Angeles	-117.987	34.185	1,800	22	29.88	9.29	5.61	1.75
U05 5790 00	Montebello 391	Los Angeles	-118.104	34.019	250	62	15.15	4.49	2.71	0.84
U05 6006 00	Mt Wilson	Los Angeles	-118.066	34.227	5,709	87	34.89	9.53	5.76	1.79
U05 6006 00	Mt Wilson 338	Los Angeles	-118.066	34.227	5,709	34	32.92	10.30	6.22	1.94
U05 6256 00	North Hollywood 13	Los Angeles	-118.366	34.156	619	77	17.58	5.86	3.54	1.10
U05 6270 00	Northridge 25	Los Angeles	-118.541	34.231	810	53	15.01	4.21	2.54	0.79
U05 6270 00	Northridge 25	Los Angeles	-118.541	34.231	810	18	14.64	4.95	2.99	0.93
U05 6270 25	Northridge CSU FAB	Los Angeles	-118.526	34.239	835	12	16.30	5.47	3.31	1.03
U05 6270 25	Northridge FAB	Los Angeles	-118.546	34.239	835	18	14.64	4.95	2.99	0.93
U05 6270 25	Opids Camp 57	Los Angeles	-118.095	34.255	4,250	66	39.85	12.39	7.49	2.33
U05 6270 25	Opids Camp 57	Los Angeles	-118.095	34.255	4,250	46	38.57	11.88	7.18	2.23
U05 6601 61	Pacoima Raddatz 27	Los Angeles	-118.444	34.249	902	48	15.12	4.44	2.68	0.83
U05 6602 00	Pacoima Dam 33	Los Angeles	-118.399	34.330	1,500	40	19.98	5.44	3.29	1.02
U05 6602 00	Pacoima Dam 33	Los Angeles	-118.400	34.330	1,500	80	19.87	5.27	3.18	0.99
U05 6663 00	Palo Verde Estates 43	Los Angeles	-118.391	33.799	215	67	12.43	3.72	2.25	0.70
U05 6719 00	Pasadena	Los Angeles	-118.123	34.148	864	96	20.50	5.85	3.53	1.10
U05 6719 02	Pasadena Cal Tec 303	Los Angeles	-118.124	34.137	795	39	19.95	6.20	3.75	1.16
U05 6719 91	Pasadena Glenn 279	Los Angeles	-118.083	34.181	1,375	34	23.29	7.72	4.66	1.45
U05 7036 11	Point Vincent LH 44	Los Angeles	-118.411	33.742	125	60	10.44	3.58	2.16	0.67
U05 7160 01	Puddingstone Dam 96	Los Angeles	-117.806	34.092	1,030	60	17.32	5.09	3.08	0.96
U05 7160 01	Puddingstone Dam 96	Los Angeles	-117.806	34.092	1,030	18	15.28	4.62	2.79	0.87
U05 7161 06	Puente Hills 201	Los Angeles	-117.990	33.994	860	31	16.35	4.69	2.83	0.88
U05 7324 00	Red Box 429	Los Angeles	-119.112	35.262	4,460	8	36.95	12.67	7.66	2.38
U05 7324 00	Redondo Beach	Los Angeles	-118.389	33.845	70	69	11.43	3.32	2.01	0.62
U05 7491 15	Roberts Ranch 61	Los Angeles	-118.019	34.199	1,850	5	29.65	8.14	4.92	1.53
U05 7530 00	Rogers Canyon 70	Los Angeles	-117.902	34.163	790	42	21.73	6.49	3.92	1.22
U05 7553 11	Rosco Merrill 14	Los Angeles	-118.389	34.239	1,050	60	15.58	4.39	2.65	0.82
U05 7748 01	San Dimas Dam	Los Angeles	-117.771	34.153	1,350	60	22.58	7.16	4.33	1.35
U05 7748 03	San Dimas Gd Sta 87	Los Angeles	-117.767	34.368	1,350	42	22.70	7.04	4.25	1.32
U05 7749 00	San Dimas Fire Warden 95	Los Angeles	-117.805	34.107	955	43	25.48	7.45	4.50	1.40
U05 7749 00	San Dimas Fire Warden 95	Los Angeles	-117.805	34.107	955	68	18.60	5.01	3.03	0.94
U05 7759 00	San Fernando	Los Angeles	-118.464	34.273	965	55	16.17	5.00	3.02	0.94
U05 7762 00	San Fernando PH	Los Angeles	-118.492	34.314	1,248	49	18.29	4.94	2.98	0.93
U05 7762 00	San Fernando PH	Los Angeles	-118.492	34.314	1,248	23	17.10	4.65	2.81	0.87
U05 7776 00	San Gabriel Cyn PH 627	Los Angeles	-117.908	34.156	744	91	22.77	6.51	3.93	1.22
U05 7776 00	San Gabriel FD 742	Los Angeles	-118.099	34.103	450	58	18.07	5.18	3.13	0.97
U05 7779 00	San Gabriel Dam 425	Los Angeles	-117.861	34.205	1,481	58	28.91	9.02	5.45	1.69
U05 7779 00	San Gabriel Dam 425	Los Angeles	-117.861	34.205	1,481	44	27.99	8.86	5.35	1.66
U05 7779 00	San Gabriel Dam NWS 425	Los Angeles	-117.861	34.205	1,481	20	29.63	8.29	5.01	1.56
U05 7779 01	San Gabriel Dam Camp 76	Los Angeles	-117.857	34.226	1,500	42	27.17	9.56	5.78	1.80
U05 7783 30	San Gabriel Cyn 348	Los Angeles	-117.769	34.239	2,075	22	30.06	9.92	5.99	1.86
U05 7876 00	San Pedro 629	Los Angeles	-118.267	33.717	10	37	20.84	3.37	2.04	0.63

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
U05 7897 00	Santa Anita FL 432	Los Angeles	-118.018	34.209	2,035	40	30.85	10.35	6.25	1.94
U05 7912 11	Santa Clara Ridge 419	Los Angeles	-118.206	34.374	5,450	13	25.49	7.69	4.65	1.44
U05 7926 00	Santa Fe Dam	Los Angeles	-117.973	34.118	427	44	17.71	4.66	2.82	0.88
U05 7926 00	Santa Fe Dam	Los Angeles	-117.973	34.118	427	21	15.56	4.76	2.88	0.89
U05 7950 00	Santa Monica 634	Los Angeles	-118.491	34.012	64	91	14.12	4.56	2.76	0.86
U05 8022 14	Sawpit Dam 68	Los Angeles	-117.987	34.176	1,378	61	25.22	7.85	4.74	1.47
U05 8023 03	Sawtell 140	Los Angeles	-118.456	34.056	345	93	15.32	4.92	2.97	0.92
U05 8032 11	Sawpit Upper 69	Los Angeles	-117.978	34.178	1,775	36	29.44	9.74	5.89	1.83
U05 8092 00	Sepulevda Dam	Los Angeles	-118.470	34.168	683	48	15.20	5.07	3.06	0.95
U05 8092 00	Sepulevda Dam	Los Angeles	-118.470	34.168	683	42	15.19	4.84	2.92	0.91
U05 8092 01	Sepulveda Rayen 9	Los Angeles	-118.468	34.231	828	58	15.99	4.78	2.89	0.90
U05 8092 11	Sepulevda Cyn 17	Los Angeles	-118.491	34.131	1,425	50	21.51	6.94	4.19	1.30
U05 8158 00	Shell Absorptar Plant	Los Angeles	-117.900	33.950	680	15	13.68	4.23	2.56	0.79
U05 8201 01	Sierra Madre Dam 144	Los Angeles	-118.042	34.176	1,100	59	24.07	7.22	4.36	1.36
U05 8210 07	Sierra Madre 66	Los Angeles	-118.043	34.158	658	56	21.29	7.26	4.39	1.36
U05 8211 11	Sierra Madre 681	Los Angeles	-117.669	34.200	3,000	30	23.08	8.42	5.09	1.58
U05 8211 20	Sierra Madre MMP 294	Los Angeles	-118.048	34.170	895	57	23.91	7.04	4.25	1.32
U05 8230 00	Signal Hill	Los Angeles	-118.168	33.797	140	50	12.24	4.11	2.48	0.77
U05 8230 00	Signal Hill	Los Angeles	-118.168	33.797	140	31	11.93	3.97	2.40	0.75
U05 8230 00	Signal Hill NWS	Los Angeles	-118.168	33.797	140	22	14.29	4.05	2.45	0.76
U05 8436 00	Sepdra Pac Col 356	Los Angeles	-117.817	34.050	713	30	15.06	4.61	2.79	0.87
U05 8436 00	Spadra Pac Col 356	Los Angeles	-117.817	34.050	713	67	16.28	4.73	2.86	0.89
U05 8436 00	Spadra Pac Col 356 HPD	Los Angeles	-117.817	34.050	713	20	17.48	4.86	2.94	0.91
U05 8574 02	Stone Canyon Dam 237	Los Angeles	-118.454	34.106	725	62	20.38	6.16	3.72	1.16
U05 8614 01	Sturtevant Camp 58	Los Angeles	-118.031	34.223	3,275	43	35.20	11.08	6.69	2.08
U05 8660 00	Sunland	Los Angeles	-118.300	34.267	1,460	17	15.58	4.60	2.78	0.86
U05 8680 04	Sunset Ridge RS 683	Los Angeles	-118.147	34.215	2,110	44	22.20	7.56	4.57	1.42
U05 8728 11	Sylmar 30	Los Angeles	-118.470	34.310	1,250	61	17.59	4.89	2.95	0.92
U05 8783 31	Tanbark Flats 158	Los Angeles	-117.781	34.206	2,750	50	28.17	8.64	5.22	1.62
U05 8783 31	Tanbark Flats 158	Los Angeles	-117.781	34.206	2,750	33	26.37	7.72	4.66	1.45
U05 8973 00	Torrance	Los Angeles	-118.333	33.800	100	47	13.49	4.31	2.60	0.81
U05 9047 00	Tujunga 647	Los Angeles	-118.293	34.273	1,690	65	21.40	6.71	4.05	1.26
U05 9047 01	Tujunga Cyn 464	Los Angeles	-118.198	34.300	3,300	16	23.87	10.38	6.27	1.95
U05 9048 10	Tujunga Vogle 695	Los Angeles	-118.226	34.287	1,850	52	28.06	10.10	6.10	1.90
U05 9138 00	Union Oil Steams	Los Angeles	-117.867	33.933	710	21	13.91	3.96	2.39	0.74
U05 9152 00	UCLA	Los Angeles	-118.442	34.069	430	48	15.92	5.09	3.08	0.98
U05 9152 00	Van Nuys 15	Los Angeles	-118.451	34.180	695	68	16.05	5.37	3.24	1.01
U05 9152 00	Van Nuys 15	Los Angeles	-118.451	34.180	695	35	16.03	5.02	3.03	0.94
U05 9165 05	Upper Franklin Res 11	Los Angeles	-118.411	34.121	867	43	19.30	5.95	3.60	1.12
U05 9165 05	Upper Franklin Res 11	Los Angeles	-118.411	34.121	867	60	18.88	5.75	3.47	1.08
U05 9231 00	Valley Forge 56	Los Angeles	-118.072	34.253	3,450	22	38.66	10.82	6.54	2.03
U05 9431 00	Walnut Pat Sta 102	Los Angeles	-117.871	34.003	488	68	16.52	4.52	2.73	0.85
U05 9464 01	Waterman GS 52	Los Angeles	-118.144	34.266	3,290	29	28.34	9.36	5.66	1.76
U05 9464 01	Waterman GS 52	Los Angeles	-118.144	34.266	3,290	51	28.00	9.76	5.90	1.83
U05 9547 01	West Covina 101	Los Angeles	-118.962	34.079	350	52	17.14	5.23	3.16	0.98
U05 9660 00	Whittier 106	Los Angeles	-118.035	33.975	320	68	14.58	4.13	2.50	0.78
U05 9666 00	Whittier Narrows Dam	Los Angeles	-118.067	34.021	250	14	15.58	4.26	2.57	0.80
U05 9784 00	Woodland Hills 21	Los Angeles	-118.592	34.171	875	79	15.19	4.57	2.76	0.86
U06 0395 00	Avalon	Los Angeles	-118.333	33.483	25	39	12.06	4.34	2.62	0.82
U06 7910 00	Santa Catalina Is AP	Los Angeles	-118.417	33.400	1,570	11	11.75	3.06	1.85	0.57
W26 0195 07	Ana Verdi Platt Ranch	Los Angeles	-118.181	34.574	2,945	24	11.54	4.12	2.32	0.61
W26 0630 50	Bellview 722	Los Angeles	-118.231	34.630	3,274	45	10.87	3.59	2.02	0.53
W26 2941 00	Fairmont 542	Los Angeles	-118.454	34.740	2,855	28	11.83	4.55	2.56	0.68
W26 2941 00	Fairmont Res	Los Angeles	-118.428	34.704	3,090	85	15.36	5.28	2.97	0.79
W26 4005 11	Hi Vista	Los Angeles	-117.779	34.742	3,087	35	5.34	1.95	1.10	0.29
W26 4181 11	Hunt Canyon Bones Ranch	Los Angeles	-118.060	34.513	3,263	33	7.81	3.06	1.72	0.46
W26 4747 02	Lancaster HMS 455	Los Angeles	-118.134	34.683	2,395	52	7.22	2.74	1.54	0.41
W26 4749 00	Lancaster AP 1212	Los Angeles	-118.217	34.733	2,340	44	6.53	2.54	1.43	0.38
W26 4904 20	Leon Valley Rch 122	Los Angeles	-118.323	34.631	3,300	65	14.82	4.71	2.65	0.70
W26 4983 00	Little Rock Schwab 299	Los Angeles	-117.979	34.537	2,800	62	6.96	2.66	1.50	0.40
W26 4983 ??	Little Rock Sycamore 1060	Los Angeles	-117.970	34.417	4,000	35	12.98	4.91	2.76	0.73
W26 4985 25	Little Rock Abv Dam 1017	Los Angeles	-118.023	34.478	3,280	44	9.10	3.27	1.84	0.49
W26 5001 50	Llano 564	Los Angeles	-117.834	34.487	3,390	65	7.76	2.82	1.59	0.42
W26 5569 20	Mescal Creek 442	Los Angeles	-117.748	34.468	3,810	54	7.78	3.02	1.70	0.45
W26 5618 20	Mile High Ranch 1168	Los Angeles	-117.771	34.411	5,280	11	10.73	3.26	1.83	0.49
W26 6034 11	Muntz Valley Ranch 322	Los Angeles	-118.354	34.714	2,600	63	10.51	4.62	2.60	0.69
W26 6122 00	Neenach 598	Los Angeles	-118.783	34.783	3,000	36	8.89	3.31	1.86	0.49
W26 6624 00	Palm Springs	Los Angeles	-118.092	34.588	2,595	53	6.14	2.11	1.19	0.31
W26 6624 00	Palmdale 1058	Los Angeles	-118.092	34.588	2,595	57	6.44	2.12	1.19	0.32
W26 6624 00	Palmdale 2 NE 1058	Los Angeles	-118.092	34.588	2,595	13	8.05	2.97	1.67	0.44
W26 6625 00	Palmdale 2 NE 1058	Los Angeles	-118.092	34.588	2,595	40	7.02	2.41	1.36	0.36
W26 6627 00	Palmdale AP 750	Los Angeles	-118.083	34.622	2,517	54	7.45	2.50	1.41	0.37
W26 6767 00	Pearblossom DWR 1240	Los Angeles	-117.921	34.509	3,050	14	7.61	2.87	1.61	0.43

R0006408

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
W26 6891 01	Pine Cyn GS 1117	Los Angeles	-118.510	34.699	3,825	19	19.76	6.68	3.76	1.00
W26 6958 03	Piute Butte	Los Angeles	-117.849	34.651	2,680	42	5.58	2.12	1.19	0.32
W26 6983 41	Pleasant View Mesa 460	Los Angeles	-117.334	34.461	3,960	11	11.09	4.42	2.49	0.66
W26 8020 01	Sawmill Mtn 277	Los Angeles	-118.583	34.721	3,700	62	22.06	6.87	3.86	1.02
W26 8748 00	Table Mtn 82	Los Angeles	-117.685	34.382	7,500	63	17.10	4.98	2.80	0.74
W26 9250 00	Valyermo	Los Angeles	-117.850	34.450	3,700	66	9.85	3.92	2.20	0.58
W28 0779 00	Big Pines Park 83	Los Angeles	-117.691	34.379	6,860	69	25.52	7.30	4.10	1.09
W28 0779 00	Big Pines Park 83	Los Angeles	-117.691	34.379	6,860	59	25.18	6.66	3.74	0.99
W28 0779 00	Big Pines Rec Ctr 83 HPD	Los Angeles	-117.691	34.380	6,860	19	27.60	6.14	3.45	0.91
Y01 1266 51	Cajalco 1 CDF	Los Angeles	-116.965	33.930	2,609	39	10.42	2.86	1.76	0.59
Y01 1777 01	Claremont Police Sta 93	Los Angeles	-117.722	34.096	1,170	58	17.74	4.85	2.99	1.00
Y01 1779 00	Claremont PC	Los Angeles	-117.710	34.100	1,185	98	17.70	4.97	3.06	1.02
Y01 1779 00	Claremont PC 92	Los Angeles	-117.710	34.100	1,185	40	17.36	4.98	3.07	1.02
Y01 1779 00	Claremont Pomona Col 92	Los Angeles	-117.709	34.097	1,201	40	17.36	4.98	3.07	1.02
Y01 2432 00	Diamond Bar HC 18	Los Angeles	-117.815	33.994	748	39	15.55	4.74	2.92	0.98
Y01 5900 00	Mt Baldy 85	Los Angeles	-117.659	34.237	4,275	57	32.58	10.79	6.64	2.22
Y01 5900 00	Mt Baldy 85	Los Angeles	-117.659	34.237	4,275	34	29.57	9.09	5.60	1.87
Y01 7050 00	Pomona Cal Poly	Los Angeles	-117.817	34.067	740	68	17.41	4.94	3.04	1.02
Y01 7050 01	Pomona 256	Los Angeles	-117.753	34.054	844	62	16.86	4.71	2.90	0.97
Y01 8213 00	Sierra PH	Los Angeles	-117.669	34.200	2,300	87	31.69	9.39	5.78	1.93
Y01 8213 00	Sierra PH	Los Angeles	-117.246	34.200	3,000	9	25.17	6.20	3.82	1.28
Y01 8315 20	Snow Crest Camo 307	Los Angeles	-117.626	34.266	6,500	9	36.56	10.50	6.46	2.16
E10 0572 00	Bear Valley	Marin	-122.797	38.044	50	19	37.95	6.47	4.20	1.82
E10 0876 00	Blakes Landing	Marin	-122.917	38.095	40	17	36.15	4.62	3.00	1.30
E10 0934 00	Bodega Bay Marine Lab	Marin	-123.070	38.320	40	24	35.29	6.24	4.05	1.75
E10 0954 06	Bolinas Siedman	Marin	-122.705	37.902	200	12	29.02	3.82	2.48	1.07
E10 0954 30	Bolnis Silva	Marin	-122.553	37.907	40	5	53.73	7.23	4.69	2.03
E10 0969 00	Bon Tempe Dam	Marin	-122.620	37.960	723	47	44.19	6.62	4.30	1.86
E10 3941 20	Hicks Valley	Marin	-122.720	38.130	400	19	30.80	4.40	2.86	1.24
E10 4277 00	Inverness	Marin	-122.850	38.080	150	43	34.65	6.19	4.02	1.74
E10 4502 00	Kent Lake	Marin	-122.708	37.998	360	43	57.37	9.48	6.15	2.67
E10 4652 00	Lagunitas Lake	Marin	-122.595	37.947	785	115	52.36	8.22	5.33	2.31
E10 4652 00	Lagunitas Lake	Marin	-122.595	37.947	785	52	49.47	8.07	5.24	2.27
E10 6187 01	Nicasio Town	Marin	-122.700	38.040	265	30	36.39	6.18	4.01	1.74
E10 6187 02	Nicasio Dam 3NNW	Marin	-122.720	38.110	315	26	35.99	5.55	3.60	1.56
E10 6853 00	Phoenix Lake	Marin	-122.570	37.950	175	69	48.77	8.17	5.30	2.30
E10 7027 00	Point Reyes Light House	Marin	-122.850	38.180	490	38	18.24	3.10	2.01	0.87
E10 7027 00	Point Reyes Light House	Marin	-122.850	38.180	490	25	17.37	2.64	1.71	0.74
E10 7088 20	Point Reyes Station	Marin	-122.800	38.050	31	19	29.73	5.12	3.32	1.44
E10 7787 21	San Geronomo Tr Pl	Marin	-122.624	38.011	350	23	41.20	6.85	4.44	1.93
E10 8374 50	Soulajule Res	Marin	-122.780	39.150	400	19	35.05	5.36	3.48	1.51
E10 8500 00	Stafford Lake	Marin	-122.637	38.116	180	36	28.07	4.54	2.95	1.28
E10 8518 50	Stinson Beach	Marin	-122.645	37.914	10	15	26.05	3.95	2.56	1.11
E10 8943 20	Tocaloma Pump	Marin	-122.758	38.050	100	6	41.29	5.28	3.43	1.48
E10 8943 20	Tocaloma Pump	Marin	-122.758	38.050	100	20	36.99	5.77	3.74	1.62
E10 8954 00	Tomales FD	Marin	-122.903	38.247	80	23	26.45	3.95	2.56	1.11
E10 9117 02	Two Rock 3W	Marin	-122.770	38.250	200	22	31.11	5.40	3.50	1.52
E10 9770 00	Woodacre FD	Marin	-122.642	38.007	430	38	43.51	7.07	4.59	1.99
E20 2057 00	Corte Madera	Marin	-122.530	37.920	55	34	36.86	6.54	4.24	1.84
E20 3434 00	Hamilton AFB	Marin	-122.517	38.067	0	15	25.60	4.89	3.17	1.37
E20 4500 00	Kentfield	Marin	-122.550	37.950	80	95	46.96	8.02	5.20	2.26
E20 4500 00	Kentfield	Marin	-122.551	37.946	80	10	38.21	7.42	4.81	2.09
E20 5342 00	Marin Meadows	Marin	-122.528	38.080	47	13	22.90	3.48	2.26	0.98
E20 5342 ??	Marin City	Marin	-122.632	37.874	15	5	21.80	3.22	2.09	0.91
E20 5342 ??	Marinwood Ciolino	Marin	-122.518	37.925		16	39.18	6.81	4.42	1.91
E20 5647 00	Mill Valley	Marin	-122.526	37.904	10	35	29.70	4.68	3.04	1.32
E20 5995 00	Mt Tamalpias 1 S	Marin	-122.567	37.917	950	20	40.13	5.76	3.74	1.62
E20 5996 00	Mt Tamalpias 2SW	Marin	-122.600	37.900	1,480	55	41.22	6.21	4.03	1.75
E20 5998 00	Mt Tamalpias	Marin	-122.583	37.917	2,600	19	28.05	3.68	2.39	1.03
E20 6027 00	Muir Woods	Marin	-122.567	37.900	220	46	36.54	5.14	3.34	1.45
E20 6290 00	Novato 8 WNW	Marin	-122.717	38.133	350	53	30.02	4.32	2.80	1.21
E20 6290 01	Novato FS	Marin	-122.537	38.105	35	36	26.79	4.46	2.89	1.25
E20 7707 00	San Anselmo Ross VFD	Marin	-122.021	37.975	25	36	40.67	7.34	4.76	2.06
E20 7707 00	San Anselmo Ross VFD	Marin	-122.021	37.975	25	14	39.51	7.06	4.58	1.99
E20 7880 08	San Rafael	Marin	-122.525	37.970	25	76	37.25	6.55	4.25	1.84
E20 7880 10	San Rafael FS4	Marin	-122.503	37.967	5	17	33.87	6.37	4.13	1.79
E20 7880 20	San Rafael Civic Center	Marin	-122.530	37.990	120	22	29.80	5.46	3.54	1.54
E20 8779 00	Tamalpias Valley	Marin	-122.543	37.879	250	18	35.84	4.87	3.16	1.37
E20 8920 02	Tiburon Cohen	Marin	-122.483	37.902	20	38	29.22	4.66	3.02	1.31
E20 8920 11	Tiberon Flint	Marin	-122.443	37.883	125	5	24.36	3.49	2.26	0.98
E20 8920 21	Tiberon Topham	Marin	-122.453	37.874	400	22	31.42	5.57	3.61	1.57
E20 9770 21	Woodacre	Marin	-122.642	38.007	430	26	36.82	6.58	4.27	1.85
E10 0135 00	Alpine Dam	Marin	-122.640	37.940	680	77	50.11	7.44	4.83	2.09

R0006409

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
U05 1056 00	Brea City	Orange	-117 900	33.917	350	22	12.63	3.99	2.41	0.75
U05 1057 00	Brea Dam	Orange	-117.925	33.894	275	41	12.79	3.44	2.08	0.65
U05 1057 00	Brea Dam	Orange	-117 927	33.891	275	50	12.89	3.84	2.32	0.72
U05 1057 00	Brea Union Oil	Orange	-117.915	33.930	375	42	13.64	4.45	2.69	0.84
U05 1168 10	Buena Park 5	Orange	-117.991	33.858	79	66	13.56	3.76	2.27	0.71
U05 1518 00	Carbon Cyn Gilman	Orange	-117 783	33.917	1,624	33	14 45	3.94	2.38	0.74
U05 1518 00	Carbon Cyn Gilman	Orange	-117 783	33.917	1,624	8	13.57	3.98	2.40	0.75
U05 1518 00	Carbon Cyn Workman	Orange	-117 883	33.900	340	45	14 70	4.31	2.60	0.81
U05 3279 00	Fullerton Arroues	Orange	-117.919	33.900	320	17	12.26	4.12	2.49	0.77
U05 3282 00	Fullerton Creek 5	Orange	-117.867	33.917	400	10	13.91	5.42	3.27	1.02
U05 3285 00	Fullerton Dam	Orange	-117 883	33.900	340	48	13.26	4.04	2.44	0.76
U05 3288 00	Fullerton Dam	Orange	-117.883	33.900	94	29	12.51	4.19	2.53	0.79
U05 3288 00	Fullerton Hillcrest 96	Orange	-117.920	33.883	320	56	14.28	4.01	2.42	0.75
U05 3289 03	Fullerton AP	Orange	-117.974	33.873	100	50	13.07	4.05	2.45	0.76
U05 3289 03	Fullerton AP	Orange	-117 871	33.871	94	28	12.29	3.91	2.36	0.73
U05 5106 01	Los Alamitos 170	Orange	-118.095	33.757	7	35	10.07	2.81	1.70	0.53
U05 5106 20	Los Alamitos RB Aut	Orange	-118.095	33.757	7	27	10.03	2.85	1.72	0.54
U05 6432 00	Olinda	Orange	-117.850	33.917	490	18	11.67	4.15	2.51	0.78
U05 9847 00	Yorba Linda	Orange	-117.817	33.900	420	32	13.97	3.71	2.24	0.70
U05 9847 21	Yorba Res 163	Orange	-117 810	33.872	320	39	14 03	3.94	2.38	0.74
U05 9847 21	Yorba Reservoir 163	Orange	-117 810	33.873	394	39	14.03	3.70	2.24	0.70
Y01 0192 10	Anaheim 1267	Orange	-117.913	33.820	147	20	11.73	3.43	2.11	0.71
Y01 0193 50	Anaheim Ag Dept 167	Orange	-117 913	33.820	147	31	12.78	3.87	2.38	0.80
Y01 0193 50	Anaheim Katella 209	Orange	-117 876	33 803	160	21	12.42	3.37	2.07	0.69
Y01 0193 50	Anaheim OCFC	Orange	-117 876	33.803	150	24	13.23	3.74	2.30	0.77
Y01 0194 00	Anaheim	Orange	-117 911	33.830	155	57	13.34	4 21	2.59	0.87
Y01 0375 ??	Atwood 174	Orange	-117 818	33.859	260	11	14.45	3.58	2.20	0.74
Y01 2026 01	Costa Mesa 165	Orange	-117.893	33.669	55	38	11.78	3.20	1.97	0.66
Y01 2026 01	Costa Mesa 165	Orange	-117.893	33.669	55	38	11.67	3.20	1.97	0.66
Y01 2031 20	Corona Del Mar	Orange	-117 858	33.610	300	29	11.87	3.51	2.16	0.72
Y01 2031 20	Corona Del Mar 169	Orange	-117 858	33.610	300	35	12.52	3.20	1.97	0.66
Y01 2060 01	Costa Mesa 165	Orange	-117 893	33.669	53	39	11.57	3.02	1.86	0.62
Y01 2775 00	El Modena	Orange	-117.782	33.800	464	38	13.28	3.96	2.44	0.82
Y01 2775 00	El Modena	Orange	-117 782	33.800	464	35	13.17	3.92	2.41	0.81
Y01 2821 15	El Toro 176 CDF	Orange	-117.691	33.628	455	37	14 45	3.73	2.30	0.77
Y01 2821 15	El Toro 176 CDF	Orange	-117 691	33.628	455	24	14.05	3.78	2.33	0.78
Y01 2821 20	El Toro 178	Orange	-117.695	33.626	520	26	15.14	3.24	1.99	0.67
Y01 3336 30	Garden Grove 225	Orange	-117.968	33.791	80	16	14.85	3.96	2.44	0.82
Y01 4173 11	Huntington Beach 41	Orange	-117 997	33.664	32	67	11 60	2.97	1 83	0.61
Y01 4173 21	Huntington Beach	Orange	-118.000	33.680	75	19	9.83	3.02	1.86	0.62
Y01 4300 15	Irvine 125	Orange	-117.769	33.683	200	50	12.74	3.41	2.10	0.70
Y01 4729 00	Lambert Res 146	Orange	-117 711	33.694	470	40	12.33	3.30	2.03	0.68
Y01 6175 00	Newport Beach Harbor	Orange	-117.899	33.603	8	73	11.59	3.10	1.91	0.64
Y01 6308 05	Oak Flat 198	Orange	-117 638	33.821	2,700	15	23.52	5.16	3.18	1.06
Y01 6472 01	Orange 222	Orange	-117 841	33.788	215	95	13.60	3.77	2.32	0.78
Y01 6473 00	Orange Co Res	Orange	-117.833	33.933	660	50	13.69	4 12	2.54	0.85
Y01 6473 00	Orange Co Res 144	Orange	-117 833	33.933	660	43	13.60	3.63	2.23	0.75
Y01 7888 00	Santa Ana FS	Orange	-117 867	33.744	115	78	13.45	3.58	2.20	0.74
Y01 7888 01	Santa Ana FCD 121	Orange	-117 870	32.750	125	56	12.97	3.51	2.16	0.72
Y01 7888 30	San Juan Gd Sta 134	Orange	-117 512	33 591	730	38	13 94	3 60	2.22	0.74
Y01 7987 00	Santiago Dam	Orange	-117 717	33 783	860	55	14 82	3 99	2.46	0.82
Y01 7987 00	Santiago Dam	Orange	-117 717	33.783	860	50	14.37	3.98	2.45	0.82
Y01 8243 00	Silverado	Orange	-117.667	33.753	1,100	49	17.01	4 63	2.85	0.95
Y01 8243 00	Silverado	Orange	-117 667	33.753	1,100	48	16.33	4.44	2.73	0.91
Y01 8243 25	Silverado 210	Orange	-117.615	33.747	1,400	19	21.69	5.23	3.22	1.08
Y01 8375 75	South Coast FS	Orange	-117 833	33.683	4	9	15.21	3.35	2.06	0.69
Y01 9075 00	Tustin Irvine	Orange	-117 782	33.731	118	100	12.57	3.34	2.06	0.69
Y01 9086 10	Tustin Irvine	Orange	-117 811	33.748	130	16	10.70	3.21	1.98	0.66
Y01 9338 03	Villa Park Dam 173	Orange	-117 767	33 812	566	27	15 29	3.68	2.27	0.76
Y01 9338 03	Villa Park Dam 173	Orange	-117.767	33 815	572	25	14 50	3.93	2.42	0.81
Y01 9569 11	Westminster	Orange	-117 988	33 752	38	30	11 94	3 23	1.99	0.66
Y01 9587 01	Westminster	Orange	-117 447	34 012	906	22	10.68	3.22	1.98	0.66
Z01 1507 00	Capistrano Beach	Orange	-117 684	33.468	20	32	11.75	2.87	1.76	0.73
Z01 2821 11	El Toro Mutton Ranch	Orange	-117 702	33.607	160	94	14.06	3.68	2.26	0.94
Z01 4647 00	Laguna Beach 100	Orange	-117 781	33 547	50	66	12.41	3.44	2.11	0.88
Z01 4650 00	Laguna Beach	Orange	-117 783	33.550	210	38	12.30	3.10	1.90	0.79
Z01 6622 51	Palesades Res 186	Orange	-117 650	33.463	360	27	13.37	3.29	2.02	0.84
Z01 7836 52	San Juan Capistrano	Orange	-117 666	33.512	160	70	13.93	3.88	2.38	0.99
Z01 7837 00	San Juan Guard Sta	Orange	-117 517	33.600	730	27	18.43	3.93	2.41	1.00
Z01 8638 30	Sulpher Cr Dam 216	Orange	-117 784	33.326	190	12	17.69	3.46	2.12	0.88
Z01 8992 00	Trabuco Canyon	Orange	-117 592	33.657	970	51	18. 18	4 83	2.96	1 23
Z01 8992 00	Trabuco Canyon 206	Orange	-117 592	33.657	970	56	18.35	5 05	3.10	1 29
X15 0924 00	Blythe	Riverside	-114 596	33.614	267	87	3.81	2.26	1 23	0.32

R0006410

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
X15 0925 00	Blythe 7W	Riverside	-114.717	33.617	390	53	3.10	1.89	1.03	0.27
X15 0927 00	Blythe AP	Riverside	-114.717	33.617	390	54	3.53	2.11	1.15	0.30
X15 0928 00	Blythe CDF	Riverside	-114.596	33.614	267	33	3.81	2.12	1.16	0.30
X15 0928 00	Blythe CDF	Riverside	-114.714	33.614	390	53	3.61	2.00	1.09	0.29
X17 2404 08	Desert Center	Riverside	-115.383	33.736	700	27	3.83	2.06	1.12	0.29
X18 3855 00	Hayfield Pump	Riverside	-115.633	33.700	1,370	58	4.04	1.99	1.09	0.28
X18 3855 00	Hayfield Pump	Riverside	-115.633	33.700	1,370	58	3.98	2.15	1.17	0.31
X19 0487 20	Banning Bench	Riverside	-116.912	33.973	3,600	21	25.60	6.16	3.36	0.88
X19 0487 20	Banning Bench 2	Riverside	-116.909	33.699	4,000	19	25.50	6.30	3.44	0.90
X19 0487 20	Burmuda Duns	Riverside	-116.288	33.744	100	30	4.15	2.10	1.15	0.30
X19 0489 00	Banning	Riverside	-116.874	33.922	2,296	73	16.52	4.45	2.43	0.64
X19 1250 00	Cabazon	Riverside	-116.783	33.917	1,815	56	13.09	4.40	2.40	0.63
X19 1250 00	Camp Sherman	Riverside	-116.594	33.647	5,350	16	23.07	4.72	2.57	0.68
X19 1255 __	Cabazon South	Riverside	-116.781	33.909	1,700	9	12.16	3.81	2.08	0.55
X19 1445 20	Camp Sherman	Riverside	-116.594	33.647	5,350	9	19.89	4.32	2.36	0.62
X19 1587 50	Cathedrial City RD	Riverside	-116.466	33.783	295	22	5.02	2.63	1.43	0.38
X19 1587 50	Cathedrial City RD	Riverside	-116.466	33.783	295	24	4.98	1.51	0.82	0.22
X19 1594 00	Cathedrial City	Riverside	-116.467	33.782	295	15	6.03	3.29	1.79	0.47
X19 1594 00	Cathedrial City	Riverside	-116.464	33.781	295	45	4.51	2.33	1.27	0.33
X19 1880 __	Coachilla	Riverside	-116.177	33.678	-70	13	4.02	2.25	1.23	0.32
X19 2071 80	Cottonwood Sp RS	Riverside	-115.823	33.749	3,000	6	4.32	2.07	1.13	0.30
X19 2327 00	Deep Cyn Lab	Riverside	-116.376	33.648	1,000	13	8.18	4.02	2.19	0.58
X19 2327 00	Deep Cyn Lab	Riverside	-116.383	33.650	1,200	33	6.08	3.03	1.65	0.43
X19 2327 07	Deep Cyn Agave	Riverside	-116.397	33.640	2,750	20	9.01	3.83	2.09	0.55
X19 2327 13	Deep Cyn Bucket	Riverside	-116.392	33.642	1,045	7	8.52	4.32	2.36	0.62
X19 2327 20	Deep Cyn Coyote	Riverside	-116.358	33.643	1,100	7	7.62	4.10	2.24	0.59
X19 2327 80	Deep Cyn Taylor	Riverside	-116.419	33.599	3,600	6	14.31	5.69	3.10	0.81
X19 2328 11	Indio SDF	Riverside	-116.223	33.713	8	30	3.07	1.72	0.94	0.25
X19 2405 00	Desert Hot Sp East	Riverside	-116.510	33.962	1,080	36	5.32	2.45	1.34	0.35
X19 2405 00	Desert Hot Sp West	Riverside	-116.510	33.962	1,080	44	5.74	2.51	1.37	0.36
X19 2405 08	Desert Hot Sp East	Riverside	-116.494	33.967	1,220	28	6.20	2.60	1.42	0.37
X19 3342 __	Garner Valley	Riverside	-116.627	33.615	4,520	6	18.37	4.92	2.68	0.70
X19 3859 50	Haystack Mtn	Riverside	-116.479	33.702	2,800	14	8.98	3.83	2.09	0.55
X19 3859 50	Haystack Mtn	Riverside	-116.479	33.702	2,800	14	8.98	4.12	2.25	0.59
X19 4255 20	Indian Wells	Riverside	-116.337	33.722	144	9	4.63	2.24	1.22	0.32
X19 4259 00	Indio	Riverside	-116.224	33.713	8	94	3.29	2.12	1.16	0.30
X19 4259 05	Indio Morley	Riverside	-116.229	33.835	1,160	8	6.06	3.24	1.77	0.46
X19 4782 11	La Quianta SDF	Riverside	-116.291	33.674	85	41	3.90	2.09	1.14	0.30
X19 5502 00	Mecca	Riverside	-116.078	33.571	190	81	3.20	2.09	1.14	0.30
X19 5626 00	Millard Cyn Batcha	Riverside	-116.788	33.983	3,740	9	26.39	6.65	3.63	0.95
X19 5718 61	Mission Creek	Riverside	-116.627	34.011	2,400	18	11.68	4.84	2.64	0.69
X19 5718 61	Mission Creek	Riverside	-116.627	34.011	2,400	27	11.08	4.21	2.30	0.60
X19 5978 00	Mt San Jacinto St Pk	Riverside	-116.640	33.811	8,417	17	28.39	6.36	3.47	0.91
X19 5978 00	Mt San Jacinto WS	Riverside	-116.633	33.800	8,417	28	27.49	7.38	4.03	1.06
X19 6262 62	No Palm Sp SDF	Riverside	-116.546	33.924	875	35	6.25	2.57	1.40	0.37
X19 6275 20	No Shore	Riverside	-115.937	33.521	180	28	4.03	2.11	1.15	0.30
X19 6356 01	Oasis SDF	Riverside	-116.112	33.494	171	37	3.69	2.24	1.22	0.32
X19 6633 01	Palm Desert SDF	Riverside	-116.393	33.719	275	43	4.31	2.16	1.18	0.31
X19 6633 30	Palm Desert North	Riverside	-116.374	33.758	265	7	5.84	2.53	1.38	0.36
X19 6633 40	Palm Desert South	Riverside	-116.387	33.694	560	4	5.26	2.41	1.31	0.35
X19 6635 00	Palm Springs FD	Riverside	-116.545	33.826	465	59	6.13	2.76	1.51	0.40
X19 6635 20	Palm Springs DWA	Riverside	-116.495	33.805	453	15	6.25	2.63	1.43	0.38
X19 6635 50	Palm Springs East	Riverside	-116.510	33.827	425	77	5.63	2.80	1.53	0.40
X19 7102 50	Potero Canyon	Riverside	-116.935	33.870	1,220	12	15.09	4.17	2.27	0.60
X19 7247 78	Rancho Mirage North	Riverside	-116.433	33.771	250	17	4.99	2.40	1.31	0.34
X19 7247 78	Rancho Mirage RC	Riverside	-116.433	33.771	250	13	5.21	2.38	1.30	0.34
X19 7247 80	Rancho Mirage	Riverside	-116.431	33.755	249	15	6.23	3.34	1.82	0.48
X19 7279 00	Raywood Flats	Riverside	-116.823	34.047	7,070	60	33.63	10.04	5.48	1.44
X19 7279 00	Raywood Flats	Riverside	-116.817	34.046	6,620	19	33.28	9.31	5.08	1.33
X19 8274 40	Sky Valley SDF	Riverside	-116.389	33.917	1,330	6	5.61	2.69	1.47	0.39
X19 8315 00	Snow Creek	Riverside	-116.683	33.883	1,280	26	12.25	4.13	2.25	0.59
X19 8315 50	Snow Creek	Riverside	-116.693	33.892	1,600	5	14.15	5.58	3.04	0.80
X19 8317 00	Snow Creek Upper	Riverside	-116.683	33.867	1,940	53	13.30	5.12	2.79	0.73
X19 8750 33	Tachevah Dam	Riverside	-116.558	33.841	580	24	7.58	3.54	1.93	0.51
X19 8750 33	Tachevah Dam	Riverside	-116.560	33.867	584	25	7.42	3.35	1.83	0.48
X19 8892 00	Thermal AP	Riverside	-116.164	33.635	-118	54	3.21	1.83	1.00	0.26
X19 8892 00	Thermal AP	Riverside	-116.162	33.634	-118	56	3.14	1.95	1.06	0.28
X19 8892 01	Thermal AP CDF	Riverside	-116.164	33.635	-118	39	3.02	1.78	0.97	0.25
X19 8892 01	Thousand Palms CDF	Riverside	-116.393	33.820	240	35	4.10	2.03	1.11	0.29
X19 8908 20	Thousand Palms CDF	Riverside	-116.393	33.820	240	35	4.11	2.11	1.15	0.30
X19 9002 25	Tramway Valley Sta	Riverside	-116.613	33.837	2,700	16	17.28	5.73	3.13	0.82
X19 9002 25	Tramway Valley Sta	Riverside	-116.612	33.837	2,700	16	17.05	5.68	3.10	0.81
X19 9105 20	Twin Pines Ranch	Riverside	-116.791	33.868	3,440	22	23.34	6.83	3.73	0.98

R0006411

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
X19 9105 20	Twin Pines Ranch	Riverside	-116.783	33.867	2,400	42	20.96	6.35	3.46	0.91
X19 9655 30	Whitewater North	Riverside	-116.656	33.990	2,200	16	19.56	6.38	3.48	0.91
X19 9655 30	Whitewater North	Riverside	-116.656	33.990	2,200	16	19.56	6.02	3.28	0.86
X19 9669 20	Wide Canyon Dam	Riverside	-116.391	33.934	1,530	18	5.56	2.59	1.41	0.37
X19 9669 20	Wide Canyon Dam	Riverside	-116.383	33.933	1,600	29	4.85	2.29	1.25	0.33
Y01 0264 00	Arlington	Riverside	-117.434	33.919	830	30	10.41	2.35	1.45	0.48
Y01 0609 00	Beaumont 1 E	Riverside	-116.965	33.930	2,609	63	18.26	3.87	2.38	0.80
Y01 0609 07	Beaumont East	Riverside	-116.950	33.930	2,600	33	17.60	3.87	2.38	0.80
Y01 0609 12	Beaumont CDF	Riverside	-116.973	33.930	2,610	29	16.82	4.32	2.66	0.89
Y01 1021 11	Box Spring Mtn	Riverside	-117.280	33.962	3,080	16	10.30	9.24	5.69	1.90
Y01 1308 05	Calimesa CDF	Riverside	-117.056	34.004	2,400	36	17.02	4.09	2.52	0.84
Y01 1308 25	Calimesa East	Riverside	-117.018	34.003	2,813	31	19.79	4.32	2.66	0.89
Y01 1670 25	Chase & Taylor	Riverside	-117.576	33.844	1,005	26	16.25	4.42	2.72	0.91
Y01 1670 25	Chase & Taylor	Riverside	-117.576	33.844	1,005	64	15.15	4.49	2.76	0.92
Y01 1698 01	Cherry Valley CDF	Riverside	-116.972	33.976	2,860	82	20.57	4.80	2.95	0.99
Y01 1698 40	Cherry Valley East	Riverside	-116.946	33.978	2,080	9	15.27	3.08	1.90	0.63
Y01 1698 40	Cherry Valley East	Riverside	-116.946	33.978	2,080	8	15.03	3.43	2.11	0.71
Y01 2031 00	Corona	Riverside	-117.578	33.868	760	84	12.90	3.76	2.31	0.77
Y01 2033 00	Corona South	Riverside	-117.545	33.837	1,070	76	13.61	4.11	2.53	0.85
Y01 2033 03	Corona No CDF	Riverside	-117.561	33.902	638	43	11.44	3.01	1.85	0.62
Y01 2034 21	Corona Lemon Co	Riverside	-117.577	33.844	1,050	13	16.43	4.48	2.76	0.92
Y01 2598 50	Eagle Valley	Riverside	-117.474	33.859	1,365	20	11.65	3.40	2.09	0.70
Y01 2679 00	Edgemont	Riverside	-117.276	33.924	1,555	28	11.92	3.03	1.87	0.62
Y01 2717 00	El Cerrito CDF	Riverside	-117.509	33.825	800	30	12.14	3.04	1.87	0.63
Y01 3365 33	Gavilan Springs	Riverside	-117.396	33.491	2,050	9	14.05	3.63	2.23	0.75
Y01 3438 20	Glen Avon FD	Riverside	-117.494	34.012	745	30	12.95	3.01	1.85	0.62
Y01 3453 50	Glen Crest	Riverside	-117.311	34.233	5,080	6	39.97	8.12	5.00	1.67
Y01 3458 11	Glen Ivy	Riverside	-117.487	33.766	1,100	84	16.35	5.96	3.67	1.23
Y01 3792 50	Harrison Dam	Riverside	-117.434	33.871	1,275	25	9.33	2.72	1.67	0.56
Y01 3792 50	Harrison Dam	Riverside	-117.434	33.871	1,275	19	9.21	2.66	1.64	0.55
Y01 3951 09	Highgrove	Riverside	-117.333	34.015	945	38	11.72	2.65	1.63	0.55
Y01 3951 11	Highgrove North	Riverside	-117.331	34.025	945	27	11.31	2.92	1.80	0.60
Y01 3951 11	Highgrove North	Riverside	-117.331	34.025	945	27	11.30	2.55	1.57	0.52
Y01 3951 11	Highgrove Steam Plant	Riverside	-117.331	34.025	945	36	12.13	4.44	2.73	0.91
Y01 4059 20	Home Gardens	Riverside	-117.549	33.875	640	88	12.50	3.70	2.28	0.76
Y01 4246 00	Indian Hills	Riverside	-117.453	33.980	840	7	10.85	2.88	1.77	0.59
Y01 4689 40	Lake Mathews North	Riverside	-117.434	33.871	1,275	32	9.39	2.65	1.63	0.55
Y01 4689 40	Lake Mathews North	Riverside	-117.434	33.871	1,275	32	9.39	2.35	1.45	0.48
Y01 4689 51	Lake Mathews 1	Riverside	-117.446	33.842	1,375	16	7.19	3.90	2.40	0.80
Y01 4689 52	Lake Mathews 2	Riverside	-117.038	33.840	1,400	15	7.97	3.40	2.09	0.70
Y01 4689 53	Lake Mathews 3	Riverside	-117.454	33.847	3,160	22	9.18	2.47	1.52	0.51
Y01 4689 57	Lake Mathews	Riverside	-117.430	33.852	1,447	37	9.67	2.67	1.64	0.55
Y01 4689 67	Lake Mathews East	Riverside	-117.369	33.839	1,480	22	11.19	2.94	1.81	0.61
Y01 4814 11	La Sierra FS	Riverside	-117.486	33.919	720	38	10.12	2.50	1.54	0.51
Y01 5163 60	Lower Ranch	Riverside	-117.592	33.864	1,850	42	14.47	4.62	2.84	0.95
Y01 5326 00	March Field	Riverside	-117.250	33.867	1,490	16	8.11	2.23	1.37	0.46
Y01 5706 02	Mira Loma	Riverside	-117.530	34.028	827	56	13.14	3.72	2.29	0.77
Y01 6215 11	Norco	Riverside	-117.578	33.930	620	11	11.52	3.17	1.95	0.65
Y01 6215 11	Norco FD	Riverside	-117.548	33.931	630	37	11.09	2.88	1.77	0.59
Y01 6299 20	Nuview	Riverside	-117.132	33.818	1,467	17	10.21	2.98	1.83	0.61
Y01 6308 05	Oak Flat	Riverside	-117.638	33.829	2,700	17	23.47	5.25	3.23	1.08
Y01 6310 20	Oak Glen	Riverside	-116.905	34.033	5,520	8	21.77	5.14	3.16	1.06
Y01 6310 20	Oak Glen	Riverside	-116.957	34.054	47	54	27.63	6.79	4.18	1.40
Y01 6776 21	Pedley	Riverside	-117.485	33.975	710	39	11.56	2.97	1.83	0.61
Y01 6818 11	Perris CDF	Riverside	-117.227	33.788	710	46	11.24	3.14	1.93	0.65
Y01 6858 01	Pigeon Pass	Riverside	-117.269	33.988	1,910	37	12.27	3.11	1.91	0.64
Y01 6858 01	Pigeon Pass	Riverside	-117.485	33.975	710	33	11.87	2.88	1.77	0.59
Y01 6858 10	Pigeon Pass Dam	Riverside	-117.246	33.953	1,700	8	11.83	2.74	1.69	0.56
Y01 7123 00	Prado Dam	Riverside	-117.636	33.890	560	54	14.01	4.23	2.60	0.87
Y01 7123 00	Prado Dam	Riverside	-117.636	33.890	560	56	13.63	3.93	2.42	0.81
Y01 7284	San Bernarino CSU 2348	Riverside	-117.282	34.043	1,120	27	12.88	3.16	1.95	0.65
Y01 7284 00	Reche Canyon North	Riverside	-117.231	33.995	1,750	76	13.74	3.32	2.04	0.68
Y01 7315 20	Redlands CC 3239	Riverside	-116.840	33.633	4,400	8	19.36	3.94	2.43	0.81
Y01 7469 01	Red Mtn	Riverside	-117.378	34.003	800	31	12.10	3.08	1.90	0.63
Y01 7470 00	Riverside FS #3	Riverside	-117.388	33.951	990	18	10.98	2.73	1.68	0.56
Y01 7470 00	Riverside FS #3	Riverside	-117.388	33.980	838	32	10.88	2.52	1.55	0.52
Y01 7470 00	Riverside N FCD	Riverside	-117.388	33.951	990	100	10.07	2.69	1.66	0.55
Y01 7473 00	Riverside Citrus	Riverside	-117.335	33.967	990	72	10.83	2.81	1.73	0.58
Y01 7473 00	Riverside Citrus	Riverside	-117.335	33.967	990	57	10.40	2.45	1.51	0.50
Y01 7473 44	Riverside Citrus?	Riverside	-117.336	33.965	1,020	10	10.30	2.38	1.47	0.49
Y01 7473 77	Riverside CIMIS 44	Riverside	-117.388	33.981	840	45	9.90	2.39	1.47	0.49
Y01 7588 01	Rubidoux Fire Dept	Riverside	-117.404	33.999	776	27	12.49	2.80	1.72	0.58
Y01 7588 01	Rubidoux Lab	Riverside	-117.397	33.980	838	25	10.68	2.48	1.53	0.51

R0006412

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.8101-Year Return Period (in)
Y01 7887 13	San Timoteo Canyon	Riverside	-117.100	33.973	1,970	53	14.54	3.42	2.11	0.70
Y01 8668 85	Sunny Slope	Riverside	-117.447	34.012	906	45	11.97	3.10	1.91	0.64
Y01 8845 15	Temescal Cyn SAR	Riverside	-117.507	33.757	1,580	5	24.97	7.64	4.70	1.57
Y01 8845 20	Temescal Cyn Shop	Riverside	-117.507	33.772	1,300	30	16.22	4.97	3.06	1.02
Y01 8845 60	Temescal Cyn WRO	Riverside	-117.499	33.796	928	43	14.14	5.04	3.10	1.04
Y01 8845 70	Temescal Cyn WS	Riverside	-117.496	33.758	1,220	88	17.06	6.05	3.72	1.25
Y01 8846 50	Temescal Water Co	Riverside	-117.578	33.868	680	61	12.41	3.75	2.31	0.77
Y01 9163 25	Upper Drive	Riverside	-117.579	33.834	1,250	62	17.36	5.31	3.27	1.09
Y01 9587 01	West Riverside CDF	Riverside	-117.447	34.012	906	32	11.74	3.14	1.93	0.65
Y01 9675 51	Wildrose Ranch	Riverside	-117.450	33.783	875	20	11.98	5.50	3.39	1.13
Y01 9774 40	Woodcrest CDF	Riverside	-117.350	33.885	1,557	34	9.47	2.53	1.56	0.52
Y01 9774 40	Woodcrest CDF	Riverside	-117.350	33.885	1,557	38	9.46	2.39	1.47	0.49
Y02 0072 50	Alendale	Riverside	-116.754	33.782	5,800	38	34.94	7.63	4.70	1.57
Y02 0072 50	Alendale	Riverside	-116.754	33.781	5,800	8	28.36	6.11	3.76	1.26
Y02 0208 70	Angeles Hill	Riverside	-116.852	33.807	3,920	5	23.38	4.70	2.89	0.97
Y02 0208 70	Angeles Hill	Riverside	-116.852	33.807	3,920	5	15.53	4.97	3.06	1.02
Y02 0507 00	Beaumont PP	Riverside	-116.968	33.968	2,305	63	20.63	5.02	3.09	1.03
Y02 0606 00	Beaumont	Riverside	-116.974	33.929	2,313	86	18.06	4.11	2.53	0.85
Y02 0606 00	Beaumont	Riverside	-116.974	33.929	2,313	57	16.93	3.85	2.37	0.79
Y02 0609 00	Beaumont 1 E	Riverside	-116.965	33.930	2,609	72	18.55	3.96	2.44	0.82
Y02 1510 __	El Cariso Station	Riverside	-117.412	33.650	2,660	25	24.16	5.63	3.47	1.16
Y02 2805 00	Elsinore	Riverside	-117.331	33.669	1,285	99	12.46	3.77	2.32	0.78
Y02 2805 00	Elsinore	Riverside	-116.912	33.669	1,285	57	11.74	3.37	2.07	0.69
Y02 2805 50	Elsinore St Park	Riverside	-117.372	33.676	1,265	27	16.30	3.78	2.33	0.78
Y02 3365 33	Gavilon Sprngs	Riverside	-117.396	33.792	2,050	13	13.08	3.24	1.99	0.67
Y02 3365 33	Gavilon Sprngs	Riverside	-117.396	33.792	2,050	13	13.08	3.53	2.17	0.73
Y02 3415 50	Gilman Hot Springs	Riverside	-116.988	33.833	1,470	32	12.05	3.23	1.99	0.66
Y02 3507 __	Good Hope	Riverside	-117.281	33.762	1,630	14	12.70	3.21	1.98	0.66
Y02 3896 00	Hemet	Riverside	-116.950	33.750	1,630	63	12.58	3.13	1.93	0.64
Y02 3899 00	Hemet Reservoir	Riverside	-116.676	33.669	4,355	97	19.29	4.27	2.63	0.88
Y02 3899 00	Hemet Reservoir	Riverside	-116.676	33.667	4,355	47	11.94	3.41	2.10	0.70
Y02 4062 05	Homeland	Riverside	-117.743	33.743	1,600	31	12.03	2.73	1.68	0.56
Y02 4181 00	Hurkey Park	Riverside	-116.676	33.677	4,390	32	19.95	4.75	2.92	0.98
Y02 4181 00	Hurkey Park	Riverside	-116.676	33.677	4,390	57	19.14	4.19	2.58	0.86
Y02 4211 00	Idyllwild	Riverside	-117.723	33.713	5,397	68	28.19	5.66	3.48	1.16
Y02 4211 00	Idyllwild	Riverside	-117.723	33.713	5,397	58	27.10	5.18	3.19	1.07
Y02 4431 00	Juniper Flats	Riverside	-117.083	33.764	2,110	12	14.08	3.08	1.90	0.63
Y02 4431 00	Juniper Flats	Riverside	-117.083	33.764	2,110	29	13.87	4.16	2.56	0.86
Y02 4686 51	Lakeland Village	Riverside	-117.346	33.637	1,319	38	16.13	4.28	2.63	0.88
Y02 4717 30	Lakeview	Riverside	-117.132	33.818	1,467	36	11.72	3.15	1.94	0.65
Y02 4979 40	Little Lake SDF	Riverside	-116.931	33.745	1,697	33	12.64	2.80	1.72	0.58
Y02 5326 00	March AFB	Riverside	-117.243	33.917	1,567	30	8.72	2.47	1.52	0.51
Y02 5492 20	Mead Valley	Riverside	-117.285	33.838	1,660	8	10.36	2.50	1.54	0.51
Y02 5736 30	Mockingbird Res	Riverside	-117.415	33.897	1,007	53	9.80	2.35	1.45	0.48
Y02 5840 40	Moreno South #1	Riverside	-117.235	33.902	1,535	34	9.44	2.50	1.54	0.51
Y02 5840 45	Moreno South #2	Riverside	-117.235	33.901	1,535	7	11.14	2.86	1.76	0.59
Y02 5840 60	Moreno East	Riverside	-117.137	33.941	1,840	21	14.38	3.58	2.20	0.74
Y02 5840 60	MorenoValley	Riverside	-117.137	33.941	1,840	21	14.35	3.78	2.33	0.78
Y02 6299 20	Nuview SDF	Riverside	-117.132	33.818	1,467	23	11.70	3.63	2.23	0.75
Y02 6815 16	Perris Res	Riverside	-117.196	33.864	1,625	29	11.07	3.27	2.01	0.67
Y02 6815 16	Perris Res	Riverside	-117.196	33.864	1,625	29	11.06	3.18	1.96	0.65
Y02 6816 00	Perris	Riverside	-117.201	33.861	1,520	12	9.87	3.51	2.16	0.72
Y02 6816 ??	Perris State Park	Riverside	-117.201	33.861	1,520	18	12.08	3.18	1.96	0.65
Y02 6818 11	Perris CDF	Riverside	-117.229	33.788	1,452	22	11.50	3.30	2.03	0.68
Y02 6818 25	Perris Valley	Riverside	-117.225	33.859	1,461	10	7.94	1.86	1.15	0.38
Y02 6818 25	Perris Valley CH	Riverside	-117.225	33.859	1,461	11	7.94	1.86	1.15	0.38
Y02 6858 10	Pigeon Pass	Riverside	-117.253	33.978	1,850	9	11.83	3.18	1.96	0.65
Y02 6858 10	Pigeon Pass Dam	Riverside	-117.246	33.953	1,700	14	10.37	2.42	1.49	0.50
Y02 6891 12	Pine Cove	Riverside	-116.737	33.750	6,220	25	31.77	5.24	3.23	1.08
Y02 6933 50	Pinyon Flat	Riverside	-116.447	33.586	4,000	16	17.30	4.15	2.55	0.85
Y02 6933 50	Pinyon Flat	Riverside	-116.447	33.586	4,000	25	14.96	4.27	2.63	0.88
Y02 7058 80	Poppet Flats	Riverside	-116.859	33.848	3,520	16	25.86	4.61	2.84	0.95
Y02 7178 70	Quail Valley SDF	Riverside	-117.239	33.702	1,590	34	12.02	3.35	2.06	0.69
Y02 7221 01	Rail Road Canyon	Riverside	-117.275	33.677	1,390	59	11.02	3.27	2.01	0.67
Y02 7613 11	Ryan Field	Riverside	-117.021	33.730	1,509	6	12.15	2.63	1.62	0.54
Y02 7613 11	Ryan Field	Riverside	-117.021	33.730	1,509	38	11.56	2.82	1.74	0.58
Y02 7810 40	San Jacinto North	Riverside	-116.966	33.821	1,510	46	13.23	3.26	2.01	0.67
Y02 7811 00	San Jacinto Res	Riverside	-116.997	33.792	1,500	26	10.91	2.74	1.69	0.56
Y02 7813 00	San Jacinto	Riverside	-116.958	33.787	1,560	100	12.91	2.85	1.75	0.59
Y02 7813 00	San Jacinto RS	Riverside	-116.958	33.787	1,560	55	12.19	2.89	1.78	0.59
Y02 7813 20	San Jacinto Valley	Riverside	-117.119	33.874	1,450	4	14.81	3.30	2.03	0.68
Y02 7813 50	San Jacinto Valley	Riverside	-117.119	33.874	1,450	9	11.90	2.73	1.68	0.56
Y02 8272 01	Skinner Lake Park	Riverside	-117.023	33.587	1,700	14	13.34	3.30	2.03	0.68

R0006413

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
Y02 8650 00	Sun City	Riverside	-117.190	33.715	1,426	21	12.61	3.56	2.19	0.73
Y02 8650 50	Sun City South	Riverside	-117.209	33.696	1,412	23	11.98	3.68	2.27	0.76
Y02 8650 75	Sun City CDF	Riverside	-117.190	33.715	1,426	23	12.14	3.17	1.95	0.65
Y02 8664 01	Sunnymead	Riverside	-117.247	33.939	1,641	38	11.55	2.70	1.66	0.56
Y02 8664 20	Sunnymead #2	Riverside	-117.228	33.944	1,688	11	11.59	2.39	1.47	0.49
Y02 9338 20	Valley Vista	Riverside	-117.892	33.758	1,740	5	16.54	4.25	2.62	0.87
Y02 9722 00	Winchester	Riverside	-117.008	33.710	1,475	48	11.86	3.50	2.15	0.72
Y02 9722 00	Winchester	Riverside	-117.008	33.710	1,475	49	11.61	3.40	2.09	0.70
Z01 2711 70	El Cariso 192	Riverside	-117.412	33.650	2,660	22	22.63	5.67	3.48	1.45
Z01 2711 70	El Cariso GS	Riverside	-117.412	33.650	2,660	15	24.42	5.89	3.61	1.50
Z01 7987 12	Santiago	Riverside	-117.533	33.711	5,638	45	33.51	8.05	4.94	2.06
Z01 7987 12	Santiago Peak 156	Riverside	-117.533	33.711	5,638	41	33.10	7.58	4.65	1.94
Z01 9675 85	Wildomar La Cresta	Riverside	-117.308	33.592	2,360	4	22.53	5.93	3.64	1.51
Z02 0035 00	Aguanga Valley	Riverside	-116.880	33.444	1,920	13	12.91	4.92	3.02	1.26
Z02 0035 00	Aguanga Valley	Riverside	-116.880	33.444	1,920	21	12.24	4.92	3.02	1.26
Z02 0035 __	Aguanga	Riverside	-116.803	33.486	34	36	14.14	3.08	1.89	0.79
Z02 0235 00	Anza	Riverside	-116.675	33.556	3,920	31	14.59	3.27	2.01	0.84
Z02 0235 00	Anza	Riverside	-116.675	33.556	3,915	44	12.79	3.42	2.10	0.87
Z02 4629 50	La Cresta	Riverside	-117.311	33.556	2,200	14	17.65	5.05	3.10	1.29
Z02 5530 50	Menifee	Riverside	-117.204	33.649	1,570	13	17.51	5.16	3.17	1.32
Z02 6042 00	Murrieta Creek	Riverside	-117.223	33.563	1,131	7	18.00	4.52	2.77	1.15
Z02 6042 00	Murrieta Creek	Riverside	-117.223	33.563	1,131	50	15.38	4.95	3.04	1.26
Z02 6043 20	Murrieta Creek	Riverside	-117.232	33.555	1,100	7	18.00	4.52	2.77	1.15
Z02 7220 00	Red Mountian	Riverside	-116.840	33.633	4,400	8	16.69	3.35	2.06	0.86
Z02 7222 05	Rainbow Cottage	Riverside	-117.167	33.447	1,330	23	17.66	4.56	2.80	1.16
Z02 7640 50	Sage	Riverside	-116.931	33.581	2,290	32	14.79	3.49	2.14	0.89
Z02 7736 30	Skinner Lake	Riverside	-117.075	33.586	1,490	15	13.93	3.49	2.14	0.89
Z02 7736 50	Skinner Lake	Riverside	-117.083	33.583	1,400	32	12.88	3.48	2.14	0.89
Z02 7965 80	Santa Rosa Plateau	Riverside	-117.288	33.505	2,040	4	30.26	8.91	5.47	2.28
Z02 7965 80	Santa Rosa Plateau	Riverside	-117.288	33.505	2,040	4	24.54	9.13	5.60	2.33
Z02 7969 41	Santa Rosa Ranch	Riverside	-117.268	33.512	1,820	12	25.54	9.26	5.68	2.36
Z02 8272 13	Skinner Lake Park	Riverside	-117.023	33.587	1,700	14	15.02	3.41	2.09	0.87
Z02 8840 01	Temecula	Riverside	-117.149	33.497	1,020	41	16.81	4.52	2.77	1.15
Z02 8840 01	Temecula East	Riverside	-117.096	33.525	1,300	5	13.25	3.03	1.86	0.77
Z02 8840 01	Temecula SDF	Riverside	-117.149	33.497	1,020	38	16.64	4.63	2.84	1.18
Z02 8840 20	Temecula NW	Riverside	-117.149	33.497	1,020	38	16.64	5.76	3.53	1.47
Z02 9675 47	Wildomar La Cresta	Riverside	-117.308	33.592	2,360	4	22.53	6.00	3.68	1.53
Z02 9675 75	Wildomar	Riverside	-117.275	33.603	1,268	84	14.06	4.67	2.87	1.19
A00 0179 ??	American River College	Sacramento	-121.345	38.654	95	10	19.27	2.95	2.00	0.93
A00 0249 34	Arcade Greiner	Sacramento	-121.384	38.628	70	22	21.62	3.38	2.30	1.06
A00 0255 ??	Arden Way SC 281	Sacramento	-121.389	38.596	35	11	18.56	3.01	2.04	0.95
A00 0257 34	Ardentown 1E Ford	Sacramento	-121.380	38.582	65	20	22.03	3.49	2.37	1.10
A00 0559 ??	Beach Lake	Sacramento	-121.499	38.439	0	5	21.27	3.59	2.44	1.13
A00 1041 34	Branch Center	Sacramento	-121.339	38.537	75	25	16.59	3.24	2.20	1.02
A00 1540 90	Carmichael Winston	Sacramento	-121.311	38.621	100	3	21.02	1.34	0.91	0.42
A00 1540 ??	Carmichael 1 ESE	Sacramento	-121.311	38.621	100	15	26.18	3.95	2.68	1.24
A00 1540 ??	Carmichael 2.4W	Sacramento	-121.371	38.628	78	18	24.69	3.83	2.60	1.20
A00 1540 ??	Carmichael 2.7 N	Sacramento	-121.322	38.656	119	13	18.64	2.87	1.95	0.90
A00 1714 ??	Chicago SC 279	Sacramento	-121.258	38.662	220	11	22.30	3.75	2.55	1.18
A00 1773 32	Citrus Heights	Sacramento	-121.300	38.700	138	34	23.16	3.45	2.34	1.08
A00 2006 ??	Corabel	Sacramento	-121.397	38.614	13	6	24.57	4.03	2.74	1.27
A00 2160 00	Cresta Park SC 267	Sacramento	-121.368	38.593	70	37	19.27	3.26	2.21	1.02
A00 225377	D05 SC	Sacramento	-121.422	38.584	25	6	20.06	3.34	2.27	1.05
A00 2606 34	Eagles Nest	Sacramento	-121.260	38.485	100	21	16.82	2.50	1.70	0.79
A00 2742 00	Elk GroveSC 270	Sacramento	-121.377	38.423	45	31	17.20	2.80	1.90	0.88
A00 2744 ??	Elkhorn Blvd SC	Sacramento	-121.448	38.684	45	6	20.86	3.50	2.38	1.10
A00 2948 65	Fair Oaks Johnson	Sacramento	-121.257	38.677	185	10	21.74	4.14	2.81	1.30
A00 3387 34	Gerber Road	Sacramento	-121.402	38.481	30	5	13.68	2.52	1.71	0.79
A00 4283 ??	Ione Road SC	Sacramento	-121.068	38.448	310	6	17.91	2.45	1.66	0.77
A00 4339 00	Jan Drive	Sacramento	-121.318	38.647	135	17	20.27	3.65	2.48	1.15
A00 5403 00	Mather AFB	Sacramento	-121.300	38.570	90	51	18.54	2.94	2.00	0.92
A00 5447 00	McClellan AFB	Sacramento	-121.390	38.670	70	42	21.68	3.46	2.35	1.09
A00 5569 90	Sac Metropolitan AP	Sacramento	-121.588	38.686	17	34	15.39	2.60	1.77	0.82
A00 6160 50	Navion SC 275	Sacramento	-121.309	38.705	140	27	22.15	3.38	2.30	1.06
A00 6481 03	Orangevale Wade	Sacramento	-121.242	39.694	230	7	22.46	4.33	2.94	1.36
A00 6482 02	Orangevale SC 276	Sacramento	-121.219	38.686	233	36	20.59	3.22	2.19	1.01
A00 6482 77	Orangevale 1 NW	Sacramento	-121.239	38.686	250	12	22.71	3.80	2.58	1.19
A00 6690 34	Prairie City SC 287	Sacramento	-121.161	38.592	280	10	19.05	2.68	1.82	0.84
A00 7247 00	Rancho Cordova JF	Sacramento	-121.333	38.592	85	28	20.22	3.13	2.13	0.98
A00 7247 01	Rancho Cordova SC 277	Sacramento	-121.312	38.603	72	32	18.04	2.94	2.00	0.92
A00 7247 03	Rancho Cordova Danley	Sacramento	-121.282	38.604	98	13	23.55	3.75	2.55	1.18
A00 7439 34	Correctional Center	Sacramento	-121.424	38.306	18	11	16.28	2.80	1.90	0.88
A00 7443 34	Rio Linda	Sacramento	-121.450	38.670	42	8	18.62	3.45	2.34	1.08

R0006414

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
A00 7443 34	Rio Linda SC 278	Sacramento	-121.448	38.700	42	26	18.88	2.98	2.02	0.94
A00 7630 00	Sacramento Ex AP	Sacramento	-121.220	38.520	17	54	17.21	2.92	1.98	0.92
A00 7630 00	Sacramento Ex AP	Sacramento	-121.220	38.520	17	47	17.02	2.83	1.92	0.89
A00 7633 00	Sacramento City	Sacramento	-121.480	38.580	25	127	18.24	3.10	2.11	0.97
A00 7633 00	Sacramento City	Sacramento	-121.480	38.580	25	95	17.44	3.10	2.11	0.97
A00 7633 34	Sacramento Doblslager	Sacramento	-121.478	38.619	16	13	20.40	3.51	2.38	1.10
A00 7636 34	Sacramento Waller	Sacramento	-121.370	38.600	65	15	22.10	3.68	2.50	1.16
A00 7639 34	Sacramento Metro AP	Sacramento	-121.594	38.698	20	33	14.97	3.89	2.64	1.22
A00 8575 34	Stonemead	Sacramento	-121.290	38.510	120	15	20.27	3.18	2.16	1.00
A00 8575 34	Stonemead	Sacramento	-121.290	38.510	120	13	20.10	3.12	2.12	0.98
A00 8607 ??	Strong Ranch	Sacramento	-121.412	38.595	35	6	22.27	3.81	2.59	1.20
A00 8677 34	Sunrise Boulevard 291	Sacramento	-121.271	38.689	162	10	16.96	2.85	1.94	0.90
A00 9258 34	Van Mann 286	Sacramento	-121.308	38.698	120	11	20.92	3.37	2.29	1.06
A70 3113 00	Folsom	Sacramento	-121.131	38.707	350	104	23.98	3.47	2.36	1.09
A70 7370 00	Represa	Sacramento	-121.161	38.693	295	94	22.46	3.33	2.26	1.05
B00 1635 01	Central Valley Hatchery	Sacramento	-121.357	37.417	38	28	18.72	3.04	2.06	0.96
B00 1785 50	Clay 1 NW	Sacramento	-121.173	38.356	96	41	16.67	2.50	1.70	0.79
B00 2742 00	Elk Grove Hatchery	Sacramento	-121.374	38.421	45	26	16.31	2.73	1.85	0.86
B00 2742 02	Elk Grove Lorenzen	Sacramento	-121.379	38.403	41	10	21.13	2.58	1.75	0.82
B00 3301 00	Galt	Sacramento	-121.300	38.250	47	91	16.85	2.70	1.83	0.85
B00 3919 00	Herald	Sacramento	-121.242	38.296	70	16	13.68	2.67	1.81	0.84
B00 7248 00	Rancho Murieta	Sacramento	-121.101	38.511	215	14	17.56	2.91	1.97	0.92
B00 7248 92	Rancho Murieta	Sacramento	-121.100	38.508	220	5	22.68	3.21	2.18	1.02
B00 8293 00	Sloughhouse 6 SE	Sacramento	-121.083	38.467	150	13	18.63	2.96	2.01	0.94
B00 9639 00	White Rock	Sacramento	-121.080	38.564	353	42	22.90	3.29	2.23	1.04
B90 1043 00	Brannon Island	Sacramento	-121.697	38.109	35	20	18.17	2.82	1.91	0.89
B90 3541 00	Grand Island	Sacramento	-121.619	38.196	0	39	17.60	2.82	1.91	0.89
B90 9429 00	Georgiana Slough SC 271	Sacramento	-121.517	38.237	20	33	15.56	2.75	1.86	0.87
B90 9429 00	Walnut Grove Leary	Sacramento	-121.437	38.268	2	29	16.65	3.01	2.04	0.95
W08 6848 01	Pinon Hills	San Bernardino	-117.610	34.416	1,250	8	11.84	3.62	2.04	0.54
W08 8643 00	Summit	San Bernardino	-117.423	34.329	3,860	17	11.70	4.53	2.55	0.68
W12 4312 50	Ivanpah Co Yd	san Bernardino	-115.257	34.388	2,927	20	4.46	2.00	1.12	0.30
W12 5890 00	Mountain Pass	San Bernardino	-115.533	35.467	4,670	38	8.06	2.69	1.51	0.40
W12 5890 00	Mountain Pass 6362	San Bernardino	-115.544	35.472	4,670	10	9.40	2.46	1.38	0.37
W16 3498 00	Goldstone Echo	San Bernardino	-116.783	35.283	2,950	32	5.61	2.19	1.23	0.33
W21 9035 00	Trona	San Bernardino	-117.383	35.783	1,695	67	4.13	1.88	1.06	0.28
W28 0024 00	Adelanto	San Bernardino	-117.415	34.576	2,845	44	4.85	2.17	1.22	0.32
W28 0024 20	Adelanto WD	San Bernardino	-117.405	34.572	2,880	9	5.75	2.16	1.21	0.32
W28 0244 00	Apple Valley	San Bernardino	-117.214	34.524	2,935	32	4.98	2.05	1.15	0.31
W28 0244 00	Apple Valley Co Yd	San Bernardino	-117.077	34.359	3,030	24	6.22	2.52	1.42	0.38
W28 0310 00	Arrowhead RS	San Bernardino	-117.191	34.239	5,593	27	40.42	12.77	7.18	1.90
W28 0310 ??	Arrowhead FS1 5140	San Bernardino	-117.186	34.249	5,205	19	35.12	9.31	5.23	1.39
W28 0436 00	Baker	San Bernardino	-117.020	35.267	944	43	3.12	1.59	0.89	0.24
W28 0436 00	Baker	San Bernardino	-116.067	35.267	940	36	2.65	0.93	0.52	0.14
W28 0437 00	Baker 9 NNW	San Bernardino	-116.117	36.383	1,045	18	2.64	1.36	0.76	0.20
W28 0455 20	Baldy Mesa	San Bernardino	-117.387	34.462	3,320	6	8.10	2.94	1.65	0.44
W28 0455 47	Baldy Mesa	San Bernardino	-117.387	34.462	3,320	3	8.95	4.02	2.26	0.60
W28 0519 00	Barstow	San Bernardino	-117.017	34.900	2,320	73	4.32	1.71	0.96	0.25
W28 0519 00	Barstow	San Bernardino	-117.017	34.900	2,142	10	3.65	0.63	0.35	0.09
W28 0900 30	Blue Jay Village	San Bernardino	-117.298	34.219	5,140	7	35.15	9.63	5.41	1.44
W28 1267 01	Cajon Junction 2016	San Bernardino	-117.475	34.312	3,118	48	17.74	7.00	3.94	1.04
W28 1272 00	Cajon West Summit	San Bernardino	-117.574	34.390	4,780	32	11.68	3.49	1.96	0.52
W28 1272 00	Cajon West Summit 2052	San Bernardino	-117.576	34.392	4,838	34	9.93	3.82	2.15	0.57
W28 1272 00	Cajon West Summit 52	San Bernardino	-117.574	34.390	4,780	22	8.33	3.29	1.85	0.49
W28 1302 50	Calico Co Park	San Bernardino	-116.865	34.950	2,340	23	3.48	1.60	0.90	0.24
W28 1302 50	Calico Park 6304	San Bernardino	-116.864	34.950	2,340	9	3.57	1.49	0.84	0.22
W28 1610 30	Cedar Pines Park	San Bernardino	-117.334	34.250	5,280	6	31.15	8.39	4.72	1.25
W28 1610 35	Cedar Pines Park Rade	San Bernardino	-117.321	34.250	5,280	7	47.91	11.09	6.24	1.65
W28 1613 00	Cedar Springs	San Bernardino	-117.330	34.284	3,275	8	28.57	7.74	4.35	1.15
W28 1812 20	Cleghorn	San Bernardino	-117.368	34.300	3,425	13	33.39	10.56	5.94	1.57
W28 2163 00	Crestline FS	San Bernardino	-117.266	34.233	4,530	52	35.78	8.36	4.70	1.25
W28 2164 00	Crestline FS 2	San Bernardino	-117.290	34.238	4,880	25	35.68	9.92	5.58	1.48
W28 2164 00	Crestline FS 2	San Bernardino	-117.289	34.238	4,880	54	36.77	8.51	4.79	1.27
W28 2255 00	Dagget	San Bernardino	-116.869	34.866	1,975	54	3.77	1.30	0.73	0.19
W28 2259 00	Dagget AP	San Bernardino	-116.783	34.867	1,922	51	3.86	1.70	0.96	0.25
W28 2409 50	Devils Punchbowl 1111	San Bernardino	-117.857	34.413	4,760	33	17.77	7.46	4.19	1.11
W28 2570 00	Dunn Siding	San Bernardino	-116.433	35.050	1,310	12	3.34	1.58	0.89	0.24
W28 2771 00	El Mirage Field	San Bernardino	-117.600	34.600	2,910	32	5.75	2.16	1.21	0.32
W28 3609 00	Green Canyon Springs	San Bernardino	-117.752	34.233	7,000	34	14.71	4.75	2.67	0.71
W28 3612 04	Green Valley Lake	San Bernardino	-117.079	34.239	6,880	15	36.63	11.60	6.52	1.73
W28 3612 30	Green Valley FD	San Bernardino	-117.081	34.234	6,900	21	32.55	8.85	4.98	1.32
W28 3612 30	Green Valley FD 5320	San Bernardino	-117.080	34.234	6,900	18	32.68	9.48	5.33	1.41
W28 3884 50	Heaps Peak 5339	San Bernardino	-117.139	34.225	6,421	10	21.96	6.70	3.77	1.00

R0006415

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
W28 3884 52	Heaps Peak	San Bernardino	-117 140	34 225	6,421	22	23.92	6.82	3.83	1.02
W28 3935 00	Hesperia	San Bernardino	-117 303	34 421	3,195	35	6.90	2.90	1.63	0.43
W28 3935 01	Hesperia CDF	San Bernardino	-117.300	34.421	3,195	36	6.54	3.07	1.73	0.46
W28 4123 10	Horseshoe Bend	San Bernardino	-117 268	34.219	5,275	7	39.87	7.72	4.34	1.15
W28 4384 20	Job's Peak	San Bernardino	-117.334	34.256	5,160	9	20.81	7.14	4.01	1.06
W28 4606 20	Kelso	San Bernardino	-115.648	35.016	2,148	24	5.27	2.24	1.26	0.33
W28 4606 20	Kramer Junction	San Bernardino	-117.539	34.989	2,477	35	4.56	1.88	1.06	0.28
W28 4671 00	Lake Arrowhead	San Bernardino	-117.187	34.249	5,205	69	41.48	11.47	6.45	1.71
W28 4671 10	Lake Arrowhear Asher	San Bernardino	-117.195	34.247	5,360	24	45.91	11.16	6.28	1.66
W28 4671 20	Lake Arrowhead FS4	San Bernardino	-117 204	34.261	5,205	44	40.68	10.43	5.86	1.55
W28 4671 20	lake Arrowhead FS4	San Bernardino	-117 204	34 261	5,205	27	40.39	11.25	6.33	1.68
W28 4671 20	Lake Arrowhead FS4 5280	San Bernardino	-117.203	34.261	5,205	46	41.15	10.91	6.13	1.63
W28 4671 20	Lake Arrowhead FS4 5280	San Bernardino	-117.203	34.261	5,205	17	35.45	10.76	6.05	1.60
W28 4671 40	Lake Arrowhead FS2	San Bernardino	-117.182	34.263	5,200	25	33.22	9.66	5.43	1.44
W28 4684 40	Lake Gregory Park	San Bernardino	-117.272	34.240	4,535	36	38.75	10.76	6.05	1.60
W28 4684 45	Lake Gregory Village	San Bernardino	-117.278	34.241	4,550	11	39.33	8.79	4.94	1.31
W28 4684 50	Lake Gregory Dam	San Bernardino	-117.269	34.246	4,540	10	41.36	9.59	5.39	1.43
W28 4711 20	Lake Silverwood St Pk	San Bernardino	-117.351	34.284	3,400	24	35.44	11.09	6.24	1.65
W28 5066 70	Lone Pine-Bishop 2331	San Bernardino	-117 546	34.314	4,400	9	15.93	5.78	3 25	0.86
W28 5198 20	Lunng Pines	San Bernardino	-117.119	34.206	6,240	11	52.77	12.02	6.76	1.79
W28 5618 20	Mile High Ranch 1166	San Bernardino	-117.771	34.411	5,280	19	12.23	4.11	2.31	0.61
W28 5756 00	Mojave River	San Bernardino	-117.247	34.367	3,000	14	8.31	3.23	1.82	0.48
W28 6848 01	Phelan CDF	San Bernardino	-117.572	34.422	4,160	41	7.34	3.33	1.87	0.50
W28 6868 01	Pilot Rock CC	San Bernardino	-117.287	34.272	3,674	34	33.75	10.77	6.06	1.60
W28 7599 11	Running Springs FD	San Bernardino	-117.101	34.204	6,080	26	37.31	10.02	5.63	1.49
W28 7599 11	Running Spa FS 5062	San Bernardino	-117 100	34 204	4,080	18	41.27	9 50	5.34	1.42
W28 7600 00	Running Springs	San Bernardino	-117.083	34 200	5,965	53	38.31	8.41	4.73	1.25
W28 7600 00	Running Springs 1 E	San Bernardino	-117.102	34.204	6,000	53	37.58	10.36	5.83	1.54
W28 7600 00	Runnins Sps 1E 5184	San Bernardino	-117.101	34.240	6,000	15	38.80	9.71	5.46	1.45
W28 8250 00	Silver Lake AP	San Bernardino	-116.086	34.345	910	7	2.47	1.21	0.68	0.18
W28 8250 00	Silver Lake AP	San Bernardino	-116.083	34.344	920	13	3.33	1.40	0.79	0.21
W28 8479 00	Squirrel Inn	San Bernardino	-117.233	34.233	5,680	74	40.14	10.60	5.96	1.58
W28 8566 00	Stoddard Valley	San Bernardino	-117.002	34.750	2,840	36	4.84	1.97	1.11	0.29
W28 8643 00	Summit valley	San Bernardino	-117.354	34.313	3,280	27	22.87	6.91	3.89	1.03
W28 8643 80	Summit	San Bernardino	-117 423	34.329	3,860	17	11.70	4 53	2.55	0.68
W28 8918 20	Thunderhead Ranch	San Bernardino	-117 266	34.272	4,610	16	34 44	10.21	5.74	1.52
W28 9105 10	Twin Peaks 5356	San Bernardino	-117 233	34.243	5,520	8	28.35	8.96	5.04	1.34
W28 9105 10	Twin Peaks Chalfant	San Bernardino	-117.185	34.233	5,690	19	45.23	11 21	6.30	1.67
W28 9105 15	Twin Peak Calvary	San Bernardino	-117.234	34.243	5,520	7	31 86	9.73	5.47	1.45
W28 9233 20	Valley of the Moon	San Bernardino	-117 256	34.245	4,630	6	42.74	9.95	5.59	1.48
W28 9322 20	Victor Valley STP	San Bernardino	-117.352	34.618	2,600	9	3.36	2.36	1 33	0.35
W28 9325 00	Victorville	San Bernardino	-117.300	34.533	2,859	56	5.32	1 79	1.01	0.27
W28 9325 00	Victorville PP	San Bernardino	-117.300	34.533	2,859	57	5.59	2.29	1 29	0.34
W28 9325 20	Victorville Dale	San Bernardino	-117.348	34.486	3,110	6	7.48	2.80	1 57	0.42
W28 9325 ??	Victor Valley STP 4351	San Bernardino	-117 576	34.392	4,838	9	3.08	1 63	0.92	0.24
W28 9716 31	Wrightwood FD 6033	San Bernardino	-117 483	34 371	6,038	40	19 63	6.29	3.54	0.94
W28 9819 31	Wrightwood FD 6033	San Bernardino	-117 483	34 371	6,038	8	18.54	6.06	3.41	0.90
W28 9820 20	Wrightwood Apple	San Bernardino	-117 643	34.361	6,038	14	24.24	7 55	4.25	1.13
W28 9820 25	Wrightwood Pine	San Bernardino	-117.642	34 356	6,038	18	28.08	7 87	4 43	1.17
W28 9830 50	Valley of Enchantment	San Bernardino	-117 309	34.246	4,485	7	42.98	9 00	5.06	1.34
W28 9836 75	Yermo Insp Sta	San Bernardino	-117 792	34.914	1,912	35	3.56	1 60	0.90	0.24
W28 9881 00	Yucca Grove	San Bernardino	-115.782	35.401	3,951	22	6.80	2.17	1.22	0.32
X01 2232 80	Cushenberry Springs	San Bernardino	-116.859	34 358	4,250	36	8.55	3.55	1.94	0.51
X01 4391 80	Johnson Valley	San Bernardino	-116.612	34 419	2,794	37	3.58	1 80	0.98	0.26
X01 5181 85	Lucern Valley FD	San Bernardino	-116.938	34 446	2,957	8	3.00	2.73	1.49	0.39
X01 5182 00	Lucern Valley	San Bernardino	-116.967	34 433	3,015	24	3.86	1 57	0.86	0.22
X01 5182 15	Lucern Valley Modway Pk	San Bernardino	-116 902	34 458	2,910	10	2.85	1.53	0.83	0.22
X05 4467 00	Kee Ranch	San Bernardino	-116.533	34.167	4,325	33	8.10	4 28	2.33	0.61
X08 4405 00	Joshua Tree	San Bernardino	-116.208	34.136	2,730	30	5.61	2.45	1.34	0.35
X08 4405 00	Yucca Valley CDF	San Bernardino	-116.409	34.124	3,420	40	6.49	2.80	1.53	0.40
X08 4405 30	Joshua Tree L S RS	San Bernardino	-116.190	34.019	4,200	8	8.23	3.09	1.69	0.44
X08 9681 06	Yucca Valley	San Bernardino	-116.408	34.124	3,420	6	5.60	2.80	1.53	0.40
X09 2265 00	Dale Lake Crane	San Bernardino	-115.763	34.133	1,315	17	4.67	2.39	1.30	0.34
X09 2265 00	Dales Dry Lake	San Bernardino	-115.193	34.165	1,220	14	2.31	1.55	0.85	0.22
X09 9099 00	Twentynine Palms	San Bernardino	-116.051	34.133	1,975	62	4.15	2.21	1.21	0.32
X09 9099 05	Twentynine Palms 6216	San Bernardino	-116.050	34.150	1,895	7	3.70	1.88	1.03	0.27
X09 9099 05	Twentynine Palms Co Yd	San Bernardino	-116.052	34.150	1,875	23	3.52	2.23	1.22	0.32
X09 9099 25	Twentynine Palms USMC	San Bernardino	-116.151	34 300	2,004	18	3.22	1.97	1.07	0.28
X10 0176 00	Amboy Seltus 2	San Bernardino	-115.743	34.475	595	20	3.63	1.98	1.08	0.28
X10 0176 00	Amboy	San Bernardino	-115.750	34.567	635	27	1.97	1 18	0.64	0.17
X10 0176 02	Amboy Seltus 1	San Bernardino	-115.695	34.531	625	22	3.36	1.83	1.00	0.26
X10 5722 00	Mitchell Caverns	San Bernardino	-115.533	34.933	4,306	39	10.18	3.59	1.96	0.51
X12 4297 00	Iron Mtn	San Bernardino	-115.133	34 133	900	60	3.39	1 75	0.95	0.25

R0006416

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
X12 4297 00	Iron Mtn	San Bernardino	-115.133	34.133	900	53	3.18	1.61	0.88	0.23
X12 5721 00	Camino Switch Yard	San Bernardino	-114.967	34.850	2,080	18	4.87	2.24	1.22	0.32
X13 6115 00	Needles	San Bernardino	-114.617	34.833	480	47	3.96	1.71	0.93	0.24
X13 6118 00	Needles	San Bernardino	-114.617	34.767	910	98	4.70	2.13	1.16	0.30
X13 6119 10	Needles Pump	San Bernardino	-114.614	34.688	1,410	27	5.30	2.32	1.27	0.33
X13 6185 00	New York Mtns	San Bernardino	-115.131	35.240	4,630	7	8.18	2.79	1.52	0.40
X13 6697 80	Park Moari Reg Park	San Bernardino	-114.513	32.728	540	23	5.04	2.52	1.37	0.36
X13 8064 80	Searchlight, NV	San Bernardino	-114.917	35.467	3,540	41	7.85	2.84	1.55	0.41
X13 8064 80	Searchlight, NV	San Bernardino	-114.917	35.467	3,540	33	5.96	2.21	1.21	0.32
X14 6699 00	Parker Dam	San Bernardino	-114.167	34.283	738	55	5.48	2.08	1.13	0.30
X14 6699 00	Parker Res	San Bernardino	-114.167	34.283	738	51	4.90	1.98	1.08	0.28
X15 2404 08	Ripley SDF	San Bernardino	-114.656	33.525	250	34	3.98	1.82	0.99	0.26
X17 2598 00	Eagle Mtn Pump	San Bernardino	-115.450	33.811	973	56	3.65	2.04	1.11	0.29
X19 5863 00	Morogo Valley	San Bernardino	-116.582	34.046	2,580	51	9.78	4.60	2.51	0.66
X19 5863 40	Morogo Valley 6354	San Bernardino	-116.549	34.054	2,765	10	8.52	4.82	2.63	0.69
X19 5863 40	Morogo Valley 6354	San Bernardino	-116.538	34.071	2,765	27	10.84	5.63	3.07	0.81
Y01 0264 00	Arrowhead Sp Hotel 2268	San Bernardino	-117.265	34.184	2,000	26	22.97	4.35	2.68	0.90
Y01 0318 00	Arrowhead Sp Hotel 2268	San Bernardino	-117.264	34.184	2,000	16	25.46	5.52	3.40	1.14
Y01 0741 00	Big Bear Lake	San Bernardino	-116.917	34.250	6,750	46	22.12	6.44	3.96	1.33
Y01 0742 00	Big Bear L Dam	San Bernardino	-116.975	34.242	6,815	113	36.76	9.68	5.96	1.99
Y01 0742 00	Big Bear L Dam 6032	San Bernardino	-116.975	34.272	6,815	15	30.29	7.20	4.43	1.48
Y01 0742 00	Big Bear Lake Dam	San Bernardino	-116.975	34.241	6,815	54	33.71	7.73	4.76	1.59
Y01 0743 03	Big Bear Lake CSD	San Bernardino	-116.843	34.261	6,800	47	14.79	3.62	2.23	0.75
Y01 0743 20	Big Bear Ryan	San Bernardino	-116.806	34.806	7,000	13	18.90	2.99	1.84	0.62
Y01 0743 25	Big Bear Hospital	San Bernardino	-116.885	34.246	6,800	17	20.29	5.08	3.13	1.05
Y01 0887 00	Bloomington FD 2106	San Bernardino	-117.398	34.069	1,100	15	14.69	3.62	2.23	0.75
Y01 0887 00	Bloomington FD 2106	San Bernardino	-117.398	34.069	1,100	38	13.01	3.43	2.11	0.71
Y01 0887 __	Bloomington	San Bernardino	-117.417	34.053	3,080	7	13.26	3.12	1.92	0.64
Y01 1267 01	Cajon Junction 2016	San Bernardino	-117.476	34.312	3,118	53	18.13	6.79	4.18	1.40
Y01 1267 01	Cajon Junction 2016	San Bernardino	-117.470	34.300	3,175	41	17.76	5.70	3.51	1.17
Y01 1308 ??	Calimesa 3386	San Bernardino	-117.033	34.004	2,620	3	24.10	6.49	4.00	1.34
Y01 1369 00	Camp Angeles 3053	San Bernardino	-116.967	34.150	5,770	12	30.35	6.12	3.77	1.26
Y01 1369 00	Camp Angeles 3053	San Bernardino	-116.968	34.150	5,770	40	30.46	7.42	4.57	1.53
Y01 1369 00	Camp Angeles R	San Bernardino	-116.967	34.150	5,770	56	31.50	7.08	4.36	1.46
Y01 1731 08	Chino FS2 1020	San Bernardino	-117.722	33.983	655	45	14.99	4.49	2.76	0.92
Y01 1731 20	Chino Co AP	San Bernardino	-117.982	33.982	642	16	13.00	3.00	1.85	0.62
Y01 1732 02	Chino Imback 79	San Bernardino	-117.594	34.975	642	54	12.03	3.57	2.20	0.73
Y01 1732 08	Chino FS 1262	San Bernardino	-117.669	34.667	730	43	15.01	4.36	2.68	0.90
Y01 1773 40	City Creek RS 3377	San Bernardino	-117.180	34.199	2,610	8	26.81	6.56	4.04	1.35
Y01 1941 02	Colton 2027	San Bernardino	-117.319	34.071	990	46	12.13	3.38	2.08	0.70
Y01 1941 02	Colton FD	San Bernardino	-117.320	34.071	980	48	12.19	3.44	2.12	0.71
Y01 2116 11	Crafton 3024	San Bernardino	-117.124	34.042	2,000	48	14.20	3.72	2.29	0.77
Y01 2116 11	Crafton 3024	San Bernardino	-117.893	33.669	55	32	11.67	3.20	1.97	0.66
Y01 2116 11	Crafton Schneider	San Bernardino	-117.125	34.042	2,000	31	14.11	3.69	2.27	0.76
Y01 2116 40	Crafton Hills 3356	San Bernardino	-117.091	34.034	2,125	17	14.70	3.10	1.91	0.64
Y01 2116 40	Crafton Hills 3356	San Bernardino	-117.094	34.034	2,117	14	14.50	3.44	2.12	0.71
Y01 2158 40	Crest Park Luthern Church	San Bernardino	-117.198	34.237	5,525	16	53.24	9.49	5.84	1.95
Y01 2162 01	Crestline Co Yard	San Bernardino	-117.296	34.236	4,920	16	30.89	8.55	5.26	1.76
Y01 2162 05	Crestline SE 5181	San Bernardino	-117.283	34.233	5,160	17	39.14	8.47	5.21	1.74
Y01 2210 05	Cucamonga Water Co	San Bernardino	-117.594	34.124	1,225	57	17.57	5.13	3.16	1.06
Y01 2210 07	Cucamonga 1376	San Bernardino	-117.614	34.121	1,455	5	11.85	4.00	2.46	0.82
Y01 2210 05	Cucamonga WD Res 5	San Bernardino	-117.178	34.178	2,840	9	28.07	6.25	3.85	1.29
Y01 2210 07	Cucamonga Cyn 1309	San Bernardino	-117.627	34.180	2,640	17	16.27	5.28	3.25	1.09
Y01 2218 03	East Highland 3025	San Bernardino	-117.173	34.121	1,512	15	15.94	2.94	1.81	0.61
Y01 2266 27	Daley Spur 2358	San Bernardino	-117.243	34.182	2,680	14	21.83	5.38	3.31	1.11
Y01 2266 40	Daley Spur 2358	San Bernardino	-117.244	34.182	2,680	17	22.74	4.86	2.99	1.00
Y01 2307 51	Day Canyon 1028	San Bernardino	-117.538	34.175	2,490	14	28.72	6.70	4.12	1.38
Y01 2370 11	Del Rosa RS 2015	San Bernardino	-117.251	34.167	1,580	45	18.49	4.68	2.88	0.96
Y01 2370 11	Del Rosa RS 2015	San Bernardino	-117.250	34.167	1,580	43	17.98	4.55	2.80	0.94
Y01 2370 17	Del Rosa FS6 2361	San Bernardino	-117.251	34.134	1,165	13	14.12	3.69	2.27	0.76
Y01 2412 01	Devore CDF 2118	San Bernardino	-117.404	34.220	2,080	47	27.73	7.32	4.51	1.51
Y01 2412 01	Devore CDF 2118	San Bernardino	-117.403	34.220	2,080	15	30.84	7.58	4.67	1.56
Y01 2412 00	Devore 2011	San Bernardino	-117.398	34.299	2,500	64	29.37	7.57	4.66	1.56
Y01 2407 35	Devils Canyon 2071	San Bernardino	-117.225	34.203	1,870	70	24.00	5.64	3.47	1.16
Y01 2618 03	East Highland Orange	San Bernardino	-117.176	34.121	1,525	30	16.19	3.37	2.07	0.69
Y01 2895 00	Etiwanda	San Bernardino	-117.525	34.125	1,390	67	20.25	5.65	3.48	1.16
Y01 2895 00	Etiwanda 1327	San Bernardino	-117.482	34.160	1,645	52	18.08	5.01	3.08	1.03
Y01 2964 80	Fallsvale 3283	San Bernardino	-116.906	34.082	5,990	16	33.85	9.27	5.71	1.91
Y01 2974 60	Fawnskin 6334	San Bernardino	-116.953	34.267	6,820	3	19.11	5.22	3.21	1.07
Y01 3117 00	Fontana	San Bernardino	-117.427	34.106	1,319	28	15.19	4.05	2.49	0.83
Y01 3117 05	Fontana MY 2206	San Bernardino	-117.417	34.100	1,275	13	14.86	4.23	2.60	0.87
Y01 3117 20	Fontana FS 2 2005	San Bernardino	-117.472	34.075	1,115	52	14.82	4.12	2.54	0.85
Y01 3117 20	Fontana FS 2 2005	San Bernardino	-117.471	34.075	1,115	12	14.67	3.92	2.41	0.81

R0006417

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
Y01 3121 00	Fontana STP 2236	San Bernardino	-117.465	34.042	960	52	14.50	4.12	2.54	0.85
Y01 3118 00	Fontana SN 2017	San Bernardino	-117.443	34.183	2,020	71	26.52	7.40	4.56	1.52
Y01 3118 00	Fontana SN 2017	San Bernardino	-117.442	34.183	2,020	43	23.91	6.04	3.72	1.24
Y01 3120 00	Fontana Kaiser	San Bernardino	-117.506	34.078	1,090	33	15.12	4.76	2.93	0.98
Y01 3121 00	Fontana STP 2236	San Bernardino	-117.464	34.042	960	25	11.54	3.32	2.04	0.68
Y01 3682 51	Guasti Park 1075	San Bernardino	-117.591	34.072	995	18	17.33	4.99	3.07	1.03
Y01 3888 20	Heart Bar Pk 3259	San Bernardino	-116.795	34.159	6,688	13	17.04	3.75	2.31	0.77
Y01 3951 09	Huston Creek	San Bernardino	-117.264	34.268	4,465	14	39.59	8.70	5.36	1.79
Y01 3951 11	Highgrove SP 2222	San Bernardino	-117.024	34.024	945	20	9.95	2.77	1.71	0.57
Y01 4438 20	Jurpa City Park 2000	San Bernardino	-117.436	34.038	1,460	4	11.18	2.95	1.82	0.61
Y01 4481 20	Kelleys Camp 308	San Bernardino	-117.231	34.231	8,300	12	51.02	14.52	8.94	2.99
Y01 4494 60	Kindall Dr FS 2340	San Bernardino	-117.329	34.176	1,486	16	23.88	5.34	3.29	1.10
Y01 5057 00	Loma Linda FD 3355	San Bernardino	-117.247	34.048	1,193	10	10.26	2.85	1.75	0.59
Y01 5212 00	Lytle Cr Foothill 2159	San Bernardino	-117.332	34.108	1,184	46	14.80	3.72	2.29	0.77
Y01 5215 01	Lytle Creek PH	San Bernardino	-117.450	34.202	2,225	71	33.02	10.27	6.32	2.11
Y01 5218 00	Lytle Cr RS 2037	San Bernardino	-117.474	34.233	2,730	41	29.99	8.26	5.08	1.70
Y01 5218 00	Lytle Creek RS	San Bernardino	-117.474	34.231	2,760	43	34.43	11.41	7.02	2.35
Y01 5218 20	Lythe Creek Beckler	San Bernardino	-117.502	34.260	3,440	35	29.45	10.29	6.33	2.12
Y01 5218 25	Lytle Cr RS 2286	San Bernardino	-117.497	34.258	3,420	19	28.94	9.36	5.76	1.93
Y01 5531 10	Mentone Blue Goose	San Bernardino	-117.133	34.073	1,650	32	14.86	3.74	2.30	0.77
Y01 5531 31	Mentone CDF 3120	San Bernardino	-117.122	34.071	1,765	47	12.61	3.18	1.96	0.65
Y01 5531 31	Mentone CDF 3337	San Bernardino	-117.121	34.071	1,765	18	14.29	3.29	2.03	0.68
Y01 5629 00	Mill Creek 2	San Bernardino	-117.083	34.083	2,940	58	22.15	4.47	2.75	0.92
Y01 5629 00	Mill Creek RS	San Bernardino	-117.047	34.179	2,980	33	19.13	4.16	2.56	0.86
Y01 5632 00	Mill Creek Intake	San Bernardino	-119.939	34.089	4,945	49	27.00	7.00	4.31	1.44
Y01 5632 00	Mill Creek Intake	San Bernardino	-119.939	34.089	4,945	37	24.55	6.32	3.89	1.30
Y01 5706 02	Mira Loma 1021	San Bernardino	-117.537	34.028	827	49	12.31	3.38	2.08	0.70
Y01 5718 25	Mission Creek @ Tippecanoe	San Bernardino	-117.259	34.073	1,060	4	18.44	4.00	2.46	0.82
Y01 5780 51	Monte Vista Co WE	San Bernardino	-117.073	34.073	965	20	17.87	3.12	1.92	0.64
Y01 5787 08	Montclare FD	San Bernardino	-117.698	34.100	1,170	39	16.89	4.26	2.62	0.88
Y01 5901 00	Mt Baldy Notch	San Bernardino	-117.614	34.274	7,735	16	34.26	12.09	7.44	2.49
Y01 5901 20	Mt Baldy Wirtz 1353	San Bernardino	-117.650	34.240	4,435	4	35.12	8.40	5.17	1.73
Y01 6277 50	Norton AFB	San Bernardino	-117.243	34.097	1,095	13	12.16	4.97	3.06	1.02
Y01 6310 07	Oak Glen 3345	San Bernardino	-116.906	34.033	5,450	18	29.31	6.72	4.14	1.38
Y01 6310 11	Oak Glen 3014	San Bernardino	-116.956	34.054	4,680	50	26.88	6.14	3.78	1.26
Y01 6310 12	Oak Glen Wagoner	San Bernardino	-116.958	34.055	4,040	43	22.89	5.68	3.50	1.17
Y01 6310 20	Oak Glen Sample	San Bernardino	-117.201	34.053	3,780	17	24.09	5.65	3.48	1.16
Y01 6457 02	Ontario Sheriff 1226	San Bernardino	-117.537	34.028	827	45	16.51	4.56	2.81	0.94
Y01 6457 10	Ontario FS	San Bernardino	-117.651	34.062	10	62	16.81	5.16	3.18	1.06
Y01 6457 10	Ontario FS3 1335	San Bernardino	-117.651	34.062	986	62	16.81	5.16	3.18	1.06
Y01 6457 10	Ontario FS3 1335	San Bernardino	-117.620	34.040	860	11	11.81	3.50	2.15	0.72
Y01 6754 11	Patton George	San Bernardino	-117.209	34.138	1,375	32	16.81	4.26	2.62	0.88
Y01 6776 21	Panarama Point	San Bernardino	-117.302	34.225	3,775	61	33.86	7.83	4.82	1.61
Y01 7264 20	Reche Canyon Henderson	San bernardino	-117.282	34.042	1,120	30	12.59	3.05	1.88	0.63
Y01 7284 60	Reche Canyon	San Bernardino	-117.231	33.995*	1,750	76	13.74	3.32	2.04	0.68
Y01 7284 60	Reche Canyon	San Bernardino	-117.281	34.042	1,120	20	12.51	3.14	1.93	0.65
Y01 7306 00	Redlands	San Bernardino	-117.191	34.052	1,318	103	14.06	2.90	1.79	0.60
Y01 7306 01	Redlands Roth	San Bernardino	-117.210	34.034	1,285	28	12.84	2.81	1.73	0.58
Y01 7306 50	Redlands Roth 3023	San Bernardino	-117.182	34.042	13	49	12.06	3.08	1.90	0.63
Y01 7311 00	Redlands Bot 3329	San Bernardino	-117.149	34.019	2,080	28	14.00	3.56	2.19	0.73
Y01 7311 00	Redlands CC 3239	San Bernardino	-117.149	34.019	2,080	24	14.00	3.35	2.06	0.69
Y01 7711 00	San Antonio Cyn	San Bernardino	-117.675	34.044	2,394	66	26.95	7.63	4.70	1.57
Y01 7723 00	San Bernardino	San Bernardino	-117.267	34.163	1,125	104	16.12	3.98	2.45	0.82
Y01 7724 03	San Bernardino	San Bernardino	-117.268	34.104	1,042	18	14.50	3.95	2.43	0.81
Y01 7724 02	San Bernardino 2001	San Bernardino	-117.269	34.104	1,525	52	14.50	3.92	2.41	0.81
Y01 7724 45	San Bernardino 2257	San Bernardino	-117.279	34.160	1,288	16	18.58	5.02	3.09	1.03
Y01 7725 75	San Bernardino 2286	San Bernardino	-117.290	34.104	1,030	68	13.92	3.52	2.17	0.72
Y01 7724 40	San Bernardino CSU	San Bernardino	-117.326	34.184	1,525	13	18.63	4.53	2.79	0.93
Y01 7724 ??	San Berdino CDF 2357	San Bernardino	-117.279	34.160	1,288	16	18.58	5.02	3.09	1.03
Y01 7724 ??	San Berdino CDF 2357	San Bernardino	-117.278	34.160	1,047	14	18.86	4.96	3.05	1.02
Y01 7724 ??	San Bernardino 2348 CSU	San Bernardino	-117.326	34.184	1,525	11	19.25	5.19	3.20	1.07
Y01 7724 30	San Bernardino Kendall	San Bernardino	-117.330	34.176	1,486	20	22.24	5.36	3.30	1.10
Y01 7725 00	San Berdo Co Hosp 2146	San Bernardino	-117.270	34.128	1,126	9	16.09	4.34	2.67	0.89
Y01 7886 20	San Sevine LO 1323	San Bernardino	-117.458	34.192	5,230	10	20.26	6.47	3.98	1.33
Y01 7888 30	Santa Ana Canyon	San Bernardino	-117.671	33.873	450	22	14.41	3.29	2.03	0.68
Y01 7891 00	Santa Ana PH 3	San Bernardino	-117.100	34.107	1,980	69	19.86	3.51	2.16	0.72
Y01 7891 00	Santa Ana PH 3 3162	San Bernardino	-117.100	34.107	1,980	50	16.11	3.79	2.33	0.78
Y01 7894 00	Santa Ana PH 1	San Bernardino	-117.872	34.131	2,765	28	22.46	5.34	3.29	1.10
Y01 9157 00	Upland 1290	San Bernardino	-117.670	34.138	1,800	65	22.04	5.43	3.34	1.12
Y01 9157 00	Upland 650	San Bernardino	-117.670	34.138	1,800	65	22.04	5.43	3.34	1.12
Y01 9157 00	Upland 650	San Bernardino	-117.670	34.138	1,800	29	18.02	4.92	3.03	1.01
Y01 9158 00	Upland 3N	San Bernardino	-117.650	34.133	1,610	21	20.27	5.24	3.23	1.08
Y01 9160 12	Upland Chapple 1019	San Bernardino	-117.680	34.136	1,601	50	18.99	5.00	3.08	1.03

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
Y01 9323 51	Victoria Loma Linda	San Bernardino	-117.255	34.082	1,063	83	12.37	3.21	1.98	0.66
Y01 9589 50	West San Bernardino Z326	San Bernardino	-117.369	34.121	1,340	17	16.65	4.33	2.67	0.89
Y01 9875 02	Yucaipa CDF 3129	San Bernardino	-117.036	34.040	2,660	80	17.50	4.10	2.52	0.84
Y01 9875 02	Yucaipa CDF 3129	San Bernardino	-117.035	34.040	2,760	14	16.81	3.60	2.22	0.74
Y01 9875 02	Yucaipa WC 3132	San Bernardino	-117.036	34.038	2,710	48	16.38	4.00	2.46	0.82
Y01 9875 04	Yucaipa Co Yard	San Bernardino	-117.103	34.035	2,140	19	14.73	3.85	2.37	0.79
Y01 7284 08	Rialto Henry	San Bernardino	-117.203	34.098	1,220	63	15.77	4.57	2.81	0.94
X22 0983 00	Borrego Desert Park	San Diego	-116.417	33.267	750	48	6.09	2.44	1.33	0.35
X22 0983 00	Borrego Springs 3NNE	San Diego	-116.350	33.283	6	22	3.37	2.17	1.18	0.31
X22 1009 00	Boulevard	San Diego	-116.283	32.667	3,350	19	12.27	2.89	1.58	0.41
X22 1010 00	Boulevard 2	San Diego	-116.300	32.667	3,600	26	16.83	3.97	2.17	0.57
X22 2139 00	Crawford Ranch	San Diego	-116.275	32.892	1,500	36	4.86	2.55	1.39	0.37
X22 2965 50	Mt Laguna	San Diego	-116.419	32.881	5,960	6	24.20	6.18	3.37	0.88
X22 6383 00	Ocotillo Wells	San Diego	-116.133	33.150	175	25	2.00	1.46	0.80	0.21
X22 6390 00	Ocotillo 2	San Diego	-116.100	32.750	1,410	24	4.42	2.60	1.42	0.37
Z01 1557 75	Casa Springs	San Diego	-117.415	33.444	2,365	9	23.81	5.28	3.24	1.35
Z02 2377 70	De Luz	San Diego	-117.325	33.451	465	31	22.77	6.22	3.82	1.59
Z02 3340 00	Howell Ranch	San Diego	-117.280	33.595	1,300	15	18.25	5.98	3.67	1.53
Z02 6042 00	O'Neill Res	San Diego	-117.320	33.330	353	14	10.93	3.00	1.84	0.77
Z02 6319 00	Oak Grove RS	San Diego	-116.790	33.385	2,751	18	19.26	4.89	3.00	1.25
Z02 6319 00	Oak Grove RS	San Diego	-116.790	33.386	2,751	26	19.08	5.14	3.15	1.31
Z02 6657 00	Palomar	San Diego	-116.850	33.350	5,560	57	28.45	6.97	4.28	1.78
Z02 6657 00	Palomar	San Diego	-116.850	33.350	5,560	58	28.12	7.36	4.52	1.88
Z02 6759 66	Pauba Ranch	San Diego	-117.083	33.478	1,060	19	12.23	4.10	2.52	1.05
Z03 2958 00	Fallbrook	San Diego	-117.249	33.365	660	46	15.53	3.72	2.28	0.95
Z03 2958 00	Fallbrook	San Diego	-117.249	33.365	660	30	14.57	3.98	2.44	1.02
Z03 3914 00	Henshaw Dam	San Diego	-116.767	33.233	2,700	84	27.07	6.71	4.12	1.71
Z03 3914 00	Henshaw Dam	San Diego	-116.767	33.233	2,700	48	23.68	5.34	3.28	1.36
Z03 6277 00	Oceanside Manna	San Diego	-117.433	33.217	10	43	10.75	2.59	1.59	0.66
Z03 6277 49	Oceanside CIMIS 49	San Diego	-117.320	33.220	50	9	10.15	2.85	1.75	0.73
Z03 6279 00	Oceanside Pump	San Diego	-117.353	33.210	30	54	11.58	3.01	1.85	0.77
Z03 7244 00	Ranchita	San Diego	-116.533	33.233	4,100	20	12.60	3.24	1.99	0.83
Z03 9228 00	Valley Center 6N	San Diego	-117.032	33.293	1,675	23	15.60	4.26	2.61	1.09
Z03 9232 00	Valley Center 2 NNE	San Diego	-117.018	33.232	1,390	9	12.93	4.39	2.69	1.12
Z03 9378 00	Vista 2NNE	San Diego	-117.233	33.233	510	34	13.61	3.17	1.95	0.81
Z03 9447 00	Warner Springs	San Diego	-116.631	33.285	3,180	67	16.49	3.79	2.33	0.97
Z03 9447 00	Warner Springs	San Diego	-116.631	33.285	3,180	38	14.76	3.19	1.96	0.81
Z04 2833 00	Encinitas	San Diego	-117.283	32.050	300	12	8.41	2.20	1.35	0.56
Z04 2833 01	Encinitas	San Diego	-117.283	32.050	200	6	15.14	4.29	2.63	1.10
Z04 2840 01	E Reservoir	San Diego	-117.217	33.217	752	63	13.30	3.39	2.08	0.87
Z04 2862 00	Escondido	San Diego	-117.083	33.117	660	97	15.63	3.77	2.31	0.96
Z04 2862 00	Escondido	San Diego	-117.083	33.117	660	46	14.32	3.41	2.09	0.87
Z04 4726 00	Lake Wolford	San Diego	-116.999	33.175	1,500	22	18.43	4.47	2.74	1.14
Z04 4726 00	Lake Wolford	San Diego	-116.999	33.175	1,500	37	17.57	3.80	2.33	0.97
Z05 4014 00	Hodges Res	San Diego	-117.133	33.050	320	64	14.31	3.41	2.09	0.87
Z05 5023 00	Lockwood Mesa	San Diego	-117.250	32.983	210	16	8.96	2.31	1.42	0.59
Z05 7228 00	Ramona FD	San Diego	-116.867	33.050	1,450	22	18.17	3.98	2.44	1.02
Z05 7230 50	Ramona	San Diego	-116.858	33.043	2,640	20	16.67	3.73	2.29	0.95
Z05 7231 00	Ramona Spaulding	San Diego	-116.850	33.067	1,480	24	14.65	3.32	2.04	0.85
Z05 7744 00	San Dieguito Dam	San Diego	-117.200	33.033	250	62	13.15	3.31	2.03	0.85
Z05 7874 00	San Pasquel Ana Pk	San Diego	-117.000	33.083	420	17	13.91	3.07	1.88	0.78
Z05 9348 50	Vineyard Ranch	San Diego	-116.900	33.163	2,040	10	16.51	4.80	2.95	1.23
Z06 7111 00	Poway Valley	San Diego	-117.067	32.950	440	21	12.42	3.06	1.88	0.78
Z06 7111 10	Poway CRS	San Diego	-117.063	32.950	500	13	10.21	2.27	1.39	0.58
Z07 0136 00	Alpine	San Diego	-116.767	32.833	1,740	42	15.79	3.62	2.22	0.92
Z07 2239 00	Cuyamaca	San Diego	-116.583	32.983	4,650	108	37.66	7.63	4.68	1.95
Z07 2239 00	Cuyamaca Res	San Diego	-116.588	32.989	4,650	28	34.81	6.17	3.79	1.58
Z07 2702 00	El Cajon SD G&E	San Diego	-116.971	32.795	460	51	12.35	3.44	2.11	0.88
Z07 2709 00	El Capitan Dam	San Diego	-116.817	32.883	600	59	16.16	3.82	2.34	0.98
Z07 2709 00	El Capitan Dam	San Diego	-116.817	32.883	600	32	15.87	3.42	2.10	0.87
Z07 3090 00	Flinn Springs	San Diego	-116.858	32.847		11	11.12	3.33	2.04	0.85
Z07 3410 00	Gillespie Field	San Diego	-116.967	32.817	390	19	11.53	2.74	1.68	0.70
Z07 4412 00	Julian	San Diego	-116.601	33.078	4,215	26	25.62	4.85	2.98	1.24
Z07 4418 00	Julian Wyanola	San Diego	-116.650	33.100	4,650	39	25.81	5.02	3.08	1.28
Z07 4453 50	Kearney Mesa	San Diego	-117.126	32.833	425	11	10.70	3.35	2.06	0.86
Z07 4710 00	Lakeside	San Diego	-116.883	32.850	690	42	14.97	3.49	2.14	0.89
Z07 6039 31	Murray Dam	San Diego	-117.044	32.781	520	27	13.09	3.58	2.20	0.91
Z07 7740 03	San Diego CSU Geo	San Diego	-117.076	32.776	458	30	12.75	3.29	2.02	0.84
Z07 7989 00	San Vicente	San Diego	-116.917	32.917	660	49	14.79	3.52	2.16	0.90
Z08 1747 00	Cholla Res	San Diego	-117.050	32.733	430	65	11.51	2.89	1.77	0.74
Z08 4735 00	La Mesa	San Diego	-117.017	32.767	528	46	12.64	2.97	1.82	0.76
Z08 4735 00	La Mesa	San Diego	-117.017	32.767	528	6	9.20	2.29	1.41	0.58
Z08 7740 00	San Diego NWS	San Diego	-117.167	32.733	19	131	10.26	2.76	1.69	0.70

R0006419

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
Z08 7740 00	San Diego NWS	San Diego	-117.167	32.733	19	106	10.07	2.79	1.71	0.71
Z09 0968 00	Bonita	San Diego	-117.033	32.667	105	54	10.51	2.69	1.65	0.69
Z09 1252 00	Cabrillo Nat Mon	San Diego	-117.233	32.667	410	14	8.17	2.34	1.44	0.60
Z09 1758 00	Chula Vista	San Diego	-117.100	32.600	9	76	9.76	2.60	1.60	0.66
Z09 2406 00	Descanso	San Diego	-116.623	32.856	3,500	46	24.01	5.06	3.10	1.29
Z09 8226 01	Sweetwater Dam	San Diego	-117.008	32.693	250	105	11.34	2.79	1.71	0.71
Z10 5162 00	Lower Otay	San Diego	-116.933	32.617	540	48	10.73	2.37	1.45	0.61
Z10 5162 00	Lower Otay	San Diego	-116.933	32.617	540	8	10.35	2.37	1.45	0.61
Z11 0514 00	Barrett Dam	San Diego	-116.667	32.683	1,623	76	17.42	4.00	2.45	1.02
Z11 1424 00	Campo	San Diego	-116.467	32.617	2,630	95	16.96	4.09	2.51	1.04
Z11 5154 00	Loveland Res	San Diego	-116.800	32.781	350	24	14.08	3.32	2.04	0.85
Z11 5840 00	Morena Reservoir	San Diego	-116.522	32.686	3,075	65	19.39	4.29	2.63	1.10
Z11 5840 00	Morena Reservoir	San Diego	-116.522	32.686	3,075	51	18.21	3.87	2.37	0.99
Z11 7100 00	Potrero	San Diego	-116.620	32.631	2,390	65	18.05	4.22	2.59	1.08
B00 0012 01	Acampo Callow Ranch	San Joaquin	-121.133	38.217	125	8	18.92	3.00	2.03	0.95
B00 0565 00	Bear Cr Nr Lockford	San Joaquin	-121.211	38.074	60	8	11.83	1.58	1.07	0.50
B00 0637 01	Bellota	San Joaquin	-121.058	38.044	108	20	17.17	3.16	2.14	1.00
B00 0639 00	Bellota Anderson	San Joaquin	-121.058	38.044	108	13	15.73	2.75	1.86	0.87
B00 1325 05	Camache N	San Joaquin	-121.018	38.229	300	11	16.39	2.51	1.70	0.79
B00 1783 00	Clark Ranch	San Joaquin	-121.329	38.131	31	13	16.10	2.76	1.87	0.87
B00 1813 00	Clements	San Joaquin	-121.098	38.204	120	46	17.86	2.84	1.93	0.90
B00 2156 00	Crescenzi Ranch	San Joaquin	-121.334	38.172	33	11	15.20	3.01	2.04	0.95
B00 2760 00	Elliot	San Joaquin	-121.194	38.236	92	67	17.60	2.69	1.82	0.85
B00 2860 00	Escalon	San Joaquin	-121.000	37.783	125	25	13.05	2.17	1.47	0.69
B00 2970 02	Farmington	San Joaquin	-121.000	37.917	111	43	15.00	2.37	1.61	0.75
B00 3415 00	Gilmore Ranch	San Joaquin	-120.987	38.045	220	7	9.80	2.61	1.77	0.83
B00 4953 01	Linden Orchard	San Joaquin	-121.050	38.050	115	36	15.83	2.73	1.85	0.86
B00 4953 02	Linden FS	San Joaquin	-121.082	38.022	89	42	16.15	2.56	1.74	0.81
B00 4960 00	Linn Ranch	San Joaquin	-121.102	38.133	120	34	16.50	2.67	1.81	0.84
B00 5010 00	Lockford	San Joaquin	-121.148	38.165	106	53	16.96	2.71	1.84	0.86
B00 5032 00	Lodi	San Joaquin	-121.289	38.116	40	104	17.19	2.80	1.90	0.89
B00 5032 42	Lodi CIMIS 42	San Joaquin	-121.346	38.107	23	12	15.41	3.04	2.06	0.96
B00 5303 00	Manteca	San Joaquin	-121.200	37.800	40	44	12.07	2.18	1.48	0.69
B00 5368 00	Marshall Ranch	San Joaquin	-121.217	38.100	60	38	15.64	2.61	1.77	0.83
B00 7447 80	Ripon	San Joaquin	-121.128	37.743	65	27	13.09	1.98	1.34	0.63
B00 7496 00	Lobnidard Ranch	San Joaquin	-121.031	38.137	315	6	12.47	2.58	1.75	0.82
B00 8558 00	Stockton AP	San Joaquin	-121.250	37.900	22	48	13.89	2.37	1.61	0.75
B00 8558 00	Stockton AP	San Joaquin	-121.250	37.900	22	22	13.55	2.10	1.42	0.66
B00 8560 00	Stockton FS4	San Joaquin	-121.317	38.000	12	99	14.63	2.39	1.62	0.76
B00 8999 00	Tracy 2 SSE	San Joaquin	-121.410	37.709	107	41	9.05	1.94	1.11	0.52
B00 9302 02	Veranis 3 SSW	San Joaquin	-121.333	37.625	225	28	8.58	1.62	1.10	0.51
B00 9859 00	Youngstown	San Joaquin	-121.241	38.177	65	34	16.50	2.54	1.72	0.80
B80 1583 00	Castle Rock	San Joaquin	-121.505	37.634	515	39	10.20	1.83	1.24	0.58
B80 1583 00	Castle Rock	San Joaquin	-121.505	37.634	515	31	10.05	1.78	1.21	0.56
B80 4508 00	Kerlinger	San Joaquin	-121.430	37.670	172	35	8.75	1.84	1.25	0.58
B80 5074 00	Lone Tree Cyn	San Joaquin	-121.380	37.611	420	17	8.09	1.77	1.20	0.56
B90 0682 00	Bensons Ferry	San Joaquin	-121.433	38.250	17	37	15.51	2.23	1.51	0.71
B90 4041 00	Holt 2 ESE	San Joaquin	-121.392	38.028	-3	18	12.71	1.77	1.20	0.56
B90 4823 00	Lathrop	San Joaquin	-121.300	37.783	27	32	11.18	1.86	1.26	0.59
B90 5296 00	Mandeville Island	San Joaquin	-121.567	38.033	10	9	11.32	2.49	1.69	0.79
B90 8554 00	Stockton Dsp Pl	San Joaquin	-121.328	37.936	11	39	13.45	2.32	1.57	0.73
B90 8562 00	Stockton Mowry Bridge	San Joaquin	-121.383	37.850	20	10	11.97	2.05	1.39	0.65
B90 8995 01	Tracy SP	San Joaquin	-121.413	37.738	105	73	9.57	1.84	1.25	0.58
B90 8997 00	Tracy 2 SSE	San Joaquin	-121.417	37.737	105	6	8.62	1.88	1.27	0.59
B90 8999 00	Tracy 2 SSE	San Joaquin	-121.410	37.737	105	6	8.62	1.88	1.27	0.59
B90 8999 00	Tracy Carbona	San Joaquin	-121.414	37.696	137	62	9.77	1.79	1.21	0.57
B90 9001 00	Tracy Pumping Plant	San Joaquin	-121.581	37.796	61	41	11.86	2.18	1.48	0.69
B90 9135 39	Union Island	San Joaquin	-121.512	37.841	-6	31	12.56	2.19	1.49	0.69
D00 6859 01	Pigeon Point LH	San Mateo	-122.383	37.183	150	36	16.67	3.02	1.94	0.76
E60 4320 00	Jacklding	San Mateo	-122.250	37.383	380	25	32.87	4.96	3.22	1.39
E60 7251 00	Rancho Yerba Buena	San Mateo	-122.738	37.305	7	20	16.10	2.65	1.72	0.75
E60 9792 00	Woodside FS	San Mateo	-121.250	37.433	380	21	29.38	4.05	2.63	1.14
E70 1206 00	Burlingame	San Mateo	-122.350	37.583	10	29	20.36	3.22	2.09	0.91
E70 1474 25	Canada	San Mateo	-122.300	37.450	570	12	29.60	4.57	2.97	1.28
E70 1920 20	Colma	San Mateo	-122.425	37.654	13	5	18.63	3.98	2.58	1.12
E70 2205 00	Crystal Springs Cottage	San Mateo	-122.360	37.500	400	100	25.44	3.81	2.47	1.07
E70 2249 50	Cypress	San Mateo	-122.380	37.570	590	18	28.88	4.21	2.73	1.18
E70 3958 00	High Maint Sta	San Mateo	-122.250	37.417	1,650	11	36.64	4.48	2.91	1.26
E70 5156 00	Lower Crystal Springs	San Mateo	-122.367	37.533	450	100	27.16	4.06	2.83	1.14
E70 5530 20	Menlo Park USGS	San Mateo	-122.186	37.451		5	16.92	2.52	1.64	0.71
E70 5626 80	Millbrea Costaost	San Mateo	-122.404	37.609	80	4	36.42	5.55	3.60	1.56
E70 6272 50	North San Andreas	San Mateo	-122.440	37.650	590	17	32.47	4.89	3.17	1.37
E70 6586 20	Pacifica USCG	San Mateo	-122.465	37.626	930	5	22.27	3.42	2.22	0.96

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
E70 7704 00	San Andreas Lake	San Mateo	-122.400	37.583	377	127	34.76	5.56	3.61	1.56
E70 7726 00	San Bruno Mtn	San Mateo	-122.447	37.692	950	6	12.89	2.56	1.66	0.72
E70 7728 05	San Carlos FS	San Mateo	-122.262	37.489	110	17	20.40	3.11	2.02	0.87
E70 7769 00	San Francisco AP	San Mateo	-122.383	37.617	8	59	19.78	3.29	2.13	0.93
E70 7769 00	San Francisco AP	San Mateo	-122.383	37.617	8	53	19.38	3.44	2.23	0.97
E70 7864 00	San Mateo	San Mateo	-122.317	37.567	30	29	19.21	2.90	1.88	0.82
E70 8025 50	Sawyer Camp	San Mateo	-122.390	37.560	360	18	33.30	5.12	3.32	1.44
E70 9163 00	Upper Crystal Springs	San Mateo	-122.350	37.500	300	120	29.33	4.51	2.93	1.27
E80 2303 50	Davis Tunnel	San Mateo	-122.430	37.580	650	18	38.03	5.86	3.80	1.65
E80 3535 35	Granada	San Mateo	-122.463	37.514	660	5	21.06	3.75	2.43	1.05
E80 3714 00	Half Moon Bay	San Mateo	-122.430	37.460	60	56	25.85	3.92	2.54	1.10
E80 4660 25	La Honda RRng	San Mateo	-122.271	37.319	405	7	34.55	5.36	3.48	1.51
E80 4660 50	La Honda Honor Camp	San Mateo	-122.247	37.263	350	37	36.11	5.66	3.67	1.59
E80 6585 41	Pacifica Vallemar	San Mateo	-122.477	37.640	220	34	27.44	4.18	2.71	1.18
E80 6599 00	Pacifica 4 SSE	San Mateo	-122.467	37.583	480	13	25.74	4.19	2.72	1.18
E80 6821 25	Pescadero	San Mateo	-122.408	37.258	40	7	21.14	3.58	2.32	1.01
E80 6863 00	Pilarcitos	San Mateo	-122.420	37.550	625	131	42.97	6.49	4.21	1.82
E80 7019 01	Point Lobos	San Mateo	-122.500	37.783	75	14	18.99	2.94	1.91	0.83
E80 7086 00	Portola RW SP	San Mateo	-122.212	37.245	422	43	40.29	6.60	4.28	1.86
E80 7153 40	Princeton Pump Sta	San Mateo	-122.493	37.503	11	7	25.56	4.67	3.03	1.31
E80 7807 00	San Gregorio 2 SE	San Mateo	-122.367	37.300	280	39	28.42	4.42	2.87	1.24
E80 8033 20	Scarpers Peak	San Mateo	-122.426	37.529	1,930	7	35.40	5.21	3.38	1.46
D00 2308 00	Day Valley	Santa Clara	-122.688	36.998	375	4	32.15	5.76	3.71	1.45
D00 4987 00	Little Uvas Creek	Santa Clara	-121.750	37.100	700	18	34.08	7.54	4.85	1.90
D00 5863 00	Morgan Hill	Santa Clara	-121.575	37.178	320	39	19.55	4.23	2.72	1.06
D10 1584 10	Castro Valley	Santa Clara	-121.600	36.960	755	22	25.78	5.08	3.27	1.28
D10 1584 10	Castro Valley	Santa Clara	-121.606	36.958	755	28	23.86	4.47	2.88	1.13
D10 2143 00	Creekside	Santa Clara	-121.701	37.072	400	36	29.04	5.93	3.82	1.49
D10 2232 00	Curtener Ranch	Santa Clara	-121.868	37.467	619	10	15.78	3.03	1.95	0.76
D10 3417 00	Gilroy	Santa Clara	-121.567	37.000	194	121	20.32	4.05	2.61	1.02
D10 3419 00	Gilroy 8 NE	Santa Clara	-121.450	37.033	1,050	54	20.50	3.43	2.21	0.86
D10 4987 00	Little Uvas Creek	Santa Clara	-121.750	37.100	700	18	34.08	7.54	4.85	1.90
D10 5846 00	Morgan Hill 6 WSW	Santa Clara	-121.742	37.094	640	30	26.80	6.27	4.04	1.58
D10 5847 00	Morgan Hill Bossana	Santa Clara	-121.782	37.150	770	21	27.70	6.27	4.04	1.58
D10 5853 00	Morgan Hill SCS	Santa Clara	-121.650	37.133	350	44	20.18	4.16	2.68	1.05
D10 6689 01	Paradise Valley	Santa Clara	-121.642	37.083	425	27	21.81	5.10	3.28	1.28
D10 6770 00	Peabody Ranch	Santa Clara	-121.510	37.030	472	13	20.63	4.25	2.74	1.07
D10 6770 00	Peabody Ranch	Santa Clara	-121.509	37.046	472	49	19.91	3.64	2.34	0.92
D10 7755 00	San Felipe HMS	Santa Clara	-121.333	37.013	365	29	17.13	3.74	2.41	0.94
D10 7863 01	San Martin	Santa Clara	-121.587	37.107	312	47	17.11	4.18	2.69	1.05
D10 9196 00	Uvas Reservoir	Santa Clara	-121.690	37.060	488	10	30.61	6.43	4.14	1.62
D10 9196 00	Uvas Reservoir	Santa Clara	-121.688	37.066	488	23	29.87	6.30	4.05	1.59
D10 9197 00	Uvas	Santa Clara	-121.693	37.070	410	42	28.78	6.06	3.90	1.53
D10 9197 20	Uvas Park	Santa Clara	-121.797	37.114	1,100	18	46.74	8.80	5.66	2.22
D10 9446 00	Ward	Santa Clara	-121.633	36.117	325	36	25.37	4.99	3.21	1.26
D20 5846 00	Morgan Hill 6 WSW	Santa Clara	-122.742	37.094	640	13	25.44	6.20	3.99	1.56
E50 0319 02	Arroyo Mocho	Santa Clara	-121.517	37.458	2,700	42	12.75	2.60	1.69	0.73
E50 3387 00	Gerber Ranch	Santa Clara	-121.486	37.367	2,140	80	18.17	3.48	2.26	0.98
E50 5933 00	Mt Hamilton	Santa Clara		37.333	4,206	108	25.87	3.90	2.53	1.10
E50 5933 70	Mt Hamilton	Santa Clara	-121.650	37.333	4,206	55	26.62	3.82	2.48	1.07
E50 7246 11	Rancho Arroyo Bayo	Santa Clara	-121.750	37.601	1,250	10	20.45	3.48	2.26	0.98
E50 7526 00	Rockey Ridge	Santa Clara	-121.750	37.601	1,250	47	15.66	2.44	1.58	0.69
E50 8130 00	Shanti Ashrama	Santa Clara	-121.472	37.317	2,300	19	22.60	3.06	1.99	0.86
E50 8130 00	Shanti Ashrama	Santa Clara	-121.470	37.310	2,300	57	20.47	3.21	2.08	0.90
E60 0053 00	Alamitos Perc Pond	Santa Clara	-121.870	37.250	184	6	21.23	5.60	3.63	1.57
E60 0053 00	Alamitos Perc Pond	Santa Clara	-121.870	37.250	184	30	16.06	3.24	2.10	0.91
E60 0121 00	Alma College	Santa Clara	-121.995	37.180	900	22	17.33	6.15	3.99	1.73
E60 0121 00	Alma College 2	Santa Clara	-121.995	37.180	900	58	34.93	6.19	4.02	1.74
E60 0125 00	Almaden Res	Santa Clara	-121.833	37.167	640	38	30.11	5.94	3.85	1.67
E60 0126 00	Almaden Watershed	Santa Clara	-121.840	37.160	630	22	32.98	5.23	3.39	1.47
E60 0126 00	Almaden Watershed	Santa Clara	-121.840	37.160	630	22	32.92	7.54	4.89	2.12
E60 0167 00	Alviso	Santa Clara	-121.978	37.421	8	20	14.07	2.34	1.52	0.66
E60 0167 00	Alviso	Santa Clara	-121.967	37.433	5	30	12.02	2.34	1.52	0.66
E60 0564 00	Bear Gulch	Santa Clara	-122.225	37.432	180	20	19.97	2.43	1.58	0.68
E60 0706 00	Berryessa 1 E	Santa Clara	-121.833	37.383	205	20	15.90	2.39	1.55	0.67
E60 0728 50	Biel Ranch	Santa Clara	-121.530	37.467	3,399	20	18.52	3.05	1.98	0.86
E60 0728 50	Biel Ranch	Santa Clara	-121.530	37.470	3,399	28	17.45	2.77	1.80	0.78
E60 0740 00	Big Basin Way	Santa Clara	-122.050	37.250	577	80	32.17	5.67	3.68	1.59
E60 0850 00	Black Mtn 2 WSW	Santa Clara	-122.167	37.300	2,331	40	36.37	5.76	3.74	1.62
E60 0863 00	Black Road	Santa Clara	-122.030	37.200	1,893	45	46.14	8.06	5.23	2.27
E60 0863 00	Black Road	Santa Clara	-122.030	37.200	1,893	21	12.72	3.33	2.16	0.94
E60 1285 02	Calero Watershed	Santa Clara	-121.730	37.170	581	7	29.77	6.56	4.26	1.84
E60 1285 02	Calero Watershed	Santa Clara	-121.730	37.170	581	7	29.77	6.18	4.01	1.74

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
E60 1377 01	Campbell	Santa Clara	-121.950	37.283	192	75	15.98	2.85	1.85	0.80
E60 1691 00	Chemeketa Park	Santa Clara	-121.983	37.167	1,020	8	49.87	10.18	6.61	2.86
E60 1881 43	Coe Park	Santa Clara	-121.550	37.180	2,740	14	32.25	6.21	4.03	1.75
E60 1881 43	Coe Park	Santa Clara	-121.550	37.180	2,740	34	27.06	4.07	2.64	1.14
E60 1885 43	Coit Ranch	Santa Clara	-121.420	37.150	1,696	16	24.81	4.98	3.23	1.40
E60 1885 43	Coit Ranch	Santa Clara	-121.420	37.150	1,696	36	23.38	3.83	2.49	1.08
E60 2093 30	Cow Ridge	Santa Clara	-121.650	37.260	2,999	6	33.67	6.52	4.23	1.83
E60 2093 30	Cow Ridge	Santa Clara	-121.650	37.260	2,999	6	33.67	4.55	2.95	1.28
E60 2098 00	Cox Ave	Santa Clara	-122.019	37.286	200	41	20.09	4.08	2.65	1.15
E60 2109 00	Coyote Reservior	Santa Clara	-121.540	37.085	800	10	20.03	4.50	2.92	1.27
E60 2109 00	Coyote Reservior	Santa Clara	-121.540	37.090	800	57	19.80	3.45	2.24	0.97
E60 2230 00	Cupertino	Santa Clara	-122.033	37.317	215	80	16.35	2.95	1.91	0.83
E60 2232 10	Curtner Ranch	Santa Clara	-121.870	37.470	640	20	17.52	3.16	2.05	0.89
E60 2232 10	Curtner Ranch	Santa Clara	-121.876	37.467	640	41	16.65	2.47	1.60	0.69
E60 2258 00	Dahl Ranch	Santa Clara	-122.170	37.340	1,680	28	32.75	4.79	3.11	1.35
E60 2258 00	Dahl Ranch	Santa Clara	-122.170	37.340	1,680	20	32.11	7.04	4.57	1.98
E60 2919 00	Evergreen	Santa Clara	-122.033	37.317	340	39	13.87	2.40	1.56	0.67
E60 3319 02	Gilroy 9 WNW	Santa Clara	-121.725	37.050	1,000	23	45.75	7.53	4.89	2.12
E60 3347 75	Garrod Ranch	Santa Clara	-122.058	37.276	900	38	26.98	4.99	3.24	1.40
E60 3419 00	Gilroy 8 NE	Santa Clara	-122.433	37.033	1,050	24	19.28	4.70	3.05	1.32
E60 3421 00	Gilror 14 NE	Santa Clara	-121.367	37.117	1,900	24	18.59	3.36	2.18	0.94
E60 3691 20	Guadalupe Watershed	Santa Clara	-121.880	37.200	1,401	6	30.78	5.10	3.31	1.43
E60 3691 20	Guadalupe Watershed	Santa Clara	-121.880	37.200	1,401	11	30.78	6.77	4.39	1.90
E60 3710 43	Haslons Ranch	Santa Clara	-121.764	37.395	1,900	21	22.82	4.54	2.95	1.28
E60 3810 43	Haslons Ranch	Santa Clara	-121.760	37.400	1,900	27	21.70	3.30	2.14	0.93
E60 4350 01	Johnson Ranch	Santa Clara	-121.940	37.220	755	17	24.72	6.17	4.00	1.73
E60 4350 01	Johnson Ranch	Santa Clara	-121.931	37.221	755	24	22.56	4.13	2.68	1.16
E60 4655 43	Laguna Seca	Santa Clara	-121.732	37.200	256	18	20.98	5.19	3.37	1.46
E60 4655 43	Laguna Seca	Santa Clara	-121.730	37.200	256	23	19.13	3.31	2.15	0.93
E60 4682 00	Lake Elsman	Santa Clara	-121.925	37.130	1,000	43	38.79	6.15	3.99	1.73
E60 4686 00	Lake Kittridge	Santa Clara	-122.017	37.183	1,400	80	40.86	6.71	4.35	1.89
E60 4688 00	Lake McKenzie	Santa Clara	-122.067	37.217	1,809	46	45.97	7.11	4.61	2.00
E60 4916 00	Leroy Anderson Dam	Santa Clara	-121.620	37.160	666	35	20.04	4.97	3.23	1.40
E60 4916 00	Leroy Anderson Dam	Santa Clara	-121.626	37.165	666	35	20.04	4.18	2.71	1.18
E60 4922 00	Lexington Reservoir	Santa Clara	-121.990	37.184	696	33	38.08	7.63	4.95	2.15
E60 4922 00	Lexington Reservoir	Santa Clara	-121.990	37.180	699	33	37.16	10.10	6.55	2.84
E60 5058 01	Loma Prieta	Santa Clara	-121.843	37.110	3,789	23	46.08	8.54	5.54	2.40
E60 5058 01	Loma Prieta	Santa Clara	-121.830	37.110	3,789	23	46.08	9.43	6.12	2.65
E60 5108 00	Los Altos Cal Water	Santa Clara	-122.086	37.693	550	20	16.30	2.70	1.75	0.76
E60 5108 02	Los Altos 2	Santa Clara	-122.106	37.365	250	28	17.74	3.05	1.98	0.86
E60 5108 07	Los Altos Fire Dept	Santa Clara	-122.113	37.385	160	16	15.59	2.62	1.70	0.74
E60 5108 10	Los Altos Hamilton WTP	Santa Clara	-122.060	37.350	200	6	17.26	3.73	2.42	1.05
E60 5108 15	Los Altos Reilly	Santa Clara	-122.107	37.373	230	7	15.54	2.38	1.54	0.67
E60 5108 15	Los Gatos	Santa Clara	-121.983	37.217	428	48	24.89	4.42	2.87	1.24
E60 5123 01	Los Gatos Reservoir	Santa Clara	-121.950	37.217	205	78	28.62	4.88	3.17	1.37
E60 5123 02	Los Gatos Summit	Santa Clara	-121.967	37.150	1,800	19	41.24	6.87	4.46	1.93
E60 5124 35	Los Gatos Francis	Santa Clara	-121.936	37.238	320	17	19.36	3.56	2.31	1.00
E60 5268 00	Main Station SJWW	Santa Clara	-121.883	37.333	100	81	13.84	2.09	1.36	0.59
E60 5384 00	Maryknoll	Santa Clara	-122.080	37.330	440	21	17.16	3.30	2.14	0.93
E60 5384 01	Maryknoll	Santa Clara	-121.083	37.333	440	25	16.06	2.97	1.93	0.84
E60 5612 00	Miguelito Ave Station	Santa Clara	-121.817	37.383	470	66	16.02	2.11	1.37	0.59
E60 5637 00	Milberry	Santa Clara	-121.919	37.117	1,750	33	44.97	7.42	4.81	2.09
E60 5674 00	Milpitas	Santa Clara	-121.883	37.433	175	41	16.33	2.67	1.73	0.75
E60 5803 00	Montevina Filter Plant	Santa Clara	-121.883	37.433	175	80	30.97	5.51	3.58	1.55
E60 5844 01	Morgan Hill 2 E	Santa Clara	-121.617	37.133	225	27	19.55	3.43	2.23	0.96
E60 5846 00	Morgan Hill 6 WSW	Santa Clara	-121.742	37.094	640	15	24.47	5.21	3.38	1.46
E60 5849 00	Morgan Hill Oakdist	Santa Clara	-121.565	37.174	1,950	11	22.51	2.98	1.93	0.84
E60 5887 32	Montebello Ridge	Santa Clara	-122.108	37.290	2,000	43	40.86	7.11	4.61	2.00
E60 5896 40	Mountain View Corp Yard	Santa Clara	-122.054	37.405	56	10	14.30	2.92	1.89	0.82
E60 5896 40	Mt View Yard	Santa Clara	-122.050	37.400	56	10	15.14	2.68	1.74	0.75
E60 5897 01	Mountain View	Santa Clara	-122.383	37.383	75	89	15.04	2.56	1.66	0.72
E60 5999 50	Mt Umunhum	Santa Clara	-121.900	37.150	3,091	16	39.89	6.71	4.35	1.89
E60 5999 50	Mt Umunhum	Santa Clara	-121.900	37.150	3,091	16	37.43	7.98	5.18	2.24
E60 6646 00	Palo Alto City Hall	Santa Clara	-122.139	37.450	43	42	14.99	2.68	1.74	0.75
E60 6646 00	Palo Alto City Hall	Santa Clara	-122.139	37.450	23	22	14.90	3.49	2.26	0.98
E60 6791 90	Parks Ranch	Santa Clara	-121.460	37.052	1,050	9	24.12	3.40	2.21	0.96
E60 6791 90	Penitencia	Santa Clara	-121.830	37.240	469	21	17.36	2.70	1.75	0.76
E60 6791 90	Penitencia	Santa Clara	-121.833	37.401	469	16	17.10	3.17	2.06	0.89
E60 7339 00	Redwood City	Santa Clara	-122.233	37.483	31	58	19.38	3.50	2.27	0.98
E60 7339 01	Redwood City Leslie Salt	Santa Clara	-122.209	37.500	10	17	15.95	2.74	1.78	0.77
E60 7436 15	Rinconada WTP	Santa Clara	-121.980	37.230	450	9	21.69	5.89	3.82	1.66
E60 7436 15	Rinconada WTP	Santa Clara	-121.980	37.230	450	15	20.92	4.29	2.78	1.21
E60 7533 00	Rolph	Santa Clara	-122.290	37.435	1,650	15	34.73	3.86	2.50	1.09

R0006422

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
E60 7821 00	San Jose	Santa Clara	-121.900	37.340	95	99	14.08	2.08	1.35	0.58
E60 7821 00	San Jose	Santa Clara	-121.900	37.340	95	89	13.81	2.16	1.40	0.61
E60 7824 01	San Jose Deciduous Fruit Sta	Santa Clara	-121.950	37.317	90	45	14.29	2.77	1.80	0.78
E60 7912 00	Santa Clara University	Santa Clara	-121.941	37.348	85	79	14.54	2.42	1.57	0.68
E60 7974 43	Santa Teresa Park	Santa Clara	-121.778	37.224	210	17	16.39	3.36	2.18	0.94
E60 7998 01	Saratoga Clark	Santa Clara	-121.995	37.280	292	26	19.61	3.68	2.39	1.03
E60 7998 02	Saratoga Gap	Santa Clara	-122.122	37.250	2,600	44	54.53	7.83	5.08	2.20
E60 7998 03	Saratoga Knege	Santa Clara	-122.033	37.250	290	9	17.90	3.89	2.52	1.09
E60 7998 43	Saratoga	Santa Clara	-122.026	37.272	420	36	29.21	5.35	3.47	1.50
E60 8038 10	Schilling	Santa Clara	-122.248	37.396	400	25	30.94	4.34	2.82	1.22
E60 8068 00	Searsville Lake	Santa Clara	-122.233	37.400	350	44	28.79	3.98	2.58	1.12
E60 8107 00	Seven Mile Res	Santa Clara	-121.953	37.253	322	80	20.09	3.94	2.56	1.11
E60 8109 00	Seven Springs Ranch	Santa Clara	-122.033	37.300	200	14	19.34	3.96	2.57	1.11
E60 8423 00	South San Francisco Bay	Santa Clara	-122.019	37.464	7	19	10.78	2.85	1.85	0.80
E60 8423 00	South San Francisco Bay	Santa Clara	-122.019	37.464	7	7	9.74	1.44	0.93	0.40
E60 8495 01	Stamford University	Santa Clara	-122.172	37.431	50	26	15.82	2.54	1.65	0.71
E60 8519 00	Stevens Creek Reservoir	Santa Clara	-122.090	37.300	499	10	31.63	7.79	5.05	2.19
E60 8519 00	Stevens Creek Reservoir	Santa Clara	-122.090	37.300	499	48	27.85	5.02	3.26	1.41
E60 8666 00	Sunnyvale	Santa Clara	-122.033	37.367	97	31	13.63	2.73	1.77	0.77
E60 8666 43	Sunnyvale Hamilton WTP	Santa Clara	-122.262	37.350	200	10	17.26	3.67	2.38	1.03
E60 8666 43	Sunnyvale Hindncks	Santa Clara	-122.030	37.340	175	11	16.73	2.70	1.75	0.76
E60 8978 50	Tourtillott	Santa Clara	-121.686	37.243	950	19	19.37	2.85	1.85	0.80
E60 8986 20	Toyon Ave	Santa Clara	-121.833	37.833	240	40	15.77	2.30	1.49	0.65
E60 9148 00	UTC	Santa Clara	-121.670	37.220	735	21	19.41	3.06	1.99	0.86
E60 9148 00	UTC	Santa Clara	-121.670	37.220	735	8	16.20	3.08	2.00	0.87
E60 9148 00	Vasona Reservoir	Santa Clara	-121.675	37.223	735	12	19.64	3.82	2.48	1.07
E60 9228 03	Valley Christian School	Santa Clara	-122.070	37.240	1,490	18	42.32	7.88	5.11	2.22
E60 9228 03	Valley Christian School	Santa Clara	-122.070	37.240	1,490	29	41.23	6.96	4.52	1.96
E60 9269 50	Vasona Pump Plant	Santa Clara	-121.970	37.250	249	8	20.49	4.02	2.61	1.13
E60 9269 50	Vasona Pump Plant	Santa Clara	-121.970	37.250	249	12	19.64	3.82	2.48	1.07
E60 9600 43	West Yard	Santa Clara	-121.990	37.320	174	13	15.07	3.68	2.39	1.03
E60 9600 43	West Yard	Santa Clara	-121.990	37.320	174	23	15.07	3.39	2.20	0.95
E60 9600 43	Willow Glen	Santa Clara	-121.900	37.300	282	40	14.42	2.23	1.45	0.63
E60 9680 50	Williams Reservoir	Santa Clara	-121.908	37.120	1,222	26	37.45	6.24	4.05	1.75
E60 9814 00	Wrights	Santa Clara	-121.950	37.133	282	83	44.65	7.30	4.74	2.05
A00 4712 00	Lake Solano	Solano	-122.053	38.492	180	34	23.90	4.31	2.93	1.35
A00 4712 00	Lake Solano	Solano	-122.053	38.492	180	32	22.98	3.78	2.57	1.19
A00 5805 00	Montezuma Hills	Solano	-121.804	38.076	20	42	12.76	2.27	1.54	0.71
A00 9200 00	Vacaville	Solano	-121.950	39.360	104	97	24.34	4.47	3.04	1.40
A90 6977 00	Pleasants Valley	Solano	-122.043	38.468	250	30	29.47	5.66	3.85	1.76
B90 7446 00	Rio Vista	Solano	-121.693	38.149	40	83	16.12	2.80	1.90	0.89
B90 7446 02	Rio Vista 4 NW	Solano	-121.750	38.200	63	14	16.72	3.46	2.35	1.09
E30 0670 20	Benicia Barracks	Solano	-122.133	38.033	64	36	16.68	3.49	2.26	0.98
E30 0814 48	Birds Landing	Solano	-121.869	38.138	60	69	15.79	2.91	1.89	0.82
E30 1919 00	Colinsville	Solano	-121.855	38.091	34	22	14.18	2.52	1.64	0.71
E30 2399 48	Deverton 1 S	Solano	-121.891	38.206	22	16	16.66	2.94	1.91	0.83
E30 2934 00	Fairfield FS	Solano	-122.041	38.250	341	45	21.84	3.89	2.52	1.09
E30 2935 00	Fairfield 3NNE	Solano	-122.034	38.289	110	9	24.86	5.19	3.37	1.46
E30 2935 00	Fairfield 3NNE	Solano	-122.034	38.289	110	54	22.28	3.88	2.52	1.09
E30 3612 00	Green Valley	Solano	-122.170	38.280	414	57	30.13	5.12	3.32	1.44
E30 3650 00	Grizzley Island	Solano	-121.967	38.150	1	20	17.81	3.15	2.04	0.89
E30 4685 00	Lake Herman	Solano	-122.150	38.090	42	45	17.83	2.83	1.84	0.80
E30 5333 00	Mare Island	Solano	-122.270	38.100	52	35	19.22	3.32	2.15	0.93
E30 6354 00	Grizzley Island	Solano	-121.967	38.150	1	20	17.81	3.15	2.04	0.89
E30 7519 48	Rockville Russel	Solano	-122.100	38.240	40	88	21.52	3.91	2.54	1.10
E30 8142 48	Shilo	Solano	-122.888	38.168	40	19	16.05	2.69	1.75	0.76
E30 9012 00	Travis AFB	Solano	-121.917	38.250	50	53	17.36	3.15	2.04	0.89
E30 9218 50	Vallejo 4N	Solano	-121.160	38.150	23	17	20.34	3.24	2.10	0.91
E20	Pengrove Jones	Sonoma	-122.658	38.308	140	7	34.39	5.65	3.67	1.59
E20	Petaluma Carlson	Sonoma	-122.633	38.242	20	22	27.54	5.02	3.26	1.41
E20 2822 00	El Verano CY	Sonoma	-122.483	38.300	100	18	36.01	4.71	3.06	1.32
E20 3455 04	Glen Ellen 5 W	Sonoma	-122.633	38.367	1,100	21	40.43	7.28	4.72	2.05
E20 4319 19	Jack London State Park	Sonoma	-122.372	38.545	720	15	45.81	7.78	5.05	2.19
E20 6792 04	Pengrove Fire Station	Sonoma	-122.664	38.296	90	19	29.71	5.12	3.32	1.44
E20 6826 50	Petaluma Weddle	Sonoma	-122.631	38.220	120	11	22.95	3.58	2.32	1.01
E20 6826 00	Petaluma	Sonoma	-122.629	38.241	16	84	23.93	3.76	2.44	1.06
E20 6826 00	Petaluma FS2	Sonoma	-122.629	38.241	16	52	23.73	3.70	2.40	1.04
E20 6826 06	Petaluma Pendleton	Sonoma	-122.633	38.243	12	15	22.56	3.50	2.27	0.98
E20 6826 40	Petaluma Cooley	Sonoma	-122.625	38.181	300	20	29.36	4.89	3.17	1.37
E20 6826 ??	Petaluma Jewell	Sonoma	-122.724	38.279	86	8	26.48	4.74	3.08	1.33
E20 8286 00	Sleepy Hollow Dairy	Sonoma	-122.498	38.158	50	30	22.61	3.79	2.46	1.07
E20 8351 00	Sonoma	Sonoma	-122.470	38.300	97	75	29.04	4.65	3.02	1.31
E20 8351 03	Sonoma State Hospital	Sonoma	-122.520	38.350	440	39	45.08	7.96	5.17	2.24

R0006423

Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
E20 8351 08	Sonoma 4 W	Sonoma	-122.533	38.283	500	24	43.19	7.05	4.57	1.98
E20 8634 30	Sugarloaf Ridge	Sonoma	-122.510	38.600	1,240	19	46.49	7.57	4.91	2.13
F80 3161 00	Fort Ross	Sonoma	-123.250	38.517	116	122	43.22	6.16	4.18	1.83
F80 8063 49	Sea Ranch	Sonoma	-123.433	38.700	75	25	43.51	5.90	4.01	1.75
F80 8540 01	Stewarts Point 2ZNNE	Sonoma	-123.370	38.674	1,215	3	40.77	6.45	4.38	1.91
F80 8540 02	Stewarts Point 2 NE	Sonoma	-123.367	38.663	860	23	47.97	6.61	4.49	1.96
F80 8542 50	Seaview	Sonoma	-123.227	38.546	1,200	8	48.47	7.03	4.77	2.09
F80 8542 50	Seaview Call	Sonoma	-123.208	38.525	1,500	13	64.53	7.92	5.38	2.35
F80 8542 50	Stillwater Cove	Sonoma	-123.293	38.550	100	8	39.78	5.87	3.98	1.74
F80 9851 00	Yorkville	Sonoma	-123.313	38.905	1,120	37	48.36	6.45	4.38	1.91
F90	Calistoga 5 S	Sonoma	-122.570	38.510	2,000	18	49.51	9.06	6.15	2.69
F90	Calistoga 5 WSW	Sonoma	-121.700	38.559	729	24	59.70	8.78	5.96	2.60
F90 0198 45	Anchor Bay 1.5 N	Sonoma	-123.583	38.833	100	7	56.09	8.25	5.60	2.45
F90 1312 02	Calistoga 4 NW	Sonoma	-122.650	38.601	944	33	40.78	6.43	4.37	1.91
F90 1602 00	Cazadero	Sonoma	-123.290	38.530	1,040	43	71.31	10.23	6.94	3.03
F90 1602 00	Cazadero Potter	Sonoma	-123.007	38.500	1,000	12	63.95	9.63	6.54	2.86
F90 1837 00	Cloverdale	Sonoma	-123.017	38.817	315	61	38.71	5.52	3.75	1.64
F90 1838 00	Cloverdale 3 SSE	Sonoma	-122.980	38.770	320	43	45.01	6.51	4.42	1.93
F90 1839 00	Cloverdale 1S	Sonoma	-123.016	38.789	340	24	42.17	5.32	3.61	1.58
F90 1840 00	Cloverdale 11 W	Sonoma	-123.209	38.772	1,820	20	64.11	9.13	6.20	2.71
F90 1840 00	Cloverdale 11 W	Sonoma	-123.217	38.767	122	27	60.55	8.48	5.76	2.52
F90 2061 02	Cotati Fire Station	Sonoma	-122.706	38.327	102	21	30.59	4.54	3.08	1.35
F90 2550 00	Duncan Mills	Sonoma	-123.067	38.450	85	38	42.06	6.07	4.12	1.80
F90 3089 00	Flat Ridge Ranch	Sonoma	-123.177	38.767	1,150	14	73.51	10.04	6.82	2.98
F90 3137 00	Forestville Parmay	Sonoma	-122.950	38.467	200	42	40.17	6.21	4.22	1.84
F90 3395 06	Geyserville 2 N	Sonoma	-122.899	38.737	420	13	62.83	8.18	5.55	2.43
F90 3395 06	Geyserville 1.5 SSE	Sonoma	-122.883	38.700	400	14	47.13	5.91	4.01	1.75
F90 3577 00	Graton	Sonoma	-122.850	38.430	200	93	39.75	6.35	4.31	1.88
F90 3684 00	Guerneville	Sonoma	-123.000	38.500	55	73	46.08	6.99	4.75	2.07
F90 3685 49	Guerneville 2 N	Sonoma	-123.020	38.530	200	19	58.90	9.32	6.33	2.76
F90 3697 00	Gualala Point Park	Sonoma	-123.517	38.767	100	8	38.92	5.90	4.01	1.75
F90 3875 00	Healdsburg	Sonoma	-122.830	38.620	101	99	40.58	6.27	4.26	1.86
F90 3875 40	Healdsburg 5E	Sonoma	-122.754	38.625	200	6	41.51	7.35	4.99	2.18
F90 3875 40	Healdsburg Mann	Sonoma	-122.893	38.619	150	18	41.87	6.54	4.44	1.94
F90 4480 00	Kellogg	Sonoma	-122.667	38.667	1,800	30	47.13	7.51	5.10	2.23
F90 4504 01	Kenwood	Sonoma	-122.583	38.408	800	18	32.62	5.25	3.56	1.56
F90 6370 00	Occidental	Sonoma	-122.970	38.420	960	55	53.94	7.54	5.12	2.24
F90 6370 20	Occidintal 5E	Sonoma	-122.913	38.407	700	29	47.35	6.73	4.57	2.00
F90 6792 03	Penngrove 1.5 N	Sonoma	-122.658	38.329	205	33	26.59	3.96	2.69	1.17
F90 6826 05	Petaluma 8 WNW	Sonoma	-122.767	38.267	200	13	28.15	4.32	2.93	1.28
F90 7964 00	Santa Rosa STP	Sonoma	-122.753	38.440	20	33	28.48	4.27	2.90	1.27
F90 7964 49	Santa Rosa Laguna	Sonoma	-122.762	38.378	75	27	30.03	4.47	3.03	1.33
F90 7965 00	Santa Rosa	Sonoma	-122.700	38.450	167	95	29.98	4.57	3.10	1.36
F90 7965 05	Santa Rosa 2 SE	Sonoma	-122.700	36.400	160	14	29.07	4.78	3.24	1.42
F90 7965 25	Santa Rosa SCWA	Sonoma	-122.727	38.469	110	7	30.72	5.56	3.77	1.65
F90 7965 35	Santa Rosa Krauss	Sonoma	-122.695	38.436	150	15	32.34	4.86	3.30	1.44
F90 8072 00	Sebastopol	Sonoma	-122.812	39.352	145	48	33.15	5.04	3.42	1.50
F90 8072 00	Sebastopol 4 SSE	Sonoma	-122.812	38.352	145	24	32.18	4.77	3.24	1.42
F90 8072 01	Sebastopol 1 SE	Sonoma	-122.800	38.383	100	25	33.76	5.07	3.44	1.50
F90 8072 02	Sebastopol 3 NW	Sonoma	-122.980	39.432	150	16	36.78	5.82	3.95	1.73
F90 8272 00	Skaggs Springs Las Lomas	Sonoma	-123.134	38.677	1,930	27	61.59	8.57	5.82	2.54
F90 8272 02	Skaggs Sp 2 WSW	Sonoma	-123.070	38.708	455	17	49.60	8.51	5.78	2.52
F90 8351 01	Sonoma Co Adm Bldg	Sonoma	-122.717	39.467	150	17	26.02	4.50	3.05	1.33
F90 8351 40	Sonoma Mtn	Sonoma	-122.607	39.346	1,300	8	44.25	6.34	4.30	1.88
F90 8885 00	The Geysers	Sonoma	-122.826	38.801	1,668	46	54.55	8.36	5.68	2.48
F90 8885 00	The Geysers	Sonoma	-122.826	38.801	1,668	55	53.46	8.15	5.53	2.42
F90 9117 02	Two Rock USCG	Sonoma	-122.792	38.250	150	38	29.37	4.48	3.04	1.33
F90 9231 02	Valley Ford	Sonoma	-122.897	38.305	80	39	36.33	5.54	3.76	1.64
F90 9231 21	Valley Ford 2N	Sonoma	-122.884	38.351	400	20	54.16	7.97	5.41	2.36
F90 9273 00	Venado	Sonoma	-123.017	38.617	1,260	56	58.74	8.42	5.72	2.50
F90 9273 00	Venado	Sonoma	-123.017	38.617	1,260	38	58.58	8.79	5.97	2.61
B00 2389 00	Denair 3 NNE	Stanislaus	-120.783	37.567	137	82	11.36	1.97	1.34	0.62
B00 2820 00	El Solyo	Stanislaus	-121.236	37.623	50	19	10.53	2.08	1.41	0.86
B00 2909 00	Eugene Stuart	Stanislaus	-120.857	37.921	175	43	14.94	2.30	1.56	0.73
B00 3099 02	Flowers Mtn	Stanislaus	-121.550	37.500	1,565	25	21.82	2.94	1.99	0.93
B00 3940 11	Hickman	Stanislaus	-121.750	37.617	105	14	12.03	2.17	1.47	0.69
B00 4183 00	Hunt Ranch	Stanislaus	-120.924	38.068	190	23	16.41	2.81	1.91	0.89
B00 4590 00	Knights Ferry 2 ESE	Stanislaus	-120.645	37.800	315	34	17.55	2.60	1.76	0.82
B00 4642 00	La Grange	Stanislaus	-120.433	37.667	300	21	16.22	2.54	1.72	0.80
B00 5738 35	Modesto 8 SW	Stanislaus	-121.067	37.625	91	20	11.78	2.05	1.39	0.65
B00 5738 00	Modesto	Stanislaus	-121.001	37.647	91	107	11.94	2.00	1.36	0.63
B00 5738 00	Modesto	Stanislaus	-121.001	37.647	91	52	11.58	1.95	1.32	0.62
B00 5819 11	Montpelier	Stanislaus	-120.700	37.550	225	27	12.44	2.47	1.68	0.78

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
B00 6170 00	Newman	Stanislaus	-121.017	38.317	214	97	10.53	2.08	1.41	0.66
B00 6305 00	Oakdale Woodward	Stanislaus	-120.867	37.867	220	39	13.11	2.26	1.53	0.71
B00 6305 01	Oakdale Erickson	Stanislaus	-120.833	37.867	250	12	14.16	2.07	1.40	0.65
B00 6306 00	Oakdale	Stanislaus	-120.848	37.769	155	86	14.79	2.21	1.50	0.70
B00 6490 00	Orsetimba	Stanislaus	-121.063	37.362	110	89	10.24	1.97	1.34	0.62
B00 6679 05	Patterson	Stanislaus	-121.117	37.467	100	80	10.71	2.21	1.50	0.70
B00 8322 00	Snow Ranch	Stanislaus	-120.821	37.946	240	51	17.56	2.41	1.63	0.76
B00 8322 00	Snow Ranch	Stanislaus	-120.821	37.946	240	16	16.83	2.58	1.75	0.82
B00 9073 00	Turlock	Stanislaus	-120.850	37.491	115	102	11.77	2.04	1.38	0.65
B00 9073 01	Turlock 5 SW	Stanislaus	-120.911	37.464	76	31	12.71	1.97	1.34	0.62
B00 9565 00	Westley	Stanislaus	-121.200	37.550	85	44	10.76	2.28	1.55	0.72
B80 2369 00	Del Puerto Road Camp	Stanislaus	-121.378	37.423	1,125	26	14.53	2.81	1.91	0.89
B80 2369 00	Del Puerto Road Camp	Stanislaus	-121.378	37.423	1,125	9	13.92	2.46	1.67	0.78
B80 3690 03	Gustine 6 WSW	Stanislaus	-121.100	37.242	240	12	12.98	1.96	1.33	0.62
B80 6309 00	Oak Flat Ranch	Stanislaus	-121.262	37.395	1,035	10	12.24	2.40	1.63	0.76
B00 5740 00	Modesto KTRB	Stanislaws	-120.978	37.670	93	16	11.11	2.14	1.45	0.68
C70 1754 00	Chuchupate RS	Ventura	-119.011	34.808	5,260	54	13.31	3.22	2.05	0.86
T12 6576 00	Ozena	Ventura	-119.317	34.700	3,705	38	16.48	4.87	3.09	1.26
T12 6576 00	Ozena	Ventura	-119.317	34.700	3,705	62	12.64	4.05	2.57	1.05
T12 9813 10	Apache Camp	Ventura	-119.333	34.867	4,965	29	9.91	2.06	1.31	0.53
T12 9813 10	Apache Camp	Ventura	-119.333	34.867	4,965	30	9.66	1.85	1.18	0.48
U02 1472 11	Canada Largo 85	Ventura	-119.228	34.381	760	27	21.34	6.26	3.78	1.18
U02 1472 11	Canada Largo 85	Ventura	-119.228	34.381	760	33	19.63	5.85	3.53	1.10
U02 1558 00	Last Chance ALERT	Ventura	-119.050	34.500	4,520	7	46.18	7.66	4.63	1.44
U02 1558 12	Casitas Ranch 4	Ventura	-119.337	34.369	400	60	22.76	6.87	4.15	1.29
U02 1559 00	Lake Casitas 204	Ventura	-119.337	34.415	400	28	23.33	7.21	4.36	1.35
U02 2399 00	Dennison Rch Upr Ojai	Ventura	-119.189	34.438	1,320	8	21.60	5.23	3.16	0.98
U02 4568 51	Kingston Res	Ventura	-119.295	34.343	215	53	18.51	5.77	3.49	1.08
U02 5408 01	Matilija Dam	Ventura	-119.307	34.484	1,040	70	24.98	7.47	4.51	1.40
U02 5408 01	Matilija Dam 207	Ventura	-119.377	34.507	1,540	22	34.94	11.73	7.09	2.20
U02 5408 06	Matilija Canyon	Ventura	-119.355	34.504	1,400	27	35.54	11.42	6.90	2.15
U02 5509 50	Meiners Oaks 218	Ventura	-119.284	34.444	1,040	23	23.19	6.93	4.19	1.30
U02 6353 11	Oak View FS 140	Ventura	-119.300	34.395	520	38	21.76	6.82	4.12	1.28
U02 6353 11	Oak View FS 140	Ventura	-119.068	34.212	27	12	18.87	4.69	2.83	0.88
U02 6399 00	Ojai	Ventura	-119.242	34.347	750	90	21.34	6.18	3.73	1.16
U02 6399 00	Ojai Barrett 153	Ventura	-119.242	34.447	750	36	20.72	5.94	3.59	1.12
U02 6399 01	Ojai Mallory	Ventura	-119.246	34.450	750	79	18.57	5.50	3.32	1.03
U02 6399 01	Ojai Thatcher 59	Ventura	-119.246	34.450	750	72	21.12	6.02	3.64	1.13
U02 6399 01	Rancho Matilija W 20	Ventura	-119.246	34.450	750	60	21.54	7.33	4.43	1.38
U02 6399 01	Sea Cliff 221	Ventura	-119.209	34.268	226	26	15.40	4.18	2.53	0.79
U02 6399 01	Sea Cliff 221	Ventura	-119.209	34.268	226	21	14.87	3.99	2.41	0.75
U02 7247 75	Lion Canyon ALERT	Ventura	-119.133	34.500	5,200	5	33.83	6.62	4.00	1.24
U02 8088 02	Santa Ana Vly Selby 44	Ventura	-119.354	34.425	660	36	24.05	7.21	4.36	1.35
U02 8095 01	Selby Rch Santa Ana 44	Ventura	-119.354	34.425	660	59	24.05	7.12	4.30	1.34
U02 8513 20	Station Canyon 254	Ventura	-119.370	34.370	630	14	24.12	6.88	4.16	1.29
U02 8536 11	Stewart Canyon 165	Ventura	-119.247	34.461	960	31	20.85	5.52	3.34	1.04
U02 8536 11	Stewart Canyon 165	Ventura	-119.247	34.461	960	37	20.84	5.87	3.55	1.10
U02 9182 ??	Upper Ojai 64	Ventura	-119.189	34.044	1,320	14	21.96	5.63	3.40	1.06
U02 9182 ??	Upper Ojai 64	Ventura	-119.189	34.044	1,320	85	21.79	6.60	3.99	1.24
U02 9285 00	Ventura School 66	Ventura	-119.291	34.281	60	68	14.95	4.08	2.47	0.77
U02 9285 0?	Ventura Wood 260	Ventura	-119.316	34.282	15	11	14.38	3.52	2.13	0.66
U02 9615 00	Wheeler Springs 2 SSW	Ventura	-119.294	34.483	875	29	24.42	7.22	4.36	1.36
U03	Tommys Creek ALERT	Ventura	-119.217	34.600	5,250	7	16.46	4.25	2.57	0.80
U03 0179 10	Camarillo 3, Am Sugar	Ventura	-119.068	34.205	60	85	13.38	3.71	2.24	0.70
U03 0450 10	Somis Fuller 206	Ventura	-118.979	34.311	730	26	17.53	4.33	2.62	0.81
U03 0450 18	Balcom Cyn	Ventura	-118.973	34.314	800	21	16.60	4.91	2.97	0.92
U03 0495 00	Bard Reservoir	Ventura	-118.828	34.242	1,010	20	15.01	4.20	2.54	0.79
U03 0495 00	Bard Reservoir 227	Ventura	-118.828	34.242	1,010	26	14.95	3.89	2.35	0.73
U03 0506 11	Bardsdale Lander 96	Ventura	-118.275	34.492	2,920	55	18.67	5.79	3.50	1.09
U03 1339 00	Camarillo 194	Ventura	-119.012	34.205	130	36	12.30	3.52	2.13	0.66
U03 1339 10	Camarillo Hooker 214	Ventura	-119.055	34.219	122	89	13.55	4.04	2.44	0.76
U03 1339 20	Camarillo Hauser 219	Ventura	-119.026	34.237	1,392	23	14.78	3.59	2.17	0.67
U03 1471 19	Camulos Rch 101	Ventura	-118.756	34.406	725	34	17.52	5.05	3.05	0.95
U03 1658 50	Channel Islands Harbor 215	Ventura	-119.222	34.160	5	24	14.40	3.42	2.07	0.64
U03 1747 30	Chorro 60 AKERT	Ventura	-119.333	34.600	4,350	7	20.24	7.78	4.70	1.46
U03 2211 50	Cuddy Valley	Ventura	-119.059	34.840	5,500	13	14.65	3.77	2.28	0.71
U03 2231 80	Deals Flat 232	Ventura	-118.968	34.088	1,430	19	20.64	5.89	3.56	1.11
U03 2231 80	Deals Flat 232	Ventura	-118.968	34.088	1,430	25	20.06	5.56	3.36	1.04
U03 2303 11	Camarillo Davis 177	Ventura	-119.076	34.157	20	31	12.17	3.57	2.16	0.67
U03 2303 11	Double HN Ranch 94	Ventura	-118.847	34.398	600	55	18.44	5.52	3.34	1.04
U03 2785 50	El Rico 231	Ventura	-119.117	34.241	79	21	16.44	4.14	2.50	0.78
U03 2785 50	El Rico Spreading Ground	Ventura	-119.177	34.241	79	15	16.93	3.76	2.27	0.71
U03 3036 15	Ferndale Rch 173	Ventura	-119.090	34.428	980	29	22.84	6.96	4.21	1.31

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
U03 3036 15	Ferndale Rch 173	Ventura	-119.090	34.428	980	37	22.09	6.50	3.93	1.22
U03 3050 00	Fillmore 1 WNW	Ventura	-118.926	34.403	435	20	18.50	5.99	3.62	1.13
U03 3050 13	Fillmore Hatchery 171	Ventura	-118.884	34.394	470	37	18.88	5.30	3.20	1.00
U03 3050 13	Fillmore Hatchery 171	Ventura	-118.884	34.394	470	31	18.47	5.04	3.05	0.95
U03 3050 50	Fillmore Sespe Z24	Ventura	-118.881	34.479	2,750	21	28.02	8.29	5.01	1.56
U03 3050 50	Fillmore Sespe Z24	Ventura	-118.881	34.479	2,750	25	27.64	7.94	4.80	1.49
U03 3511 11	Hall Canyon 167	Ventura	-119.258	34.280	180	37	15.64	4.48	2.71	0.84
U03 3715 00	Hall Canyon 167	Ventura	-119.258	34.280	180	31	15.73	4.49	2.71	0.84
U03 3715 00	Hall Canyon 167	Ventura	-119.258	34.280	180	37	15.64	4.48	2.71	0.84
U03 4706 11	Lake Sherwood	Ventura	-118.875	34.141	960	26	20.48	6.07	3.67	1.14
U03 4749 05	Lang Ranch ALERT	Ventura	-118.800	34.200	1,600	6	18.83	5.42	3.27	1.02
U03 4803 90	Las Fosas Hills ALERT	Ventura	-118.917	34.250	660	5	11.71	3.12	1.89	0.59
U03 4804 70	Las Llajas 234	Ventura	-118.690	34.301	1,150	25	15.67	4.50	2.72	0.85
U03 4804 70	Las Llajas 234	Ventura	-118.690	34.301	1,150	19	15.61	4.11	2.48	0.77
U03 4943 00	Limonera Rch	Ventura	-119.124	34.334	335	83	16.95	5.02	3.03	0.94
U03 5024 10	Lockwood Valley 209	Ventura	-119.102	34.734	5,150	31	15.14	4.20	2.54	0.79
U03 5024 10	Lockwood Valley 209	Ventura	-119.102	34.734	5,150	25	14.03	4.17	2.52	0.78
U03 5408 06	Matilija Canyon 207	Ventura	-119.355	34.504	1,400	34	34.95	11.36	6.86	2.13
U03 5825 00	Moorepark 3 E 192	Ventura	-118.848	34.256	635	30	13.67	3.54	2.14	0.67
U03 5825 00	Moorepark 3 E 192	Ventura	-118.845	34.256	635	34	13.33	3.60	2.18	0.68
U03 5826 00	Moorepark 191	Ventura	-118.895	34.326	1,060	31	17.33	4.20	2.54	0.79
U03 5826 00	Moorepark 191	Ventura	-118.895	34.326	1,060	35	17.07	4.56	2.76	0.86
U03 5826 00	Moorepark Happy Cmp 250	Ventura	-118.895	34.326	1,060	11	20.09	4.42	2.67	0.83
U03 5826 00	Moorepark Happy Cmp 250	Ventura	-118.895	34.326	1,060	16	19.86	4.64	2.80	0.87
U03 5826 51	Moorepark 1 SSE 141	Ventura	-118.847	34.279	520	60	15.60	3.86	2.33	0.73
U03 6147 00	Newberry Park 188	Ventura	-118.950	34.188	1,665	35	14.80	4.66	2.82	0.88
U03 6147 00	Newberry Park 188	Ventura	-118.950	34.188	1,665	60	14.62	4.66	2.82	0.88
U03 6147 00	Newberry Park 2 WSW	Ventura	-118.948	34.185	665	60	14.62	4.66	2.82	0.88
U03 6149 00	Newberry Park 4 SW	Ventura	-118.967	34.150	665	10	14.30	4.55	2.75	0.85
U03 6149 40	Newberry Park 182	Ventura	-118.961	34.153	810	22	16.50	4.53	2.74	0.85
U03 6403 11	Old Adobe Ventura 216	Ventura	-119.274	34.249	5	23	15.54	3.53	2.13	0.66
U03 6486 70	Orcutt Ranch 31	Ventura	-118.571	34.324	2,850	31	26.22	7.39	4.47	1.39
U03 6543 40	Ortega Hills ALERT	Ventura	-119.217	34.600	5,270	7	26.29	7.81	4.72	1.47
U03 6569 01	Oxnard 32	Ventura	-119.175	34.221	5	94	14.75	4.05	2.45	0.76
U03 6572 00	Oxnard AP 168	Ventura	-119.208	34.201	34	31	14.38	4.24	2.56	0.80
U03 6572 00	Oxnard AP 168	Ventura	-119.208	34.201	34	37	14.11	4.36	2.63	0.82
U03 6573 00	Oxnard Vance 257	Ventura	-119.192	34.172	27	8	13.80	3.09	1.87	0.58
U03 6862 01	Piedra Blanca GS 152	Ventura	-119.116	34.561	3,065	33	25.54	8.17	4.94	1.53
U03 6862 01	Piedra Blanca GS 152	Ventura	-119.116	34.561	3,065	35	23.68	8.48	5.12	1.59
U03 6910 00	Pine Mtn Inn	Ventura	-119.364	34.609	4,200	29	26.41	7.11	4.30	1.34
U03 6940 00	Piru 2 ESE	Ventura	-118.759	34.406	730	66	16.81	4.97	3.00	0.93
U03 6940 00	Piru Canyon 172	Ventura	-118.758	34.513	1,150	35	19.51	5.90	3.56	1.11
U03 6940 00	Piru Canyon 172	Ventura	-118.758	34.513	1,150	31	19.21	5.74	3.47	1.08
U03 6940 03	Piru FS 36	Ventura	-118.795	34.413	700	61	17.26	5.08	3.07	0.95
U03 6940 03	Point Mugu 223	Ventura	-119.107	34.118	9	41	11.77	3.18	1.92	0.60
U03 6942 00	Piru Telemetering	Ventura	-118.700	34.400	800	22	17.80	4.49	2.71	0.84
U03 7020 70	Point Mugu 223	Ventura	-119.107	34.118	9	41	11.77	3.18	1.92	0.60
U03 7080 00	Port Hueneme 17	Ventura	-119.208	34.144	20	96	13.79	3.99	2.41	0.75
U03 7249 61	Fillmore Rancho 39	Ventura	-118.963	34.384	360	75	18.49	5.43	3.28	1.02
U03 7370 30	Reservoir, Las Posas ALERT	Ventura	-119.080	34.230	300	5	13.25	3.31	2.00	0.62
U03 7425 01	Ridge Route	Ventura	-118.783	34.678	2,500	43	16.50	5.84	3.53	1.10
U03 7957 05	Santa Paula 19	Ventura	-119.063	34.354	290	56	17.21	6.86	4.15	1.29
U03 7957 40	Santa Paula 243	Ventura	-119.108	34.343	325	14	20.03	6.34	3.83	1.19
U03 7958 00	Santa Paula Sexton 230	Ventura	-119.227	34.315	185	15	21.04	6.07	3.67	1.14
U03 7958 50	Santa Paula	Ventura	-119.077	34.345	260	96	19.61	5.39	3.26	1.01
U03 7958 50	Santa Paula 245	Ventura	-119.077	34.345	260	18	18.78	4.95	2.99	0.93
U03 7970 14	Santa Rosa Valley	Ventura	-118.933	34.236	275	58	13.02	3.77	2.28	0.71
U03 7973 00	Santa Susana AP 193	Ventura	-118.698	34.328	1,520	34	13.99	4.33	2.62	0.81
U03 7973 02	Santa Susana AP 193	Ventura	-118.707	34.271	965	31	13.88	3.98	2.40	0.75
U03 8008 03	Sanlicoy Del Mar 6	Ventura	-119.203	34.278	300	63	15.93	4.58	2.77	0.86
U03 8008 04	Sanlicoy FS 175	Ventura	-119.155	34.286	185	30	15.99	4.53	2.74	0.85
U03 8008 04	Sanlicoy FS 175	Ventura	-119.155	34.286	185	37	15.99	4.88	2.95	0.92
U03 8258 05	Simi FS 154	Ventura	-118.708	34.294	1,755	40	14.06	4.15	2.51	0.78
U03 8258 30	Simi Hills 248	Ventura	-118.709	34.229	1,750	10	21.51	5.64	3.41	1.06
U03 8258 30	Simi Hills 248	Ventura	-118.709	34.245	1,750	16	20.50	5.56	3.36	1.04
U03 8261 00	Simi Hills Sanitation Plant	Ventura	-118.817	34.267	660	21	18.96	3.68	2.22	0.69
U03 8347 00	Simis Bard 190	Ventura	-119.007	34.283	460	31	14.85	3.91	2.36	0.73
U03 8347 00	Simis Bard 190	Ventura	-119.007	34.283	460	37	14.83	4.17	2.52	0.78
U03 8347 01	Somis Snyder 54	Ventura	-118.996	34.263	325	82	13.79	4.08	2.47	0.77
U03 8347 07	Somis Fuller 208	Ventura	-118.981	34.318	870	26	17.53	4.33	2.62	0.81
U03 8347 07	Somis Fuller 208	Ventura	-118.981	34.318	870	33	17.08	4.67	2.82	0.88
U03 8347 35	Simis Deboni 189	Ventura	-119.072	34.285	520	31	15.87	4.16	2.51	0.78
U03 8347 35	Somis 189	Ventura	-119.072	34.285	520	34	15.57	4.55	2.75	0.85

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Table C-20
Statewide Rainfall Data

Station Number	Station Name	County	Longitude (degrees)	Latitude (degrees)	Elevation (ft above MSL)	Period of Record (yr)	Mean Annual Precipitation (in)	Rainfall Quantities for 24-Hour Duration Storm		
								10-Year Return Period (in)	Mean (2-Year Return Period) (in)	1.0101-Year Return Period (in)
3 8410 20	South Mtn East ALERT	Ventura	-119.050	34.300	1,020	5	16.19	3.86	2.33	0.73
3 8411 50	South Mtn 238	Ventura	-119.008	34.331	1,630	21	20.38	5.36	3.24	1.01
3 8411 50	South Mtn 238	Ventura	-119.008	34.331	1,630	17	20.25	6.75	4.08	1.27
3 8638 50	Sulpher Mtn 163	Ventura	-119.169	34.411	2,570	31	24.27	7.23	4.37	1.36
3 8700 00	Susana Knolls FS 187	Ventura	-118.669	34.262	1,085	32	16.68	5.12	3.09	0.96
3 8727 20	Sycamore Canyon ALERT	Ventura	-119.100	34.550	4,350	7	20.16	5.45	3.29	1.02
3 8784 03	Tapo Canyon 196	Ventura	-118.718	34.326	1,525	22	20.99	5.12	3.09	0.96
3 8784 06	Tapo Water Co 62	Ventura	-118.721	34.298	1,080	43	14.44	4.35	2.63	0.82
3 8784 06	Temescal GS 160	Ventura	-118.721	34.298	1,080	32	20.05	6.20	3.75	1.16
3 8905 00	Thousand Oaks 128	Ventura	-118.849	34.179	810	35	15.76	5.03	3.04	0.95
3 8905 00	Thousand Oaks 128	Ventura	-118.849	34.179	810	37	14.94	4.82	2.91	0.91
3 9025 50	Tripas Cayon 242	Ventura	-118.763	34.368	2,500	12	25.49	5.77	3.49	1.08
3 9025 50	Tripas Cayon 242	Ventura	-118.763	34.368	2,500	15	24.00	5.18	3.13	0.97
3 9182 05	Upper Ojai 65	Ventura	-119.140	34.438	1,540	63	23.03	7.20	4.35	1.35
3 9285 80	Ventura 222	Ventura	-119.209	34.268	226	65	15.31	4.49	2.71	0.84
3 9285 85	Ventura 230	Ventura	-119.229	34.315	226	21	20.25	5.68	3.43	1.07
3 9610 00	Wheeler Springs 63	Ventura	-119.189	34.439	1,320	38	22.59	8.29	5.01	1.56
3 9612 20	Wheeler Canyon 225	Ventura	-119.189	34.439	1,320	27	22.20	6.90	4.17	1.30
3 9612 20	Wheeler Canyon 225	Ventura	-119.189	34.439	1,320	27	22.20	7.92	4.79	1.49
3 9618 00	Wheeler Springs	Ventura	-119.325	34.597	4,150	25	20.71	6.93	4.19	1.30
3 9618 07	Wheeler Gorge 264	Ventura	-119.383	35.367	1,900	8	29.37	8.93	5.40	1.68
4 4706 11	Lake Serwood	Ventura	-118.875	34.141	1,320	53	20.25	6.17	3.73	1.16
4 4706 11	Lake Serwood	Ventura	-118.875	34.141	1,320	52	18.75	6.19	3.74	1.16
5 0188 00	Anacapa Island	Ventura	-119.367	34.017	140	6	7.00	2.62	1.58	0.49
5 7870 00	San Nicolaus Island	Ventura	-119.450	33.233	502	19	6.89	2.02	1.22	0.38

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APPENDIX D

GIS DATABASE METADATA DESCRIPTIONS

APPENDIX D

GIS DATABASE METADATA DESCRIPTIONS

This appendix contains the descriptions of data sources used in the development of the GIS database. The data sources include:

- Land Use and Land Cover Data from the U. S. Geological Survey
- Hydrobasins Coverage from the California Department of Fish and Game
- Urbanized Area Designations in California from the U. S. Census Bureau

USGS Land Use and Land Cover Data

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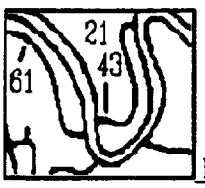
Background

The Land Use and Land Cover (LULC) data files describe the vegetation, water, natural surface, and cultural features on the land surface. The United States Geological Survey (USGS) provides these data sets and associated maps as a part of its National Mapping Program. The LULC mapping program is designed so that standard topographic maps of a scale of 1:250,000 can be used for compilation and organization of the land use and land cover data. In some cases, such as Hawaii, 1:100,000 scale maps are also used.



Land Use and Land Cover Example (6.8 kb)

Compilation is based upon a classification scheme identified in the Appendix.

Extent of Coverage

Land Use and Land Cover (LULC) data are available for most of the contiguous United States and Hawaii.

Acquisition

Processing Steps

Manual interpretation of aerial photographs acquired from NASA high-altitude missions and other sources were first used to compile the land use land cover maps. Secondary sources from earlier land use maps and field surveys were also incorporated into the LULC maps as needed. At a later time, the LULC maps were digitized to create a national digital LULC database. The evolution of this process resulted in the creation of the Geographic Information Retrieval Analysis System (GIRAS).

Initial source preparation involves the transfer of field survey information, photo classification detail and associated line work to a base map for digitization. This may be done through stereo compilation or monoscopic transfer techniques. Adjacent maps are also checked to ensure continuity. The maps are digitized and the appropriate classification codes are assigned for processing through GIRAS and

checked for accuracy. All LULC data conform to the Universal Transverse Mercator (UTM) projection.

Data Characteristics

All LULC features are delineated by curved or straight lines that depict the actual boundary of an area, commonly referred to as a polygon. These polygons have a minimum size of 10 acres or 4 hectares. Each polygon represents a homogeneous element in the mapping scheme that is labeled with an integer or attribute code. The arcs and nodes of the polygon are further defined by an X,Y point or string of points that provide direction and location for the polygon. This relationship may be defined by the labeled area within the polygon or outside of it. Such positional data can be manipulated to meet a variety of user needs by reprojecting the data or re-scaling them.

Spatial Resolution

The minimum area representing the man made features of the LULC polygons are 10 acres (4 hectares) that have a minimum width of 660 feet (200 meters). This minimum width precludes the existence of very narrow or long tracts of data classification. Non-urban and non-man made features may be mapped with polygons with a minimal area of 40 acres (16 hectares) that have a minimum width of 1320 feet (400 meters).

Data Organization

The LULC data are available in two different formats. The first format was developed as a part of the Geographic Information Retrieval and Analysis System (GIRAS). This data structure evolved as the USGS developed the LULC program in the late 70's. The other format is the Composite Theme Grid (CTG) format. This format is grid cell oriented instead of polygonal. Both formats are further defined in the Appendix under GIRAS and CTG.

Data Availability

The LULC data are available (at no cost) through an Internet anonymous File Transfer Protocol (FTP) account at the EDC. The data are also available (at cost of reproduction) on magnetic tape from the U.S. Geological Survey's Earth Science Information Centers.

Procedures for Obtaining Data

FTP Instructions

To access the account:

- FTP to edcftp.cr.usgs.gov
- Enter "anonymous" at the Name prompt.
- Enter your complete e-mail address at the Password prompt.
- Change (cd) to the "pub/data/LULC/250K" subdirectory to access 1:250,000-scale LULC data, or cd to the "pub/data/LULC/100K" subdirectory to access 1:100,000-scale data.
- Set the file transfer mode to binary by typing the word "binary".
- Use the "get" and "mget" commands to download the 00README or data files.
- The 00README file located under "/pub/data/LULC/250K" and "/pub/data/LULC/100K" contains an explanation of the directory structure and instructions for uncompressing data files.

The FTP files are also available sorted by state:

- 1:250,000-scale sorted by state,
- 1:100,000-scale sorted by state,

The data on magnetic tape are ordered by 1:250,000-scale map name or by southeast latitude and longitude of the 1:250,000-scale map.

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To place magnetic tape orders and to obtain additional information regarding technical details and price schedules, contact:
Customer Services, EROS Data Center
Earth Science Information Centers (ESICs)

Online requests for these data can be placed via the USGS Global Land Information System (GLIS) interactive query system. The GLIS system contains metadata and online samples of Earth science data. With GLIS, you may review metadata, determine product availability, and place online requests for products.

Products and Services

LULC data are distributed in the GIRAS or CTG formats through an anonymous FTP account or as ANSI-standard ASCII labeled or unlabeled magnetic tape. Published maps and other hard copy photo products are also available upon request.

Applications and Related Data Sets

The LULC data sets are intended to be compatible with a variety of digital data prepared by the USGS and other government agencies. For example, socioeconomic data compiled by the Bureau of Census can be compared to LULC data of the same area. LULC data can also be used in conjunction with DLG and DEM data to assist river basin planning, barrier island change analysis, environmental impact statement preparation and urban development studies.

References

Anderson, J. R., Hardy, E. E., Roach, J. T. and Witmer, R. E., 1976, "A Land Use and Land Cover Classification System for Use with Remote Sensor Data," U.S. Geological Survey, Professional Paper 964, p 28, Reston, VA.

DOI, USGS, 1991. 'Land Use and Land Cover and Associated Maps Factsheet,' U.S. Geological Survey, Reston, VA.

DOI, USGS, 1986. 'Land Use Land Cover Digital Data from 1:250,000 and 1:100,000-Scale Maps' Data User Guide 4, U.S. Geological Survey, Reston, VA.

Loelkes, G. L. Jr., Howard, G. E. Jr., Schwertz, E. L. Jr., Lampert, P. D., and Miller, S. W., 1983, "Land Use/Land Cover and Environmental Photointerpretation Keys," U.S. Geological Survey, Reston VA.

Mitchell, W. B., Guptill, S. C., Anderson, K. E., Fegeas, R. G., and Hallam, C. A., 1977, "GIRAS--A Geographic Information and Analysis System for Handling Land Use and Land Cover Data," U.S. Geological Survey, Professional Paper 1059, p 16, Reston, VA.

Appendix

- Classification Codes
- Record Descriptions

Classification Codes

Classification Codes-first and second level categories

1 Urban or Built-Up Land
    11 Residential
    12 Commercial Services

13 Industrial
14 Transportation, Communications
15 Industrial and Commercial
16 Mixed Urban or Built-Up Land
17 Other Urban or Built-Up Land

2 Agricultural Land
21 Cropland and Pasture
22 Orchards, Groves, Vineyards, Nurseries
23 Confined Feeding Operations
24 Other Agricultural Land

3 Rangeland
31 Herbaceous Rangeland
32 Shrub and Brush Rangeland
33 Mixed Rangeland

4 Forest Land
41 Deciduous Forest Land
42 Evergreen Forest Land
43 Mixed Forest Land

5 Water
51 Streams and Canals
52 Lakes
53 Reservoirs
54 Bays and Estuaries

6 Wetland
61 Forested Wetlands
62 Nonforested Wetlands

7 Barren Land
71 Dry Salt Flats
72 Beaches
73 Sandy Areas Other than Beaches
74 Bare Exposed Rock
75 Strip Mines, Quarries, and Gravel Pits
76 Transitional Areas
77 Mixed Barren Land

8 Tundra
81 Shrub and Brush Tundra
82 Herbaceous Tundra
83 Bare Ground
84 Wet Tundra
85 Mixed Tundra

9 Perennial Snow and Ice
91 Perennial Snowfields
92 Glaciers

Record Descriptions

Geographic Information Retrieval and Analysis System (GIRAS)

- The GIRAS format involves a standard character fixed length record (usually ASCII-coded, 80 character card images). Each record may consist of 1 to 16 data-element fields. Each data-element field may be one of three different types: 1) 16 bit binary integer; 2) 32 bit binary integer or 3) a string of text characters. The GIRAS file structure is comprised of a map header, section header, arc records subfile, coordinate subfile, polygon records subfile, file of arcs by polygon (FAP) subfile, text subfile and an associated data subfile.

Composite Theme Grid (CTG)

- The CTG files are sequential and consist of fixed length records (except for header files) with one grid cell for each logical record. The grid cells are actually a regular point sample of the quad

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where the center point of each cell is 200 meters apart from other center points in adjacent cells. The cells are mapped to the UTM projection, oriented in the north-south, east-west directions and sequenced by row from north to south, within each row, by column east to west.

LIBRARY : COUNTY, CA
LAYER NAME : HYDROBASINS
COVERAGE NAME : HBASA2

COVERAGE DESCRIPTION

The coverage hbasa2 was prepared by the California Department of Fish and Game (DFG) as a task within an interagency agreement for geographic information system (GIS) support to the California State Water Resources Control Board (SWRCB) Non-Point Source (NPS) Unit. Hbasa2 is a statewide version of the Teale GIS Technology Center (Teale) County Library data layer for hydrologic basins, called hbasa. DFG performed various corrections to the original data, such as basin coding, sliver polygon removal, and digitizing of missing boundaries. The intended use of hbasa2 is as an interim reference in digital form, accurately (but not precisely) corresponding to SWRCB-delineated basins, and as a cross-reference to Department of Water Resources (DWR) basin codes as presented in the Areal Designation map of February 10, 1981 and in "Hydrologic Data", Bulletin 130-85 (DWR, May 1988).

See the related database swrcbhc.dbf, which contains all Regional Water Quality Control Board (RWQCB) surface hydrologic basin names and codes as published by the SWRCB on the Hydrologic Basin Planning Area (HBPA) map series (1:500,000-scale; SWRCB, 1973, as revised). Metadata on this database is contained in the file swrcbhc.txt.

See also metadata (documentation) file calwater.txt for a description of the California Department of Forestry and Fire Protection (CDF) Planning Watersheds (CALWATER), which are further subdivisions of the SWRCB basin delineations. See also California Teale GIS Technology Center (Teale) ARC/INFO coverages and metadata (hbasa.txt) and DFG refinements of federal hydrologic unit codes (USGS HUCs, 1978) (hucdfg1.txt).

CALWATER, USGS, and SWRCB surface hydrologic basin delineations are being reviewed by the California Interagency Hydrologic Basin Map Committee, Chaired by the California Department of Water Resources. Basin names, codes, and boundary delineation reviews are expected to be completed within fiscal year 95/96. This coverage and the 1:500,000-scale SWRCB maps and the Teale GIS library "hbasa" coverages will be superceded by the CALWATER system, digitized on a 1:24,000-scale base (USGS 7.5'-series quadrangles), as modified by DWR and Teale.

VITAL STATISTICS

Datum:	NAD 27
Projection:	Albers
Units:	Meters
1st Std. Parallel:	34 00 00 (34.0 degrees N)
2nd Std. Parallel:	40 30 00 (40.5 degrees N)
Longitude of Origin:	-120 00 00 (120.0 degrees W)
Latitude of Origin:	00 00 00 (0.0 degrees)
False Easting (X shift):	0
False Northing (Y shift):	-4,000,000
Source:	Teale GIS Technology Center "hbasa"

Source Media:	ARC/INFO coverages, tiled by county
Source Projection:	as above
Source Units:	as above
Source Scale:	1:500,000
Capture Method:	manual digitizing
Conversion Software:	ARC/INFO rev. 7.0.3
Data Structure:	Vector
ARC/INFO Coverage Type:	Polygon
ARC/INFO Precision:	Single
ARC/INFO Tolerances:	N/A
Number of Features:	1004
Layer Size:	appx. 3.3 megabytes (uncompressed export)
Data Updated:	under development (November 1995)

DATA DICTIONARY

Structure of table HBASA2.PAT

(standard ARC/INFO fields AREA, PERIMETER, HBASA2#, and HBASA2-ID are not described here)

COL	ITEM NAME	WIDTH	TYPE	N.DEC	DESCRIPTION
17	BASIN	5	I	-	integer form of SWRCB code (w/o decimal)
22	NHCODE	6	N	2	numeric representation of SWRCB HSA code
28	ADCODE	6	C	-	DWR Areal Designation code (Bulletin 130-85)
34	CHBPA	2	C	-	Hydrologic Basin Planning Area code
36	CHUNAME	50	C	-	SWRCB Hydrologic Unit (HU) name
86	CHANAME	50	C	-	SWRCB Hydrologic Area (HA) name
136	CHSANAME	50	C	-	SWRCB Hydrologic Sub-Area (HSA) name
186	CHUCODE	6	C	-	SWRCB HU code as character string
192	CHACODE	6	C	-	SWRCB HA code as character string
198	CHSACODE	6	C	-	SWRCB HSA code as character string
204	R	1	I	-	integer code for SWRCB Hydrologic Region
205	RU	3	I	-	integer combining Region and HU codes
208	RUA	4	I	-	combines Region, HU, and HA
212	RUAS	5	I	-	combines Region, HU, HA, and HSA
					(same as BASIN, as present in original Teale "hbasa" coverage)

SWRCB HYDROLOGIC BASIN CODES

SWRCB Hydrologic codes are 6-byte strings composed of numbers and a decimal point. The meanings associated with each byte position and the decoding of a typical code are shown below. Allowable value ranges shown in parentheses.

The first byte (first position in the code string) indicates the Hydrologic Region (there are 9 statewide). Other byte positions are described below. A code ending in .00 indicates an entire major river basin, called a Hydrologic Unit (HU) (e.g. 105.00 - KLAMATH RIVER HYDROLOGIC UNIT). Large tributaries of major rivers are designated as Hydrologic Areas (HA), and their codes end in a single zero. In turn, HAs are subdivided into Hydrologic Sub-Areas (HSA), and a single digit replaces the last zero in the HA code. HSA codes ending in zero or double zeroes indicates that that the HA or HU is not subdivided (see

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further explanations under CHSANAME below).

Byte(s)	Meaning	Value Range
1	Hydrologic Region (R)	(1 <= R <= 9)
2,3	HYDROLOGIC UNIT (HU)	(00<= HU <=59);(=81)*
4	always a decimal point	(.)
5	Hydrologic Area (HA)	(0 <= HA <= 9)
6	Hydrologic Sub-Area (HSA)	(0 <= HSA<= 9)

Example: Scott Bar HSA (105.41)

1 = North Coast
05 = KLAMATH RIVER (1-digit HUs include leading zero)
4 = Scott River Hydrologic Area
1 = Scott Bar

NOTE:
Regions 4 and 8 use county lines to "split" some of their HUs. * See 481.21, 845.15, etc and REMARKS(4). In Region 5, HU values 28, 29, 30, 46 thru 50 inclusive, are skipped.

Normally, HUs and HAs are subdivided into lower categories (HUs are divided into HAs, HAs are divided into HSAs). Some HUs and HAs are not subdivided. Examples:

Name	Code	Name	Code
LUCERNE LAKE HU	701.00	Blue Lake HA	109.10
JOHNSON HU	702.00	Ruth HA	109.40
BESSEMER HU	703.00	Suisun Bay HA	207.10

Byte position 1 contains the numeric code of the SWRCB Hydrologic Regions:

R	Hydrologic Region Name	CHBPA (Hydrologic Basin Planning Area)
1	= North Coast	NC
2	= San Francisco Bay	SF
3	= Central Coast	CC
4	= Los Angeles	LA
5	= Central Valley	SB = Sacramento
5	= Central Valley	SJ = San Joaquin
5	= Central Valley	TL = Tulare Lake
6	= Lahontan	NL = North Lahontan
6	= Lahontan	SL = South Lahontan
7	= Colorado River Basin	CR
8	= Santa Ana	SA
9	= San Diego	SD

Note: The Central Valley and Lahontan Hydrologic Regions are subdivided into Hydrologic Basin Planning Areas (HBPA), each with separate names and maps. All other HBPA names are the same as Hydrologic Region names. The numeric sequence of Hydrologic Unit (HU) codes is continuous across Central Valley HBPAs, except for skipped values 528, 529, 530, and 546 through 550 inclusive. HUs 535 and 545 have the same name (San Joaquin Valley Floor), as do HUs 551, 557, and 558 (South Valley Floor).

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DWR AREAL DESIGNATION CODES

Areal Designation codes used in coverage hbasa2 were copied from a hardcopy DWR map dated February 10, 1981. The map codes were cross-checked with those contained in "Hydrologic Data", DWR Bulletin 130-85 (DWR, May 1988). Other versions of the DWR system may be in use (see DWR Bulletin 230 and other series). Discrepencies between the above two sources are listed in the table below.

DWR uses one letter to designate a "Hydrologic Basin" (HB) in byte position 1 of item ADCODE. These letter codes correspond to the SWRCB Hydrologic Regions (HR) and Hydrologic Basin Planning Areas (HBPA, see table below).

As with the SWRCB system, the DWR Areal Designation codes ending in .00 indicate entire Hydrologic Units (HU) (e.g. W14.00 - CHEMEHUEVIS HYDROLOGIC UNIT), and codes ending in a single zero indicate undivided Hydrologic Areas.

DWR Areal Designation

Byte(s)	Meaning	Value Range
1	Hydrologic Basin (HB)	(A <= HB <= Z) see below
2,3	Hydrologic Unit (HU)	(00<= HU <=??)
4	always a decimal point	(.)
5	Hydrologic Area (HA)	(0 <= HA <= Z)
6	Hydrologic Sub-Area (HSA)	(0 <= HSA<= 9)

DWR HB	SWRCB HR	SWRCB HBPA	SWRCB HR / HBPA Name
F	1	NC	North Coast
E	2	SF	San Francisco Bay
T	3	CC	Central Coast
U	4	LA	Los Angeles
A	5	SB	Central Valley / Sacramento Basin
B	5	SJ	Central Valley / San Joaquin
C	5	TL	Central Valley / Tulare Lake
G	6	NL	Lahontan / North Lahontan
W	6	SL	Lahontan / South Lahontan
X	7	CR	Colorado River Basin
Y	8	SA	Santa Ana
Z	9	SD	San Diego

Examples:

F05.D1 = 105.41 = Scott Bar HSA
A07.B1 = 520.21 = Colusa Trough HSA
B06.B0 = 541.20 = Los Banos HA
C01.T0 = 558.80 = North Kern HA
Z07.D3 = 907.43 = Cuyamaca HSA

Byte positions 2 and 3 of the Areal Designation do not always match

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in numeric value to the corresponding SWRCB HU codes.

In byte position 5 of the DWR code, the letters A, B, C, etc sometimes correspond with SWRCB HA codes 1, 2, 3, but not always. The table below shows the discrepencies discovered to-date among three sources:

AREA DESIGNATION MAP OF CALIFORNIA (DWR, 2-10-81)	HYDROLOGIC DATA Bulletin 130-85 (DWR, May 1988)	REGIONAL WATER QUALIY CONTROL BOARD (12 maps, SWRCB, 1986)
F02.A0	F02.A0	102.20
F02.B0	F02.B0	102.30
F11.B2	F11.B2	111.23
F11.B3	F11.B3	111.22
T09.X0	T09.X0	317.00
T14.E2	--	314.52
T14.E1	T14.E0	314.51
T15.B1	T15.C1	315.31
T15.B2	T15.C2	315.32
T15.B3	T15.C3	315.33
T15.B4	T15.C4	315.34
U05.F1	U05.F1	845.61
U05.F2	U05.F2	845.62
		405.62
U05.F3	U05.F3	845.63
		405.63
Z02.J1	Z02.I1	902.91
Z02.J2	Z02.I2	902.92
Z02.J3	Z02.I3	902.93
Z02.J4	Z02.I4	902.94
Z02.G4	--	902.74
Z06.D0 *		
Z07.A1 *		
Z06.E0 *		
A14.A2	A14.A2	522.11
A14.A1	A14.A1	522.12
A14.B2	A14.B2	522.24
A14.B3	A14.B3	522.22
A14.C2	A14.C2	522.33
A14.C3	A14.C3	522.32
B09.B1	B09.B1	534.22
B09.B2	B09.B2	534.21
B08.K0	B08.K0	545.10
B08.L0	B08.L0	545.20
B08.M0	B08.M0	545.30
C03.B1	C03.B1	552.35 **
C04.B2	C04.B2	553.45 **
W02.B0	W02.00	602.20
W02.A0	--	602.10

W26.DC		W26.A4	626.40
W26.CO		W26.A3	626.30
W26.AO		W26.A1	626.10
W26.BO		W26.A2	626.20
W26.GO		W26.A7	626.70
W26.HO		W26.A8	626.80
W26.EO		W26.A5	626.50
W26.FO	***	W26.A6	626.60
W28.JO		W28.I0	628.90
X13.AO		X13.A0	713.40
X13.BO		X13.B0	713.10
X13.DO		--	713.20
X08.AO		X08.A0	708.20
X08.BO		X08.B0	708.10
X17.DO		X17.00	717.40
X15.DO		X15.00	715.40

* Mission Bay, expect resolution of boundary discrepencies by RWQCB.
** Reservoir created another polygon under this code.
*** Polygon doesn't appear on original hbasa coverage from Teale.

Additional metadata on the Areal Designation system may be available from DWR.

SWRCB MAP REVISION HISTORY

CALWATER, USGS, and SWRCB surface hydrologic basin delineations are being reviewed by the California Interagency Hydrologic Basin Map Committee, Chaired by the California Department of Water Resources. Basin names, codes, and boundary delineation reviews are expected to be completed within fiscal year 95/96. The 1:500,000-scale SWRCB maps and their digital representations in the Teale GIS library will be superceded by the CALWATER system, which is digitized on a 1:24,000-scale base (USGS 7.5'-series quadrangles).

The 12 SWRCB HBPA maps whose legend indexes of hydrologic names were used to compile the coverage hbasa2 and the database swrcbhc.dbf also contain revision information. This information is reproduced here for reference.

This portion of the revision history is the same on each of the 12 maps: ("Standard Revisions" hereafter)

> April 1973
> Revised: July 1976
> Revised: August 1986
> State Water Resources Control Board
> Surveillance and Monitoring Section
> T.E. Lavenda, P.E. (signature)

Beyond the above annotation, individual map sheets differ in their content of additional revisions and notes. Text sections beginning with "REMARKS(n):" are comments by metadata author by Region, not part of the map contents.

North Coast Region (1)

The North Coast HBPA map available at this writing contained an additional revision entry and notes:

> **Revised:** July 1991
> California Regional Water Quality Control Board
> North Coast Region
> Surveillance, Monitoring, and Planning
> Don F. Hoirup, Jr. (no signature)
>
> NOTE:
>
> 1. The names and areas shown on this map are the same as used by the Department of Water Resources (DWR) in their Bulletin 94 Series.
>
> 2. The 1980 updated names and areas shown on this map are in accordance with an agreement with DWR and U.S. Geological Survey.
>
> 3. Boundaries have been modified in areas 5.81, 5.82, 5.83; 7.10, 7.20; 11.21, 11.22, 11.23; 11.31, 11.32; 11.41, 11.42. These modifications are adjustments in boundary locations from map revision August 1986.

REMARKS(1): The North Coast revisions do not result in code changes. The full Hydrologic Area (HA) and Hydrologic Sub-Area (HSA) codes involved are listed below by HYDROLOGIC UNIT for consistency with hbasa2.pat and with swrcbhc.dbf:

KLAMATH RIVER	REDWOOD CREEK	EEL RIVER
105.81	107.10	111.21
105.82	107.20	111.22
105.83		111.23
		111.31
	111.32	
	111.41	
	111.42	

As of July 20, 1995 the above boundary changes have not yet been included in the coverage hbasa2, nor in Teale's hbasa data layer, nor in CDF's CALWATER digital coverage of SWRCB boundaries. Expect additional boundary modifications in other SWRCB Hydrologic Regions. Note 2 may be referring to August 1986 revision, not 1980; or to a 1978 Interagency Agreement on basin names. Boundaries of DWR Bulletins 94-, 130-, and 230-series maps and those of the SWRCB do not always agree.

San Francisco Bay Hydrologic Region (2)

> Standard Revisions; no additional Notes.

Central Coast Region (3)

> Standard Revisions; no additional Notes.

Los Angeles Region (4)

Standard Revisions; additional Notes:

NOTE:

1. The names and areas shown on this map are the same as used by the Department of Water Resources (DWR) in their Bulletin 130 Series except as noted below.

2. The numbering system used on this map is an adaptation of the numbering system used in the 130 Series.

3. The boundary between Region 8 and Region 4 follows the boundary between Los Angeles County and Orange or San Bernardino Counties, not the Hydrologic Boundary. The San Bernardino County line splits Hydrologic Unit 1 (Santa Ana River HU) so that Sub-Areas 481.21, 481.22, and 481.23 are legally in Region 4 but drain into Region 8. The Orange County line splits Hydrologic Unit 5 (Los Angeles-San Gabriel River HU) so that Sub-Areas 845.15, 845.61, 845.62, and 845.63 are legally in Region 8 but drain into Region 4. Therefore, a 5-digit number on the map indicates that a Regional Boundary divides a Hydrologic Unit, area, or subarea. In these cases the second digit is the number of the region from which the hydrologic area has been separated by the regional boundary. All other digits are described in the legend.

4. The 1986 updated names and boundaries shown on the map are in accordance with an agreement with DWR and US Geological Survey.

REMARKS(4): Note 1 refers to DWR Bulletin 130 Series, titled "Hydrologic Data". See also DWR Bulletin series 94- and 230-. Note 2 refers to SWRCB code adaptation of the DWR "Areal Designation" system of basin coding as used in Bulletins 94, 130, and 230 (see Areal Designation system description in DATA DICTIONARY above).

Central Valley Region (5), Sacramento Basin (SB) HBPA

Standard Revisions; additional Notes:

NOTE:

1. The 1986 revised numbers and boundaries shown on this map are in accordance with an interagency agreement between the State Board, the Department of Water Resources, and the U.S. Geological Survey.

Central Valley Region (5), San Joaquin (SJ) HBPA

Standard Revisions; additional Notes:

NOTE:

1. (same as for SB HBPA above)

2. San Joaquin Valley Floor Hydrologic Unit includes Hydrologic Unit numbers 535 and 545.

REMARKS(5/SJ): HU codes 535 and 545 have the same name. HU codes 528, 529, and 530 are skipped in the Central Valley sequence.

Central Valley Region (5), Tulare Lake (TL) HBPA

Standard Revisions; additional Notes:

NOTE:

1. (same as for SB HBPA above)

2. South Valley Floor Hydrologic Unit includes Hydrologic Unit numbers 551, 557, and 558 due to the large number of Hydrologic Areas contained in this unit.

REMARKS(5/TL): HU codes 551, 557 and 558 have the same name. HU codes 546 through 550 inclusive are skipped in the Central Valley sequence.

Lahontan Region (6), North Lahontan (NL) HBPA

Standard Revisions; additional Notes:

NOTE:

1. The 1986 updated names and boundaries shown on this map are in accordance with an agreement with the Department of Water Resources and the U.S. Geological Survey.

Lahontan Region (6), South Lahontan (SL) HBPA

Standard Revisions; additional Notes:

NOTE:

1. The names and areas shown on this map are the same as used by the Department of Water Resources (DWR) in their Bulletin 130 Series except as explained below.

2. The numbering system used on this map is an adaptation of the numbering system used in the 130 Series.

3. The 1986 updated names and boundaries shown on the map are in accordance with an agreement with DWR and the U.S. Geological Survey.

REMARKS(6/SL): Note 1 refers to DWR Bulletin 130 Series, titled "Hydrologic Data". See also DWR Bulletins 94 and 230. Note 2 refers to SWRCB code adaptation of the DWR "Areal Designation" system of basin coding as used in Bulletin 230 and elsewhere. See REMARKS(4).

R0006443

Colorado River Basin Region (7)

Standard Revisions; additional Notes, REMARKS: same as SL HBPA above.

Santa Ana Region (8)

Standard Revisions; additional Notes, REMARKS: same as Region 4 above.

San Diego Region (9)

Standard Revisions; additional Notes, REMARKS: same as SL HBPA above.

DATA QUALITY ASSESSMENT

All SWRCB hydrologic names and codes were verified for consistency with 1:500,000-scale, SWRCB-published maps as of their August 1986 revision. Regional (RWQCB) and State (SWRCB) Boards have performed subsequent revisions. Expect updates of the database swrcbhc.dbf and this metadata file (see also REVISION HISTORY section above).

Several discrepencies among alternative basin coding systems with respect to the coverage hbasa2 are described in the DATA DICTIONARY above. Users are cautioned to also examine the boundaries of the following SWRCB basins for consistency with CALWATER delineations (other discrepencies may also exist as CALWATER is under development):

See field HCODE in the polygon attribute table HBASA2.PAT:

111.21
526.44
637.31
518.41
508.10
509.63
536.20
537.10
535.90
405.62
845.62
405.63
845.62
630.30
506.10
515.10
535.40

Users should contact their local Regional Water Quality Control Board offices to obtain the most current basin delineations and codes.

CONTACTS

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State Water Resources Control Board
Sacramento, California
Phone: 916-657-0522

Revised: November 29, 1995

LIBRARY : COUNTY
LAYER NAME : URBANIZEDAREAS
COVERAGE NAME : URBAREA

COVERAGE DESCRIPTION:

The 'URBANIZEDAREAS' layer contains arcs and polygons that correspond to the U.S Census Bureau's urbanized area designations in California. These files were derived from the 1992 TIGER files (TIGER V5) for Teale Data Center by Geographic Data Technology, Inc. in September 1994.

An excerpt from the TIGER technical documentation which discusses urbanized areas and urban/rural areas is included below.

VITAL STATISTICS:

Datum:	NAD 27
Projection:	Albers
Units:	Meters
1st Std. Parallel:	34 00 00 (34.0 degrees N)
2nd Std. Parallel:	40 30 00 (40.5 degrees N)
Longitude of Origin:	-120 00 00 (120.0 degrees W)
Latitude of Origin:	00 00 00 (0.0 degrees)
False Easting (X shift):	0
False Northing (Y shift):	-4,000,000
Source:	US Dep't of Commerce Census Bureau TIGER/Line Version 5
Source Media:	Magnetic Tape
Source Projection:	Geographic
Source Units:	Decimal degrees
Source Scale:	Unknown
Capture Method:	Unknown
Conversion Software:	ARC/INFO rev. unknown
Data Structure:	Vector
ARC/INFO Coverage Type:	Polygon
ARC/INFO Precision:	Double
ARC/INFO Tolerances:	106.388 fuzzy / 0.0 dangle
Number of Features:	393 polygons
Layer Size:	8.819 megabytes
Data Updated:	September 1994 (creation date)

DATA DICTIONARY:

DATAFILE: URBAREA.PAT
RECORD LENGTH: 94

COLUMN	ITEM NAME	WIDTH	OUTPUT	TYPE	N.DEC
1	AREA	8	18	F	5
9	PERIMETER	8	18	F	5
17	URBAREA#	4	5	B	-
21	URBAREA-ID	4	5	B	-
25	STATE	2	2	C	-

R0006446

27	COUNTY	3	3	C	-
30	UA	5	5	C	-
35	NAME	56	56	C	-
91	CENSUS	3	3	C	-
94	FLAG	1	1	C	-
	** REDEFINED ITEMS **				
30	FLAGN	5	5	I	-

AREA : The area of the polygon in square coverage units.

PERIMETER : The length of the polygon perimeter of the polygon in coverage units.

URBAREA# : The software-assigned unique integer identification number.

URBAREA-ID : A user-assigned identification number.

STATE: 06 (California)

COUNTY: Federal FIPS county code (odd numbers from 001 - 115)

UA: Urbanized area code

NAME: Name of urbanized area

CENSUS: unknown - all records contain blanks for this item.

FLAG: (0 or 1) 0 = non-urbanized area; 1 = urbanized area

FLAGN: Numeric version of item FLAG.

TIGER TECHNICAL DOCUMENTATION EXCERPT:

Urbanized Areas (UA's)

Identification

A UA comprises a place and the adjacent densely-settled surrounding territory that together have a minimum population of 50,000 people. The densely-settled surrounding territory generally consists of an area with continuous residential development and an overall population density of at least 1,000 people per square mile. The TIGER/Line(TM) files identify UA's with a 4-character numeric code field.

All polygons that have a UA code (other than blank) will have a U/R flag equal "U." See the discussion on U/R flags.

Record Locations: UA Codes

RT	Field Name	Description
A	UA	1990 census UA code (polygon)

Codes: UA's

The UA code is a 4-character numeric census code. The names associated with the code appear in the TIGER/GICS product. Appendix G lists the UA names and codes.

Urban/Rural Designation (U/R)

Identification

The TIGER/Line(TM) files include a 1-character U/R flag:

"R" Rural, not urban
"U" Urban, in a UA or an urban place

The Census Bureau defines "urban" for the 1990 census as comprising all territory and population in UA's and in places of 2,500 or more people located outside of the UA's.

The Census Bureau also distinguishes the urban and rural population, within incorporated places whose boundaries contain large, sparsely populated--or even unpopulated--area. These "extended cities" have either 25 percent of their land area or at least 25 square miles classified as "sparsely-settled." The sparsely-settled area must consist of at least one group of one or more contiguous census blocks. Each group must be at least 5 square miles in area and have an overall population density of less than 100 people per square mile. Polygons in the group of sparsely-settled blocks will have a flag equal to "R;" the densely-populated blocks will have a flag equal to "U." Incorporated places (based on 1990 census boundaries) with both urban and rural flagged polygons are extended cities. For the 1990 census, 280 incorporated places were defined as extended cities. Extended cities exist both inside and outside of UA's.

The Census Bureau assigns the U/R flag to tabulation blocks, so all GT-polygons within a block have the same U/R flag. All blocks that have a UA code (other than blank) will have an U/R flag equal "U." Blocks in places that qualify as urban places, but not in a UA, do not have a UA code, but do have a U/R flag equal to "U." Rural areas are identified by a "R" flag and will not have a UA code.

Record Locations: U/R Flags

RT	Field Name	Description
A	URBFLAG	1990 census U/R flag (polygon)

Codes: U/R Flags

Urban:	"U"
Rural:	"R"

***** END OF TIGER TECHNICAL DOCUMENTATION EXCERPT *****

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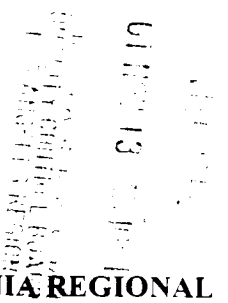
OUR FILE NO:
00006-0875; 00111-0539; 03476-0001
01953-0001; 01359-0105; 04191-0001; 00219-0146; 02012-0181; 01516-0027; 00070-0307

November 12, 2001

Mr. Dennis Dickerson,
Executive Officer,
California Regional Water Quality Control Board –
Los Angeles Region
Attn: Xavier Swamikannu, Ph.D.
320 West 4th Street, Suite 200
Los Angeles, California 90013



Re: **Comments on "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH"**

Dear Mr. Dickerson and Dr. Swamikannu:

By this letter, the Los Angeles County Economic Development Corporation ("LAEDC") and the Cities of Alhambra, Camarillo, Compton, El Segundo, Industry, Lawndale, Lomita, Moorpark, Santa Clarita and Torrance (the "Cities") offer comments on the "*Tentative Draft-October 11, 2001*, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" (the "Third Draft") and the accompanying document, "Tentative Draft–FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

Interest of the Cities and the Los Angeles County Economic Development Corporation

The Order to be issued by the Board will directly affect the Cities of Alhambra, Compton, El Segundo, Industry, Lawndale, Lomita, Santa Clarita and Torrance, which will be co-permittees under the Order.

The City of Moorpark and the City of Camarillo, in Ventura County, will be affected by the Board's Order as those cities petitioned the SWRCB for review of an action of the Executive Officer of the Los Angeles Regional Board with respect to the modification of their MS4 NPDES permit. The issue in their petition is whether certain land use provisions, referred to as SUSMPs in this Permit and SQUIMPs in the Ventura County Permit, would be made applicable to non-discretionary permits to be issued by the co-permittees in the Ventura County permit. The Camarillo/Moorpark appeal to the SWRCB is being held in abeyance[1] pending decision by the Los Angeles Regional Board on provisions in the Los Angeles County permit.[2]

LAEDC is the premier business leadership organization in Los Angeles County. The LAEDC's mission is to attract, retain and grow businesses and jobs in the regions of Los Angeles County. LAEDC has a vital interest in growth and development in Los Angeles County. The Board's action in this matter will affect the ability of LAEDC to carry out its mission.

Issues Not Adequately Addressed in the Tentative Draft Order

The LAEDC and the Cities submit that the Tentative Draft fails to address adequately a number of issues of concern. These are: Cost of Compliance; Land Use and Redevelopment; and Inconsistencies With Controlling Statutes and Regulations. These are addressed in detail in the enclosed Comments and Statement of Points and Authorities. However, there are several points to which we wish to invite the Board's early attention, and these are set out below.

Cost of Compliance

By letter of November 6, 2001, the LAEDC and the Cities submitted the following reports:

---

[1] See CRWQCB-LA letter of May 4, 2001, to Brian A. Pierik and Rufus C. Young, Jr.

[2] See Fisher and Swamikannu, "STORM WATER MITIGATION REQUIREMENTS FOR PRIORITY PLANNING PROJECTS FOR THE PROTECTION OF WATER QUALITY – TECHNICAL REPORT," October 2001, Attachment 1 to Tentative Draft – FACT SHEET/STAFF REPORT, NPDES CAS004001 (the "Fisher-Swamikannu Technical Report").

1. "Southern California Association of Governments Staff Report to Energy and Environment Committee dated August 23, 2001, Subject: Regional Solutions for Managing Stormwater Pollution" (the "SCAG Report");

2. "COST OF STORM WATER TREATMENT FOR THE LOS ANGELES COUNTY NPDES PERMIT AREA" June, 1998, by Brown & Caldwell, prepared for California Department of Transportation; and

3. "Financial and Economic Impacts of Storm Water Treatment Los Angeles County NPDES Permit Area" presented to California Department of Transportation Environmental Program, Report I.D. #CTSWRT-98-72, November, 1998, by Stanley R. Hoffman Associates, (the "Caltrans Financial and Economic Impacts Study").

By letter of November 8, 2001, the LAEDC and the Cities submitted an additional report:

"COST OF STORM WATER TREATMENT FOR CALIFORNIA URBANIZED AREAS," October, 1998, prepared for California Department of Transportation, Sacramento, California, by Brown and Caldwell

These studies and reports (to which I shall refer collectively as the "Storm Water Permit Cost Studies") are evidence to be considered and addressed by the Board and the Staff in the revision of the Tentative Draft and the Tentative Draft – Fact Sheet/Staff Report.

The Storm Water Permit Cost Studies conclude that the cost of storm water compliance for the Los Angeles County area will exceed $50 Billion. These Storm Water Permit Cost Studies must be taken into consideration in re-evaluating the requirements to be imposed on the co-permittees. This is because Municipal Separate Storm Sewer System ("MS4s") permits are issued under section 402(p)(3)(B)(iii) of the Clean Water Act (the "CWA").[3] **That section** does not impose an absolute prohibition on the discharge of pollutants. Instead, the section **requires that:**

Permits for discharges from municipal storm sewers --

> **(iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable*,** including management practices, control techniques and system, design and engineering methods, and such other

[3] 33 U.S.C. § 1342(p)(3)(B)(iii).

provisions as the Administrator or the State determines appropriate for the control of such pollutants. (Emphasis added.)

Similarly, section 13263(a) of the California Water Code requires regional boards, when prescribing waste discharge requirements, to take into consideration the provisions of California Water Code §§ 13241(c) and (d). Those sections require a balancing similar to that required by § 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii). **Among the factors regional boards must consider are**:

(c) ***Water quality conditions that could reasonably be achieved*** through the coordinated control of all factors which affect water quality in the area.

(d) ***Economic considerations***.

The balancing required by CWA § 402(p)(3)(B)(iii) and California Water Code §§ 13241(c) and (d) clearly require the Regional Board to consider the Storm Water Permit Cost Studies as they are direct evidence of economic considerations of the permit.

The LAEDC and the Cities fully support the objectives of the Clean Water Act, and the expenditure of funds necessary to achieve its goals. However, the magnitude of the compliance cost estimates referred to in the Storm Water Permit Cost Studies, over $50 Billion for the region affected by the Order, would make it necessary for the Cities named above, and all other Cities in Los Angeles County, to ask the Congress and the California Legislature to appropriate nearly all of the funds estimated to be necessary for compliance. Given the current downturn in the economy and the priorities for funding Operation Enduring Freedom and Homeland Defense, Congress and the State Legislature may be unable to make necessary funds available.

The LAEDC and the Cities are not aware of any published studies, by any reputable and qualified persons, which rebut the Storm Water Permit Cost Studies which they submitted.

Land Use and Redevelopment

While the Tentative Draft–Fact Sheet/Staff Report, at pages 41-42, refers to SWRCB Order WQ 2000-11 (the LA SUSMP decision), neither the Tentative Draft–Fact Sheet/Staff Report nor Board Order WQ 2000-11, nor the Fisher-Swamikannu Technical Report discusses statutory and constitutional limitations on the authority of Regional Boards to condition the issuance of MS4 permits on requirements that permitees must impose land use constraints as a condition of land use approvals. The LAEDC and the Cities respectfully submit that in enacting the CWA, Congress made it very clear, in the first section of

the CWA, that the CWA, including the National Pollutant Discharge Elimination System ("NPDES") program for MS4s is ***not*** meant to infringe on local land use authority:

> It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States . . . to plan the development and use (including restoration, preservation, and enhancement) of land and water resources . . . .

33 U.S.C. § 1251(b), CWA § 101(b). The US EPA's position on this issue is clear. In promulgating the Phase II storm water regulations, EPA said flatly **"EPA recognizes that land use planning is within the authority of local governments."** 64 Fed.Reg. 68761, December 8, 1999. As the Regional Board acts in this context pursuant to a delegation of authority from the EPA, we suggest that the Regional Board is bound by EPA's pronouncements as to the reach of its authority.

The Tentative Draft –Fact Sheet/Staff Report also fails to reconcile the Tentative Draft's requirements regarding redevelopment, which reach far beyond the limits set by the US EPA. The LAEDC and the Cities invite the Board's attention to the constraints cities would be required to impose on property owners who seek permits for redevelopment, found in PART 4.D.3.b).(7), on page 42, of the Tentative Draft. The Tentative Draft, at page 70, defines **"Redevelopment" to mean "the creation, addition or replacement of 5,000 square feet of impervious surface area on an already developed site."** The definition of "Redevelopment" in the Tentative Draft conflict with the EPA's definition of the term. In promulgating the Phase II final rules, EPA stated

> **EPA intends the term "redevelopment" to refer to alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling,** which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls.

64 Fed.Reg. 68760, December 8, 1999. Neither the Cities nor the LAEDC are aware of any evidence to support the use of a 5,000 square foot, rather than EPA's one-acre, threshold for the application of source control and structural BMPs (Best Management Practices) such as construction of detention basins. Similarly, neither the Cities nor LAEDC are aware of any authority for the proposition that the EPA's one-acre threshold is not binding for purposes of this Order, Regional Boards act in this context pursuant to a delegation of authority from the EPA.

Finally, we note that in setting the threshold for the application of construction permits for Phase II, the EPA examined considerable scientific evidence before concluding that one acre was the proper threshold. The Cities and the LAEDC suggest that the same considerations apply to redevelopment.

If the Regional Board's 5,000 square foot threshold is permitted to stand, the redevelopment of built out areas will be significantly hindered, without any evidence that there are any benefits from this lower threshold. A requirement for projects under one acre to meet the SUSMP redevelopment requirements will be difficult and expensive. The result will be to discourage redevelopment of areas which would benefit the most. The consequence of that will be the promotion of urban sprawl, dumb growth, not smart growth. The Tentative Draft should be revised to require the Permit to incorporate the EPA definition of redevelopment.

Peak Flow Control

The Tentative Draft, in Parts 4.D.2 and 4.D.4, on pages 40-44, discusses, albeit briefly, Peak Flow Control and Numerical Design Criteria measures, which are to reduce post-development flows of water, whether or the water is pure or carries any "pollutants" into the storm water system. The Tentative Draft–Fact Sheet/Staff Report fails to address a point addressed more fully in the enclosed Comments and Points and Authorities: whether the Regional Board's authority under the Clean Water Act extends to the regulation of the **rate** of discharge of water, independent of the presence or absence of pollutants.

Conclusion

More detailed comments may be found in the enclosed Comments and Points and Authorities. The LAEDC and the Cities ask that this letter and the enclosed Comments and Statement of Points and Authorities be made a part of the record of this matter. The Cities and the LAEDC reserve the right to offer further comments. The firm of Burke, Williams & Sorensen, LLP, is special counsel for the LAEDC and for each of the Cities in this matter.

Very truly yours,

RUFUS C. YOUNG, JR.
Of BURKE, WILLIAMS & SORENSEN, LLP

LA #80111 v1

cc: Lee Harrington, President and CEO, Los Angeles County Economic Development Corporation;
Mayors, City Managers and City Attorneys of the
City of Alhambra,
City of Camarillo,
City of Compton,
City of El Segundo,
City of Industry,
City of Lawndale,
City of Lomita,
City of Moorpark,
City of Santa Clarita, and the
City of Torrance

BEFORE THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD FOR THE LOS ANGELES REGION

COMMENTS AND STATEMENT OF POINTS AND AUTHORITIES REGARDING *"Tentative Draft-October 11, 2001,* CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGIONAL ORDER No. 01-xxx NPDES No. CAS004001 WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN, EXCEPT FOR THE CITY OF LONG BEACH" (the "Third Draft") and "Tentative Draft – FACT SHEET/STAFF REPORT State of California Regional Water Quality Control Board Los Angeles Region National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001, CI 6948 Regional Board Order No. 01-XXX."

Submitted on Behalf of the Los Angeles County Economic Development Corporation, the City of Alhambra, the City of Camarillo, the City of Compton, the City of El Segundo, the City of Industry, the City of Lawndale, the City of Lomita, the City of Moorpark, the City of Santa Clarita and the City of Torrance, California

November 12, 2001

by
BURKE, WILLIAMS & SORENSEN, LLP
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---

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[5] See Fisher and Swamikannu, "STORM WATER MITIGATION REQUIREMENTS FOR PRIORITY PLANNING PROJECTS FOR THE PROTECTION OF WATER QUALITY – TECHNICAL REPORT," October 2001, Attachment 1 to Tentative Draft – FACT SHEET/STAFF REPORT, NPDES CAS004001.

2. **The Storm Water Permit Cost Studies, which conclude that the cost of storm water compliance for the areas affected by storm water permits issued by the Board for Los Angeles County will exceed $50 Billion, must be taken into consideration in re-evaluating the requirements to be imposed on the co-permittees.**

Consideration must be given to the Storm Water Permit Cost Studies because MS4 permits are issued under section 402(p)(3)(B)(iii) of the CWA.[6] **That section** does not impose an absolute prohibition on the discharge of pollutants. Instead, the section **requires that:**

> **Permits for discharges from municipal storm sewers --**
>
> **(iii) shall require controls to reduce the discharge of pollutants to the *maximum extent practicable*,** including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (Emphasis added.)

Similarly, section 13263(a) of the California Water Code requires regional boards, when prescribing waste discharge requirements, to take into consideration the provisions of California Water Code §§ 13241(c) and (d). Those sections require a balancing similar to that required by § 402(p)(3)(B)(iii) of the CWA, 33 U.S.C. § 1342(p)(3)(B)(iii). **Among the factors regional boards must consider are**:

(c) ***Water quality conditions that could reasonably be achieved*** through the coordinated control of all factors which affect water quality in the area.

(d) ***Economic considerations***.

The balancing required by CWA § 402(p)(3)(B)(iii) and California Water Code §§ 13241(c) and (d) clearly require the Regional Board to consider the costs of permit compliance.

The LAEDC and the Cities fully support the objectives of the Clean Water Act. However, the magnitude of the compliance cost estimates referred to in the Storm Water Permit Cost Studies, over $50 Billion, would make it necessary for the Cities named above, and all other Cities in Los Angeles County, to ask the Congress and the California Legislature to appropriate nearly all of the funds estimated to be necessary for compliance. Given the current downturn in the economy and the priorities for funding Operation Enduring Freedom and Homeland Defense, Congress and the State Legislature may be unable to make necessary funds available.

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[6] 33 U.S.C. § 1342(p)(3)(B)(iii).

The LAEDC and the Cities are not aware of any published studies, by any reputable and qualified persons, which rebut the Storm Water Permit Cost Studies which they submitted.

3. **The Tentative Draft Exceeds the Limits Imposed by the CWA by Attempting to Regulate the Manner in Which Cities Exercise Land Use Authority; A Matter Over Which the Regional Board Has No Authority.**

The Tentative Draft fails to address a jurisdictional matter of fundamental importance. Contrary to the provisions of the Clean Water Act and California law, the Tentative Draft, in numerous places, but especially Part 4.D.3, at pages 41-42, would impose restrictions on how permittees exercise their authority to regulate land use, rather than simply requiring the Co-permittees to reduce the discharge of pollutants to the maximum extent practicable. In the very first section of the Clean Water Act, Congress made it clear that the CWA, including the NPDES program, is not meant to infringe on local land use authority:

> **It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States . . . to plan the development and use (including restoration, preservation, and enhancement) of land and water resources . . . .**

CWA § 101(b), 33 U.S.C. § 1251(b). This policy was relied on recently by the Supreme Court of the United States in a case in which the Court limited federal authority over local land use matters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers*, 531 U.S. 159 (2001), the Court struck down a rule of the Army Corps of Engineers under which the Corps claimed jurisdiction under the Clean Water Act over isolated intra-state wetlands. **The Court found that the rule:**

> **would result in a significant impingement of the States' traditional and primary power over land and water use.** *See, e.g., Hess v. Port Authority Trans-Hudson Corporation,* 513 U.S. 30, 44 (1994) **("[R]egulation of land use [is] a function traditionally performed by local governments").** Rather than expressing a desire to readjust the federal-state balance in this manner, Congress [through the CWA] chose to "recognize, preserve, and protect the primary responsibilities and rights of States ... to plan the development and use . . . of land and water resources . . . ." 33 U.S.C. § 1251(b).

The US EPA has recognized that a "command and control" approach is inappropriate in the context of post-construction measures. In promulgating the Phase II regulations, EPA said

> **EPA *recommends* that municipalities consider policies and ordinances that encourage infill development in higher density urban areas, and**

> **areas with existing infrastructure, in order to meet the measure's intent.**

64 Fed.Reg. 68742, December 8, 1999. EPA has acknowledged the sensitivity of the issue: **"EPA is very aware of municipal concerns about possible federal interference with local land use planning."** 64 Fed.Reg. 68742, December 8, 1999. EPA declined to impose specific requirements for permits issued to small MS4s, instead stating

> **EPA *encourages* operators of regulated small MS4s** to identify specific problem areas within their jurisdictions and initiate innovative solutions and designs **to focus attention on those areas through local planning**.

64 Fed.Reg. 68759, December 8, 1999. **Finally, and most tellingly, in responding to comments on the Phase II regulations regarding Post-Construction Storm Water Management in New Development and Redevelopment, EPA said flatly "EPA recognizes that land use planning is within the authority of local governments."** 64 Fed.Reg. 68761, December 8, 1999.[7]

It should be clear, then, that if there is authority for a Regional Board to regulate local land use, it does not come from the CWA, as Congress, with the express approval of the Supreme Court in the *SWANCC* case, and the EPA, have unequivocally disavowed any suggestion that the CWA grants EPA, or the states when acting for EPA, any land use control authority. Therefore, if a Regional Board is to prescribe land use controls as a condition of a WDR/NPDES Storm Water permit, that authority must come from California law.

However, under California law, it is local governments, cities and counties, and not state executive agencies, which exercise land use authority. The authority of cities and counties to regulate land use comes from the California Constitution. Article XI, §7 confers on local governments, and not on Regional Boards, the authority to regulate land use, through the exercise of the "police power." The California Legislature, in enacting Government Code § 65800, declared

> **its intention to provide only a minimum of limitation in order that counties and cities may exercise the maximum degree of control over local zoning matters.**

Case law confirms the authority of cities and counties, recognizing that in their intrinsic character and by express declaration, state laws on county and city zoning are designed as standardizing limitations over local zoning practices, not as specific grants of authority to

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[7] The EPA's acknowledgement of its lack of authority to control local land use may be based, in part, on this exchange which occurred during hearings on the adoption of the CWA:

> Senator BAKER: The hobby of a politician is to watch the ebb and flow of words that are created. Land use creates not a ripple today, but I think in a year or two we will have a strong reaction to it, as people come to realize that we are talking about a national zoning system.
> Mr. RUCKELSHAUS: That is not in the proposals before us, Senator.

legislate. *Scrutton v. Sacramento County*, 275 Cal.App.2d 412 (1969). Furthermore, in *Los Angeles v. California*, 138 Cal.App.3d 526, 533 (1982), it was recognized that

> the Legislature has been sensitive to the fact that **planning and zoning in the conventional sense have traditionally been deemed municipal affairs.** It [the Legislature] has thus made **no attempt to deprive local governments (chartered city or otherwise) of their right to manage and control such matters**, bur rather has attempted to impinge upon local control only to the limited degree necessary to further legitimate state interests.

Through the Standard Urban Storm Water Mitigation Program ("SUSMP") provisions of the Tentative Draft, the Regional Board attempts to regulate local land use by requiring the Co-permittees to impose constraints on land use. **Part 4.D.3, on page 41-42, for example, requires Cities to subject development project land use approvals to the condition that the property owner**

> **Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition.**

For a Regional Board to dictate conditions which cities must impose on land use approvals, violates the separation of powers doctrine. To put this another way, it is the California Constitution and the California Legislature, and not the Regional Boards, which authorize Cities to prescribe land use conditions.

None of the foregoing points are addressed in the Tentative Draft–Fact Sheet/Staff Report or the Fisher-Swamikannu Technical Report. Instead, the Tentative Draft–Fact Sheet/Staff Report simply relies on Order WQ 2000-11, brushing aside the Cities' previous SUSMP contentions. We must now point out that, notwithstanding Order WQ 2000-11, the Tentative Draft's encroachments upon local land use authority not only violate § 101(b) of the CWA, and are contrary to EPA express acknowledgement of the limits of its authority, they are contrary to California law, which places land use control firmly in the hands of local governments, not Regional Boards. Order WQ 2000-11 does not merit the deference accorded it. It was flawed from the outset, as Regional Boards have never had any authority to impose constraints over land use approvals. The Tentative Draft–Fact Sheet/Staff Report should address the foregoing points and the Tentative Draft should be revised in light of the constraints of the Clean Water Act and the EPA's acknowledgement of the limits of its authority.

4. **The Provisions of Part 4.d.3.b) of the Tentative Draft, page 41, by Incorporating Regional Board Resolution No. R. 00-02, Requiring Property Owners to "Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition" Could be Argued to Violate the "Takings Clause" of the U.S. Constitution.**

The Fifth Amendment to the United States Constitution provides that

> **no person shall ... be deprived of ... property without due process of law; nor shall private property be taken for public use, without just compensation.**[8]

No consideration is given in the Tentative Draft–Fact Sheet/Staff Report; an accompanying Technical Report;[9] or Order WQ 2000-11, to the "Takings Clause" issues created by the Tentative Draft's SUSMP requirements which the Cities are to impose on private property owners to "**Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition**" and other land use provisions. We suggest that cities (and the Regional Board, joined as a necessary party) may face "takings" claims if cities attempt to condition land development approvals on the imposition of these undefined and elastic requirements.[10] Property owners might well claim that the requirement to "minimize impervious coverage," when applied to their property, is a taking of private property for public use.

Consider this example: an application for a residential development permit by an owner of ten acres, who seeks to develop ten homes, each on a one-acre lot. The "**Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition**" requirement incorporated into the Tentative Draft could be seen as requiring local government co-permittees to condition development approval on a requirement that the property owner build all ten homes on one acre, and to deny the owner any rights to develop the remaining nine one-acre lots. In *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992), the Supreme Court held that where a regulation denies all economically beneficial or productive use of land (in this example, the nine one-acre lots), a "taking" has occurred, requiring that the owner be compensated.[11] The reduction of runoff of polluted storm water is a critically important objective, one which the Cities and LAEDC fully support. However, the Cities and LAEDC are constrained to point out that a property owner who is denied the opportunity to develop nine one-acre lots, by application of the "**Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition**" provision, may argue that she is being forced to bear a disproportionate share of the burden relative to other members of the community and may well raise a takings challenge (to which the Regional Board would seem to be a necessary party).

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[8] This provision is commonly referred to as the "Takings Clause."

[9] M. Fisher & X. Swamikannu, STORM WATER MITIGATION REQUIREMENTS FOR PRIORITY PLANNING PROJECTS FOR THE PROTECTION OF WATER QUALITY, October 2001.

[10] This discussion sets aside for the moment, but should not be construed to waive, the Cities and LAEDC's argument that the Congress never intended to authorize the EPA, or the states, when acting pursuant to a delegation of authority from EPA, to invade the well-established land use prerogatives of local government, an issue raised in Point #1, above.

[11] *See also, Palazzolo v. Rhode Island*, 533 U.S. ___, 121 S.Ct. 2448 (2001) (landowner's claim that a state's application of its wetlands regulations took his property without compensation in violation of the Takings Clause ripe for review); *Florida Rock Industries, Inc. v. United States*, 45 Fed.Cl. 21 (Fed.Cl. 1999)(the notion that the government can take two thirds of your property and not compensate you but must compensate you if it takes 100% has a ring of irrationality and unfairness about it; the court held that 73.1% of the value of the land was diminished, a regulatory taking had occurred and Florida Rock was entitled to just compensation).

A regulation adopted by the Tahoe Regional Planning Agency, intended to protect Lake Tahoe from storm water runoff, which prohibited residential single-family home construction was held to be not defensible under the "nuisance exception" of the *Lucas* case, because under California law, construction of a single-family house does not constitute a nuisance. The regulation was held to have effected a taking, entitling property owners to compensation. *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 34 F.Supp.2d 1226, 1251-55 (D. Nev., 1999). Although the trial court's decision was reversed in part, and remanded by *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 216 F.3d 764 (9th Cir., 2000), *Rehearing denied by, Rehearing en banc denied by Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 228 F.3d 998 (9th Cir., 2000), the Supreme Court of the United States has granted certiorari, apparently to examine the decision by the Ninth Circuit. *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, (Writ of Certiorari granted), 150 L.Ed.2d 749, 121 S.Ct. 2589, 2001 U.S. LEXIS 5208 (2001).

The Cities and LAEDC also point out that the provisions requiring that impervious coverage be minimized appear to be intended to apply to all land use approvals, regardless of the physical setting and runoff potential of the subdivision in question. This lack of any requirement for a "nexus" between the condition for approval and the benefit to be achieved, is not discussed in the Tentative Draft or Order WQ 2000-11, but it raises due process and equal protection issues.

5. The Application of Standard Urban Storm Water Mitigation Plans ("SUSMPs") to Non-Discretionary, or Ministerial, Approvals Could Violate the "Takings Clause."

An important matter discussed in the Tentative Draft–Fact Sheet/Staff Report and elaborated on in the Fisher-Swamikannu Technical Report, is that not only are the SUSMPs to be applied to the co-permittees' discretionary land use decisions, the Regional Board Staff contemplates that the co-permittees will apply the SUSMPs to non-discretionary, or ministerial decisions. Apparently Staff does not appreciate that the reason some decisions are called non-discretionary is that the property owner has a vested right to the permit in question, and the local official has no discretion to deny the permit. Any attempt to impose additional requirements, after a right has vested, could result in a claim by the property owner that her property has been taken without just compensation, as required by the California and federal Constitutions. Consider this example: a property owner already has satisfied all requirements for discretionary approvals for construction of homes in a 100-home subdivision, through the approval of a "vesting tentative map"[12] and now seeks to pull building permits for construction of a last phase of 10 homes. Absent the SUSMP, a City, typically through its Building Official, would be required to issue the building permits if the Building Official determines that the permit application meets fixed, defined requirements, *e.g.*, single family residences on lots zoned for single

[12] A vesting tentative map, if granted, will confer a vested right to proceed with the development in accordance with ordinances, policies and standards in effect at the time the application for approval of the vesting tentative map is complete. California Gov't Code § 66498.1; *see, Kaufman & Broad Central Valley, Inc. v. City of Modesto*, 25 Cal.App.4th 1577 (1994).

family. **Imposition of a new requirement, to "Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition" for the last ten single-family homes in the development, after the right to develop those lots had vested, could be argued to be a "taking" of private property (the nine lots which now must be left in a natural unaltered condition), for public use without just compensation.** It is one thing to condition the issuance of a building permit on adherence to a new building code requirement. It is another thing altogether to require a landowner with a vested right to develop ten lots to leave nine out of ten lots in a natural undisturbed condition and to concentrate or cluster development on one lot.

6. **The Tentative Draft–Fact Sheet/Staff Report Fails to Address the Practical Difficulties of Application of the SUSMPS to Non-Discretionary Approvals, An Application Which Render the SUSMPs Unworkable.**

The Regional Board Staff apparently fails to appreciate the practical and legal difficulties presented by what appears to be a well-intentioned attempt to apply the development approval process not only to projects subject to local discretionary approvals ("discretionary projects"), but also apparently to projects that have been processed to the point that they have already obtained all locally-required discretionary approvals ("non-discretionary projects").[13] Ordinarily, the authority of an official such as a Building Official, who issues building permits, would not extend to land use design decisions already approved by a planning commission or a city council.

Generally, developers pull building permits only after all other approvals have been received, and only for the lots they are going to build upon immediately. If the Regional Board intends the SUSMPs to apply to the issuance of building permits, after all other approvals have been received, this would put the local jurisdiction in the position of having to alter its development standards after development has been approved, for projects that had already achieved all required discretionary approvals when the SUSMPs were adopted, by requiring an official such as a building official to refer an application for building permits back to a planning commission or city council to gain approval of just how the project is to be "concentrated or clustered." Therefore, it would appear that imposing a requirement to "**Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural unaltered condition**" would not be within the authority of a building official at the building permit application stage. The Cities and LAEDC suggest that it is entirely possible that a court might regard this last-

[13] M. Fisher & X. Swamikannu, STORM WATER MITIGATION REQUIREMENTS FOR PRIORITY PLANNING PROJECTS FOR THE PROTECTION OF WATER QUALITY, October 2001. Please note that CEQA applies only to discretionary projects. Public Resources Code § 21080(a). To the extent that a particular development project has obtained its local entitlements, by definition the local CEQA analysis would have been completed. This raises the issue that any subsequent modification of the project (i.e., clustering a non-clustered subdivision) would not have been analyzed. Further analysis may be required to address new or changed significant impacts associated with the altered development should a subsequent approval be required, for instance, the issuance of building permits.

minute referral back to the start, or at least the middle, of the approval process as a compensable temporary taking based on bureaucratic re-referrals.[14]

These takings issues are not discussed in the Tentative Draft or the Fisher-Swamikannu Technical Report, and were not raised in prior SUSMP proceedings. We respectfully request that the Board carefully reconsider the SUSMPs, and that the application of the SUSMPs to nondiscretionary projects be deleted.

7. **The "cause or contribute" Language of Parts 2.1 and 2.2, on page 18, Should be Revised.**

Receiving Water Limitations must reflect an iterative approach, as pointed out in the SWRCB's Draft Order in the San Diego Petitions, SWRCB/OCC Files A-1362, and a-1362(a).

8. **The Tentative Draft–Fact Sheet/Staff Report Incorrectly Asserts that the Imposition of "Peak Flow Control" Measures is Within the Authority of the Regional Board.**

Part 4.D.2, of the Tentative Draft, on page 40, would impose the following requirement:

> [c]ontrol the post-development peak storm water runoff discharge rates, velocities (peak flow control).

The Cities and LAEDC respectfully submit that such effects do not constitute the "discharge of pollutants," as that phrase is defined in the CWA or "wastes" as that term is used in the California Water Code. The Board's authority under the CWA's MS4 program is limited to controls on pollutant discharges. MS4 permits are to include "controls to reduce the *discharge of pollutants* ... and such other provisions ... appropriate for the control of such *pollutants*." CWA § 402(p)(3)(b)(iii), 33 U.S.C. § 1342(p)(3)(b)(iii), (emphasis added). The term "pollutant" as used in sections 301 and 402 is defined by the CWA to mean:

> dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

33 U.S.C § 1362(6), CWA § 502(a). Water itself is simply not within this statutory definition of "pollutant." The erosive capacity of water discharged from an MS4 into waters of the United States or the State, is not subject to the CWA's MS4 program.

CWA case law has found the definition of "pollutant" to not include the release of water which causes downstream erosion. In *National Wildlife Fed'n v. Gorsuch*, 693 F.2d 156

[14] *See, e.g., City of Monterey v. Del Monte Dunes at Monterey, Ltd.*, 526 U.S. 687, 698 (1999); *Littoral Development Co. v. San Francisco Bay Conservation Com.* 33 Cal. App.4th 211, 221 (1995).

(D.C. Cir. 1982), the National Wildlife Federation argued that dams require NPDES permits, and that discharges from dams amounted to a "discharge of a pollutant." The court acknowledged that among the water quality problems that may be caused by dams is the discharge of waters with the potential to cause downstream erosion. While stating that discharges from dams usually contain less sediment than upstream water, the court stated that, "the river will 'tend to restore its equilibrium [sediment] loading by scouring the downstream channel.'" *Id.* at 164 (alteration in original). However, the court held that discharges of water from dams were not discharges of pollutants, and did not fall within the CWA definition of "pollutant" and did not require a NPDES permit. *See id.* at 171-72.

The Cities and LAEDC respectfully invite the attention of the Board to the "Response to Comments," October 11, 2001, at page 7 of 12. There, Staff relies on a Supreme Court case, *Public Utilities District No. 1 v. Washington Dep't of Ecology*, 511 U.S. 700 (1994) as authority for the proposition that the Board has the authority to require municipalities to regulate storm water flow rates in a CWA MS4 permit. The Cities and LAEDC suggest that a close reading of the cited case reveals that the *PUD No. 1* case is not on point. *PUD No. 1* was a hydroelectric power plant licensing case which arose under CWA § 401(d), not CWA § 402(p), which has to do with minimizing the discharge of pollutants from MS4s. CWA § 401(d) has nothing to do with minimizing storm water flows from MS4s. Similarly, the quote from 64 Federal Register 68761 in "Response to Comments," October 11, 2001, at page 7 of 12, is incomplete. The missing language makes it clear that EPA intends peak flow controls to be a matter within the discretion of local governments, not an item to be dictated by a state, acting pursuant to a delegation of EPA's authority:

> EPA recommends that municipalities consider these factors when developing their post-construction storm water management program.

64 Fed. Reg. 68761, December 8, 1999.

The Cities and LAEDC urge the Board to delete Part 4.D.2, of the Tentative Draft, on page 40.

9. The Tentative Draft Should be Revised to Exclude Retail Gasoline Outlets.

Parts 4.D.3.b)(4) and (5), on page 42 of the Tentative Draft, require each Co-permittee to apply the SUSMPs to commercial developments, including restaurants and Retail Gasoline Outlets. The Tentative Draft–Fact Sheet/Staff Report fails to mention a significant point: **in the preamble to the promulgation of the Phase I regulations, the U.S. EPA stated that "EPA views gas stations as retail commercial facilities not covered by this regulation. It should be noted that SIC classifies gas stations as retail."** 55 Fed.Reg. 48013-14, Nov. 16, 1990.

In view of EPA's determination that gas stations, as they are retail facilities, are not covered by the Phase I regulations, Parts 4.D.3.b)(4) and (5), on page 42, should be

revised to cite specific authority for the proposition that restaurants may be covered by the Order, or Parts 4.D.3.b)(4) and (5), on page 42 of the Order should be deleted.

10. **The Board Lacks the Authority to Impose the Requirement of Part 4.D.13, on page 47 of the Tentative Draft, for Co-permittees to Conduct a "General Plan Update."**

There is nothing in California Law which assigns to Regional Boards the authority to require local governments to conduct a "General Plan Update." See Point 3, above.

11. **The Tentative Draft Should Assign Responsibility for Sanitary Sewer Overflows to POTWs, Not Cities.**

The Tentative Draft, at Part 4.F.1, under the heading of minimizing "storm water impact from public agency activities" would assign responsibility for implementing "a response plan for overflows of the sanitary sewer system...." The response is to include "immediate response to overflows for containment...." Sanitary sewers are part of publicly owned treatment works ("POTWs"). The duty to respond to sanitary sewer overflows ("SSOs") should rest with the operator of the POTW, not the city through which the POTWs sanitary sewers flow. POTW operators know where their sanitary sewer lines are, and have the duty under the CWA to deal with SSOs. The Board should not attempt to shift that burden to the Cities.

12. **Requiring Each City to Install Trash Receptacles at "All Transit Stops Within Its Jurisdiction" Exceeds the Board's Authority, and is a Responsibility Which Should Rest with Transit Agencies, Not Cities.**

Part 4.F.5.d) of the Tentative Draft would require each "Permittee" (i.e., each city) to "Place trash receptacles at all transit stops within its jurisdiction and maintain them." The term "transit stops" is not defined, and it is not clear whether it includes bus stops, school bus stops, and rail stops. No studies are cited to establish whether the litter recovered would be sufficient to justify this major capital expenditure. No lead time is provided to procure and distribute the "trash receptacles" or to hire staff and obtain equipment necessary to empty the receptacles, or to provide for a competitive process to hire a contractor to provide these services.

Part 4.F.5.d) of the Tentative Draft should be deleted or deferred and reevaluated following consultation with the California Integrated Waste Management Board.

13. **The Definition of "Redevelopment" in the Order is Inconsistent with the Controlling EPA Definition of "Redevelopment."** A point with great significance for the economic redevelopment of developed cities, but not addressed in the Tentative Draft–Fact Sheet/Staff Report, is that the Tentative Draft, at page 70, defines "Redevelopment" to mean "the creation, or addition or replacement of at least 5,000 square feet of impervious surface area on an already developed site." The definition of "Redevelopment" conflicts with the EPA's definition. In promulgating the Phase II final rules, EPA stated

> **EPA intends the term "redevelopment" to refer to alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling,** which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls.

64 Fed.Reg. 68760, December 8, 1999. The Cities and LAEDC are aware of **no** evidence to support the Regional Board's use of a 5,000 square foot, rather than EPA's one acre, threshold. Similarly, the Cities and LAEDC are aware of no authority for the proposition that the EPA's one-acre threshold, and its exemption for remodeling, are not binding on the Regional Board for purposes of this Order.

The definition of "Redevelopment" should be changed to

> alterations of a property that change the "footprint" of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause adverse storm water quality impacts and offer no new opportunity for storm water controls.

14. Part 3.E, Regarding "Discharges Within Boundaries," Fails to Exempt Discharges from Federal and State Facilities Within a Co-permittee's Boundaries.

In Part 3.E, "Responsibility of the Permittees," on page 21, the first sentence of the introductory paragraph provides "Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries, and not...." This statement does not reflect consideration of the possibility that pollutants may be present in flows (e.g., sheet flows from parking lots or streets) which originate on a federal or state facility within a Permittee's boundaries, but which, because it is a federal or state facility, such as a public high school, is not subject to the Permittee's authority. Nor does this provision recognize the limitations on the authority of the Co-permittees set forth in Findings B.2.

Recommendation: Revise the sentence to read, in pertinent part: "Each Co-permittee is required to comply with the requirements of this Order applicable to discharges which originate within its boundaries at places which are subject to its authority, and subject to the limitations of Finding B.2, and not...."

15. Part 3.G.2.c), Which Attempts to Extend the Order to Reach "Potential Contribution" of Pollutants is Overbroad.

Part 3.G.2.c), (on page 25) which implements 40 CFR § 122.26(d)(2)(i)(A), without citing that section, goes beyond the requirements of the CWA and 40 CFR § 122.26(d)(2)(i)(A) by attempting to impose a requirement that Co-permittees are to possess the legal authority to control something called "potential contribution." of

Pollutants. Neither the Clean Water Act nor EPA's Storm Water regulations say anything about "potential contribution" of pollutants. The "potential contribution" notion is also contrary to the exemption afforded by the "no exposure" conditional exclusion of 40 C.F.R. § 122.26(g). Drawing a line between the presence of a pollutant within city boundaries, but within the "no exposure" exclusion and the point at which the potential pollutant lapses to a state of "potential contribution" is to ask the impossible. The Board's authority is limited to requiring permitees to reduce the discharge of pollutants to the maximum extent practicable, and does not extend to the regulation of "potential contributions."

Recommendation: Part 3.G.2.c), (on page 25) should be revised by deleting the parenthetical "(including potential contribution)."

16. The Definition of "Illicit Disposal" is Overbroad.

In PART 5, DEFINITIONS, on page 66, "Illicit Disposal" is defined to mean "any disposal, either intentionally (sic) or unintentionally (sic) of material(s) or waste(s) that can pollute storm water." This definition would carry this Order far beyond the reach of the Clean Water Act. The Congress, in enacting the Clean Water Act, prohibited the discharge of "Pollutants," a term which it defined. While the term "Pollutant" is defined in PART 5, DEFINITIONS, that definition is not used here in the definition of "Illicit Disposal." Instead, the definition of "Illicit Disposal" uses the vague term "can pollute." The use of the term "can pollute" rather than the defined term "Discharge of a Pollutant" might be construed as meaning something other than "Discharge of a Pollutant." This lack of precision invites disagreement and, potentially, litigation. Moreover, the definition is not limited to discharges into MS4s, but could be construed to apply to disposal into solid waste containers.

Recommendation: The definition of "Illicit Disposal" should be changed to "the unpermitted Discharge of a Pollutant into a Municipal Separate Storm Sewer System."

Dated: November 12, 2001

Respectfully submitted,

Burke, Williams & Sorensen, LLP

By Rufus C. Young, Jr.

CAA

November 12, 2001

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California Regional Water Quality Control Board –
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Tentative Draft Municipal NPDES Permit, October 11, 2001
Review Comments from Charles Abbott Associates, Inc.

Dear Dr. Swamikannu:

Attached please find comments on the referenced draft permit document, "County of Los Angeles Municipal Storm Water NPDES Permit – Tentative Draft" (Draft Permit). These comments are respectfully submitted on behalf of the cities of Bell, Hidden Hills, and Norwalk.

I am an environmental consultant who provides services in support of the Municipal NPDES Programs of the three aforementioned cities. If you have any questions or comments regarding this matter, please contact me at (310) 548-8454.

Sincerely,

Mark Smith
Charles Abbott Associates, Inc.

cc: Carlos Alvarado, City of Bell
Cherie Paglia, City of Hidden Hills
Rey Alfonso, City of Norwalk

Enclosure

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GENERAL COMMENTS

1. With regard to securing sufficient funding for the many programs and activities required, municipalities generally face significant ongoing constraints. This is especially true with regard to unfunded government mandates such as the NPDES program. At this time in particular, as the Regional Board applies its discretion in establishing new NPDES program requirements, please consider the unexpected additional demands placed on the Permittees to commit more resources for public security and safety in the wake of the September 11, 2001 terrorist attacks on the United States.

2. We did not have an opportunity to review the final written comments of other Permittees with regard to this Tentative Draft NPDES Permit (Draft Permit). However, we did hear the concerns of several important Permittee representatives – the Coalition for Practical Regulation (CPR), the Executive Advisory Committee (EAC), the Southern California Association of Governments (SCAG), the County of Los Angeles, and the City of Los Angeles – expressed during a recent meeting of Permittees on this subject. Based on our understanding of their concerns, we give our general support for their comments and ask that their views be given careful attention by the Regional Board as the development of this Permit progresses.

3. The Draft Permit does not provide for the continuance of the Administrative Review process (see current NPDES Permit, Order No. 96-054, Part 2.I.G., page 21). The Administrative Review process under the current Permit provides for a very important interactive process between the Regional Board and any Permittee(s) that the Regional Board may believe is in non-compliance with one or more Permit requirements. The language that provides for this process has been completely deleted from the Draft Permit. We believe that this language, in similar form to its appearance in the current Permit, should be reinserted into the new Permit. The Administrative Review process promotes a productive dialogue between the Regional Board and Permitees in a spirit of cooperation toward the common goal of improving water quality. This type of cooperative relationship is an objective of the Regional Board, as stated in this Draft Permit.

PERMIT-SPECIFIC COMMENTS

FINDINGS

PAGE 7

D.4 (page 7, Paragraph 4)
This is the best paragraph in the Draft Permit in terms of a direct and succinct statement of the overall purpose of the Permit. This paragraph should have greater emphasis in the Permit. It is also important to note that the language includes the consideration of the cost effectiveness of storm water pollution control measures as a factor in determining MEP compliance.

PAGE 11

D.19 (page 11, Paragraph 4)
This paragraph indicates that structural/treatment control BMPs are not permitted to be installed within water bodies of the State because that would be tantamount to accepting that waste assimilation is an appropriate use of State waters, and that's against Federal policy [40 CFR 131.10(a)]. This is in direct conflict with the Regional Board's existing policy, under which several structural BMPs have been installed in State waters (e.g., the trash nets in the Los Angeles River and Ballona Creek). We believe that this same point was raised with regard to the 2nd Draft Permit. It is our understanding that the Regional Board has acknowledged that the inclusion of this language in the Permit was an oversight and it would be omitted from future versions of the Permit.

D.20 (page 11, Paragraph 5)
In this paragraph describing its Watershed Management Approach toward achieving the best water quality with available resources, the Regional Board acknowledges the importance of balancing environmental and economic impacts while emphasizing cooperative relationships between the interested parties. In practice, however, these program objectives have not been getting the level of attention they deserve. For example, at the public workshop for the 2nd Draft Permit, the Chairman of the Regional Board directed the Regional Board's Executive Officer to cease the extensive effort he had been making to work cooperatively with the Permittees in developing mutually acceptable Permit requirements. The Chairman indicated that the Executive Officer's efforts were not consistent with the Regional Board's mandate to achieve water quality objectives. Earlier during the workshop, the EAC director had thanked and commended the Executive Officer on his efforts. The Chairman also indicated that water quality goals must be achieved without regard to consideration of cost, or even time. Significantly, all references to the EAC that were in the 2nd Draft Permit have been completely deleted from this Tentative Draft Permit, and some Permittees have observed that the cooperative process has completely broken

down in recent months. Presently, the Permittees are pursuing the services of a third party mediator through the USEPA to resolve issues. We are alarmed at this trend and hope that all parties can work together to reverse it. The Watershed Management Approach, as described in Item No. D.20, is a sound approach that needs to be consistently followed by all parties involved in this Permit.

PAGE 13

Former F.1 Implementation (formerly Paragraph F.1, now a completely struck-out paragraph) (page 13, Paragraph 3)
This is a completely struck-out (deleted) section that, in the 2nd Draft Permit, had provided the Regional Board's formal written recognition of the EAC. By striking out this paragraph, the Regional Board is effectively rescinding its approval of the Permittees' foremost voice in ensuring reasonable Permit requirements and implementation. This is an essential paragraph to have in the Permit. By including this paragraph in the 2nd Draft Permit, the Regional Board took a major step in supporting its policy as stated above in Findings, D.20. The Regional Board's stated policy in D.20, is an approach emphasizing cooperative relationships between the interested parties, including the Regional Board and the regulated community. As the primary executive type of steering committee, the EAC is the most important Permittees' representative organization. As such, the Regional Board's formal written recognition of the EAC and its vital role should be a standard element of this Permit.

F.1 Implementation (page 13, 4th paragraph)
Indirectly, this paragraph seems to announce the Regional Board's policy that Development Planning Program requirements apply to specified project categories, regardless of whether a project is discretionary or ministerial. We believe that, as upheld by a recent State Board decision, these requirements should only apply to discretionary projects under the this Permit. The many requirements under the program, including SUSMP requirements, are still relatively new requirements and it's too soon to apply them more widely. We are now developing the third draft of the Permit and we recognize the need for increasingly stringent requirements. However, considering the decades-long flood control and business practices that have been in place, municipal NPDES requirements are very new developments that require significant and rapid changes for the regulated community.

PAGE 15

G.3 Public Process (page 15, last paragraph)
This paragraph describes the commendable effort put forth by Regional Board staff in working cooperatively with the Permittees throughout most of the development of this Permit. This includes two public workshops and numerous working meetings between Regional Board staff and Permittee representatives. We thank the Regional Board staff for their extensive efforts in this regard and urge a continuance of this approach and policy.

PAGE 18

Part 2. Receiving Waters Limitations (page 18)

As has been repeatedly emphasized by the Permittees, this section of the Draft Permit is a point of major contention because it would effectively place every Permittee in violation of the Permit immediately upon Permit adoption. This is one of the most important issues of concern we have with the Draft Permit. At recent public workshops, the Regional Board and environmental groups have provided verbal assurances to the Permittees that they do not interpret the language as strictly as written in this section of the Permit. With all due respect, the Permittees cannot rely on verbal assurances for such crucial elements of the Permit, but need all such unreasonable language to be revised. It is absolutely essential that the "safe harbor" type language present in the current Permit be written into this section in order to make it workable (i.e., that, notwithstanding any violations of water quality standards, a Permittee is not in violation of the Permit provided that the SQMP and other Permit requirements are properly implemented).

As currently written in the Draft Permit, every Permittee would immediately be in Permit violation for any pollutant in their watershed that currently exceeds water quality standards (e.g., pollutants for which TMDLs are currently being developed). That's because their MS4 would be discharging some level of virtually every pollutant, thereby contributing to violations of water quality objectives and water quality standards. Then every Permittee would immediately be forced into the procedure described in Part 2.3 for identifying and scheduling the timely implementation of additional BMPs. The Part 2.3 procedure is inappropriate for addressing these problems as it fails to address the enormous complexity and cost involved. All water quality problems that persist in spite of proper SQMP implementation under the Permit need to be handled through the TMDL process and be based on well quantified scientific analysis.

In the "Notice of Public Hearing" it issued for this Tentative Draft Permit, the Regional Board defines the 7 programs under the New Permit that will comprise the SQMP and states that "These programs collectively are expected to reduce pollutants in storm water discharges to the Maximum Extent Practicable." This language was used in the current Permit and should also apply in this section of the renewed permit. That is, any Permittee who adequately implements all seven programs of the SWQMP as required under the Permit have met the MEP standard of compliance required under Federal/State NPDES regulations, and should therefore be deemed by the Regional Board to be in compliance regardless of any water quality objective or standards violations that may exist within their watershed.

PAGE 23

Part 3.G. Executive Advisory Committee (EAC) (Page 23, last three paragraphs)

This section, as it appeared in the 2nd Draft Permit, provided the Regional Board's formal recognition of the EAC and defined EAC's roles and responsibilities. In this Tentative Draft Permit, this section has been completely struck out and has not been replaced with any similar section. In removing this section, the Regional Board appears to be attempting to abolish the EAC. The EAC is the foremost entity in representing the Permittees' concerns and voicing them to the Regional Board. The removal of all Permit sections referring to the EAC that were present in the 2nd Draft Permit contradicts the Regional Board's policy, as stated in several areas of the Tentative Draft Permit, of forging cooperative relationships with the Permittees. We request that all of the struck-out language referring to the EAC be reinstated in the Permit. This is one of the most important issues of concern we have with the Draft Permit.

PAGE 27

Part 4. SPECIAL PROVISIONS

A.2. Customized SQMP (page 27, 1st line under Part 4.A.2.)

This section appears to require each Permittee to prepare and implement a written local SQMP. If this is its intent, the Regional Board may wish to consider inserting the word, "written" in, "Each Permittee shall have available a written local SQMP ..." as clarification.

PAGE 31

Table 1 (page 31, table)

This table lists target pollutants for the watersheds under this Permit. Some additional clarification identifying those pollutants, either as a footnote to the table or in the Part 5 – "Definitions" section of the Permit, may be warranted.

- Does "Nutrients (Nitrogen)" mean that the target pollutant is only nitrogen, or nutrients in general and especially nitrogen? Some clarification would be helpful.

PAGE 33

INDUSTRIAL/COMMERCIAL FACILITIES PROGRAM

General Comments

1. Facility Inspections versus Site Visits – This section of the Permit contains three different versions of Industrial/Commercial programs proposed as options from which the Board will select one for inclusion in the final adopted version of the Permit. We request that the Regional Board select Version C – "Industrial/Commercial Educational Program". Version C appears to essentially continue the existing educational site visit program. The emphasis on education, rather than inspection/enforcement, is appropriate at this time. The other two proposed Industrial/Commercial Facilities Program options, Versions A and B, contain requirements for Permittees to inspect facilities rather than provide educational visits. We believe that the entire program should remain outreach and education based, rather than changing to an emphasis on inspection and enforcement. While we understand that this is a third generation permit and the Regional Board wants to "ratchet up" requirements with each successive permit, it is too soon to place so much emphasis on inspection/enforcement over outreach/education. Most of these businesses only received one or two visits under the second Permit. It may have been a number of years since a facility received its latest visit. In addition, a business may be under new management. NPDES requirements are still new to many business owners, and they should be given more time to fully understand these requirements and required changes to their business practices. After decades of conducting business in the context of viewing storm water issues only in terms of flood control, the business community should be allowed more time to

assimilate the relatively very new emphasis on storm water quality management.

Attachment B – Critical Sources Categories Prioritization – This attached list of facility categories is helpful in identifying the types of facilities that need to be inspected and visited. However, it is imperative that it go one step further and also include the corresponding SIC codes per Table A-1 in Appendix A of the current Countywide site visit program guidance manual (*Program Summary and Guidance – Industrial/Commercial Educational Program*, May 1997). Those of us involved in implementing the current site visit program have found Table A-1 to be indispensable in identifying those sites that are subject to the program. The same level of detail needs to be incorporated into Attachment B of the new permit. By merely stating the names of the facility categories subject to the program, Attachment B leaves a great amount of subjective discretion to individual Permittees when determining what specific businesses within their jurisdictions are in each category. This situation will completely undermine the Countywide consistency that is so important to this program. The SIC system provides a universal mechanism to objectively and consistently identify the appropriate facilities. Moreover, the entire existing site visit program is already founded on the SIC system. SIC codes are a mandatory element of all Permittees existing programs. To go one step further, Attachment B should also include the corresponding NAIC codes. Keeping in step with the rapid globalization of the world economy, cities are beginning to use the NAIC system in place of the SIC code system that they have used for many years. We are still in the early phase of that transition, however, so I believe the SIC system is the more important of the two.

PAGE 33-A

C.1.(a), 1st Paragraph, 1st Sentence Database for Critical Sources Identification This section requires each Permittee to develop a watershed-based inventory of all facilities identified as priority though the Permittees critical sources identification program. We don't understand the scope of the "critical sources identification program" as we were unable to find an adequate description of the program in the Draft Permit. Some additional explanation of the Regional Board's intent may be needed on this program.

PAGE 35-A

3.(c) Restaurant Inspections It should be noted by the Regional Board that the Permittee inspector will have to take the restaurant owner's word when verifying compliance with some of these measures (e.g., oil and grease residue is not poured into an catch basin, trash bin is not washed out, and no washing of

floormats and parking lots, etc.). The inspector is unlikely to catch the owner in the act of violating these requirements.

3.(c) (4) Hosing Down Parking Lots The last phrase, "... or creating a nuisance through hosing down the area." Should be reworded. As currently worded, it implies that hosing down the parking lot is acceptable as long as a condition of nuisance is not created. Apparently, this is not the Regional Board's intent as the preceding paragraph, 3.(c) (3), indicates that parking lot washdown is not permitted in any case. Perhaps the phrase should be deleted

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PAGE 36-A

4.(c)(4) Requires that "Drains and flow patterns are labeled at the facility;" What does this mean? Usually, when drains are required to be labeled it is reference to stenciling them with the "No Dumping" (dead fish) logo. How are flow patterns to be labeled? Some elaboration of this requirement seems warranted to clarify intent.

5.(c)(1) Requires that automotive service facilities be inspected to verify that the "facility area is clean and dry without evident stains;". Virtually all automotive service facilities will have evident stains on the paved areas, so perhaps some rewording may be appropriate.

PAGE 37-A

C.6.(a)(1) Frequency of Site Visits to Lower Priority Categories – This sentence should be reworded to improve clarity. Presumably, the Regional Board intends for these facilities to be visited (at least) one time during the 5-year effective term of this permit, and that visit must be done within the first two years of the permit. Also, the parenthetical statement, "... (except those subject to the inspection program) ..." is confusing and misleading.

PAGE 55

PUBLIC AGENCY ACTIVITIES PROGRAM

F.5(a) and (b) Storm Drain Operation and Management (page 55, bottom half of the page)

The criteria for classifying catch basin inlets in 5(a) as Priority A, B, or C are too loosely defined. The large degree of subjectivity involved in the classification process would result in a wide disparity among Permittees as to which catch basins would be designated as Priority A, B, or C. Instead, the criteria should be

based on the rate of a catch basin's filling with trash and/or litter over a period of time. Consider that the Regional Board wants to use the criterion of "40% full during the wet season" as the level at which a catch basin must be cleaned [see 5(b), Priority B]. If a Priority A catch basin is to be cleaned monthly during the wet season, then a Priority A catch basin should be one that becomes 40% full during each month of the wet season.

The catch basin cleaning requirements under 5(b) are excessive and not consistent with the MEP standard as they don't adequately consider cost and technical feasibility. Any Permittee with a significant number of Priority A catch basins would see their annual catch basin cleaning costs sky rocket as those basins would be cleaned out seven or eight times per year.

Under the proposed requirements of 5(b), Permittees would be absolutely required to clean catch basins monthly regardless of whether a particular monthly cleaning was actually warranted. For example, a Priority A catch basin would have to be cleaned even if only 5% full in a given month. Countywide, this approach is likely to result in a tremendous waste of taxpayer dollars that should have been spent mitigating an actual identified storm water pollution problem. The approach should be to require inspections, at a specified frequency for a representative sampling of Priority A catch basins. Cleaning would then be conducted as warranted based on the observance of trash and litter at or above a specified threshold such as 40% full.

There is also a problem with requiring each Permittee to be responsible for classifying and cleaning all catch basins within its jurisdiction. In many instances, most of the catch basins within a Permittee's jurisdiction are owned by the County and cleaned by the County. The County is therefore in the best position to implement this program for those catch basins. The language in sections F.5(a) and (b) should be revised to make each Permittee responsible for only the catch basins which it owns.

PAGE 56

F.5(d) Trash Receptacles at Transit Stops (page 56, 2nd paragraph)
This requirement has been widely objected to by Permittees because they believe it would require them to place a trash receptacle at every transit stop (e.g., bus stop) in their jurisdiction. Actually, based on the plurality in the wording, it could be interpreted as requiring at least two trash receptacles to be placed at each transit stop ("Place trash receptacles at all transit stops ..."). In any case, this is excessive and could create a significant unnecessary expense. This type of requirement should use an inspection based approach. Trash receptacles should be installed as needed based on inspections. Better still, the requirement should be deleted altogether for Permittees who are subject to a Trash TMDL because the issue of trash and litter control will be thoroughly

addressed under that program. This requirement is overly prescriptive. Permittees need to be allowed some flexibility on how to address the problem in the most cost-effective manner possible.

F.6 Streets and Roads Maintenance
Some of the same comments above, for catch basin cleaning [F.5(a) and (b)] apply. This approach presumes that all Permittees must have some Priority A streets for trash and/or litter that need to swept twice monthly. This approach fails to acknowledge that some Permittees, such as small residential communities, may have very little trash or litter on any of their streets. Under this approach, a Priority A street in one of these small cities may have been classified as a Priority B or even Priority C street were it located in a larger city.

PAGE 65

Part 5 DEFINITIONS

"Executive Advisory Committee" (page 65, 5th paragraph)
The entire definition for this fundamental Permittees' organization has been completely struck out in the Tentative Draft Permit. For the reasons cited on this subject in the above comments, we request that this term and its definition be maintained in the Permit.

PAGE 66

"Maximum Extent Practicable (MEP)" (page 66, last paragraph)
In this Tentative Draft Permit, the Regional Board has struck out the very important elements of the Federal definition of MEP, "...taking into account equitable consideration and competing facts, including ... cost and technical feasibility." The retention of the original definition of MEP is essential in assuring the successful development and implementation of effective NPDES programs. We request that this struck out language be included in the Permit.

PAGE 68

"Permittees" (page 68, 1st paragraph)
In the list of Permittees to this Order provided as part of this definition, the City of Bell has been inadvertently omitted. We request that "Bell" be added to this list.

PAGE T-1

MONITORING PROGRAM

When describing the monitoring program for this Permit, the Regional Board emphasizes that the purpose of the program is to "assess permit compliance" and to "identify sources of water quality exceedances and toxic pollutants." While these are important objectives of the monitoring program, by omitting additional language on what should be the overriding goal of the program, the Regional Board is sending the wrong message to the community. The first and foremost purpose of the program should be to provide a mechanism by which all interested parties can obtain a objective and ongoing science-based assessment of the BMP control measures that are being implemented by the Permittees. The program should primarily be the path toward ever-improving BMPs so that we can all achieve our common goal of the best water quality possible for the community. By omitting this type of language from the Draft Permit and only emphasizing the currently used command and control type of language, the Regional Board is communicating that the program is primarily intended to be used as an enforcement tool to identify violations and penalize the Permittees.

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November 13, 2001

VIA FACSIMILE AND HAND DELIVERED

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: October 11, 2001 Draft Waste Discharge Requirements for Discharge of Stormwater in Los Angeles County (NPDES No. CAS614001)

Dear Mr. Dickerson:

We have received and have reviewed the Regional Water Quality Control Board's October 11, 2001 final draft of the Waste Discharge Requirements for Discharge of Stormwater in Los Angeles County (NPDES No. CAS614001) which, upon adoption, will serve as the NPDES Permit for the discharge of storm water and urban runoff from the municipal separate storm sewer system (the "MS4") in Los Angeles County (the "Draft Permit"). We have been asked by the Cities of Agoura Hills, Carson, Artesia, Beverly Hills, Hidden Hills, Norwalk, La Mirada, Monrovia, Rancho Palos Verdes, San Marino, San Fernando and Westlake Village (the "Cities") to submit comments to the Draft Permit on their behalf. (Some of these cities will also be submitting their own separate comments.) This letter supplements our letters of May 16, 2001 and August 6, 2001, which included our comments on the First and Second Drafts of the proposed NPDES permit, as well as our oral comments at the Regional Boards' workshop on the second draft of the Permit held on July 26, 2001 (the "Comments"). Our Comments are incorporated herein by this reference.

A number of fundamental policy issues regarding the scope and cost of the storm water management program prescribed by the Draft Permit have still not been completely resolved. However, the cities that we represent remain committed to work with the Regional Board to continue the substantial progress made by the Permittees in reducing pollution in and to Southern California water bodies through

the implementation of the programs developed under the 1990 and 1996 Permits for the Los Angeles Basin and new programs which the Permittees have proposed for the renewed NPDES Permit.

While our comments address a number of different issues and unresolved questions, we thought it important to once again highlight some substantial issues in the Draft Permit which have not been fully addressed or considered by the Regional Board's staff.

As I discussed at the second Board workshop, as well as in our Comments, we are particularly troubled about the deletion of the "Safe Harbor" provisions that were included in Receiving Water Limitations and Discharge Prohibition sections of the current Los Angeles County Municipal Storm Water Permit, Order No. 96-054 (the "Current Permit"). Neither the Discharge Prohibition provisions (Part 1, pp. 17-18), nor the Receiving Water Limitations provisions (Part 2, pp. 18-19) of the Draft Permit provide any assurance to our Cities that, once they have implemented the storm water management programs set forth in the Draft Permit in a timely and complete manner, they then will be deemed to be in compliance with the Discharge Prohibitions and Receiving Water Limitations provisions.

These "Safe Harbor" provisions provide the Permittees with important protections from third-party liability once they have implemented the storm water management programs prescribed in the Permit. If these provisions are not included in the Permit, then the Cities and the other Co-Permittees may potentially be exposed to unwarranted third party suits.

Our concerns are not just academic. In Carson Harbor Village, Ltd. v. Unocal Corporation, 990 F. Supp. 1188 (C.D. Cal 1997), the owner of land, which was allegedly contaminated by small quantities of lead contained in storm water runoff sued the County of Los Angeles and two Permittee cities under the Clean Water Act ("CWA"), CERCLA, RCRA and California common law. The District Court granted summary judgment on the CWA and state common law claims, based on the Permittees' compliance with the 1990 and 1996 Permits. That determination was affirmed on appeal. (See, Carson Harbor Village, Ltd. v. Unocal Corporation, et al., _____ F.3d _____; 2001 U.S.App.Lexis 2100; 2001 Daily Journal DAR 1647

(9th Cir. 2001).

Regional Board staff have stated that they feel constrained by the State Board's adoption of Receiving Water Limitation language for municipal NPDES permits in its WQO No. 98-01, which was subsequently amended in WQO No. 99-05. However, the State Board *specifically approved* the inclusion of these Safe Harbor provisions in WQO Order No. 98-01. In Environmental Health Coalition, WQO No. 98-01 (1998), the petitioner contended that the receiving water limitations section in the NPDES Permit for certain Orange County cities violated the CWA and implementing regulations because it did not require compliance with water quality standards. That permit, like the Current Permit, stated "...that the permittees 'will not be in violation of [receiving water limitations] so long as they are in compliance with the requirements' for evaluating the DAMP." The State Board specifically rejected the petitioners' contention, noting that it had previously approved the same "Safe Harbor" provision in SWRCB WQO No. 96-13, with respect to the storm water permit for certain permittees in the Santa Clara Valley issued by the San Francisco Bay Regional Board. As the State Board stated:

> "The SWRCB has already determined that the use of BMPs to achieve both the technology-based effluent limitations and the water quality-based effluent limitations complies with the CWA and the Porter-Cologne Act. See SWRCB WQO No. 91-03. Accordingly, the SWRCB agrees that use of the phrase that the "permittees will not be in violation of . . ." complies with the CWA and, in fact, used that same phrase in SWRCB Water Quality Order 97-03-DWQ (Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, NPDES General Permit No. CAS000001) (the General Industrial Permit)."

Furthermore, as the State Board noted in In the Matter of the Petition of Save San Francisco Bay Association, et al., WQO No. 96-13 , USEPA has approved the inclusion of a Safe Harbor provision in the Receiving Water Limitations.

Accordingly, the retention of the "Safe Harbor" provision found in the last two

permits certainly would not be contrary to the State Board's order dictating the Receiving Water Limitations found in the Draft Permit, and, in fact, would be complementary to those limitations. No State Board order or directive dictates the deletion of the Safe Harbor provision from the Discharge Prohibitions.

Another important provision omitted from the Draft Permit, and referenced in our Comments, is the "Meet and Confer" procedure found in the Current Permit at Part I, Section G, page 21, which provides that, if the Executive Officer determines that a Permittee's storm water program is insufficient to meet the provisions of the Current Permit, then a "Notice of Intent to Meet and Confer" ("NIMC") will be issued to the Permittee. The NIMC is a very important, productive and non-contentious vehicle for Permittees to resolve storm water management program issues with the Regional Board without litigation.

The Regional Board has stated in discussions regarding the Draft Permit that, rather than utilizing the NIMC procedure, staff will rely on the issuance of a Notice of Violation ("NOV"). That sentiment was further echoed at the July 26, 2001 Public Workshop where legal counsel for the State Water Resources Control Board ("SWRCB") stated that the NIMC process is not an element of SWRCB Water Quality Enforcement Policy Resolution No. 96-030, as amended by Resolution No. 97-085 ("Enforcement Policy"), or its "Guidance to Implement the Water Quality Enforcement Policy" ("Guidance Document") and, therefore, should not be contained in the Draft Permit.

We do not believe that the NIMC process is contrary in any respect to the State Board's Resolution Nos. 96-030 and 97-085, or to the effective development of regional storm water programs. The Enforcement Policy is based on the premise that actual violation of a WDR has occurred. The Enforcement Policy does not really address disagreements regarding the development or implementation of storm water programs, nor do the specific events identified in Sections III A. through H of the Enforcement Policy, which would trigger an enforcement referral, fit the circumstances of a Municipal NPDES Permit. The development and implementation of the regional storm water management programs will only be feasible and effective if state and local governmental agencies can work together in an open and collaborative manner. The enforcement process is,

necessarily, adversarial and, in our view, would be counterproductive to the effective development or regional storm under programs.

In our Comments, we raised a number of questions regarding the legal implications of the process by which the Draft Permit was developed. To date, we have not received a full or direct response to those questions and concerns. We continue to believe that the Draft Permit, and the process which generated it, does not comply with applicable principles of California administrative law, and as a result, the Draft Permit has been developed without compliance with California's Administrative Procedure Act. California Government Code §§11340, et seq. (the "APA").

Also, as referenced in the Comments, we are concerned that, by setting specific design standards, the Regional Board and the State Board are crossing the line into an area typically handled through building codes which are supposed to be uniform throughout the state.

We would also like to express our concern on behalf of the Cities that the Regional Board may be exceeding its authority by attempting to prohibit the discharge of all storm water rather than the discharge of pollutants. In addition, the "Peak Flow Control" and post-construction "Numerical Design Criteria" requirements in the Draft Permit exceed the Regional Board's authority by specifically providing how the Permittees are to achieve the goal of reducing the discharge of pollutants to the waters of the United States. We also believe that this precise directive to the Permittees violates the limitations of Water Code § 13360(a), which provides in pertinent part:

> "No waste discharge requirements or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be had with that requirement, order, or decree, and the person so ordered shall be permitted to comply therewith in any lawful manner."

Lastly, we would like to point out that our Cities are extremely disappointed with

the elimination of the Executive Advisory Committee ("EAC") from the Draft Permit. To our Cities, the EAC has been a vehicle through which productive negotiations with the Regional Board regarding the Draft Permit have taken place. Additionally, at least our Cities have viewed the EAC negotiating process as being very useful in creating open and honest dialogue with the Regional Board regarding many of the difficult issues regarding implementation and enforcement of the Draft Permit. Even though the Regional Board and our Cities may not see eye-to-eye on all the issues, the EAC has provided a forum where the concerns from all stakeholders are acknowledged and discussed. In our opinion, the removal of the EAC from the Draft Permit will be taking a step backwards, rather than forward, in fostering a stronger relationship with the Regional Board, which is where our Cities believe we should be heading.

Our Cities have the same objectives of the Regional Board and the other stakeholders to achieve a consensus to preserve, restore and enhance the many beneficial uses of the ocean and the water bodies of Southern California. We hope that you will consider our comments and suggested changes in this spirit.

Very truly yours,

John J. Harris

Enclosure

cc: Wendy Phillips (w/encl.)
Dr. Xavier Swamikannu (w/encl.)
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COMMENTS ON OCTOBER 11, 2001 DRAFT WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF STORM WATER IN LOS ANGELES COUNTY (NPDES NO. CAS614001)

by
John J. Harris
Jay F. Golida
Richards, Watson & Gershon

1. Finding D.2, Page 6. - The second sentence should be revised to read: "The Permittees may lack legal jurisdiction over these entities under state and federal constitutions and shall not be held responsible to ensure compliance with this Order."

2. Finding D.4, Page 7. - This finding should be modified as follows:

   "This Permit is intended **to allow the Permittees** to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water and urban runoff to the waters of the United States to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles **subject to their jurisdiction**."

3. Finding D.5, Page 7. - The second sentence of this finding, "Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as CalTrans, the U.S. Department Defense, and other state and federal facilities, through interagency agreements" should be deleted. These other state and federal agencies have resisted any efforts by local agencies to exercise any jurisdiction over their property. The most practicable way of approaching the problems relating to discharges from non-jurisdictional facilities is through the separate NPDES permits for these facilities.

4. Finding E.5, Page 8. - This finding overstates the requirements of 40 C.F.R. 122.26 as it relates to the inspection of industrial and commercial facilities. At most, the regulations control potentially the inspection of priority industrial and commercial facilities, that is, those which contribute a substantial pollutant load to the MS4, as opposed to all industrial and commercial facilities. Finding No. 5 should be modified to reflect the regulations accurately.

5. Finding E.6, Page 8. - This finding states "The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000) which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary." A legal memorandum by the State Board's Chief Counsel, while informative, is not a regulation and has no legal effect. We believe the reference should be deleted.

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6. Finding E.8, Page 9. - The NPDES Permit is not a vehicle to "implement and enforce" the TMDLs. The last sentence of this section should be deleted.

7. Finding E.18, Pages 10-11, bullet 1. - The State Board's Order in the Bellflower case, WQO No. 2000-11, specifically stated:

" We conclude that because RGOs are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment, they should not be subject to the BMP design standards at this time, and **recommend that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor.** This Order should not be construed to preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued."

The Draft Permit does not reflect the State Board's directive regarding "a threshold relative to size of the RGO, number of fueling nozzles,..." or other factors. Similarly, the State Board's recent draft order, which will most likely be adopted on November 15, 2001, on the petitions of the Building Industry Association of San Diego County, et al., for review of the San Diego County Municipal Permit [NPDES NO. CAS0108758] deleted RGO's from the Priority Development Project Categories requiring a SUSMP.

Similarly, Order 2000-11 stated:

"While it may be appropriate to include more stringent controls for developments in ESAs, we also note that such developments are already subject to extensive regulation under other regulatory programs. Moreover, in light of the permit language limiting the SUSMPs to development categories, ESAs are not an appropriate category within the SUSMPs. The Regional Water Board may choose to consider the issue further when it reissues the permit."

The Draft Permit does not reflect any further consideration as to how the proposed controls of "environmentally sensitive areas" enhance the existing "extensive regulation under other regulatory programs."

8. Finding E.19, Page 11. - Among other things, this finding states "The Regional Board has determined that the creation of structural or treatment control BMPs for stormwater mitigation in waters of the U.S. is not permissible." However, no citation or reference to that "determination" is included. The statement appears to be inconsistent with the Board's position with respect to requiring structural and treatment control BMPs as part of SUSMP requirements.

9. Finding E.20, Page 11. - The term "Watershed Management Approach" appears to be used as a defined term, but this term is not defined in the Draft Permit. Accordingly, change "Watershed Management Approach" to "watershed management approach" or on the

alternative, provide a definition in the new Permit.

10. Finding E.25, Page 13. - This finding should be modified to include the following sentence: "The California Water Code Section 13360(a) prohibits the Regional Board from issuing a waste discharge requirement that specifies the design, location, type of construction, and particular manner in which compliance with this Order may be had.

11. Section F.1, Page 13. - The Draft Permit unilaterally eliminates the Executive Advisory Committee ("EAC") Permit. The EAC is a creation of the Current Permit. The EAC has played an important role during negotiations with the Regional Board and in providing assistance to the co-permittees. There is no legitimate reason for the EAC to be removed from the Draft Permit as it serves an important function to the Permittees. We recommend that this section, as well as the other references to the EAC in prior versions of the Draft Permit, be reinstated.

12. New Finding, F.1, Page 13. - We disagree with the proposed language that: "For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements." As discussed in the comments of other Permittees, cities have a very limited ability to prescribe storm water mitigation requirements for ministerial permits. Similarly, there is no factual basis for a broad finding that any development or redevelopment project has an impact on water quality.

13. Finding F.3, Page 14. - The clause in the second sentence of this finding, "... the discharge of non-storm water has been effectively prohibited.", should be deleted.

14. Finding F.8, Page 15. - The reference to a "petition" to the Executive Officer appears to be unsupported. Neither the Draft permit nor the applicable statutes and regulations provide a procedure for such a petition. As discussed in our Comments, the "Notice of Intent to Meet and Confer" process ("NIMC") from the Current Permit should be retained.

15. Part 1, Section 2(c)- Discharge Prohibitions- Page 16 - We believe that the discharges which were conditionally exempt under Part II, Section II.C.2.(a), (g) and (h) of the existing Permit for landscape irrigation and lawn watering should be included in Part1, Section 2(c) of the Draft Permit, in accordance with applicable federal regulations.

16. Part1- Discharge Prohibitions- Page 16. - The proposed Discharge Prohibitions omit a important exception set forth in Section1(C) of Part 1 at Page 12 of the Current Permit for "Discharges originating from federal, state or other facilities which the Permittee is pre-empted from regulating." This provision should be included in the new Permit.

17. Part1- Discharge Prohibitions- Page 16. - As discussed in detail in our cover letter, the Discharge Prohibitions omit a very significant and critically important provision of the Current Permit found in Section 1 of Part 1 at Page 12, which states:

"Compliance with this Order through the timely development and implementation of programs described herein shall constitute compliance with this prohibition."

This provision which has been approved by the State Board, should be included in the new Permit.

18. Part 2- Receiving Water Limitations, Sections 1 and 2- Page 18. - As referenced in our Comments, if this language is to remain, we propose that it be consistent with the draft language of Part III., Sections 1 and 2, Page 16, the Santa Ana Region Permit. We recommend that the Regional Board replace Section 1 and Section 2 with the following:

1. "Discharges of storm water from the MS4s to waters of the United States containing pollutants that have not been reduced to the maximum extent practicable is prohibited."

2. "Discharges from the MS4s shall not cause or contribute to a condition of contamination, nuisance, or pollution in waters of the State as defined in Section 13050 of the Water Code."

It should also be noted that in the recently released draft order of the State Water Resources Control Board, which will most likely be adopted on November 15, 2001, in response to the Petitions of the Building Industry Association of San Diego County and Western States Petroleum Association for Review of Waste Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES NO. CAS0108758], the State Board stated that, among other things, "The permit should be revised to reflect that MEP be achieved for discharges from the MS4, to waters of the United States, but not for discharges into the MS4."

19. Part 2- Receiving Water Limitations- Page 18. - The Receiving Water Limitations also omits an important provision of the Current Permit in Part II at Page 12, which states:

"Timely development and complete implementation of the storm water management programs described in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations."

This provision should also be included in the new Permit after Section 4 on page 19.

20. Part 2- Receiving Water Limitations- Section 3(a)- Page 18. - The imposition of additional discharge reporting requirements, as et forth in this section, is not supported by state or federal statutory or regulatory authority. This section would appear to require Permittees to report third party discharges.

21. Part 3.G.1(f)- Legal Authority- Page 24. - The reference to discharges from swimming pools should match the existing permit language to "prohibit the discharge of commercial swimming pool filter backwash to the MS4." (See, Section 1.E.1.(a)(v)of the current Permit, at page 18).

22. Part 3.G.1(h)- Legal Authority- Page 24. - This section should be modified to track the language of Section 1.E.1(a)(vii), at page 18 of the existing permit, and, in particular, to refer to *untreated* runoff.

23. Part 3.G.1(j)(2) - Legal Authority- Page 24. - A list setting forth the state or federally banned pesticides, fungicides or herbicides should be provided.

24. Part 3.G.2(a)- Legal Authority- Page 25. Insert the word "to" after "Require persons within their jurisdictions" in the first sentence.

25. Part 3.G.2(c)- Legal Authority- Page 25. Delete the reference to "potential contribution"in the first sentence as it is vague, subject to varying interpretation and contrary to the specific direction stated by Chairman Nahai at the Regional board workshop for the second Draft Permit held on July 26, 2001 which was that the Regional Board should eliminate the use of vague terminology which may be subject to varying interpretation.

26. Part 3.G.2(d)- Legal Authority- Page 25. - We agree with the County's and other Permittees' concerns regarding both the feasibility and enforceability of the new inspection requirements set forth in the Draft Permit, which go far beyond the scope of the provisions of 40 CFR 122.26(d)(2)(iv).

27. Administrative Review- As discussed in our cover letter, we are particularly concerned by the Board's failure to include the Administrative Review and "Meet and Confer" provisions from Part 2, Section G.2 of the existing Permit at pages 21 and 22. These provisions provide a very important and informal procedure for resolving differences and misunderstandings regarding permit interpretation and implementation.

28. Part 4. - Industrial /Commercial Facilities Program - Pages 33-39. - As a general comment, we agree with the comments of most of the Permittees with respect to questionable legality and practicality of the proposed inspection program, particularly as it relates to facilities which may already be regulated by the Regional Board itself pursuant to the Statewide

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General Construction Permit. Furthermore, the Permittees believe that the current permit provides sufficient outreach and guidance to these facilities through the educational site visit program.

29. Part 4, Industrial Commercial Facilities Program, Section C(7), Pages 30-31. We believe that the additional outreach and education requirements set forth in this provision may be too costly for our Cities to develop. We recommend that the reference to "50 percent" should be deleted from this section.

30. Part 4.D.1-Development Planning- Page 40. The current Permit clearly provides that it applies to "all development projects requiring discretionary approval" (See, II.A.1. at page 33). The broad definitions of "development"and "redevelopment" contained in the Draft Permit greatly extend the scope of the proposed controls without consideration of either the municipalities' primacy in local land use decisions or the limitations on their authority. Nothing in the Draft Permit or the Board's fact sheet provides any justification for this extension.

    Furthermore, the scope of the proposed controls on *all* "development"and "redevelopment" goes beyond the scope of EPA's Phase I and Phase II Rules for Construction and Post-Construction Runoff Control. We believe that development control should only apply to"Discretionary Projects", as defined in Section 15357 of the Guidelines for Implementation of the California Environmental Quality, which applies to projects requiring the exercise of judgment or deliberation by a city in connection with the decision to approve or disapprove the project, as distinguished from situations where the city merely must determine whether there has been conformity with applicable statutes, ordinances, or regulations.

31. Part 4.D.1- Development Planning- Page 40. - The term "planning priority development" should be substituted with "Planning Priority Development" and "redevelopment" should be uppercase as it is a defined term.

32. Part 4.D.3. - SUSMP- Page 41. - Without re-arguing the issues and questions regarding the original SUSMP as ultimately revised and adopted by the State Board, the fundamental issue remains regarding the Board's compliance with Water Code § 13360 while dictating specific design standards in the Draft Permit.

33. Part 4.D.3.b.(7) - SUSMP- Page 42. - "Redevelopment" is a defined term in the Draft Permit and all references to it should be uppercase.

34. Part 4.D.4.- Applicability of Numerical Criteria - Page 42. - The term "planning priority project" is a defined term and should be uppercase.

35. Part 4.E.2(b) - Development Construction - Page 50. - The inspection requirements set forth in this provision are already the responsibility of the Regional Board under the Statewide General Construction Permit. If the Regional Board is unable to satisfy its obligation under the Statewide General Construction Permit, the Permittees may agree to carry out these inspections. However, any costs incurred by the Permittees should be reimbursed by the Regional Board from the fees collected for the Statewide General Construction Permit.

36. Part 4.F.2(c).-Public Construction Activities Management - Page 53 . We agree with the County that public agencies should be not be required to obtain a general construction permit for activities not currently regulated by the State Board.

37. Part 4.F.5(d) - Storm Drain Operation and Management - Page 56. The Draft Permit requires each Permittee to install and maintain trash receptacles at all transit stops within its jurisdiction. We agree with our Cities that the Regional Board has failed to consider the cost to each city for complying with this additional requirement. Consistent with the TMDL, the Permittees should be permitted to implement the most effective and cost efficient method for reducing trash. This requirement should be removed from the Draft Permit.

38. Part 4.F.6(c)(1)-(3) - Streets and Roads Maintenance - Page 58. The Draft Permit language in this section is overly broad and should be deleted. Section 402(p)(3)(B) of the CWA authorizes the issuance of permits for discharges "from municipal storm sewers" and not "into the MS4." (See comment 12.)

39. Part 4.G(1) - Illicit Connections and Illicit Discharges Elimination Program - Page 60. - We agree with the separate comments of our Cities that the mapping required under this provision of the Draft Permit is not practical, unduly burdensome. And not cost-effective.

40. Definitions-"Environmentally Sensitive Areas"- Page 65. - The project categories identified in the current NPDES Permit were based upon a conclusion that these types of projects have a greater likelihood of contributing contaminated run-off to the MS4. The State Water Resources Control Board in Order WQO No. 2000-11 excluded the additional category of "environmentally sensitive areas" from the SUSMP proposed by the RWQCB. The State Board did state that the "Regional Board may choose to consider the issue further when it reissues the permit." We can appreciate the Board's desire to protect wetlands from the impacts of development. However, the fundamental question still has not been addressed as to whether these areas, as defined in Public Resources Code § 30107.5, are adequately regulated and protected under existing laws and regulations administered by other agencies.

41. Section D.3 - p.63. The permit only addresses discharges from the MS4. This section should be modified to reflect that fact.

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November 19, 2001

Dr. Xavier Swamikannu
Los Angeles Regional Water Quality
Control Board
320 West 4th Street
Suite 200
Los Angeles, CA 90013

Reference: Revised - October 11, 2001 Draft Waste Discharge Requirements for Discharge of Stormwater in Los Angeles County (NPDES No. CAS614001)

Dear Xavier:

After reviewing our comment letter dated November 13, 2001 enclosing our comments regarding the final draft of the municipal NPDES Permit, we noticed a few non-substantive typographical errors. Accordingly, I have enclosed correct copies of our letter and comments.

I would appreciate it if you could substitute the corrected copies for those that we sent last week and include the corrected copies in the administrative record.

Please call me if you have any questions. Thank you for your cooperation.

Very truly yours,

John J. Harris

Enclosures
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November 13, 2001

VIA FACSIMILE AND HAND DELIVERED

Mr. Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: October 11, 2001 Draft Waste Discharge Requirements for Discharge of Stormwater in Los Angeles County (NPDES No. CAS614001)

Dear Mr. Dickerson:

We have received and have reviewed the Regional Water Quality Control Board's (the "Regional Board") October 11, 2001 final draft of the Waste Discharge Requirements for Discharge of Stormwater in Los Angeles County (NPDES No. CAS614001) which, upon adoption, will serve as the NPDES Permit for the discharge of storm water and urban runoff from the municipal separate storm sewer system (the "MS4") in Los Angeles County (the "Draft Permit"). We have been asked by the Cities of Agoura Hills, Carson, Artesia, Beverly Hills, Hidden Hills, Norwalk, La Mirada, Monrovia, Rancho Palos Verdes, San Marino, San Fernando and Westlake Village (the "Cities") to submit comments to the Draft Permit on their behalf. (Some of these cities will also be submitting their own separate comments.) This letter supplements our letters of May 16, 2001 and August 6, 2001, which included our comments on the First and Second Drafts of the proposed NPDES permit, as well as our oral comments at the Regional Boards' workshop on the second draft of the Permit held on July 26, 2001 (the "Comments"). Our Comments are incorporated herein by this reference.

A number of fundamental policy issues regarding the scope and cost of the storm water management program prescribed by the Draft Permit have still not been completely resolved. However, the cities that we represent remain committed to work with the Regional Board to continue the substantial progress made by the Permittees in reducing pollution in and to Southern California water bodies through the implementation of the programs developed under the 1990 and 1996 Permits for the Los Angeles Basin and new programs which the Permittees have proposed for the renewed NPDES Permit.

While our comments address a number of different issues and unresolved questions, we thought it important to once again highlight some substantial issues in the Draft Permit

which have not been fully addressed or considered by the Regional Board's staff.

As I discussed at the second Board workshop, as well as in our Comments, we are particularly troubled about the deletion of the "Safe Harbor" provisions that were included in Receiving Water Limitations and Discharge Prohibition sections of the current Los Angeles County Municipal Storm Water Permit, Order No. 96-054 (the "Current Permit"). Neither the Discharge Prohibition provisions (Part 1, pp. 17-18), nor the Receiving Water Limitations provisions (Part 2, pp. 18-19) of the Draft Permit provide any assurance to our Cities that, once they have implemented the storm water management programs set forth in the Draft Permit in a timely and complete manner, they then will be deemed to be in compliance with the Discharge Prohibitions and Receiving Water Limitations provisions.

These "Safe Harbor" provisions provide the Permittees with important protections from third-party liability once they have implemented the storm water management programs prescribed in the Permit. If these provisions are not included in the Permit, then the Cities and the other Co-Permittees may potentially be exposed to unwarranted third party suits.

Our concerns are not just academic. In Carson Harbor Village, Ltd. v. Unocal Corporation, 990 F. Supp. 1188 (C.D. Cal 1997), the owner of land, which was allegedly contaminated by small quantities of lead contained in storm water runoff sued the County of Los Angeles and two Permittee cities under the Clean Water Act ("CWA"), CERCLA, RCRA and California common law. The District Court granted summary judgment on the CWA and state common law claims, based on the Permittees' compliance with the 1990 and 1996 Permits. That determination was affirmed on appeal. (See, Carson Harbor Village, Ltd. v. Unocal Corporation, et al., _____ F.3d _____; 2001 U.S.App.Lexis 2100; 2001 Daily Journal DAR 1647 (9th Cir. 2001).

Regional Board staff have stated that they feel constrained by the State Board's adoption of Receiving Water Limitation language for municipal NPDES permits in its WQO No. 98-01, which was subsequently amended in WQO No. 99-05. However, the State Board *specifically approved* the inclusion of these Safe Harbor provisions in WQO Order No. 98-01. In Environmental Health Coalition, WQO No. 98-01 (1998), the petitioner contended that the receiving water limitations section in the NPDES Permit for certain Orange County cities violated the CWA and implementing regulations because it did not require compliance with water quality standards. That permit, like the Current Permit, stated "...that the permittees 'will not be in violation of [receiving water limitations] so long as they are in compliance with the requirements' for evaluating the DAMP." The State Board specifically rejected the petitioners' contention, noting that it had previously approved the same "Safe Harbor" provision in SWRCB WQO No. 96-13, with respect to the storm water permit for certain permittees in the Santa Clara Valley issued by the San Francisco Bay

Regional Board. As the State Board stated:

> "The SWRCB has already determined that the use of BMPs to achieve both the technology-based effluent limitations and the water quality-based effluent limitations complies with the CWA and the Porter-Cologne Act. See SWRCB WQO No. 91-03. Accordingly, the SWRCB agrees that use of the phrase that the "permittees will not be in violation of . . ." complies with the CWA and, in fact, used that same phrase in SWRCB Water Quality Order 97-03-DWQ (Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, NPDES General Permit No. CAS000001) (the General Industrial Permit)."

Furthermore, as the State Board noted in In the Matter of the Petition of Save San Francisco Bay Association, et al., WQO No. 96-13 , USEPA has approved the inclusion of a Safe Harbor provision in the Receiving Water Limitations.

Accordingly, the retention of the "Safe Harbor" provision found in the last two permits certainly would not be contrary to the State Board's order dictating the Receiving Water Limitations found in the Draft Permit, and, in fact, would be complementary to those limitations. No State Board order or directive dictates the deletion of the Safe Harbor provision from the Discharge Prohibitions.

Another important provision omitted from the Draft Permit, and referenced in our Comments, is the "Meet and Confer" procedure found in the Current Permit at Part I, Section G, page 21, which provides that, if the Executive Officer determines that a Permittee's storm water program is insufficient to meet the provisions of the Current Permit, then a "Notice of Intent to Meet and Confer" ("NIMC") will be issued to the Permittee. The NIMC is a very important, productive and non-contentious vehicle for Permittees to resolve storm water management program issues with the Regional Board without litigation.

The Regional Board has stated in discussions regarding the Draft Permit that, rather than utilizing the NIMC procedure, staff will rely on the issuance of a Notice of Violation ("NOV"). That sentiment was further echoed at the July 26, 2001 Public Workshop where legal counsel for the State Water Resources Control Board ("SWRCB") stated that the NIMC process is not an element of SWRCB Water Quality Enforcement Policy Resolution No. 96-030, as amended by Resolution No. 97-085 ("Enforcement Policy"), or its "Guidance to Implement the Water Quality Enforcement Policy" ("Guidance Document")

and, therefore, should not be contained in the Draft Permit.

We do not believe that the NIMC process is contrary in any respect to the State Board's Resolution Nos. 96-030 and 97-085, or to the effective development of regional storm water programs. The Enforcement Policy is based on the premise that actual violation of a WDR has occurred. The Enforcement Policy does not really address disagreements regarding the development or implementation of storm water programs, nor do the specific events identified in Sections III A. through H of the Enforcement Policy, which would trigger an enforcement referral, fit the circumstances of a Municipal NPDES Permit. The development and implementation of the regional storm water management programs will only be feasible and effective if state and local governmental agencies can work together in an open and collaborative manner. The enforcement process is, necessarily, adversarial and, in our view, would be counterproductive to the effective development of regional storm water programs.

In our Comments, we raised a number of questions regarding the legal implications of the process by which the Draft Permit was developed. To date, we have not received a full or direct response to those questions and concerns. We continue to believe that the Draft Permit, and the process which generated it, does not comply with applicable principles of California administrative law, and as a result, the Draft Permit has been developed without compliance with California's Administrative Procedure Act. California Government Code §§11340, et seq. (the "APA").

Also, as referenced in the Comments, we are concerned that, by setting specific design standards, the Regional Board and the State Board are crossing the line into an area typically handled through building codes which are supposed to be uniform throughout the state.

We would also like to express our concern on behalf of the Cities that the Regional Board may be exceeding its authority by attempting to prohibit the discharge of all storm water rather than the discharge of pollutants. In addition, the "Peak Flow Control" and post-construction "Numerical Design Criteria" requirements in the Draft Permit exceed the Regional Board's authority by specifically providing how the Permittees are to achieve the goal of reducing the discharge of pollutants to the waters of the United States. We also believe that this precise directive to the Permittees violates the limitations of Water Code § 13360(a), which provides in pertinent part:

> "No waste discharge requirements or other order of a regional board or the state board or decree of a court issued under this division shall specify the design, location, type of construction, or particular manner in which compliance may be

had with that requirement, order, or decree, and the person so ordered shall be permitted to comply therewith in any lawful manner."

Lastly, we would like to point out that our Cities are extremely disappointed with the elimination of the Executive Advisory Committee ("EAC") from the Draft Permit. To our Cities, the EAC has been a vehicle through which productive negotiations with the Regional Board regarding the Draft Permit have taken place. Additionally, at least our Cities have viewed the EAC negotiating process as being very useful in creating open and honest dialogue with the Regional Board regarding many of the difficult issues regarding implementation and enforcement of the Draft Permit. Even though the Regional Board and our Cities may not see eye-to-eye on all the issues, the EAC has provided a forum where the concerns from all stakeholders are acknowledged and discussed. In our opinion, the removal of the EAC from the Draft Permit will be taking a step backwards, rather than forward, in fostering a stronger relationship with the Regional Board, which is where our Cities believe we should be heading.

Our Cities have the same objectives of the Regional Board and the other stakeholders to achieve a consensus to preserve, restore and enhance the many beneficial uses of the ocean and the water bodies of Southern California. We hope that you will consider our comments and suggested changes in this spirit.

Very truly yours,

John J. Harris

Enclosure

cc: Wendy Phillips (w/encl.)
Dr. Xavier Swamikannu (w/encl.)
12131\0002\674406.2

COMMENTS ON OCTOBER 11, 2001 DRAFT WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF STORM WATER IN LOS ANGELES COUNTY (NPDES NO. CAS614001)

by
John J. Harris
Jay F. Golida
Richards, Watson & Gershon

1. Finding D.2, Page 6. - The second sentence should be revised to read: "The Permittees may lack legal jurisdiction over these entities under state and federal constitutions and shall not be held responsible to ensure compliance with this Order."

2. Finding D.4, Page 7. - This finding should be modified as follows:

   "This Permit is intended **to allow the Permittees** to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water and urban runoff to the waters of the United States to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles **subject to their jurisdiction**."

3. Finding D.5, Page 7. - The second sentence of this finding, "Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as CalTrans, the U.S. Department Defense, and other state and federal facilities, through interagency agreements" should be deleted. These other state and federal agencies have resisted any efforts by local agencies to exercise any jurisdiction over their property. The most practicable way of approaching the problems relating to discharges from non-jurisdictional facilities is through the separate NPDES permits for these facilities.

4. Finding E.5, Page 8. - This finding overstates the requirements of 40 C.F.R. 122.26 as it relates to the inspection of industrial and commercial facilities. At most, the regulations control potentially the inspection of priority industrial and commercial facilities, that is, those which contribute a substantial pollutant load to the MS4, as opposed to all industrial and commercial facilities. Finding No. 5 should be modified to reflect the regulations accurately.

5. Finding E.6, Page 8. - This finding states "The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000) which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary." A legal memorandum by the State Board's Chief Counsel, while informative, is not a regulation and has no legal effect. We believe the reference should be deleted.

R0006502

6. Finding E.8, Page 9. - The NPDES Permit is not a vehicle to "implement and enforce" the TMDLs. The last sentence of this section should be deleted.

7. Finding E.18, Pages 10-11, bullet 1. - The State Board's Order in the Bellflower case, WQO No. 2000-11, specifically stated:

" We conclude that because RGOs are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment, they should not be subject to the BMP design standards at this time, and **recommend that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor.** This Order should not be construed to preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued."

The Draft Permit does not reflect the State Board's directive regarding "a threshold relative to size of the RGO, number of fueling nozzles,..." or other factors. Similarly, the State Board's recent draft order, which will most likely be adopted on November 15, 2001, on the petitions of the Building Industry Association of San Diego County, et al., for review of the San Diego County Municipal Permit [NPDES NO. CAS0108758] deleted RGO's from the Priority Development Project Categories requiring a SUSMP.

Similarly, Order 2000-11 stated:

"While it may be appropriate to include more stringent controls for developments in ESAs, we also note that such developments are already subject to extensive regulation under other regulatory programs. Moreover, in light of the permit language limiting the SUSMPs to development categories, ESAs are not an appropriate category within the SUSMPs. The Regional Water Board may choose to consider the issue further when it reissues the permit."

The Draft Permit does not reflect any further consideration as to how the proposed controls of "environmentally sensitive areas" enhance the existing "extensive regulation under other regulatory programs."

8. Finding E.19, Page 11. - Among other things, this finding states "The Regional Board has determined that the creation of structural or treatment control BMPs for stormwater mitigation in waters of the U.S. is not permissible." However, no citation or reference to that "determination" is included. The statement appears to be inconsistent with the Board's position with respect to requiring structural and treatment control BMPs as part of SUSMP requirements.

9. Finding E.20, Page 11. - The term "Watershed Management Approach" appears to be used as a defined term, but this term is not defined in the Draft Permit. Accordingly, change "Watershed Management Approach" to "watershed management approach" or in the

alternative, provide a definition in the new Permit.

10. Finding E.25, Page 13. - This finding should be modified to include the following sentence: "The California Water Code Section 13360(a) prohibits the Regional Board from issuing a waste discharge requirement that specifies the design, location, type of construction, and particular manner in which compliance with this Order may be had.

11. Section F.1, Page 13. - The Draft Permit unilaterally eliminates the Executive Advisory Committee ("EAC") Permit. The EAC is a creation of the Current Permit. The EAC has played an important role during negotiations with the Regional Board and in providing assistance to the co-permittees. There is no legitimate reason for the EAC to be removed from the Draft Permit as it serves an important function to the Permittees. We recommend that this section, as well as the other references to the EAC in prior versions of the Draft Permit, be reinstated.

12. New Finding, F.1, Page 13. - We disagree with the proposed language that: "For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements." As discussed in the comments of other Permittees, cities have a very limited ability to prescribe storm water mitigation requirements for ministerial permits. Similarly, there is no factual basis for a broad finding that any development or redevelopment project has an impact on water quality.

13. Finding F.3, Page 14. - The clause in the second sentence of this finding, "... the discharge of non-storm water has been effectively prohibited.", should be deleted.

14. Finding F.8, Page 15. - The reference to a "petition" to the Executive Officer appears to be unsupported. Neither the Draft permit nor the applicable statutes and regulations provide a procedure for such a petition. As discussed in our Comments, the "Notice of Intent to Meet and Confer" process ("NIMC") from the Current Permit should be retained.

15. Part 1, Section 2(c)- Discharge Prohibitions- Page 16 - We believe that the discharges which were conditionally exempt under Part II, Section II.C.2.(a), (g) and (h) of the existing Permit for landscape irrigation and lawn watering should be included in Part1, Section 2(c) of the Draft Permit, in accordance with applicable federal regulations.

16. Part1- Discharge Prohibitions- Page 16. - The proposed Discharge Prohibitions omit a important exception set forth in Section1(C) of Part 1 at Page 12 of the Current Permit for "Discharges originating from federal, state or other facilities which the Permittee is pre-empted from regulating." This provision should be included in the new Permit.

R0006504

17. Part1- Discharge Prohibitions- Page 16. - As discussed in detail in our cover letter, the Discharge Prohibitions omit a very significant and critically important provision of the Current Permit found in Section 1 of Part 1 at Page 12, which states:

"Compliance with this Order through the timely development and implementation of programs described herein shall constitute compliance with this prohibition."

This provision which has been approved by the State Board, should be included in the new Permit.

18. Part 2- Receiving Water Limitations, Sections 1 and 2- Page 18. - As referenced in our Comments, if this language is to remain, we propose that it be consistent with the draft language of Part III., Sections 1 and 2, Page 16, the Santa Ana Region Permit. We recommend that the Regional Board replace Section 1 and Section 2 with the following:

1. "Discharges of storm water from the MS4s to waters of the United States containing pollutants that have not been reduced to the maximum extent practicable is prohibited."

2. "Discharges from the MS4s shall not cause or contribute to a condition of contamination, nuisance, or pollution in waters of the State as defined in Section 13050 of the Water Code."

It should also be noted that in the recently released draft order of the State Water Resources Control Board, which will most likely be adopted on November 15, 2001, in response to the Petitions of the Building Industry Association of San Diego County and Western States Petroleum Association for Review of Waste Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES NO. CAS0108758], the State Board stated that, among other things, "The permit should be revised to reflect that MEP be achieved for discharges from the MS4, to waters of the United States, but not for discharges into the MS4."

19. Part 2- Receiving Water Limitations- Page 18. - The Receiving Water Limitations also omits an important provision of the Current Permit in Part II at Page 12, which states:

"Timely development and complete implementation of the storm water management programs described in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations."

This provision should also be included in the new Permit after Section 4 on page 19.

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20. Part 2- Receiving Water Limitations- Section 3(a)- Page 18. - The imposition of additional discharge reporting requirements, as set forth in this section, is not supported by state or federal statutory or regulatory authority. This section would appear to require Permittees to report third party discharges.

21. Part 3.G.1(f)- Legal Authority- Page 24. - The reference to discharges from swimming pools should match the existing permit language to "prohibit the discharge of commercial swimming pool filter backwash to the MS4." (See, Section 1.E.1.(a)(v)of the current Permit, at page 18).

22. Part 3.G.1(h)- Legal Authority- Page 24. - This section should be modified to track the language of Section 1.E.1(a)(vii), at page 18 of the existing permit, and, in particular, to refer to *untreated* runoff.

23. Part 3.G.1(j)(2) - Legal Authority- Page 24. - A list setting forth the state or federally banned pesticides, fungicides or herbicides should be provided.

24. Part 3.G.2(a)- Legal Authority- Page 25. Insert the word "to" after "Require persons within their jurisdictions" in the first sentence.

25. Part 3.G.2(c)- Legal Authority- Page 25. Delete the reference to "potential contribution"in the first sentence as it is vague, subject to varying interpretation and contrary to the specific direction stated by Chairman Nahai at the Regional Board workshop for the second Draft Permit held on July 26, 2001 which was that the Regional Board should eliminate the use of vague terminology which may be subject to varying interpretation.

26. Part 3.G.2(d)- Legal Authority- Page 25. - We agree with the County's and other Permittees' concerns regarding both the feasibility and enforceability of the new inspection requirements set forth in the Draft Permit, which go far beyond the scope of the provisions of 40 CFR 122.26(d)(2)(iv).

27. Administrative Review- As discussed in our cover letter, we are particularly concerned by the Board's failure to include the Administrative Review and "Meet and Confer" provisions from Part 2, Section G.2 of the existing Permit at pages 21 and 22. These provisions provide a very important and informal procedure for resolving differences and misunderstandings regarding permit interpretation and implementation.

28. Part 4. - Industrial /Commercial Facilities Program - Pages 33-39. - As a general comment, we agree with the comments of most of the Permittees with respect to questionable legality and practicality of the proposed inspection program, particularly as it relates to facilities which may already be regulated by the Regional Board itself pursuant to the Statewide

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General Construction Permit. Furthermore, the Permittees believe that the current permit provides sufficient outreach and guidance to these facilities through the educational site visit program.

29. Part 4, Industrial Commercial Facilities Program, Section C(7), Pages 30-31. We believe that the additional outreach and education requirements set forth in this provision may be too costly for our Cities to develop. We recommend that the reference to "50 percent" should be deleted from this section.

30. Part 4.D.1-Development Planning- Page 40. The current Permit clearly provides that it applies to "all development projects requiring discretionary approval" (See, II.A.1. at page 33). The broad definitions of "development"and "redevelopment" contained in the Draft Permit greatly extend the scope of the proposed controls without consideration of either the municipalities' primacy in local land use decisions or the limitations on their authority. Nothing in the Draft Permit or the Board's fact sheet provides any justification for this extension.

    Furthermore, the scope of the proposed controls on *all* "development"and "redevelopment" goes beyond the scope of EPA's Phase I and Phase II Rules for Construction and Post-Construction Runoff Control. We believe that development control should only apply to"Discretionary Projects", as defined in Section 15357 of the Guidelines for Implementation of the California Environmental Quality Act, which applies to projects requiring the exercise of judgment or deliberation by a city in connection with the decision to approve or disapprove the project, as distinguished from situations where the city merely must determine whether there has been conformity with applicable statutes, ordinances, or regulations.

31. Part 4.D.1- Development Planning- Page 40. - The term "planning priority development" should be substituted with "Planning Priority Development" and "redevelopment" should be uppercase as it is a defined term.

32. Part 4.D.3. - SUSMP- Page 41. - Without re-arguing the issues and questions regarding the original SUSMP as ultimately revised and adopted by the State Board, the fundamental issue remains regarding the Board's compliance with Water Code § 13360 while dictating specific design standards in the Draft Permit.

33. Part 4.D.3.b.(7) - SUSMP- Page 42. - "Redevelopment" is a defined term in the Draft Permit and all references to it should be uppercase.

34. Part 4.D.4.- Applicability of Numerical Criteria - Page 42. - The term "planning priority project" is a defined term and should be uppercase.

R0006507

35. Part 4.E.2(b) - Development Construction - Page 50. - The inspection requirements set forth in this provision are already the responsibility of the Regional Board under the Statewide General Construction Permit. If the Regional Board is unable to satisfy its obligation under the Statewide General Construction Permit, the Permittees may agree to carry out these inspections. However, any costs incurred by the Permittees should be reimbursed by the Regional Board from the fees collected for the Statewide General Construction Permit.

36. Part 4.F.2(c).-Public Construction Activities Management - Page 53 . We agree with the County that public agencies should be not be required to obtain a general construction permit for activities not currently regulated by the State Board.

37. Part 4.F.5(d) - Storm Drain Operation and Management - Page 56. The Draft Permit requires each Permittee to install and maintain trash receptacles at all transit stops within its jurisdiction. We agree with our Cities that the Regional Board has failed to consider the cost to each city for complying with this additional requirement. Consistent with the TMDL, the Permittees should be permitted to implement the most effective and cost efficient method for reducing trash. This requirement should be removed from the Draft Permit.

38. Part 4.F.6(c)(1)-(3) - Streets and Roads Maintenance - Page 58. The Draft Permit language in this section is overly broad and should be deleted. Section 402(p)(3)(B) of the CWA authorizes the issuance of permits for discharges "from municipal storm sewers" and not "into the MS4." (See comment 12.)

39. Part 4.G(1) - Illicit Connections and Illicit Discharges Elimination Program - Page 60. - We agree with the separate comments of our Cities that the mapping required under this provision of the Draft Permit is not practical, unduly burdensome, and not cost-effective.

40. Definitions-"Environmentally Sensitive Areas"- Page 65. - The project categories identified in the current NPDES Permit were based upon a conclusion that these types of projects have a greater likelihood of contributing contaminated run-off to the MS4. The State Water Resources Control Board in Order WQO No. 2000-11 excluded the additional category of "environmentally sensitive areas" from the SUSMP proposed by the RWQCB. The State Board did state that the "Regional Board may choose to consider the issue further when it reissues the permit." We can appreciate the Board's desire to protect wetlands from the impacts of development. However, the fundamental question still has not been addressed as to whether these areas, as defined in Public Resources Code § 30107.5, are adequately regulated and protected under existing laws and regulations administered by other agencies.

41. Section D.3 - p.63. The permit only addresses discharges from the MS4. This section should be modified to reflect that fact.

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November 13, 2001

VIA MESSENGER

2001 NOV 13 P 3:36

Dr. Xavier Swamikannu
Calif. Regional Water
Quality Control Board
Los Angeles Region
Storm Water Program
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Los Angeles Regional Water Quality Control Board, October 11, 2001
Draft NPDES Permit No. CAS004001

Dear Dr. Swamikannu:

This office represents The City of Signal Hill and a number of other Cities in the County of Los Angeles who are members of an ad hoc coalition known as the Coalition For Practical Regulation, in connection with the above referenced permit. The purpose of this letter and the attached comments, is to provide further comment to the Regional Board on its Third Draft of the subject NPDES permit, dated October 11, 2001 (hereinafter "Tentative Permit"), and to further ***supplement*** the extensive comments already provided to Regional Board in prior written comments and in meetings with Regional Board representatives. Although changes were made to the Second Draft of the Permit to address certain deficiencies, numerous concerns and problems remain.

Accordingly, the attached comments are intended to further supplement the comments previously submitted on behalf of the Coalition to the Regional Board on May 15, 2001 and October 11, 2001. Thank you for your consideration of these comments.

In addition, given the ongoing Facilitation Process presided over by US EPA concerning the subject Permit, and the attempt by US EPA to resolve some of the disputes over the language in the Tentative Permit, these Permittees respectfully request that the US EPA Facilitator be given sufficient time to attempt to resolve many

of the key disputes in issue, and that the adoption of the Permit be delayed at least for 90 days to allow the Facilitation Process to move forward.

We look forward to the adoption of an NPDES permit for Los Angeles County that complies with the requirements of the State and federal law. Please do not hesitate to contact the undersigned, should you have any questions with respect to the above or the enclosed.

Sincerely,

RUTAN & TUCKER, LLP

Richard Montevideo

RM:kmh
Enclosure

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COMMENTS OF THE COALITION FOR PRACTICAL REGULATION ON THE LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD DRAFT NPDES PERMIT NO. CAS004001 DATED OCTOBER 11, 2001

2001 NOV 13 P 3:36

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Dated: November 13, 2001

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A. THE LEGAL AUTHORITY PROVISIONS IN THE PERMIT CONFLICT WITH STATE AND FEDERAL LAW AND THE PERMIT VIOLATES THE MEP STANDARD

Under Section 402 of the Clean Water Act, ("CWA"), (33 U.S.C. § 1342(p)(3)(B), the CWA authorizes the issuance of permits for discharges "***from***" municipal storm sewers." (33 U.S.C. § 1342(p)(3)(B).) NPDES Permits are not authorized for discharges "***to***" the municipal storm sewer under the CWA or otherwise. The State Water Resources Control Board recently supported this interpretation in a draft order dated November 2, 2001 ("Draft Order") concerning a petition involving the San Diego Regional Board's MS4 NPDES Permit for San Diego County. The State Board commented that: "[w]e find that the permit language is overly broad because it applies the MEP standard not only to discharges "***from***" MS4s, but also to discharges "***into***" MS4s." (Draft Order, p. 11.) The Tentative Permit in issue is similarly overly broad, as it misapplies the MEP standard and attempts to require municipalities to control, inspect and regulate the discharge of pollutants ***to*** MS4s," as opposed to "***from***" MS4s. As such, the Tentative Permit is contrary to the Clean Water Act and the Porter-Cologne Act.

Moreover, the regulations under the CWA only require that municipalities demonstrate "Adequate Legal Authority" as necessary to "[c]ontrol through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with ***industrial activity*** and the quality of storm water discharges from sites of ***industrial activity***." There are no other requirements imposed upon a municipality to "control" the contribution of pollutants ***to*** the MS4 and thus, no authority to require municipalities to regulate through "ordinance, permit, contract, order or similar means" discharges from any other facilities "***to***" its MS4.

The terms of the Tentative Permit thus exceed the MEP standard and the terms of the CWA in each location where it requires that municipalities "control" the discharge of pollutants "***to***" their MS4. For example, on page 25 of the Tentative Permit, under section G, entitled "Legal Authority," subsection 2, the Permit requires that the Permittees possess adequate legal authority to: (c) "Control pollutants, ***including potential contribution***, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control of the quality of storm water from industrial sites (including construction sites)..., [and] (d) Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to ***enter, sample, inspect, review and copy records, and require regular reports*** from industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4." (Tentative Permit, p. 25.)

The requirement of "controlling" pollutants "to" the MS4 including "***potential contribution,***" and requiring the entry, inspection, and copying of records and regular

reporting, from industrial facilities that have the "potential to discharge polluted storm water runoff," are requirements that are ***not*** authorized anywhere under the Clean Water Act ("CWA") or the Porter-Cologne Act, and are requirements that go beyond the MEP standard and any authority that either the Regional Board or the Permittees may otherwise have under State or federal law.

The regulations to the CWA further confirm this legal standard in part in the "Adequate Legal Authority" section of the regulations, wherein the "control" of the storm water discharges in an MS4 Permit is clearly to be limited to storm water discharges that are associated with ***industrial activity***, and, moreover, specifically the "contribution ***of pollutants***," rather than the "***potential contribution***" of pollutants. Thus, the expansion of the MEP standard to "controlling" the discharge of any pollutants in storm water "***to***" the MS4, conflicts with State and federal law, as does the attempt to require municipalities to control the "***potential contribution***" of pollutants to or from the MS4.

Additionally, Section 2(e) on page 25 of the Permit requires that the Permittees: "Require the use of best management practices ("BMPs") to prevent or reduce the discharge of pollutants ***to*** MS4s to the maximum extent practicable," and subsection (f) provides that the Permittees are to "[r]equire that treatment control BMPs be properly operated and maintained to prevent the breeding of vectors." (Tentative Permit p. 25.) Such provisions of the Permit again are in conflict with the terms of the Clean Water Act and the MEP standard and must be revised accordingly. As set forth in the State Board's Draft Order in connection with the San Diego Permit:

> The permit should also be revised so that it requires that MEP be achieved for discharges "from" the municipal sewer system, and for discharges "to" waters of the United States, but not for discharges "into" the sewer system. (See Draft Order, p. 17.)

Similarly, under Part 3.A of the Tentative Permit in issue, the Regional Board seeks to impose certain requirements on the Permittees as a part of the Stormwater Quality Management Program "SQMP," "so as to reduce the discharges of pollutants ***in*** storm water to the maximum extent practicable," and which is to be implemented by the Permittees, along with additional controls where necessary, "to reduce the discharge of pollutants ***in*** storm water to the maximum extent practicable." (See Tentative Permit, p. 20, Part 3.A. and Part 3.B.)

Similar language is utilized in the definition of "Maximum Extent Practicable Standard" set forth in Part 4 on page 27 of the Tentative Permit, whereby the Permit seeks to define the standard as one of reducing "the discharge of pollutants ***in*** storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State," as opposed to reducing the discharge of pollutants "***from***" municipal storm sewers. (See 33 USC § 1342(p)(3)(B).)

Further, similar language is contained in Versions A and B of the Industrial/Commercial Facilities Program which again conflicts with the MEP Standard

(i.e., "[t]he objective is to reduce pollutants ***in*** storm water runoff to the maximum extent practicable . . . ."). Finally, there is language in the Industrial/Commercial Facilities Program Versions A and B in connection with BMP implementation, which mandates Permittees require implementation of other BMP's that will achieve the equivalent reduction of pollutants "***in***" storm water discharges.

In sum, throughout the Tentative Permit, the Regional Board has attempted to improperly expand the MEP standard and the requirements Clean Water Act and the Porter-Cologne Act, adopted in part to carry out the requirements of the Clean Water Act, see Water Code § 13370 *et seq.*), in a fashion that goes beyond the terms of these statutory requirements.

B. THE VARIOUS VERSIONS OF THE INSPECTION, ENFORCEMENT, MONITORING AND REPORTING OBLIGATIONS TO BE IMPOSED ON THE PERMITTEES FOR INDUSTRIAL/COMMERCIAL FACILITIES CONTINUE TO BE IN EXCESS OF THE AUTHORITY PROVIDED UNDER STATE AND FEDERAL LAW.

With respect to those portions of the Permit requiring Permittees to inspect certain industrial and commercial facilities, such as restaurants, automotive repair shops, and retail gasoline outlets, the CWA regulations are very clear that municipalities are only required to conduct inspections of "industrial facilities," and even further, with limited exception not applicable here, only those industrial facilities that "***the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.***" (See 40 CFR § 122.26(d)(2)(iv)(C).)

Thus, under the plain language of the CWA regulations, the inspection obligations on municipalities are expressly limited to inspections of "industrial facilities," and at that, only as necessary to determine compliance and noncompliance with permit conditions where the "***municipal permit applicant***" determines that such industrial facilities "***are contributing a substantial pollutant*** loading to the municipal storm sewer system." There is, moreover, no requirement or other legal authority to compel municipalities to "***control***" pollutants from any "***commercial***" facility, or to inspect any "***commercial***" facility.

In addition, there is no authority that either requires or authorizes Permittees to ***enter, sample, inspect, review*** and ***copy records*** of facilities without a warrant and probable cause. Without the consent of the property owner, and without at least reasonable suspicion of a violation, combined with exigent circumstances, warrantless searches of facilities, along with the seizure of company, records plainly violates the Fourth Amendment to the United States Constitution. Similarly, in the definition of "Inspection" in the Tentative Permit, the Regional Board seeks to require, as a part of all such inspections, the interrogation of facility personnel ("interview of facility personnel"), which, if is done in the context of a "violation," may in and of itself result in a violation of the Fifth Amendment to the U.S. Constitution. (See Tentative Permit, p. 66.)

As discussed in our prior Comment Letter of August 6, 2001, Regional Board staff had previously relied upon ordinances adopted by certain Los Angeles County cities, to claim that warrantless inspections of facilities would be legally appropriate. Board Staff further claimed that such Ordinances were broad enough to comply with the inspection requirements of the Permit. Yet, the Ordinances of three of the cities referenced at the workshop (Beverly Hills, Hermosa Beach and El Monte) were reviewed, and, all contained language showing that these Cities were in fact concerned about appropriate authority to enter upon private property, without a warrant, and, each Ordinance expressly conditioned warrantless entry upon consent by the property owner. (See attachments to August 6, 2001 Comment Letter.)

The inspection process set forth under Part 4.C. of the Permit includes three different versions of the program, presumably with Version A being Staff's preferred version, and Version C being Staff's least preferred version. All three versions include a requirement of inventorying certain facilities by the Permittees, but with Version C entitled "Industrial/Commercial Education Program," requiring the Principal Permittee (in consultation with the Permittees) to maintain and update a database for listing industrial/commercial facilities by SIC number.

Both Versions A and B, without appropriate findings and without evidentiary support, identify facilities such as restaurants, automotive service stations, automotive dealers/gas stations and wholesale trade (scrap, auto dismantling, fabricated metal products, motor freight, chemical/allied products, and primary metal product facilities) as high priority categories. Yet, none of these facilities, unless subject to a Phase I permit, are "industrial facilities" subject to "control" by the Permittees under either the CWA or the regulations thereunder. Accordingly, there is no authority for the Regional Board to include these facilities or any others except those identified in the regulations, as "high priority" categories, as such is contrary to the express language in the regulations (which gives this discretion to the municipalities, i.e., those facilities the "***municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system***" (40 CFR 122.26(d)(iv)(C)).)

In addition, under Versions A and B of the Industrial/Commercial Program, "lower priority categories" facilities are to be visited within 24 months from the Permit's effective date, and the Permittees are to develop and implement a program to conduct "spot checks" of such lower priority facilities after the initial 24 months, excepting only those facilities that pose "no risk of exposure." As the provisions of the CWA and the regulations thereto do ***not*** provide the authority for the Regional Board to impose such inspection requirements on municipalities, these provisions are again contrary to the express language of the regulations, and similarly violate the MEP standard, as they constitute controls on discharges "***to***" the MS4.

To the extent the CWA regulations are being interpreted by the Regional Board to impose on municipalities, requirements that go beyond controlling the discharge of pollutants to the maximum extent practicable "from" the MS4, such an interpretation is contrary to the clear terms of the Clean Water Act itself, and the regulations. Further, to the extent the Regional Board interprets the regulations in such a manner so as to

exceed the authority provided to EPA in the CWA, or to be contrary to the CWA, such an interpretation is similarly invalid. (See, e.g. *Chevron USA v. Natural Resources Defense Council, Inc.* 467 U.S. 837, 842-844 (1984).)

In addition to the lack of authority to impose such obligations under federal law, it is apparent that under State law as well, the Regional Board cannot compel municipalities to conduct such inspections, unless there is express statutory authority to do so. In a 1993 California Attorney General Opinion involving the responsibility of local building departments to enforce the access requirements of the Americans with Disabilities Act ("ADA") (see 76 Op. Atty. Gen. Cal. 130), the Attorney General concluded that since the ADA did not provide for the enforcement of federal law by local building officials, State law did not and could not mandate local building officials to enforce the federal access requirements under the ADA. The Attorney General found that in enforcing State and local building regulations, local building officials may not elect to assume greater or different enforcement powers than those specifically or necessarily implied under California law (citing *Ferdig v. State Personnel Board* (1969) 71 Cal.2d 96, 103-104), and concluded that: ***"[w]e therefore conclude that local building departments are not responsible for enforcing the access requirements of the ADA;*** however, they are required to enforce State and local building codes which have incorporated the federal requirements. ***Local building departments are not authorized to elect to enforce the federal access standards apart from the CBSC and local codes."***

Similarly, in a 1984 Attorney General decision involving whether a city or county has the authority to establish a licensing and inspection program to regulate the transportation of hazardous materials over roadways within its jurisdiction (67 Op. Atty. Gen. Cal.1), the Attorney General again concluded that a city or county has only limited authority and that, unless the State Legislature "expressly authorized" a licensing or inspection program at the local level, a local program would be in conflict with among other matters, the "***constitutional grant of the police powers authority***".

Accordingly, the terms of the Tentative Permit concerning the inspection of industrial/commercial facilities are not authorized anywhere under the Clean Water Act or the Porter-Cologne Act, and are invalid, as neither the Regional Board nor the Permittees have the respective authority to impose such inspection requirements or to conduct such inspections.

C. THE RECEIVING WATER LIMITATION LANGUAGE UNDER PART 2 OF THE DRAFT PERMIT EXCEEDS THE STANDARDS AND AUTHORITY PROVIDED UNDER STATE AND FEDERAL LAW

As discussed above, under Section 402 of the CWA, permits for discharges "**from** municipal storm sewers" are to be issued to "require controls to reduce the discharge of pollutants to the ***maximum extent practicable*** . . . ." Similarly, under Section 13263(a) of the Porter-Cologne Act, waste discharge requirements ("WDRs") are to be issued:

> . . . with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, ***the water quality objectives reasonably required for that purpose,*** other waste discharges, the need to prevent nuisance, and the provisions of ***Section 13241.*** (Cal. Water Code § 13263.)

Under Section 13241 of the Porter-Cologne Act, the factors to be considered are to include: (a) Past, present, and probable future beneficial uses of water; (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; (c) Water quality conditions ***that could reasonably be achieved*** through the coordinated control of all factors which affect water quality in the area; (d) ***Economic considerations***; (e) ***The need for developing housing within the region***. (See Cal. Water Code § 13241).

As written, Parts 2.1 and 2.2 of the draft Permit prohibit "discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives," and discharges from the MS4 storm water which "cause or contribute to a condition of nuisance." Such prohibitions and requirements are contrary to the MEP standard under the CWA, i.e., to control the discharge of pollutants "from" MS4s "***to the maximum extent practicable***," and the standards under the Porter-Cologne Act, i.e., water quality objectives "***reasonably required***" and water quality conditions that "***could reasonably be achieved***." (Water Code §13263(a) and 13241(c).)

The very purpose of issuing an NPDES Permit and WDRs is to specifically allow for the discharge of storm water (which, by definition, includes storm water runoff) and to specifically allow for the discharge of "waste" (to the extent the pollutants in storm water runoff constitute waste) to, among other areas, "receiving waters." In fact, the CWA includes a very specific process, i.e., the TMDL process, which recognizes that water quality objectives are to be met over time through an "iterative process." The "iterative process" was moreover, recently supported by the State Board in Order No. 99-05, and more recently in the State Board's Draft Order in connection with the San Diego MS4 NPDES permit. In the Draft Order, the State Board confirmed that the process to be followed is to be an "iterative approach," which focuses on timely improvement of BMPs: "We will generally not require 'strict compliance' with water quality standards through numeric effluent limitations and we continue to follow an iterative approach, ***which seeks compliance over time***. The iterative approach is protective of water quality, but at the same time considers ***the difficulty of achieving full compliance through BMPs that must be enforced throughout large and medium municipal storm sewer systems***." (Draft Order, p. 9.)

With respect to the San Diego MS4 Permit, the State Board tentatively determined[1] that the receiving water limitation language was deficient as it did not make clear that the "iterative process" was to be applied to both the receiving water limitation language as well as the language concerning exceedances of water quality objectives.[2]

With the Tentative Permit, additional language must be added to clarify that compliance with the iterative process constitutes compliance with the terms of the Permit, and that so long as Permittees are taking significant steps towards achieving compliance with water quality objectives and are making reasonable progress in this regard, the Permittees are in compliance with the relevant terms of the Permit and thus, are in compliance with the Clean Water Act and the Porter-Cologne Act. In a recent State Board Order, State-Wide General NPDES Permit for Discharges of Aquatic Pesticides to Surface Waters, Order No. 2001-12 DWQ, in fact the State Board included language consistent with the change requested herein. In the Receiving Waters Limitation Section in Order No. 2001-12 DWQ, the State Board concluded that: "A discharger will not be in violation of receiving water limitation F.2 as long as the discharger has implemented the BMPs required by this General Permit and the following procedure is followed: . . . ." (See Order No. 2001-12-DWQ, p. 9.)

Accordingly, similar language must be added to the Tentative Permit since, without such language, the Permit will be inconsistent with the MEP standard and in conflict with the standard for issuing WDRs under the Porter-Cologne Act.

D. THE PERMIT VIOLATES THE CALIFORNIA ENVIRONMENTAL QUALITY ACT.

1. The Development Planning Requirements are Pre-empted by CEQA.

The provisions of the California Environmental Quality Act ("CEQA") "occupy the field" of mitigating adverse environmental impacts from development "projects" and the imposition of mitigation measures by a public agency to mitigate potentially significant adverse impacts created by such projects. In *Leslie v. Superior Court* (1999) 73 Cal.App.4th 1042, the Court found that the State Legislature had expressed its intent to fully occupy the field of building standards by enacting uniform Statewide building laws,

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[1] The State Board is scheduled to conduct a hearing on its proposed Order concerning the Petition on the San Diego Permit on November 15, 2001. Once issued, Permittees herein request that a copy of the State Board's final Order be made a part of this Administrative Record.

[2] In the Draft Order, the State Board commented on the ability of the San Diego Regional Board to take enforcement action for discharges causing or contributing to exceedances of water quality objectives while the MS4 Permittees are similarly complying with the requirements to improve BMPs over time. In reviewing this portion of the San Diego Permit, the State Board determined not to strike those provisions, but did state that "it is our review that it would ***not*** be appropriate for the Regional Water Board to take enforcement action against a Permittee for causing or contributing to an exceedance of a water quality standard if the Permittee is complying with the procedure set forth in receiving water limitation C.2. We reached this conclusion with the understanding that dischargers must take significant steps to achieve compliance with water quality objectives, and that if there is not reasonable progress in improving BMPs, that Regional Water Boards may take enforcement action ." (See Draft Order, p. 10).

and demanding that local governments adopt Uniform Building Codes and California building standards. There, the local government was precluded by the doctrine of preemption from enacting building standards that differed from State standards, unless a State statute specifically authorized the local government to do so. Also *see Building Industry Assn. v. City of Livermore* (1996) 45 Cal.App.4th 719, cited by *Leslie v. Superior Court*, where the Court found that:

> "Our state Legislature has clearly expressed its intent to ***fully occupy the field*** of building standards. Consequently, a local government is precluded from enacting building standards that differ from state standards unless a state statute specifically authorizes the local government to do so." (*Id.* at 724; emphasis added.)

In Public Resources Code sections 21000 and 21001, the Legislature expressed its intent with the adoption of CEQA, that:

> "(f) The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality ***and to control environmental pollution.***
>
> ***(g)*** It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities ***so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian."***

(Pub. Res. § 21000.)

> The Legislature further finds and declares that it is the policy of the State to:
>
> "(d) Ensure that the long-term protection of the environment, ***consistent with the provision of a decent home and suitable living environment for every Californian***, shall be the guiding criteria in public decisions.
>
> . . .
>
> (g) Require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider

alternatives to proposed actions affecting the environment."

(Pub. Res. Code § 21001.)

In adopting CEQA, the State Legislature thus determined that public agencies are not to approve "projects" if there are ***feasible alternatives*** or ***feasible mitigation*** measures, which would substantially lessen the significant environmental effects of such projects. The term "feasible" is defined under CEQA to mean "capable of being accomplished in a successful manner within a reasonable period of time, ***taking into account economic, environmental, social, and technological factors.***" (Pub. Res. Code § 21061.1) It is evident from the express terms of CEQA, that the Legislature has already established a procedure to be followed to "control environmental pollution," and to establish "feasible" mitigation measures, which process requires not only the long term protection of the environment, but also the approval of projects that are consistent with the provision of a decent home and suitable living environment for every Californian, as well as the consideration of "alternatives to proposed actions" effecting the environment.

In fact, in the CWA regulations concerning Phase II Permits, EPA specifically recognized the importance of conforming with State law, and characterized the application of such NPDES Permits, stating that they are to require the permittees to "use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects ***to the extent allowable under State, Tribal or local law.***" (64 Fed.Reg. 68721, 68760; emphasis added.) The California Legislature has already determined that public agencies are to comply with the requirements of CEQA in reviewing development "projects" and in imposing environmental mitigation measures as conditions on the approval of such "projects."

In short, the CEQA process is the legislative process to be followed in determining the appropriate methods and alternatives to mitigate adverse impacts on the environment, including "pollution to the environment" arising from development "projects." Any attempt by the Regional Board to infringe upon this process of assessing and mitigating adverse impacts is thus preempted by existing State law.

The Legislature has also identified, through statute and regulation, various statutory and categorical exemptions to CEQA, which further preempt the attempts by the Regional Board to regulate "development projects." For example, CEQA only applies to "**discretionary**" projects. "***Ministerial***" projects are expressly ***exempt*** from CEQA's application, *i.e.*, public agencies have no authority to review ministerial projects for purposes of imposing additional mitigation measures beyond those already included in the codified standard. (See Pub. Res. § 21080(b)(1).) The exemption of all "ministerial" projects from the application of CEQA, and thus, from review by local agencies for purposes of imposing additional mitigation measures under CEQA, is significant in connection with the Tentative Permit, as the Permit seeks to impose mitigation measures under the SUSMP provisions to all "projects," whether "discretionary" or "ministerial." As CEQA expressly exempts ministerial projects from its

terms, there is no authority for the Regional Board to require municipalities to, in effect, impose mitigation measures on projects that are otherwise exempt from such mitigation measures under State law. Such terms of the Permit are impliedly, if not expressly, preempted by State law.

The State CEQA guidelines also identify a series of exemptions on various types of projects from the environmental review process, many of which appear to be "projects" in which the Regional Board is now seeking to condition their approval on yet additional environmental mitigation measures. Specifically, Class 2, Class 3, Class 4, Class 11 and Class 15 "categorical exemptions" under CEQA, appear to be expressly and/or implicitly overridden by the terms of the Tentative Permit. These categorical exemptions include: the replacement or the reconstruction of the existing structures or facilities when a new structure is located on the same site as the original facility and will serve the same purpose and capacity of the original structure (14 CCR 15302); the construction of small new facilities, new equipment and facilities and small structures, and the construction of three or fewer single family homes in urban areas (14 CCR 15303); minor alterations to land such as grading, gardening and landscaping that do not affect sensitive resources (14 CCR 15304); the construction or replacement of minor structures to existing facilities (*e.g.*, signs, small parking lots, portable structures) (14 CCR 15311); and the subdivision of four or fewer parcels in urban areas (14 CCR 15315). Each of these categorical exemptions will be overridden by the Regional Board's attempt to impose the subject development planning requirements on various projects throughout the County.

Given that the State Legislature has already "occupied the field" on the process to follow in imposing mitigation measures on development projects, any attempt by a regional board to adopt provisions that are contrary to State law are impliedly, if not expressly, preempted. (See e.g., *Leslie v. Superior Court*, *supra*, 73 Cal.App.4th 1042, where the Court found that a conflict existed between a City ordinance and general State laws, where the ordinance ***duplicated, contradicted or entered an area which is fully occupied by general law, either expressly or by Legislative implication***.)

In the instant case, both the Regional Board and the Permittees are without authority to take action to adopt mitigation measures on projects that are categorically or statutorily exempt under CEQA, unless such mitigation measures are otherwise expressly required by State or federal law, or to take action that is inconsistent with or contrary to the policies and provisions of CEQA. As such, the Permittees herein request that the terms of the Tentative Permit be revised so as to be consistent with the terms under CEQA.

2. The Regional Board Has No Authority To Modify The Guidelines To CEQA.

In addition to the concerns of preemption created by the Tentative Permit, under Part 4.D.12 of the Permit entitled "California Environmental Quality Act (CEQA) Document Update," the Regional Board seeks to require modifications to existing State CEQA guidelines, i.e., the Regional Board seeks to modify State law. As the Regional

Board does not have the authority to impose regulations that modify CEQA, and given that the Regional Board has failed to comply with requirements of the Administrative Procedures Act in adopting the subject Permit (see discussion below), provisions requiring that the Permittees update their CEQA guidelines are contrary to law.

Moreover, the requested changes are unnecessary, as existing CEQA Guidelines already accomplish the apparent purpose of the Tentative Permit's proposed changes to CEQA. In addition, the CEQA guidelines contain an Environmental Checklist (Appendix G to the Regulations), and under Section VIII of this Checklist, the potential impacts on water quality and impacts to the environment from storm water runoff, are expressly identified as being impacts to be evaluated by the lead agency. A copy of this Checklist was previously provided with our August 6, 2001 Comment Letter, and should already be a part of the Administrative Record for this proceeding.

Accordingly, in light of the existing requirements under CEQA, and beyond the fact that the Regional Board does not have the authority to amend the CEQA Guidelines (and otherwise has not complied with the requirements of the Administrative Procedures Act), the proposed changes to the guidelines are unnecessary, as the matter is already addressed by the existing guidelines.

3. The Regional Board has Itself Failed to Comply with CEQA.

Water Code Section 13389 exempts the State and Regional boards from compliance with the requirements from CEQA and the adoption of "waste discharge requirements," except requirements for "new sources" as defined in the Clean Water Act. In the instant case, the Tentative Permit will impose permanent requirements on "new sources" as defined in the Clean Water Act, and thus the requirements of CEQA must be complied with by the Regional Board prior to the adoption of the subject Permit.

Under the Clean Water Act, "new sources" are defined to mean "any source, the construction of which is commenced after the publication of proposed regulations prescribing a standard of performance under this section which will be applicable to such source, if such standard is thereafter promulgated in accordance with this section." (33 U.S.C. § 1316(a)(2).) Further the term "source" is defined to mean "***any building, structure, facility, or installation from which there is or may be the discharge of pollutants.***" (33 U.S.C. § 1316(a)(3).)

With the instant Permit, any new construction or new facility is a potential "new source," and thus the requirements of CEQA apply and must be adhered to by the Regional Board.

E. THE REGIONAL BOARD HAS NO AUTHORITY TO MODIFY STATE LAW GOVERNING GENERAL PLAN/LOCAL LAND USE REQUIREMENTS.

The Permit language requiring the Permittees to amend, revise or update certain elements of their General Plans, is contrary to existing State law governing General Plans and the Regional Board has no authority to issue such an edict. Rather, land use planning is to be in the hands of local government. (See, *Yost v. Thomas* (1984) 36

Cal.3d 561,565.) Further, the draft Permits required General Plan updates to address matters that are already addressed under existing State law.

Government Code sections 65300 and 65307 require cities to prepare a Comprehensive General Plan including specific required elements of the General Plan, such as a land use element, a circulation element, a housing element, a conservation element, an open space element, a noise element and a public safety element. Under Government Code section 65302(d), a General Plan must include a conservation element "for the conservation, development and utilization of natural resources including water and its hydraulic force, soils, rivers and other waters, harbors, fisheries, wildlife, minerals and other natural resources." (Gov. Code § 65302(d)). The General Plan requirements further allow for the "conservation element" to include, among other issues, the following:

- *Prevention and control of the pollution of streams and other waters.*
- *Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.*
- *Prevention, control, and correction of the erosion of soils, beaches and shores.*
- *Protection of watersheds.*
- *Flood control.*

(*See* Gov. Code § 65302(d)(2).)

Accordingly, pursuant to Government Code section 65302(d)(2), as well as the other provisions referenced above, municipalities are already required to consider within their "***conservation element***," the prevention and control of the pollution of streams and other waters. Any attempt by the Regional Board to impose additional requirements on municipalities to amend their General Plans differently, other than as prescribed by the State Legislature, is not only preempted by exiting law, it is unnecessary.

Pursuant to Government Code § 65300.9, the Legislature expressed its intent, in enacting the General Plan requirements, that such provisions are to:

> . . . provide an opportunity for ***each city and county*** to coordinate its local budget planning and local planning for federal and State program activities, such as community development, with the local land use planning process, ***recognizing that each city and county is required to establish its own appropriate balance in the context of the local situation when allocating resources to meet the purposes.*** (Gov. Code § 65300.9.)

State law thus specifically allows ***each*** city and county to establish ***its own appropriate balance*** when allocating resources and when planning for any federal and

State program activities. The attempt by the Regional Board to impose additional requirements on the Permittees to revise their individual General Plans is thus directly contrary to the Legislative policy set forth by the State Legislature, and is a clear infringement on the sovereign of the Permittees, in particular the local land use authority of the Permittees. (See Yost v. Thomas (1984) 36 Cal.3d 561, 565 ". . . the front line role in land use planning and zoning is in the hands of the local government;" also see *Leslie v. Superior Court*, *supra*, 73 Cal.App.4th 1042, 1051, where the court concluded that the California Coastal Commission can conduct only limited administrative review to ascertain whether a local general plan conforms to minimal requirements of the California Coastal Act, and that the California Coastal Commission per the Public Resources Code, "***is not authorized to . . . diminish or abridge the authority of the local government to adopt and establish, by ordinance, the precise content of its land use plan.***")

The Clean Water Act as well makes it clear that it was not the intent of Congress to regulate land use, as such regulation is a function traditionally performed by local governments. To the contrary, the CWA contains express language showing that Congress chose to "recognize, preserve and protect the primary responsibilities and rights of States . . . to plan the development and use . . . of land and water resources . . . ." (33 U.S.C. § 1251(b); *Solid Waste Agency of Northern Cook County v. Army Corps. of Engineers*, 531 U.S. 159, 174 (2001). This limitation on restricting land use authority is further supported by the CWA regulations where EPA recognizes the concerns of municipalities over "possible federal interference with local land use planning," and thereby declined to infringe upon this land use authority. (See 64 Fed. Reg. 68721, 68742.)

The Regional Board is not authorized to diminish or abridge the authority of a local government to adopt and establish its own general plan requirements, and the provisions within the Tentative Permit which infringe on such authority and other local land use authority, must be deleted from the Permit.

F. THE DEVELOPMENT PLANNING ("SUSMP") REQUIREMENTS CONFLICT WITH STATE BOARD ORDER NO. WQ-2000-11, AND VIOLATE VARIOUS OTHER STATE AND FEDERAL LEGAL REQUIREMENTS.

1. Prior Comments on SUSMP Deficiencies are Incorporated Herein.

The comments herein incorporate in their entirety the previous comments made to the Second Draft of the Permit concerning the Development Planning section, as none of the deficiencies identified in such prior comments of August 6, 2001 have been corrected. As explained in the August 6, 2001, comment letter, these defects include: (1) the inappropriateness of the .75 standard and the lack of findings and substantial evidence to support this numerical limitation; (2) the failure of the Regional Board to take into account the requirements of Water Code Sections 13263 and 13241 and important policy considerations such as housing needs in the region; (3) the failure of the Regional Board to perform a cost/benefit analysis, and to consider economic considerations as required by State and federal law; (4) the inability of the Regional

Board to regulate Environmentally Sensitive Areas in that such areas are already "subject to extensive regulation under other regulatory programs," (see State Board Order No. 2000-11, p. 25) and given that such a regulation is preempted by existing State and federal law; (5) the failure of the Regional Board to adequately consider adverse impacts to ground water quality, and other unintended consequences such as vector control problems that may be created by the SUSMP requirements; (6) the over-breadth of the definition of "redevelopment" and the refusal of the Regional Board to adhere to the definition of "redevelopment" provided in Order No. 2000-11 and in the federal regulations (64 Fed. Reg. 68721, 68760);[3] (7) the impropriety of applying the SUSMP provisions to "non-discretionary" projects and the preemption of the area under State law; (8) the failure of the Regional Board to adequately include provisions to allow for "regional solutions" as previously recommended by the State Board in Order No. WQ-2000-11; (9) the impropriety of transferring liability to municipalities for private illicit discharges, as municipalities have no authority to mandate contractual provisions in private party agreements; (10) the failure of the Regional Board in the SUSMP to consider "conditions existing in the disposal area or receiving waters" under Water Code Section 13263; and (11) the one-size-fits-all nature of the SUSMP, as well as other comments raised in the August 6, 2001, Comment Letter that remain unaddressed.

2. The SUSMP Provisions Contain Yet Additional Deficiencies

Additional deficiencies exist with the Tentative Permit. For example, an additional obligation that has been imposed upon the Permittees as a part of the Development Planning Program, is the obligation of ensuring that the treatment control BMPs are properly "designed" and maintained in a "manner" that does not promote the breeding of vectors. Yet, the concern with the breeding of vectors, as a consequence of

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[3] The proposed SUSMP provisions remain overly broad with the revisions to the definition of "***redevelopment***," and the inclusion of non-discretionary projects into the SUSMP. The Regional Board has insisted on broadening the definition of "redevelopment" in this permit, despite some two days of hearing before the State Board challenging the previous SUSMP issued by the Regional Board, and the State Board's revision of the definition of the term "Redevelopment." Regional Board representatives have argued that their definition of "redevelopment" and the application of the SUSMP to redevelopment projects is consistent with the State Board Order, claiming that the State Board inadvertently left out the reference to "replacement" of 5,000 square feet of impervious surfaces when redefining the term "redevelopment" in the Order. A review of State Board Order No. 2000-11, clearly shows otherwise. Order No. 2000-11 recognizes that the definition previously proposed by the Regional Board was somewhat confusing, and that it was apparent from the testimony at the hearing that the parties had different understandings of the scope of the term that would be subject to SUSMPs. Nonetheless, the State Board concluded that in post-hearing briefs, the various parties appear to agree on the actual intent of the term and specifically that this intent "was to include redevelopment that adds or creates at least 5,000 square feet of impervious surface to the regional development . . . ."

Thereafter, in the revised definition provided by the State Board, the Board specifically limited the definition to "the creation or addition of at least 5,000 square feet of impervious surfaces." (Order No. 2000-11, p. 31.)

Accordingly, the State Board expressly recognized that the parties' dispute concerning the breadth of the definition of the term "redevelopment," and then recognized in two locations, one in the Order itself, and secondly, in its actual revisions to the definition, that the term was to be limited to the "creation or addition" of 5,000 square feet of impervious surfaces.

the SUSMP program, has always been an issue that the Permittees have been concerned with, as well as other unintended consequences from the SUSMP mandate (e.g., disparate treatment of economically disadvantaged citizens, i.e., the lack of environmental justice). However, imposing an obligation on the Permittees to ensure that the treatment control BMPs are properly "designed" and "maintained" in this fashion, or in any fashion, is improper, as Permittees are not responsible for controlling discharges "***to***" the MS4, and are not and cannot be held responsible for implementing and regulating BMPs on private property. Rather, the consideration of unintended consequences such as the breeding of vectors is a concern that the ***Regional Board*** should consider before imposing the .75 numeric design standard, and in evaluating and allowing for feasible alternatives to the .75 inch mitigation measure. As the Permit compels the particular mitigation measure, no feasible alternatives can be considered under CEQA or otherwise, to address these environmental consequences.

Second, the Development Planning Program has been revised to include a new provision imposing upon Permittees "peak flow control" requirements in natural drainage systems to "prevent accelerated stream erosion and to protect stream habitat." Such requirements, although laudable, are not requirements that are covered by the Clean Water Act or the waste discharge requirements under the Porter-Cologne Act, as neither statutory scheme allows for or enables the Regional Board to require the Permittees to do anything other than control the quality of the storm water being discharged into waters of the United States, rather than the "quantity" of water being discharged. Accordingly, the "peak flow" provisions of the proposed Tentative Permit, and the attempt to regulate the "quantity" as opposed to the "quality" of the discharge, is inappropriate and violates State and federal law.

Third, additional changes were made to the language involving "redevelopment projects" as well as changes in language concerning the application of SUSMPS projects within "environmentally sensitive areas." Both of these sets of changes fail to correct the deficiencies identified in our August 6, 2001 Comment Letter, and in some cases further exacerbate the legal deficiencies identified therein. The definition of "Redevelopment" is, moreover, invalid, as it conflicts with the definition provided in the CWA regulations. (See 64 Fed. Reg. 68721, 68760.) In fact, with the definition of Redevelopment and the application of SUSMP to such Redevelopment projects, the Regional Board's actions also conflict with EPAs recommendation to consider "policies and ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure, in order to meet the measure's intent." (64 Fed.Reg. 68722, 68742.)

Fourth, in spite of State Board Order No. 2000-11, and the requirements imposed upon the Regional Board to develop the basis to apply a numerical design criteria to Retail Gasoline Outlets ("RGOs"), the Regional Board has failed to do so. In the Draft Order issued by the State Board in connection with the San Diego Permit, the State Board disapproved of the San Diego Regional Board's SUSMP, as it applied to RGOs, specifically because the San Diego Regional Board failed to comply with Order No. 2000-11. Here, in its findings, the Tentative Permit relies upon a technical report prepared by both the Los Angeles Regional Board and the San Diego Regional Board,

a report which has already been reviewed by the State Board in the Draft Order and found to be nonresponsive to the concerns raised in Order No. 2000-11. Thus, RGOs should be exempted from the numerical design criteria in the Tentative Permit.

Fifth, in the Tentative Permit, the Regional Board has expanded the application of the numerical criteria to apply to all post-construction control requirements for the "industrial/commercial category," to projects that disturb one acre or more of surface area, by no later than March 9, 2003. Yet there are no supportable findings or other evidence to justify the expansion of the SUSMP provisions to all such facilities that disturb one acre or more (as opposed to 100,000 square feet of "impervious surface area") for such industrial/commercial facilities.

Sixth, the inclusion of all "industrial" facilities within the SUSMP, is inappropriate as such development planning requirements for industrial facilities are already to be complied with through the Phase I Industrial Permit regulatory process. In particular, under the CWA regulations, 40 CFR 122.26(c)(ii)(C) and (D), an application for a permit for an operator of an existing or new storm water discharge associated with a Phase I Industrial Activity or associated with a Small Construction Activity (as defined under the regulations), is to include specific information on "[p]roposed measures to control pollutants in storm water discharges that will occur ***after construction operations have been completed***," as well as proposed best management practices to control pollutants in the storm water discharges during construction. (See 40 CFR 122.26(c)(ii)(C) and (D).) The measures to be in place after construction are to include "an estimate of the runoff coefficient of the site and the increase in impervious area ***after the construction addressed in the permit application is completed***, the nature of fill material and existing data describing the soil or the quality of the discharge." (40 C.F.R. 122.26(c)(1)(ii)(D) & (E).) Accordingly, the attempt by the Regional Board to impose such post-construction control measures on municipalities for Phase I Industrial Facilities is plainly an improper attempt to transfer this obligation from the State down to the municipalities.

Seventh, the only CWA regulation that addresses the imposition of source control measures in the context of an MS4 NPDES Permit, is expressly limited to "runoff from commercial and residential areas that are discharged ***from the municipal storm sewer system,"*** and such controls are, moreover, required to be accompanied by an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. (40 CFR 122.26(d)(iv)(A).) The regulations are thus very explicit that the source control measures to be included in the proposed management program are to "address controls to reduce pollutants and discharges ***from*** municipal separate storm source after construction is completed." (See 40 CFR 122.26(d)(iv)(A) and (A)(1) and (2).) The SUSMP provisions in the Tentative Permit have ***not*** been limited to source control measures designed to address runoff "***from the municipal storm sewer system***." As the whole concept of the SUSMP requirements involve discharges "***to"*** as opposed to "***from***" the municipal storm sewer system, the entire development planning program section imposing the SUSMP requirements on the Permittees violates the express terms of the regulations as well as the clear language of the CWA itself. (See 33 USC 1342(p)(3)(B).)

Eighth, the Tentative Permit improperly expands the development planning requirements to new development and redevelopment that did not previously require a SUSMP, but which "potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist: . . . ." (Tentative Permit, p. 44.) Again there is no evidence or any findings to support such an expansion of the SUSMP requirements, and such an expansion violates the MEP standard, the CWA regulations and the Porter-Cologne Act.

Ninth, there are no findings and no indication that "***economic considerations***" have been accounted for, that ***a cost/benefit analysis*** has been performed, or that ***the need for developing housing*** within the region has been considered by the Regional Board, as required by State and federal law. (Cal. Water Code 13263-13241; 13225; and 13267; 64 Fed. Register 68722, 68732.) These failures similarly constitute violations of CEQA and general State law. (See Pub. Res. §§ 21000(g), 21001(d) and 21061.1, and Gov. Code §§ 65580 & 65589.5.) For example, Government Code Section 65580 confirms the vital statewide importance of decent housing for every Californian and the importance of considering economics:

> The Legislature finds and declares as follows:
>
> (a) ***The availability of housing is of vital statewide importance***, and the early attainment of decent housing and a suitable living environment for every Californian, including farm workers, is a priority of the highest order.
>
> . . .
>
> (c) ***The provision of housing affordable to low- and moderate-income households requires the cooperation of all levels of government.***
>
> (d) ***Local and state governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community.***
>
> (e) The Legislature recognizes that in carrying out this responsibility, each local government also has the responsibility to consider ***economic, environmental, and fiscal factors and community goals*** set forth in the general plan and to cooperate with other local governments and the State in addressing regional housing needs.

Accordingly, low and moderate-income housing developments should be exempted from the SUSMP requirements, and the .75 standard should not apply to ***any*** housing developments or other development property until the pollutants of concern, and their sources, have been identified, ***and*** until the ***benefits*** and ***costs*** of implementing of the .75 design standard on all developments, have been analyzed.

Tenth, the Regional Storm Water Mitigation Program provisions of the Tentative Permit were slightly modified to clarify that the regional solutions can apply to more than just SUSMPs within "new" development. This change is a welcome change that would allow for broader application of "regional solutions" to the process. Yet, in spite of the **State Board's** recommendation encouraging innovative regional approaches, and recommending that interested agencies, along with the Permittees, develop "regional solutions so that individual discharges are not forced to create small-scaled projects," (Order No. 2000-11), the Regional Storm Water Mitigation Program continues to be hampered by conditions that are not similarly applied to the site-by-site SUSMPs. The Regional Program, moreover, remains tentative at best, since even if all of the conditions imposed upon "regional projects" are complied with, the Regional Board is still not compelled to approve the regional approach, but need only "consider" the same.

Given that the benefits of "regional solutions" have already been recognized by the State Board and others, regional programs that comply with the conditions set forth in the Permit for such programs should be "approved" rather than simply "considered" for approval, and the Regional Mitigation Program should not be overly restricted.[4]

Finally, the Tentative Permit does not go far enough in developing a mitigation waiver fund to be utilized as an alternative for developing a site specific SUSMP. In Order No. 2000-11, the State Board determined that the concept of a mitigation fund was a positive approach for obtaining "regional solutions" to storm water runoff, and that as a long-term strategy, Permittees should work to establish regional mitigation measures which are more cost-effective and more technically effective than mitigation structures within individual developments. (Order No. 2000-11, p. 27.) However, the State Board advised that preliminary questions must first be answered as to who will manage the fund, what types of projects it would be used for, what entities can legally operate the funds, and how Permittees will determine the amount of the assessments. The State Board thus recommended that the Regional Board adopt such a program when it re-issues a permit "after consultation with the appropriate local agencies." Unfortunately, at least these commenting Permittees have not been consulted over the creation of a mitigation fund, and the Permittees herein recommend that such a fund be developed and be included within the subject Permit, "after consultation with the appropriate local agencies."[5]

As referenced above, the CWA Regulations concerning Phase II Permits shows that any regulation of post-construction runoff from new development and

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[4] For example, the condition that the regional solution "protect stream habitats" should be modified to make it clear that the regional solution not cause any adverse consequences to stream habitats, as opposed to the need for the program to include specific measures, above and beyond those that would otherwise be required of individual SUSMPs, "to protect stream habitats."

[5] In addition, the "Mitigation Funding" section proposes a management framework for approval by the Executive Officer to support "regional solutions." (See Tentative Permit, Part 4, Section D(11).) Yet, it is unclear from Section D(11) whether all of the conditions set forth in subsections D(11)(a) through (d) must be met before such a Mitigation Fund may be developed. The Permit should be revised to clarify that a Mitigation Fund may be utilized for ***any*** one of the reasons set forth in said section.

redevelopment must be "***allowable under State, Tribal or local law.***" (See 64 Fed.Reg. 68721, 68760). As discussed above, the SUSMP provisions in issue conflict not only with the express terms of federal law, in particular, the application of the MEP standard and the language of the CWA regulations limiting such requirements to discharges "***from*** the municipal storm source system, but also with numerous provisions under State law, particularly, including but not limited to the infringements on local use authority, as well as the prohibition on imposing a "particular manner" of compliance on a permittee under California Water Code Section 13360. (See discussion infra.)

G. THE PERMIT CONTINUES TO IMPOSE NUMEROUS UNFUNDED MANDATES IN VIOLATION OF THE CALIFORNIA CONSTITUTION.

In spite of prior comments, to date there has been no attempt to address the unfunded mandates that are being imposed on the Permittees by the terms of the Permit, in violation of Article XIII B, Section 6 of the California Constitution. Please see the discussion in our Comment Letter of August 6, 2001.

Moreover, contrary to contentions made by the Regional Board on this issue that such unfunded mandates are appropriate where they are being imposed pursuant to a federal program, it is only where the federal program ***mandates*** a particular requirement upon the state agency that the exception to Article XIII B, Section 6 for federal mandates, applies. Thus, where the federal program provides ***discretion*** to the State agency to impose a local program, any mandate imposed upon the local municipality through the exercise of that discretion is considered an ***unfunded mandate*** and, as such, is prohibited by the California Constitution. (See *Hayes v. Commission on State Mandates* (1992) 11 Cal. App.4th 1564, 1570.) In fact, it is only when the State has no "true choice" in implementing a federal mandate, that the prohibition under the California Constitution can be avoided. (See *Hayes v. The Commission on State Mandates, supra,* 11 Cal.App.4th at 1593.)

As was recognized by the Regional Board itself in relying upon *The Defenders of Wildlife v. Browner* (9th Cir. 1999) 193 F.3d 1035, here, the State has ***discretion*** (as limited by State and federal law) to impose certain mandates, and as such, it has effectively admitted that it has a "***true choice***" in imposing the mandates delineated under the Tentative Permit. Accordingly, as the Regional Board has admitted "discretion," and thus a "true choice" to impose the programs in question, the constitutional prohibition under Article XIII B, Section 6 applies, and the Tentative Permit is invalid as it violates the California Constitution.

As discussed in the previous comments, the Tentative Permit attempts to shift the responsibility of the State and Regional Boards to Permittees, and to force Permittees to regulate and control construction and industrial sites that are otherwise subject to regulation by the State Board. This blatant attempt to shift this mandate down to municipalities is evidenced by the statement of the U.S. EPA in correspondence from Ms. Alexis Strauss of EPA dated December 19, 2000 and April 30, 2001. Therein, U.S. EPA is plainly suggesting that the State shift a State

mandate onto municipalities, but without providing sufficient funding to carry out such state mandate. (See August 6, 2001, Comment Letter.)

The Regional Board's attempt to "shift financial responsibility to local agencies that are ill-equipped to handle the task," and to put primary responsibility on the Cities to enforce a General Statewide Industrial Permit and Construction Permit issued by the State Board, is a direct violation of Article XIII B, Section 6 of the California Constitution, thereby making the draft Permit invalid, without adequate funding to the Permittees. (*County of Fresno v. State, supra*, 53 Cal. 3d at 42, 47.) Additional violations of this Constitutional prohibition exists with the shifting of other unfunded mandates to the municipalities, e.g. the SUSMP program, the Inspection Program for industrial and commercial facilities, as well as for storm drains, the trash receptacle requirements, the special event catch basin program, the illicit connection/illicit discharge program, etc.

H. THE PERMIT FAILS TO PROPERLY CONSIDER "ECONOMIC" CONSIDERATIONS AND HAS NOT BEEN DEVELOPED BASED ON A "COST/BENEFIT" ANALYSIS.

As set forth in prior comments, including the August 6, 2001 comments to the Second Draft of the permit, the Tentative Permit fails to properly consider economic considerations and has not been developed based on a "cost-benefit analysis" required by State and federal law. The Permittees herein incorporate their prior comments submitted in the August 6, 2001 submittal as support for this comment and their contentions that the Tentative Permit is defective as economic considerations have not been addressed, and a cost-benefit analysis has not been performed.

The issue is highlighted by a recent study performed by Caltrans indicating that the cost of the TMDL program for Los Angeles County alone, which is to be implemented in part, through the NPDES permitting process, could result in expenditures to Los Angeles taxpayers in excess of ***$50 billion***. Permittees herein request that a copy of this report, which has been forwarded to the Regional Board under separate cover, be included in the Administrative Record. Reports of this nature indicate the importance of performing a cost/benefit analysis ***before*** adoption of a comprehensive permitting program such as is proposed with the Tentative Permit, as well as the importance of considering the "***economics***" before mandating the numerous programs set forth under the subject Permit.

Various provisions in State and federal law require the conducting of a cost-benefit analysis (which the Regional Board has failed to perform), as well as the consideration of "economic considerations" including the similar requirements in federal law. (See 33 U.S.C. §§ 1288, 1313, 1315(b), and 64 Fed. Reg. 68722, 68732; Water Code §§ 13000, 13165, 13241, 13225 and 13267.) The need to consider economic considerations and to conduct a cost/benefit analysis are requirements that must be complied time before the State embarks upon such costly programs all with uncertain and unknown benefits.

I. THE REGIONAL BOARD HAS FAILED TO COMPLY WITH THE ADMINISTRATIVE PROCEDURES ACT IN DEVELOPING THE SUBJECT PERMIT.

As set forth in prior comments and incorporated herein in their entirety, the Regional Board continues to refuse to comply with the requirements of Administrative Procedures Act pursuant to Government Code section 11340 *et seq.* ("APA"). Ironically, in connection with the Regional Board's recent adoption of a trash TMDL for the Los Angeles River, it was recognized that action that a single TMDL for the Los Angeles River alone, constituted a "standard of general application" thereby triggering the requirements of the APA.

As the Tentative Permit is much broader and clearly is an order, a regulation and standard of general application, the requirements of the APA must be complied with.

Contentions by the Regional Board that the APA does not apply to the issuance of permits or waste discharge requirements are unpersuasive, as the Tentative Permit (on its face) is more than simply a set of waste discharge requirement, but rather is a permit that covers storm water runoff from municipal separate storm sewer system throughout the County and is an Order of general application. Clear and substantial evidence of the "regulatory" nature of the Tentative Permit is the attempt by the Regional Board to require municipalities to amend their CEQA guidelines and to amend their General Plan amendment guidelines. In this regard, the Regional Board has sought to adopt regulations with or without authority, but in doing so have failed to comply with the requirements of the APA.

J. THE REGIONAL BOARD HAS NO AUTHORITY TO ISSUE THE NPDES PERMIT IN QUESTION.

With the recent rash of administrative petitions to the State Board, it is becoming increasingly clear that the requirement of the CWA that only State agencies with "state-wide jurisdiction over a class of activities or discharges," may issue NPDES permits, must be followed. (40 CFR § 123.1(g)(1).) Again, the comments set forth in the Permittees' prior comments dated August 6, 2001 are incorporated herein in their entirety.

The absence of a "state agency" with "state-wide jurisdiction" to establish a set of regulations on discharges from MS4s, is a fatal legal and practical deficiency with the California Municipal NPDES Program. The result of this lack of state-wide direction has been a series of haphazard decisions by the State Board, in response to individual petitions and at that, only those particular issues within the petitions the State Board deems of sufficient significance to review. This patchwork of decisions is precisely the reason the federal regulations have required that NPDES authority be limited to state agencies with "state-wide jurisdictional over a class of activities or discharges," i.e., to provide for uniformity through the State and to avoid inconsistencies from region to region. Accordingly, until the State Board exercises its jurisdiction and issues a set of regulations, in accordance with the APA, that provides specific direction to the regional

boards on the issuance of MS4 NPDES permits, any individual regional board is without authority to issue an NPDES permit. (See 40 CFR § 123.1(g).)

Such a legal prohibition on "regional" agencies issuing NPDES permits is reinforced by the State-Wide General Construction Activities Permit and the State-Wide General Industrial Activities Permit, both of which although enforced by the Regional Boards, have been adopted and promulgated by the State Water Resources Control Board on a State-wide basis. Consistency has thus been provided by the State Board for Industrial and Construction permits, but remains a void to be filled by the State Board for MS4 NPDES permits.

Accordingly, the Tentative Permit remains deficient and subject to challenge unless and until appropriate State regulations have been adopted, and a uniform program for the entire State of California, has been established for regulating discharges ***from*** municipal separate storm sewer systems.

K. THE REGIONAL BOARD HAS FAILED TO CONSIDER THE TYPES AND SOURCES OF POLLUTANTS IN DEVELOPING THE DRAFT PERMIT IN QUESTION, AS REQUIRED BY STATE AND FEDERAL LAW.

The Regional Board continues to fail to rely upon quantitative data that has been developed on the types and sources of pollutants within the effective receiving waters, and to establish particular management programs based on such quantitative data. (See 40 CFR § 122.26(d)(2)(iv).) The sections of the August 6, 2001 comment letter on the requirements of the Regional Board to consider the types and sources of pollutants in developing the subject NPDES permit, are incorporated herein.

L. THE PERMIT VIOLATES THE PROHIBITION SET FORTH UNDER CALIFORNIA WATER CODE SECTION 13360.

California Water Code Section 13360(a) provides in pertinent part that:

> "No waste discharge requirement or other order of a Regional Board or the state board or decree of a court issued under this division shall specify the ***design***, location, type of construction, or ***particular manner*** in which compliance may be had with that requirement, order, or decree, and the person so ordered shall be permitted to comply with the order in any lawful manner."

As discussed in the August 6, 2001, Comment Letter, the Tentative Permit violates Water Code Section 13360(a) in each instance where the Regional Board seeks to impose a ***"particular manner"*** in which compliance may be had. In particular, specific requirements imposed on municipalities to amend CEQA, to add additional elements to their General Plans, to adopt and implement a particular Business Assistance Program, to impose particular language in private sale or lease agreements, to comply with a specific .75 numeric design criteria, to comply with a specific inspection program for industrial and/or commercial facilities and to inspect all storm drain

connections for illicit connections, or to clean catch basins after each special event or to install trash receptacles at each bus stop, all constitute a ***"particular manner"*** in which compliance may be had. The imposition of such "particular manners" of compliance violates the express prohibition under California Water Code Section 13360(a).

M. THE PERMIT FAILS TO INCLUDE A FINDING OF CONSISTENCY WITH THE AREA-WIDE WASTE TREATMENT MANAGEMENT PLAN.

As the Tentative Permit continues to ignore the requirements of the CWA, particularly 33 USC section 1288, by failing to make a finding of consistency with the area-wide waste management treatment plan, it remains defective.

N. NUMEROUS FINDINGS IN THE PERMIT ARE NOT SUPPORTED BY THE EVIDENCE, AND/OR DO NOT SUPPORT THE TERMS OF THE PERMIT.

Finding No. B.6 attempts to regulate the volume and velocity of storm water discharged from the MS4, as opposed to controlling "pollutants from" the MS4, or the discharge of waste to receiving waters. ***Finding No. B.6*** provides in relevant part, as follows: "Second, urban development creates new pollution sources as the increased density of human population brings with it proportionally higher levels of vehicle emissions, vehicle maintenance waste, municipal sewage waste, pesticides, household hazardous wastes, pet waste, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the circumstance."

The Regional Board is thus plainly attempting to legislate on development and urbanization issues, based on its perception of the potential environmental impacts created by urban runoff and the need to impost mitigation measures on all existing and future "urban development." Yet, the creation of "new pollution sources as the density of human population brings with it proportionally higher levels of vehicle emissions, vehicle maintenance waste, municipal sewage waste, pesticides, household hazardous waste, pet waste, trash, and other anthropogenic pollutants," are all environmental factors to be considered in the evaluation of a "project" under the express requirements of the California Environmental Quality Act. Over thirty years ago, the State Legislature provided a process to follow in considering these potential environmental impacts, and the Regional Board has no authority to override this process, and to issue an NPDES Permit to, per se, regulate "urban development."

Finding No. D.2 acknowledges that Permittees "may lack legal jurisdiction" over federal and state, regional or other local entities, but yet, the reference to the lack of responsibility on the part of Permittees in the finding, has been deleted. More importantly, the Tentative Permit continues to include within the definition of an "Industrial/Commercial Facility" federal, State and municipal facilities, and thus, as now modified, the Tentative Permit requires that Permittees regulate federal, State, regional and other local facilities, even though it has no jurisdiction to do so. As such, the

Tentative Permit is deficient and again seeks to impose obligations on the Permittees where neither the Permittees nor the Regional Board, has the authority to do so.

Finding No. D.4 provides that the Permit is intended to develop, among other things, a ***"cost-effective storm water control program"*** and ***"cost-effective"*** measures to reduce the discharge of pollutants "***in***" storm water to the maximum extent practicable to the waters of the United States. Yet, the terms of the draft Permit itself are not based on these findings, as the Permit do not provide the flexibility for ***"cost-effective"*** control measures and "***cost-effective***" programs. In addition, with the Permit, the Regional Board clearly seeks to regulate discharges "***into***" the MS4, as opposed to controlling the discharge of pollutants "***from***" the MS4. This misapplication of the MEP standard violates the provisions of the CWA and is an attempt to regulate beyond the authority provided to the State Board under either the Clear Water Act or the Porter-Cologne Act.

Further, there are no findings in the draft Permit to show that its terms are "***cost effective***" or that "***economic considerations***" were considered. To the extent such evidence exists to support Finding No. D.4, i.e. to support the determination of the Regional Board that its programs and measures are "***cost-effective***," this information should be disclosed to the public and the public should be given an opportunity to review the same. To date, no such evidence has been presented.

Finding No. D.5 provides in pertinent part that: "Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other State and federal facilities, through interagency agreements." Obviously, without cooperation and participation with Caltrans, the U.S. Department of Defense and other State and federal facilities, through interagency agreements or otherwise, Permittees may not be in a position to ***control*** the contribution of pollutants ***to*** their MS4s, and there is nothing under the CWA or the Porter-Cologne Act that would require that Permittees control the contribution of pollutants from such State and federal facilities. Moreover, again, the Tentative Permit seeks to regulate the discharge of pollutants "***to*** the MS4" as opposed to "***from***" the MS4, in violation of the MEP Standard. Accordingly, Finding D.5 is factually inaccurate and legally deficient.

Finding No. E.1 refers to US EPA Phase II Storm water Regulations and references various provisions and requirements under the Phase II final rule published on December 8, 1999. As the existing cities are all subject to the ***Phase I*** Storm water Regulations, and are not subject to the ***Phase II*** requirements, reliance upon specific requirements of the Phase II Regulations to Phase I cities, as support for the provisions within the Permit, is inappropriate.

Finding No. E.5 states that certain EPA regulations "require that MS4 Permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial ***and commercial*** facilities that contribute a substantial pollutant load to the MS4." As discussed above, this is an ***inaccurate characterization*** of the regulations, as the referenced regulations ***only*** apply to the control of pollutants and

discharges of storm water runoff associated with ***industrial activities***, as specifically defined in the regulations themselves (see 40 CFR §122.26(b)(14)), and not "***commercial***" facilities. The requirement that the Permittees implement a program to monitor and control pollutants and discharges from all "industrial/commercial facilities" is not supported by the regulations and is directly contradicted by the CWA regulation cited in ***Finding No. E.5***.

Finding No. E.6 relies upon a memorandum issued by the State Water Resource Control Board Office of Chief Counsel interpreting the meaning of the MEP standard to put the burden on the municipalities to demonstrate compliance with MEP, by showing that an MEP is not technically feasible in the locality, or that the BMP's costs would exceed any benefit to be derived therefrom. Any memo that may be issued by the Office of Chief Counsel interpreting MEP cannot override the actual language of the Clean Water Act itself or the requirements under the Porter-Cologne Act, requirements that have been adopted by our federal and State Legislatures. Accordingly, the prevailing authority on what constitutes "MEP" is the Clean Water Act itself, and the regulations adopted thereunder, as well as precedential authority interpreting Congress' intent in adopting the MEP standard.

Finding No. E.7 provides that the State of California has in-lieu authority for an NPDES Program, and that: "The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into the waters of the State and tributaries thereto." Yet, neither this finding nor any other finding provides authority for the Regional Board, as opposed to the State Board, to issue NPDES Permits, as the Regional Board is ***not*** an agency with "***statewide jurisdiction over a class of activities or discharges***." (40 C.F.R. § 123.1(g)(1).)

Finding No. E.14 states that the Regional Board adopted TMDLs for trash for the Los Angeles River and Ballona Creek on September 19, 2001, and that after approval by the State Board, the Office of Administrative Law and U.S. EPA, these TMDLs will become effective and enforceable. The finding improperly assumes that the State Board, Office of Administrative Law and U.S. EPA will exercise no discretion in reviewing the trash TMDLs adopted by the Regional Board, and that said trash TMDLs will be the trash TMDLs for the subject water bodies. The finding should be modified to account for the likelihood that the trash TMDLs will be modified, and that only those trash TMDLs finally approved by U.S. EPA and that are not successfully challenged, are to be incorporated into the subject Permit.

In a recent regulation concerning an EPA Proposed Rule to delay, by 18 months, the effective date of a prior rule on TMDLs (see 66 Fed.Reg. 41817), EPA relied heavily on a recent report prepared by the National Research Council ("NRC") entitled "Assessing the TMDL Approach to Water Quality Management." In fact, as indicated in the Proposed Rule, because of the conclusions of the NRC Report, EPA is proposing that the TMDL rule adopted on July 13, 2000 ***be delayed*** specifically to allow EPA to "solicit and carefully consider suggestions on how to structure the TMDL program to be more effective and flexible and to ensure that it leads to workable solutions that will

meet the Clean Water Act goals of restoring impaired waters." (66 Fed.Reg. 41817, 41818.)

Further, in the Proposed Rule EPA recognizes that local government officials have "objected to the TMDL allocation approaches that could result in municipal point sources bearing and ***an inequitable share of the pollutant load reductions*** needed to attain water quality standards." EPA also acknowledges that contentions have been made that "there is not enough data to support TMDLs, that some pollutants are not suitable for TMDL calculation, that the section 303(d) lists are not based on scientifically-defensible data, or that the delisting criteria are too inflexible." EPA further concludes that because of the NRC recommendations and findings, that "many waters now on State 303(d) lists where placed there without the benefit of adequate water quality standards, data or water bodies assessment." (66 Fed.Reg. 41817, 41819.) A copy of the NRC report will be provided to the Regional Board under separate cover, and the Coalition respectfully requests that this report be included as a part of the Administrative Record in connection with the Tentative Permit, and that EPA's regulations in this regard be fully considered.

Finding No. E.16 provides that the Regional Board, on April 13, 1998, "approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08)." A review of Resolution No. 98-08, however, shows that it only applied to a few select "commercial" facilities, and further, only imposed best management practices on certain specified industrial facilities and/or activities. The definition of "Industrial/Commercial Facility" under the Tentative Permit is far broader than the facilities described in Resolution No. 98-08, and the Tentative Permit plainly exceeds the terms of Resolution No. 98-08.

Finding No. E.18 indicates that a December 26, 2000 memorandum from the State Board's Chief Counsel constitutes "a state-wide policy" memorandum, and is cited to support the proposition that the SUSMP requirements are to include "ministerial projects, projects in an environmentally sensitive areas, and retail gasoline outlets." The December 26, 2000 directive from the State Board's Chief Counsel, if it is to be followed, can only be followed after the requirements of the Administrative Procedures Act ("APA") have been complied with, which, to date, has not occurred.

In ***Finding No. E.19*** the Regional Board has determined that the creation of structural treatment control BMPs for storm water mitigation and waters of the United States is ***not*** permissible, as it contends that 40 CFR part 131.10(a) prohibits states from designating waste transport or waste assimilation, as a use for any waters of the United States. The Regional Board misinterprets the definition of a "waters of the United States," and the regulations and the purpose of creating a structural treatment control BMP. (See *Solid Waste Agency of Northern Cook County v. Army Corps. of Engineers*, 531 U.S. 159, 174 (2001) where the Court discussed the limits placed on the definition of "navigable waters of the United States," and the fact that the regulation of land use is a function traditionally performed by local governments.) Moreover, any creation of a structural or treatment control BMP within a water of the United States is not to be designed to allow for the use of the water body to transport waste or to

assimilate waste, but rather, to do just the opposite, to remove the existence of waste from the water body. In effect, the Regional Board has turned the regulation inside out and has interpreted the prohibition in such a manner that it will prevent the removal of waste, which is directly contradictory to the regulation itself. With the finding, the Regional Board thus inappropriately concludes that storm water treatment and/or mitigation, in accordance with the SUSMPs and other requirements of the Tentative Permit must occur prior to the discharges of storm water into a water of the United States.

Finding No. E.24 references State Board Order No. WQ 99-05 as being a precedential decision identifying acceptable receiving water limitation language in municipal storm water permits issued by the State Regional Boards. First, the reference to various orders and resolutions of the State Board by the Regional Boards reinforces the importance of complying with the federal regulations and only having State agencies with state-wide jurisdiction over a class of activities or discharges, issue NPDES permits. Second, in reviewing Order No. WQ 99-05 and comparing that language with the language set forth in Part 2, entitled "Receiving Water Limitations" of the Tentative Permit, it is evident that the language set forth in the Tentative Permit exceeds the language provided in Order No. 99-05. Accordingly, the Tentative Permit should be revised to at least comply with the express language set forth in Order No. 99-05.

Furthermore, in accordance with the Draft Order of the State Board in connection with the San Diego Permit, additional language should be added to the findings and to Part 2 of the Permit to incorporate the "iterative process" referred to by the State Board. Specifically, clarifying language should be added to make it clear that so long as a municipal permittee is complying with the "iterative process," that if exceedances occur or water quality standards are not met or conditions of pollution or nuisance exist, that said municipalities will not be found to be in violation of the Clean Water Act or otherwise subject to third party lawsuits. Clearly the State Board's Draft Order shows that where the "iterative process" is being complied with, any exceedances that result are to be cured by further complying with the iterative process. Clarifying language should thus be added to the Permit so that compliance with the "iterative process" will constitute compliance with the requirements of the Permit and compliance with the requirements of the Clean Water Act.

Finding No. E.25 references California Water Code Section 13263(a) and the provisions of said section which require the Regional Board to "take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose." Yet, ***Finding No. E.25*** fails to cite the complete language within Water Code Section 13263(a), and specifically fails to consider the factors delineated in Water Code Section 13241, including the need to consider "***economic considerations***," and "***the need for developing housing within the region***," along with "water quality conditions that could ***reasonably*** be achieved through the coordinated control of all factors which effect water quality in the area."

Under Section 13263(a), the waste discharge requirements are to take into consideration "the water quality objectives ***reasonably required*** for that purpose...,"

and are to be considered in "relation to the conditions existing in the disposal area or receiving waters upon, or into which the discharge is made or proposed." (Water Code §13263(a).) ***Finding E.25*** thus, omits critical language from the standard for the issuance of waste discharge requirements, and the draft Permit fails to follow the standards set forth in Water Code Section 13263. The findings throughout the Tentative Permit do not support the Regional Board's consideration of these factors and other important factors, and the terms of the Tentative Permit do not comply with the requirements of Water Code Section 13263. The language added to the Tentative Permit at the end of this finding, is a mere ***conclusory comment*** that the Regional Board has considered the requirements of Sections 13263 and 13241 and applicable plans policies, rules and regulations, in developing WDRs, without any evidentiary support or findings to support the conclusion, and more importantly, without any findings to support its compliance with these specific requirements.

In ***Finding No. F.1***, the Tentative Permit provides that "[a] ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project." ***Finding No. F.1*** implies that municipalities have the authority to make all ministerial projects, discretionary, and that it would make regulatory or legal sense to do so. In short, the finding suggests that every building permit, grading permit, plumbing permit, electrical permit and occupancy permit, should be issued directly by the City Council, the Board of Supervisors and/or the Flood Control District Boards. For the sole purpose of addressing some ***undefined*** and ***unidentified*** problem with the existing SUSMP program, the Regional Board is seeking to change the entire planning, building and development process throughout the County of Los Angeles and attempts to do so without complying with the requirements of the Administrative Procedures Act. ***Finding No. F.1*** is not supported by the evidence and would have disastrous consequences on planning and development throughout the County. Moreover, the inclusion of "non-discretionary" projects within the SUSMP provisions will lead to numerous unintended consequences, including having every ministerial project required to be brought before the City Council or Board of Supervisors for review, thus causing the wheels of local government to come to a grinding halt, and further, overriding the requirements set forth in CEQA.

Finally, there are no findings and no evidence to support any finding for the need to apply the SUSMP requirements to "non-discretionary" projects. Before such an expansive and overly broad application of this SUSMP is mandated on the Permittees, findings supporting the need for such an expansion, and evidence supporting such findings, must be identified. Without such, the inclusion of all "non-discretionary" projects within the development categories of the SUSMP is arbitrary and capricious and is not supported by the evidence in the record and is not otherwise shown to be "reasonably required" to protect the water quality of the region. (Water Code §13263(a).)

In ***Finding No. F.3***, the Regional Board contends that the Permit is "to protect the beneficial uses of receiving waters in Los Angeles County," and that to meet this objective, the Order requires implementation of BMPs intended to reduce pollutants "***in***" storm water and urban runoff such that ultimately their discharge will neither cause

violations of water quality objectives nor create conditions of nuisance in receiving waters. This standard, however, is contrary to the standards set forth under the Porter-Cologne Act, as discussed above, and the standards set forth in the Clean Water Act, which require the control of discharges of pollutants "***from***" MS4s "***to the maximum extent practicable***," not "***to***" MS4s. (42 USC § 1342(p)(3)(B).) ***Finding No. F.3*** is, moreover, not supported by State or federal law, since, as discussed above in connection with the receiving water limitation language, it would result in the application of an open-ended standard and one that is unobtainable within the five (5) year term of the permit. Such provisions are contrary to the standards of the CWA and State law, and violate the Permittee's right to substantive due process of law, thereby denying the municipalities a "meaningful" Permit that allows for the discharge of waste and the discharge of pollutants "***from***" their MS4s.

In ***Finding No. F.4*** the Regional Board contends that the SQMP required by the Tentative Permit "was developed with the cooperation of representatives from the regulated community . . ." The ***finding*** is not supported by the evidence and is misleading, as the majority of the regulated community in this instance, the municipalities, have opposed the program required by the Tentative Permit and did not and do not agree with the effectiveness of the program, the direction of the program, or the authority of the Regional Board to impose the Program. Further, the ***finding*** provides that the various components of the SQMP, taken as a whole, are expected to "reduce pollutants ***in*** storm water and urban runoff to the maximum extent practicable." Again, the appropriate MEP standard under the Clean Water Act is to reduce the discharge of pollutants "***from***" the MS4.

In ***Finding No. F.9*** the Regional Board indicates that the requirements of the Clean Water Act are to reduce the discharges of pollutants "***in***" municipal storm water to the maximum extent practicable, as opposed to the actual requirement which is to reduce the discharge of pollutants "***from***" the MS4. The Tentative Permit thus improperly broadens the MEP Standard in order to impose additional, but unlawful, requirements on the Permittees thereunder, particularly in connection with the regulation of new development and redevelopment activities as referenced in ***Finding No. F.9***. In this ***finding,*** the Regional Board further asserts that Permittees are to retain authority to make the final land use decisions and to retain "full statutory authority" for deciding what land uses are appropriate at specific locations, but fails to acknowledge or address the infringement on local land use authority created by the Tentative Permit, and the illegality created by such an infringement on local land use authority. The Regional Board is not permitted to "diminish or abridge the authority of the local government," and the provisions of the Tentative Permit that diminish and abridge such authority, whether or not the Permittees can make the "final" land use decision, are inappropriate and contrary to the State and federal law.

With ***Finding No. F.10***, the Regional Board, after nearly two years of the Permittees raising the issue, finally recognize that treatment control BMPs may in fact create vector problems and that the issue is not limited to some "gigantic mosquito" as asserted by representatives of the Regional Board at hearings before the State Board on the validity of the 2000 SUSMP. Yet, the finding, although attempting to impose

upon Permittees the responsibility of working with local vector control agencies to minimize the risk to public health from vector-born diseases, fails to consider the limited avenues available to comply with the .75 numerical criteria, and still avoid various unintended consequences such as risks to public health from vector-born diseases. These unintended consequences, and other unintended consequences such as potential contamination to our ground water resources, should all be considered at the outset in deriving the numerical standard in the first instance, and should be considered as one of many "costs" that arise from such a mandated standard.

Finding No. G.6 provides that: "The action to adopt an NPDES Permit is exempt from the provisions of Chapter 3 of CEQA (Cal. Pub. Resources Code Section 21100 et seq.), in accordance with CWC § 13389." Unfortunately, the ***finding*** fails to cite the entirety of Water Code Section 13389, and specifically fails to address the exception to 13389 for "requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto." (See Water Code § 13389.) As discussed, there will be "new sources" as defined in the CWA, which the Regional Board is seeking to regulate with the subject NPDES Permit, and as such, the impact of these requirements on "new sources" must be reviewed under the requirements of CEQA.

In short, the findings throughout the Tentative Permit are not supported by the evidence in the record, and such findings do not support the proposed terms of the Tentative Permit. In addition, there are numerous provisions throughout the Tentative Permit which are not supported by any findings.

O. VARIOUS DEFINITIONS WITHIN THE PERMIT ARE IMPROPER AND CONTRARY TO LAW.

A number of definitions in the Tentative Permit are improper, and contain language that is contrary to law and/or is ambiguous. The Permittees herein respectfully request that the definitions as described below, be modified to correct such deficiencies.

The definition of "**Director**" means the "**Director of a Municipality**" and the designees of such person. Permittees are unaware of what a "Director of a Municipality" is intended to mean, as no such person or office generally exists for the cities in Los Angeles County.

The definition of "**Environmentally Sensitive Areas**" is overly broad and ambiguous and includes areas that are labeled sensitive, irrespective of whether or not the receiving waters in issue contain the subject plant or animal life causing the area to be sensitive in the first instance. As such, the areas defined as "Environmentally Sensitive Areas" are overly broad and are outside the jurisdiction of the Regional Board.

The term "**Inspection**" is defined in a fashion to require the municipalities to conduct unauthorized searches and seizures and improper interrogation, in violation of both the Fourth and Fifth Amendments to the U.S. Constitution. The definition also

excludes the possibility of conducting an inspection from a public right-of-way, and to observe what may be in the "plain view" of enforcing officials. As discussed above, the "inspection" requirements in the Tentative Permit are requirements that are not supported by substantial evidence, and just as important, are not legally authorized under the CWA or the Porter-Cologne Act.

The definition of "**Maximum Extent Practicable**" ("MEP") is defined in a fashion that is contrary to the requirements of the Clean Water Act. The definition of MEP is based almost exclusively on a legal memorandum dated February 11, 1993 from the State Board's office of Chief Counsel, a legal memorandum that ***cannot legally*** be used to override the intent of Congress in adopting the Clean Water Act in the first instance, or the Porter-Cologne Act as adopted by the California Legislature. The term "Maximum Extent Practicable" should be defined as it is issued by Congress in the CWA.

The term "**Parking Lot**" is defined as being a lot size of 5,000 square feet or more of "surface area" as opposed to "impervious surface area" as referred to in other SUSMP categories.

The term "**Planning Priority Projects**" include, among other items, projects that require the implementation of a site specific plan "to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality," where certain project characteristics exist. This portion of the definition, and other portions of the Development Planning/SUSMP section of the Permit, clearly violate the requirements of CEQA and the standards set forth therein, as the legislative and regulatory requirements under CEQA to be adhered to in developing mitigation measures for potentially ***significant*** adverse impacts on the environment, have not been complied with. To the extent that the language within the definition of "Planning Priority Projects" is inconsistent with CEQA, it should be deleted.

The definition of "**Redevelopment**" as described above is inconsistent with the definition provided by the State Board in Order No. 2000-11 and with EPA's definition of "redevelopment," and moreover, conflicts with other provisions of State and federal law.

Construction Industry Coalition on Water Quality

November 9, 2001

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Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Municipal Storm Water Permit for Los Angeles County and Cities

Dear Mr. Dickerson:

On behalf of the more than 3,300 member companies of the Construction Industry Coalition on Water Quality (CICWQ), we would like to acknowledge the time, effort and expertise that went into developing the proposed Municipal Storm Water Permit (Permit) and thank the Los Angeles Regional Water Quality Control Board (LARWQCB) for this opportunity to express our concerns with the Permit. Please reference our August 6, 2001 letter for detailed comments that still have not been addressed. This letter will focus on general comments and the State Water Resources Control Boards' draft Order (draft Order) that was issued in response to a petition of the San Diego Municipal Stormwater Permit.

CICWQ is comprised of the four major construction and building industry trade associations in Southern California. These include the Associated General Contractors of California (AGC), Building Industry Association of Southern California (BIA/SC), Engineering Contractors Association (ECA) and the Southern California Contractors Association (SCCA). These organizations work collectively to provide the necessary infrastructure and support for the region's business and residential needs.

The membership of CICWQ is comprised of construction contractors, labor unions, landowners, developers, and homebuilders throughout the region and state. All segments of the coalition are impacted by the Permit, including construction employees who rely on jobs in the region, landowners within the Board's jurisdictional boundaries and potential builders who require land resources to satisfy the ever-growing demand for housing.

While CICWQ appreciates the LARWQCB's well-intentioned regulatory efforts to improve water quality, the Permit could have significant detrimental effects on the regional economy and every CICWQ member employee, without an accompanying benefit to the environment. This Permit will most likely exacerbate the increasing jobless rate and housing crisis without addressing the sources of our water quality problems. It will result in fewer, but more expensive

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construction projects being completed in the future, due to additional costs and restrictions involved in complying with the regulation. This will, in turn, compromise job growth, housing production and the ability of residents to own their own home. These factors can have a significant negative effect on the regional economy. According to the Real Estate and Land Use Institute at the California State University at Sacramento, every $1 spent on home construction generates nearly $2.60 in economic output. The National Association of Home Builders estimates that five new permanent jobs are created for every two new homes built. As you can see, construction and business are vital to a healthy economy.

Governor Davis recognizes this connection. That is why he met with California's business leaders on Friday, November 2 at a hastily scheduled economic summit. Concern is growing at the state Capitol that California's economy is in trouble. The state's unemployment rate ticked up one-half of one percent last month and budget analysts in Sacramento are forecasting revenue shortfalls for next fiscal year in the $3 billion range and as much as $9 billion to $14 billion over the next five years.

While CICWQ is very concerned with the economic impact that the Permit will have on the economy, we are also very supportive of the Board's efforts to develop new ways for improving our quality of life through improved water quality. However, the building and construction industries want to ensure that these efforts are practicable, achievable and will result in real improvements. It is extremely important that we spend our limited resources on proposed solutions that will actually lead to improved water quality. The State Water Resources Control Board (State Board) is making precedential decisions, like the SUSMP decision, which are based on an interpretation of federal and state law and the technical data that exist at the time. The problem with precedential decisions such as these is that the technical data improves over time, but the policies and regulations do not change since the regulators point to the previous precedential decision as controlling. The SUSMP decision is one example of this occurring. In addition, it appears that the State Board and regional boards are ignoring important studies that address this relationship between causes, solutions and cost. These studies include the following:

1. The National Academy of Sciences (NAS) report on recommendations for improving the Total Maximum Daily Loads (TMDLs) program. One quote from this report raises a red flag in regards to the approach the regulatory agencies are taking to both the TMDL program and the municipal stormwater permits. This quote is, "Water quality standards are the benchmark for establishing whether a waterbody is impaired; if the standards are flawed (as many are), all subsequent steps in the TMDL process will be affected."

   How does this finding relate to the Permit? The Permit requires compliance with water quality standards. Therefore, we have a finding requiring compliance with water quality standards that, according to the NAS, are more than likely flawed. As you can see, the

whole foundation of requiring water quality standard compliance in municipal storm water permits is inadequate. Yet, this Permit is still being proposed with this approach, thus requiring a huge expense of money to comply with a regulation that is based on compliance with flawed water quality standards.

2. A new study of Newport Bay, referenced in a September 1, 2001 Los Angeles Times article written by Seema Mehta, found low health risks for swimmers and concluded that attempts to curtail urban runoff pollution would be costly and inefficient. The study investigated the health risks to swimmers, the sources of Newport Bay's pollution and the cost of cleaning it up. The report says that sewage from boats is more of a threat to swimmers than urban runoff. The results of this study, although limited to Newport Beach, should be consistent in Bay's throughout California. This is more proof that some of our long-held assumptions about water quality may not actually be true.

3. The Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report, which used the identification, from the Santa Monica Bay receiving water study prepared by the Southern California Coastal Water Research Project, of dissolved zinc and copper as stormwater toxicants, to look at land use to see if any particular land uses could be singled out as notable or significant for those constituents. Light industrial and transportation land uses displayed the highest median values for both total and dissolved zinc and copper. The report then states that, "Runoff concentrations from the remaining land use types (high density, single family residential, education, multifamily residential and mixed residential) were significantly less.

4. A report dated January 31, 2000 and prepared by URS Greiner Woodward Clyde for Alameda County Urban Runoff Clean Water Program entitled, "Stormwater Inlet Insert Devices Literature Review" which evaluated commercially-available catch basin inserts for the treatment of stormwater runoff from developed sites found that there was no discernible removal of the total or dissolved fraction of copper, lead or zinc in any of the units studied. While the removal of indicator bacteria was not reviewed in this report, it is evident that these devices are also not effective at the removal of bacteria because that would require the use of a disinfectant, such as chlorine, ozone or ultraviolet light. None of these devices have that technology because that type of technology is very expensive and also the technology has not yet been proven effective on stormwater runoff.

As you can see from these studies, there appears to be a disconnect between the approach being used in the Permit to address water quality concerns and the conclusions reached in these studies on how to address these concerns. These studies show that the approach proposed by the Permit will not help to solve our water quality problems in an effective manner. The Permit requires structural treatment controls to be implemented on residential development and redevelopment, even though stormwater runoff from these projects has not been shown to contain elevated levels

of pollutants of concern, other than bacteria indicators. In addition, the structural treatment controls being required on these projects will do nothing to address the pollutants of concern. Therefore, we have a large outlay of resources to address a problem, that may not even be a problem, in a manner that is ineffective at addressing the problem, even if the problem existed in the first place. The conclusion of this insanity is that we have potentially increased the cost of a home, decreased home ownership and increased the jobless rate, while doing nothing to improve water quality.

Draft Order on San Diego Municipal Stormwater Permit Petition

As you may know, the State Board has issued a draft Order in response to the petition filed on the San Diego Municipal Stormwater Permit. This draft Order holds that the regional boards cannot apply the relevant pollution-reduction standard to discharges "into" the public storm drain, as the point of compliance is where the stormwater comes out of the drain and enters receiving waters. This Permit fails to recognize this point of compliance, and directs the municipal permittees to control all kinds of activities before stormwater even gets into the public drain. Examples of noncompliance with the draft Order's point of compliance include the following:

1. Under Part 1. Discharge Prohibitions, the Permit states, "The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses...".
2. All development planning requirements which make the Permittees implement a procedure requiring project proponents to comply with peak flow and SUSMP restrictions on discharges into the MS4.
3. The requirement for the Permittees to revise their CEQA checklist and General Plan.
4. All requirements on the control of runoff from construction projects which discharge into the MS4.

The intent of the Clean Water Act is to have the municipalities responsible for implementing Best Management Practices to reduce the discharge of pollutants to waters of the US to the Maximum Extent Practicable. The municipalities are then responsible for determining what requirements they need to place on dischargers to their MS4 in order to meet the MEP standard. The State and regional boards have authority over these discharges to waters of the US and to waters of the State. They also have authority, through the General Industrial and Construction Permits to regulate discharges from sites or projects that are covered by one of these Permits. They do not have authority to regulate or require municipalities to regulate construction and industrial discharges to the MS4.

The State Board recognized this when they adopted the monitoring modifications to the State General Construction Permit. In this modification, the State Board required stormwater monitoring for construction projects discharging directly to sediment impaired water bodies, but not for construction projects that discharged into MS4s, which discharged into these sediment impaired water bodies.

CONCLUSION

We are very concerned about the cost effectiveness of the Permit in relation to specifically, what the anticipated efficacy is of this Permit in terms of improving overall water quality? The Permit should provide actual improvement of water quality, not simply attempts at incremental decreases in future contributions. As to cost, the city of San Marcos (population 54,000) is setting aside almost $1.4 million this fiscal year, which began July 1, to comply with the San Diego Municipal Stormwater Permit, regulations similar to this Permit. Beginning July 1, 2002, the City expects that the budget could rise to $2.5 million. These are huge costs for a small city with an operating budget of $29.9 million. For fiscal year 2001 ($1.4 million), that equates to almost $26/person and approximately 4.7% of the operating budget. For 2002 ($2.5 million), it equates to over $46/person and approximately 7.7% of the operating budget. As to the maximum extent practicable consideration, both the Regional and State Boards have not properly addressed key elements of the "practicality" component – i.e., technical and cost feasibility. While cleaning up a problem decades in the making certainly must be a priority, it will not be accomplished on the back of other critical social needs in California, such as housing and jobs. Even with the marginal cost estimates relied upon by Regional Board staff (figures we vigorously dispute), there is no consideration as to the effect of those marginal costs on driving the availability of housing *further* out of the reach of those residents of our state most in need.

In consideration of the aforementioned comments and recommendations, CICWQ respectfully requests that the LARWQCB give further review to the proposed Permit and make modifications that will result in a more equitable and balanced approach for addressing our collective regional water quality needs. CICWQ would be pleased to discuss these issues in greater detail at any time and assist Board staff with making any of the recommended modifications.

CICWQ recognizes that the stakes are very high with regard to the development of a permit that the Board believes will improve water quality in California. The coalition also recognizes that there are a number of stakeholders involved in the process – all of which have specific concerns they want to have addressed. Yet, the most important thing to keep in mind is that this permit, and future permits that it will influence, is not just about water quality. It is also about housing, jobs and economic growth. The absence of any meaningful consideration of these issues, in an effort to improve water quality at any cost, will have an immediate and significant impact on

affordable housing, jobs, wages and livability. Meanwhile, there would be little, if any, certainty as to just how much water quality improvement would really be achieved.

We urge you to thoroughly review the comments provided by CICWQ and ask yourselves at what point water quality improvement efforts should be allowed to compromise the economic livelihoods of our working families, diminish new home production, increase housing costs, and jeopardize our regional economic strength.

We are confident that, by working together, CICWQ can assist you in achieving balance that will greatly improve water quality while also meeting our other regional obligations and needs. We thank you for your consideration of our comments.

If you have any questions, please feel free to contact me, or our Director of Environmental Affairs, Tim Piasky at (909) 396-9993 or tpiasky@biasc.org.

Respectfully,

Michael W. Lewis
Executive Vice-President

Executive Advisory Committee

Stormwater Program – Los Angeles County

November 13, 2001

2001 NOV 13 P 3:08

Mr. Dennis A. Dickerson, Executive Officer
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-1105

Dear Mr. Dickerson:

**OCTOBER 11, 2001, TENTATIVE DRAFT
WASTE DISCHARGE REQUIREMENTS FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF
DISCHARGES WITHIN THE COUNTY OF LOS ANGELES
AND THE INCORPORATED CITIES THEREIN, EXCEPT
THE CITY OF LONG BEACH (NPDES PERMIT NO. CAS004001)**

The Executive Advisory Committee has reviewed the October 11, 2001 Tentative Draft "Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles and the Incorporated Cities Therein, Except the City of Long Beach" (the Permit) and submits the following comments. We are incorporating by reference our previously submitted comments on the first and second drafts of the Permit as well as comments submitted by or on behalf of the County of Los Angeles, individual Cities, and the Coalition for Practical Regulations (CPR).

Although the Regional Board staff and the Permitees have had various meetings to develop permit language that will provide for mitigating the adverse impacts of urban runoff, the Permit does not represent a permit that is in the best interest of Los Angeles County. The Permit continues to require inappropriate and costly measures that will not result in significant improvement in storm water quality. We hope that prior to the November 29, 2001 Permit adoption hearing we may reach some consensus on the areas of major disagreement.

The County of Los Angeles and the incorporated cities within the County (the Permitees) have been, since the issuance of the first storm water permit in 1990, committed to

improving storm water quality within Los Angeles County. During the past five years, the Permitees have spent approximately $660 million in implementing various programs to improve storm water quality. The Permitees are prepared and willing to develop and implement programs to clean up water quality. However, it is imperative that mandated programs to achieve this are cost effective.

RECEIVING WATER LIMITATIONS. The permit language still fails to address our concerns that the receiving water limitation language results in Permitees becoming noncompliant from the very issuance of the permit. Stormwater, unless it is treated, will always exceed the water quality standards and objectives set in the basin plan. The permit language should clearly reflect that as long as the Permitees are conforming to all the requirements in the permit that they are in compliance with the permit and not in violation of receiving water limitations. The Regional Board should use the receiving water limitation language used in State Water Resources Control Board Order No. 2001-12-DWQ.

MAXIMUM EXTENT PRACTICABLE IMPLEMENTATION. The Clear Water Act (CWA) properly recognized that storm drain systems do not lend themselves to structural treatment solutions without major modifications and significant cost. Accordingly, Section 402 of the CWA establishes the standard of compliance for municipal stormwater discharge to reduce storm water pollutants to the maximum extent practicable. The Permit should modify its definition of MEP to be consistent with the Federal guidelines and provide that implementation of all required programs and BMPs shall be to the maximum extent practicable.

IMPRECISE DEFINITION OF EXECUTIVE OFFICERS POWERS. The Permit lacks specific standards that will guide the Executive Officer in interpreting permit requirements or accepting modifications to various permit requirements such as the Storm Water Quality Management Program (SQMP). The Permit should provide specific criteria that will guide the Executive Officer in reviewing permit compliance and developing new requirements.

COORDINATION OF PERMIT ACTIVITIES. The Permit establishes six Watershed Management Committees to develop various programs within each of the watersheds. However, the Permit is issued for all watersheds and does not provide any differentiation of the watersheds, yet it is clearly beneficial to have one group that coordinates the efforts of the WMAs and serves as a convenient contact point for the Regional Board to discuss Permit requirements. This role has been met by the Los Angeles County Storm Water Program Executive Advisory Committee. The Permit should recognize the EAC and its role as a coordinating body to facilitate the implementation of the Permit.

INPSECTION PROGRAM. The Permitees support Version C of the industrial/commercial facilities program if modified to recognize that the Permitees shall not have responsibility for visits to any Phase I facilities.

ILLICIT CONNECTION/ILLICIT DISCHARGE. The focus on identifying illicit connection through a screening process is misplaced and results in a significant cost without any benefit. The requirement to map all illicit connections is an unfair economic burden that will not result in any significant storm water quality improvement. This section should be modified to focus on identifying illicit connections in a prudently paced manner.

DEVELOPMENT PLANNING. The Permitees would like to see the reinstatement of the SUSMP requirement recently approved by the State Board for the Los Angeles permit instead of making changes to them so soon. These SUSMP requirements have been in effect for a short while and the development community and permitees are just becoming comfortable with them. These requirements will go a long way toward reducing the impact of development and redevelopment sites in our communities and we do not feel it is appropriate to expand the SUSMP requirements at this time.

The requirement to control peak flow is unwarranted. It is inappropriate to assume that all runoff will cause erosion. A better approach is to look at the overall impact on natural drainage systems and see how that can be mitigated.

The Permitees also have significant issues with how the permit deals with existing statutes and case law on CEQA, General Plan and land use authority.

COST-EFFECTIVE CRITERIA. The permit requirements should carefully weigh the improvement in water quality that will result from their implementation versus their cost. However, the permit does not provide any justification of the cost associated with implementation of the permit.

MONITORING REQUIREMENTS. The monitoring requirements of the permit will not collect information that will assist you or us in determining the effectiveness of the storm water permit. Modifications are warranted. A recently completed report by the United States General Accounting Office – Water Quality Better Data and Evaluation of Urban

Runoff Programs Needed to Assess Effectiveness (GAO-01-679) found that the permit monitoring requirements need considerable work. The report concludes that "no systematic effort to evaluate the program's results has been started." The permit monitoring requirements should focus on collecting data to determine the effectiveness of

the programs. The requirements for water column toxicity monitoring, shoreline monitoring, estuary sampling, and bioassessments although well intended will not result in determining the effectiveness of any programs that are required in the permit and should be removed. These are costly data collection efforts that should be replaced with better-targeted monitoring programs. The imposition of a monitoring program that parallels the one required in the Trash TMDL is duplicative, unreasonable and should be deleted from the permit.

Sincerely,

Desi Alvarez
Chair
Executive Advisory Committee

DA:kk
A:\EAC LTR NOV 13 2001.WPD

cc: All Permittees
Chief Administrative Office (John Lounsbery)
State Water Resources Control Board
United States Environmental Protection Agency, Region 9

Ballona Creek/Santa Monica Watershed

2001 NOV -9 P 1:57

November 8, 2001

Mr. Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

Subject: Draft Municipal Stormwater Permit

Dear Mr. Dickerson;

We appreciate the opportunity your staff has provided for us to review and comment on the draft permit for "Municipal Storm Water and Urban Runoff". Our specific comments are:

Section B.6 *Environmentally sensitive areas*	The text (Sec 4.D.3) allows cities to submit designations for environmentally sensitive areas. This section (B.6) should be consistent. Recommended wording: "These environmentally sensitive areas designated by the State and /or the County of Los Angeles and/or municipalities
Section C.2 *SQMP*	The proposed Order adopts the model programs developed under the previous (current) permit subject to the revisions of the new permit. The Permittees invested considerable effort in developing the existing model programs. It should be the Permittees' responsibility to review and revise the model programs.
Section D.2 *Responsibility over federal and state institutions*	The wording "Permittees will not be held responsible for such facilities and/or discharges" (from federal/state facilities) should be left in.
Section D.4 *Maximum Extent Practicable*	Add a sentence to the end of the paragraph. "Timely and thorough implementation of this order constitutes compliance with the Maximum Extent Practicable criteria."

Section D.6	The wording is confusing. . . . "the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible . . . "
Sections D.8; D.10 *TMDLs*	This section incorporates the TMDL process into the SQMP. TMDLs should only be added after appropriate public comment and review.
Section D.22 *GIASP and GCASP*	The permit identifies the Regional Board as the "enforcing authority" for the two statewide general permits. If the State is the regulating authority for these sites, then municipalities (similar to the exclusion of section D.2) should not be responsible for discharges from these sites, either under this permit or the TMDL process.
Part 1 *Exempt discharges*	The permit lists several "exempt" discharges with the provision that the Board's executive officer may remove any of these categories if determined to be a source of pollutants. The Regional Board has obviously invested a considerable amount of time in developing this list, and the permittees are likely to permit these discharges. In the event that a discharge is subsequently determined to be a source of pollutants, the permittees should not be held responsible for any excceedances caused by these discharges without first being given adequate time to develop and implement additional BMPs.
Part 1.1 *Exempt discharges*	All general NPDES permits (dewatering, hydrostatic testing, etc.) should be incorporated into this permit as an attachment so that permittees can know which discharges are covered. The Regional Board should also notify all applicable permittees of any subsequent general NPDES permits.
Part 2 *Receiving water limitations*	The wording "thorough and timely implementation of this order shall constitute compliance with the standard for Maximum Extent Practical." should be added.
Part 2.4	Add wording: "So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, a Notice of Violation will not be issued by the Regional Board and the Permittee does not have to repeat the same procedure . . . .
Part 3.A.3 *General requirements*	The wording "Each Permittee shall implement additional controls where necessary" is too open ended and should be eliminated.

Part 3.B *Best Management Practices*	The paragraph: "The permittees shall implement or require the implementation of the most effective combination of BMPs . . . . Is similarly too open ended. Who will the permittees require implementation by? What is the criterion for "most effective combination"? And doesn't implementation of this Order constitute meeting the standard of MEP?
Part 3.G deleted *Executive Advisory Committee*	The proposed Permit eliminates the EAC as a recognized entity. How will the Permittees coordinate their efforts on a countywide basis?
Part 3.G *Legal authority*	Permittees have on several occasions, certified that their ordinances comply with the NPDES stormwater requirements. The amending of municipal ordinances each time there is a change in the permit constitutes a substantial burden on city staffs. The existing ordinances are adequate to provide a framework for implementing this Order. The proposed changes in this section should be relocated into the "Special Provisions" section so that ordinances do not need to be modified again. Municipalities will decide if their ordinances need to be modified for specific areas of the Order.
Part 3.G.d *Inspection authority*	Municipalities can authorize their inspectors to make inspections of a facility on a voluntary (by the owner) basis, but cannot make it mandatory without probable cause or a prior agreement with the business or property owner. This section should reflect this and permittees should not be held responsible for a discharge from a site that the municipality was not able to inspect.
Part 3.G.2c *Adequate Legal Authority*	The word "control" is not adequately defined.
Part 4.A.2 *Customized SQMP*	What are the standards and what is the timeline for developing the customized SQMP? More appropriate wording would be that Permittees shall evaluate the need for a customized SQMP and if necessary, shall develop standards and then develop the SQMP. Also, a municipality should be able to review the existing SQMP, and if found adequate, adopt it as the customized SQMP?

Part 4.B and Findings C.2
Public Information and Participation Program

There have been very substantial changes to this program and it appears that the 5-year implementation strategy will no longer be in force. The reference to the existing: "Public Information and Participation" as being continued with revisions, as contained in Findings Part C-2 should be removed.

Part 4.C
Site inspections

No documentation has been provided that the existing site educational visit program is not working. The site visit program should continue as is.

The State is collecting $250 from industrial and construction facilities under the State's General Construction and Industrial Activities Permits. The State should provide municipalities with demonstrable site visit and inspection programs a substantial portion.

If the State (or State's agent) is also conducting site inspections, what is the mechanism for informing municipalities of the State's inspection schedule so that overlaps and duplication can be avoided?

The inspection criteria requires inspectors to verify that BMPs are being effectively implemented. This requirement is essentially impossible to comply with. For example, how can an inspector verify that treatment BMPs are being effectively cleaned prior to each rainy season, when inspections are only made once every 2 years (and in many cases, once every 5 years starting in 2004)? The word "effectively" should be removed from all inspection criteria.

Also, Section C.2 et al requires inspectors to confirm that BMPs are being implemented in compliance with County and Municipal ordinances. The wording could lead to confusion, implying that County ordinances are to be implemented in Municipal areas. Wording to the effect of "appropriate jurisdictions" should be added.

Part 4.D.2
Peak flow control

The wording of this section requires that permittees implement peak flow controls for essentially all streams in hillside areas. This should not be a requirement unless a stream has been specifically identified as susceptible to accelerated erosion.

Table 2.1 as referred to, includes many hard-bottomed channels that represent no erosion threat.

Part 4.D.3
SUSMPs

This section marks a substantial departure from the SUMSP program as previously developed and implemented. Only discretionary Projects should be included as priority projects.

Also, as the State's General Activity Permits will be reviewed by the State and contain post construction BMPs, how will any inconsistencies and duplications with plans submitted to the municipalities for review under the SUSMP program, which also show post-construction BMPs, be avoided?

Part 4.D.3.b
ESAs

The wording "Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map" should be made optional:

A Permittee may submit . . .

Also, the Staff Report (pg. 7 of attachment) indicates that they (the Board's Staff) were unable to find a legislative basis for the 2,500 square foot threshold of triggering an SUSMP in an ESA. This level was chosen based upon standard residential lot sizes. A better standard is the federal project size threshold of 1 acre, which would be consistent with the construction thresholds and therefore reduce confusion of when stormwater management plans are required.

Part 4.E.2b
Construction sites

As stated in Section D22 of the Permit, the Regional Board is the enforcement authority for sites under the General Construction Activities Permit. Municipalities should not be required to inspect these sites. By mutual agreement with the Board, municipalities could be authorized to do so, but the State should then reimburse the municipality for the cost of the inspection from the fees the State has collected

Part 4.F.3c2
Public agency

This statement could be construed as requiring pre-treatment facilities for any facility whether there is wastewater or not (ex: a senior citizens center or library). Add the wording "vehicle or equipment washing".

Also, fire fighting vehicles are excluded from this requirement. Does this mean that washwater from fire fighting vehicles is now considered an exempt discharge?

Part 4.F.5
Trash receptacles

Permittees, where trash has been designated as a pollutant, are already addressing this through the TMDL process. All reference to trash and litter under this section is redundant and will lead to confusion and should therefore be eliminated.

For example, if a Permittee has already adopted a plan under the TMDL process to reduce trash by utilizing catch basin inserts, why then require trash receptacles at all transit stops?

Suggestion: Permittees evaluate the need for addition anti-trash BMPs and take appropriate action based upon their findings.

Part 4.F.6
Street Sweeping

Similarly, if the discharge of trash is being adequately addressed through other means, why require revisions to the street sweeping program?

Part 4.G.1.b
Illicit Connections

The requirement of Permittees to map all illicit connections and discharges is excessive and not cost effective. If these illicit connections are sealed and illicit discharges stopped, what is the purpose of a map? Mapping is a very labor intensive and costly endeavor and should only be used when necessary.

Part 4.G.2.a
Field Screening

There is no definition within the Order of what "Field Screening" is. The Staff Report (pg. 37) calls for visual monitoring. Wording should be added to the Order's language for clarification that field screening is: visual monitoring during infrastructure maintenance.

Part 4.G.3a
Illicit discharges

Corrective actions are typically performed by the responsible party (the discharger). It should be clear that "activities to abate" include ordering the responsible party to initiate mitigation activities.

Annual Report

Under the previous (current) permit, permittees invested a considerable amount of resources in developing an annual reporting form. This process should be continued under the new permit. Permittees should be allowed a minimum of 180 days to develop a revised report format for submittal to the Board's executive officer for approval instead of using the form attached in the permit package.

The Annual Report asks municipalities to grade themselves on a scale of 1 to 10. Is 10 best or worst? Also, what criteria is used for grading and what is the minimum allowable score to assure compliance with this Order and the Clean Water Act?

I wish to thank you for the opportunity to comment on the next proposed Permit. Please call me if you have any questions.

Sincerely,

Sheila Kennedy
Chair, Ballona Creek/Santa Monica Watershed

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Dr. Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street. Suite 200
Los Angeles, California 90012

November 13, 2001

Re: Comments on the Third Draft of the LARWQCB NPDES No. CAS614001 – Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles and the Incorporated Cities, Except for Long Beach and Santa Clarita

Dear Dr. Swamikannu:

On behalf of Heal the Bay, an environmental group with over 10,000 members dedicated to making Santa Monica Bay and Southern California coastal waters safe and healthy again for people and marine life, we have the following comments on the third draft of the L.A. County storm water NPDES permit. As in our previous comments, we have numerous concerns about the draft permit.

The following concerns are not addressed in the third draft permit. We urge the LARWQCB to make these changes before the permit is finalized, in order to fully protect receiving water quality and prevent further degradation of receiving waters.

Our greatest concerns with the third draft permit are (1) the lack of a true watershed approach to water quality regulation, (2) the failure to implement numeric effluent criteria for stormwater, (3) the weakening of certain provisions relative to the first and second drafts of the permit, and (4) the continued lack of specific requirements in a number of important sections in the permit. These concerns and others are detailed below. Our remaining concern with the Monitoring and Reporting requirements of the third draft permit are also discussed.

Waste Discharge Requirements

The permit fails to truly require a watershed approach to storm water pollution abatement. Inclusion of watershed-specific requirements for each of the watersheds within the storm water permit is long overdue. The third draft permit represents a storm water regulatory approach without watershed-specific requirements. The permit is a one-size-fits-all approach to curtailing stormwater pollution even though, for example, the runoff caused water quality problems are substantially different in different watersheds. The RWQCB has failed to require implementation of watershed management area plans (WMAPs) developed under the 1996 permit, in order to achieve receiving water quality objectives. For example: most of the Malibu Creek watershed is listed for nutrients and fecal bacteria on California's S.303d list, yet there are no specific requirements in the permit for BMP implementation to achieve the

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appropriate water quality objectives. Also, there are no requirements to implement any of the watershed's WMAPs.

In our comments on the second draft permit, we recommended six stormwater permits for L.A. County - Ballona Creek, Malibu Creek, L.A. River, San Gabriel River, Santa Clara River and Dominguez Channel. This approach would insure that site-specific water quality impairments would be prioritized for clean-up under the permits. This approach is also appropriate in light of the region's current efforts on TMDLs, watershed planning, the Santa Monica Bay Restoration Project, and the Los Angeles/San Gabriel River Watershed Council.

Since the Regional Board has chosen to go forward with a single permit for all of L.A. County, they must at least require the implementation of watershed specific BMPs, targeting water quality impairments, as soon as possible. We suggest the following language: *Permittees must implement BMPs to eliminate discharges to the MS4 that cause or contribute to water quality impairments by January 2003. The implementation strategy, including BMPs and rationale for implementing the chosen BMPs, must be included as part of the 2002 annual report. Progress on BMP implementation and the efficacy of the BMPs in pollutant removal shall be summarized in subsequent annual reports.*

Failure to set numeric effluent limits for stormwater The permit should set numeric effluent limits for stormwater to ensure that beaches and streams are safe for people and aquatic life. Due in part to the lack of regional progress towards cleaning up our beaches and watersheds, Heal the Bay continues to urge the use of numeric effluent limits for stormwater. Numeric effluent limits have led to remarkable regulatory success at pollutant reduction in industrial and sewage treatment plant point sources. The lack of numeric effluent limits and the reliance of the Regional Water Board on the ambiguous MEP standard have perpetuated the region's dismal record on protecting beneficial uses impaired by stormwater. Although the permit contains a provision that requires an out-of-compliance municipality that caused or contributed to an exceedance of a receiving water standard to implement a Best Management Practice-based plan to reduce the impairing pollutant(s), the Regional Board's sole reliance on an iterative approach to meeting water quality standards will not achieve the same results as numeric effluent limits.

Receiving Water Limitations (Part 2.) As in the second draft, the third draft permit contains no further requirements for permittees in the event that implementation of the modified SQMP fails to result in the abatement of violations of receiving water quality standards and objectives. The iterative process laid out in the permit must continue until the violations are abated, if the permittee still has the reasonable potential to cause or contribute to these violations. We repeat our request that the Regional Board modify the permit accordingly. The following language should replace Part 2.3.d: "*Implement the revised SQMP and its components and monitoring program according to the approved schedule. Submit a report detailing changes to the SQMP, monitoring and results, to the Regional Board. If monitoring does not show abatement of the violation, steps 3.a through 3.d shall be repeated until monitoring shows the violation has been abated.*"

Legal Authority, p. 24 – The section requires that permittees possess the legal authority to prohibit a wide variety of discharges, but it does not explicitly require the permittees to

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prohibit those polluting activities. Also, please add the following language in this section: *All permittees have the legal obligation to assure compliance with all municipal stormwater ordinances.*

The industrial/commercial facilities program must include inspections and must cover all Phase One facilities (p. 33). Versions A and B of Part 4.C. of the permit include inspections but version C does not. The purpose of this program is to ensure implementation of pollutant reduction and control programs at industrial and commercial facilities. An additional purpose is to insure that all local ordinances that prohibit polluting activities are enforced at these facilities. Version C is an educational program without any requirements to inspect facilities, ensure compliance with discharge prohibitions, and confirm that BMPs are implemented, SWPPPs are available on-site, and permits are up-to-date. We strongly oppose the inclusion of version C in the permit and support either version A or version B. Versions A and B both require physical inspections every 24 months and represent the minimum requirements for the industrial/commercial facilities program.

The list of High and Low Priority Categories in versions A and B of the industrial/commercial facilities program must include all Phase One facilities as well as those listed in draft 3 (p.33A and 33B).

The Development Construction Program has been weakened relative to the first and second draft permits. Specifically:

- **The language of the discharge prohibitions in Parts 4.E.1.a and 4.E.1.b (p. 48), for sediment and construction related materials, has been weakened.** Please insert the following sentence at the beginning of Part 4.E.1.a: *Sediments shall not be discharged to the MS4 or receiving waters.* Please change Part 4.E.1.b to read: *No construction-related materials, wastes, spills, or residues shall be discharged from the project site to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff.*
- **Deletion of Part 4.E.1.e (p. 48), discouraging grading during the wet season, substantially weakens protection of waterbodies from sediment impairment due to construction.** Please add the following language after Part 4.E.1.d: *Discourage grading during the wet season. Proper justification for the need to grade during the wet season shall be provided to the Permittee. All erosion susceptible slopes shall be covered, netted, planted or protected in any way that prevents sediment discharge from the site.*

Why were the Applicability of Numerical Design Criteria weakened from the first draft of the permit? (Part 4.D.5 on pg 43). In the first draft, numerical design criteria applied to single-family hillside residential developments of 10,000 square feet or more. The 10,000-sq-feet requirement for housing developments has been reinstated in the third draft of the permit, but the weakened criterion for single-family hillside residential developments (one acre or more) is maintained. This is a significant weakening of the criterion, which will now apply to fewer developments. We strongly object to this change and request clarification and a rationale as to why was it made in the first place.

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Lack of specific requirements in the permit Some specific requirements have been added to the third draft of the permit, but there remain important sections without specific requirements. The following sections are still too open-ended:

- **The permit fails to state goals for site-specific mitigation plans (Part 4.D.7.a on pg. 44).** As stated in our comments on the second draft, site-specific mitigation is important for stormwater management because it applies to developments not covered by the SUSMP but which have potential adverse effects on receiving waters. Implementation requirements are necessary to insure the plans are effective. At a minimum, site-specific mitigation plans should provide details of how the project will satisfy the requirements in Part 3.G.1 on p. 24 of this permit. This section contains the list of prohibited discharges, as follows: illicit discharges and illicit connections; wash waters from cleaning gas stations, auto repair garages, or other automotive service facilities; discharge from mobile auto washing, mobile carpet cleaning and other mobile commercial and industrial operations; discharge from machinery repair areas where machinery is visibly leaking oil or antifreeze or fluids; discharge from storage areas containing grease, oil, or other hazardous substances; chlorinated/brominated swimming pool water and filter backwash; washdown of toxic materials from paved or unpaved areas; discharge from washing impervious surfaces in industrial/commercial areas; concrete or concrete-laden washwater; disposal of materials other than stormwater (such as litter, landscape debris, construction debris, banned or unregistered pesticides, food and food processing wastes, fuel wastes, chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality).

- **More specific requirements for the storm water monitoring reports should be included in the permit.** The purpose of the annual reports is to provide the Regional Board with information on the effectiveness of municipal stormwater management programs. The annual monitoring report provision should require an assessment of BMP efficacy on a programmatic (educational, site inspections, municipal staff trainings, etc.) and structural basis, and status and trends results for ongoing monitoring programs. The status and trends analysis should include loadings and receiving water impacts.

- **Specific requirements for annual reports should be summarized in the permit.** The permit includes many requirements for the annual report, but they are dispersed throughout the permit. Also, please add the following requirement: *The annual report should include a summary of the results of each permittee's compliance assurance and enforcement program.*

Other Comments

Sediment Discharges: Sediment discharges from construction and grading activities can cause major water quality and habitat degradation problems and must be prohibited. A sediment discharge prohibition must be added to the list of prohibited discharges in Part 3.G.1 on p. 24.

R0006565

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SUSMP Implementation: **Any development in or directly adjacent to, or discharging directly to, an ESA must implement SUSMP requirements.** The provisions in Part 4.D.3.c(1) stating that such developments need only implement SUSMPs if they will "discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat" is redundant since an ESA must by definition contain sensitive species and/or habitats (see Part 5 of the permit, Definitions). Storm water and urban runoff will impact sensitive species and habitats, and those designated as ESAs must be protected from impacts by requiring SUSMP implementation for any development located in or directly adjacent to, or discharging to, an ESA. Please delete subsection (1) of Part 4.D.3.c of the third draft permit.

SUSMP Implementation: **SUSMP requirements for ESAs have been weakened by the deletion of Part 4.D.3.c(2) on p.42.** Without the "ten percent or more requirement" small developments can create up to 2500 square feet of impervious surface without implementing SUSMP provisions. The cumulative impacts of numerous small developments will have an unacceptable impact on sensitive species and habitats of ESAs unless they implement SUSMP provisions. Therefore please add to Part 4.D.3.c, after subsection (2): *(3) OR alter the area of imperviousness of the site to ten or more percent of the naturally-occurring condition (whichever is less).*

Peak Flow Control: **As we stated in our comments on the second draft, it is not sufficient to focus on peak flow control. Downstream erosion and sedimentation problems may be caused by an increase in volume and/or duration of storm flows (Part 4.D.2 on pg 40).** After development, runoff flows throughout the storm must mimic pre-existing conditions in order to avoid erosion of stream channels and banks. Peak discharge rates is by no means the only important hydrologic .parameter. Maintaining a hydrograph that mimics natural conditions is the best way to prevent sedimentation and erosion. Without taking the entire hydrograph into account, one may design and implement BMPs that manage the peak storm flow without abating sedimentation and erosion problems. The new requirements in the third draft permit are insufficient because they address only peak flow, rather than flow throughout the duration of a storm.

Heal the Bay supports the Impact Study requirement which gives Permittees time to develop numeric criteria for controlling peak flow. This study and the time allowance provided allows the Permittees to develop appropriate criteria and to address site-specific concerns through the Impact Study. However, this makes the second new provision in this section unnecessary. There should be no need for a Permittee to substitute a Hydromodification Plan for peak flow numeric criteria, if they have already conducted peak flow impact studies to determine what the appropriate numeric criteria in different watersheds and locations are. We recommend deleting the last paragraph of Part 4.D.2.f of the third draft permit.

In our comments on the second draft, Heal the Bay requested clarification on what size development will be covered by the criteria, and how the five specific watersheds were chosen. This was not provided in the third draft. This information is still relevant to this issue and should be clarified in the final permit.

Sewage Spills: **The MS4 permit must contain specific procedures for notifying the public in the event of a sewage spill that enters the storm drain system and reaches recreational waters.** Please add the following language to Part 4.F.1 of the permit: *When a sewage spill or leak results in a beach closure(s) by the Department of Health Services, the responsible Permittee(s) must notify the public immediately. Notification must include, at a minimum, appropriate sign placement at beaches within two daylight hours of beach closure determination, indicating the reason for the beach closure and the health risk of water contact; telephone calls and electronic mail messages to relevant public agencies and non-profit organizations within two hours of the closure; and press releases to major newspapers, radio stations and television stations (including non-English language papers and stations within two hours of the closure).*

Permittees that may contribute to chronic poor beach water quality (high fecal bacteria densities) near a storm drain must implement a sanitary survey to determine the likely sources of beach contamination (Add to Part F.1. on pg 52). As stated in our earlier comments, sanitary surveys must be conducted where high bacteria densities are impacting beach water quality. Please insert the following language: *Where storm drains contribute to chronic water quality problems at beaches, the permittee must conduct a sanitary survey to investigate potential illegal discharges, illicit connections or leaky sewer lines. Also, the permittee must revise the SQMP and implement appropriate BMPs to abate the water quality problem as quickly as possible.* "Chronic poor water quality" at beaches may be defined as, for example, ">10% of days in one month exceed state single day health standards, or exceed the 30-day geometric mean state health standard for two consecutive dry-weather months". The permit should specify these requirements in this section.

Dam Releases: **We have pointed out in previous comments that dry-weather dam releases are not included in the discharge prohibition section. Does that make dry-weather dam releases illegal?** The discharge prohibition section makes no mention of occasional dry weather discharges from dams. These discharges can severely alter the natural dry-weather flow regime of a stream. Also, because waters held behind dams often have siltation, nutrient and fecal bacteria problems, dam releases can lead to exceedances of water quality objectives downstream. Dam releases are currently either unregulated or poorly regulated by the RWQCB. Language is needed in the permit to insure that these dry-weather runoff discharges from dams are prohibited except as needed to prevent imminent harm to public health, aquatic life, or property. At a minimum, the Regional Board must convene an effort with the County Department of Public Works, Malibu Creek watershed cities, California Department of State Parks, and other interested parties to develop a dam management plan for the watershed that does not cause or contribute to impairments in the watershed or at Malibu Surfrider Beach.

Ensuring Compliance: **Strong local compliance is necessary to impact storm water pollution. Please add the following requirement under Part 3.D.8 on page 21 - "***All permittees must ensure that residents, businesses and local government properties and employees all comply with the permittee's local storm water pollution control ordinances.***"** Without strong local compliance assurance and enforcement programs, the ordinances will have little to no impact on storm water pollution.

R0006567

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IC/ID Program: Permittees should examine existing and historic permits to determine their validity, rather than just listing existing permits. Part 4.G.2 As stated in our comments on the first and second drafts of the MS4 permit, permittees must determine if existing municipal stormdrain connection and/or discharge permits are valid. As part of the IC/ID program, each permittee should be required to review existing and historic local storm drain connection and/or discharge permits given to businesses. The permittee should determine which, if any, non-storm water discharges are authorized under the existing stormwater NPDES permit requirement. Those facilities that do not have a valid permit for a legal non-storm water discharge must be forced to cease discharge within 30 to 60 days, or obtain an NPDES permit from the Regional Water Board. Also, please change Part 4.G.2.a.i to read Open channels: [365 days from the effective date of this Order *and annually thereafter*].

Guidelines for prioritizing catch basins for cleaning are still not provided (Part F.5. on pg 55). The prioritization categories must be clearly defined. We strongly urge the following definition: *Priority A basins reach half full every month, Priority B reach half full in three months, and Priority C basins take more than three months to reach half full.* Furthermore, a deadline should be specified for designation of catch basin inlets as Priority A, B or C. We suggest a deadline of not later than 10-15-02 for designation and implementation of the prioritized catch basin cleaning schedule.

The record-keeping and reporting requirements for catch-basin cleaning activities deleted from the third draft permit must be included in the permit. This information will be essential for TMDL baseline monitoring and will help guide BMP decisions in the future, and should be collected by the permittees and reported to the Regional Board. Similarly, Part 4.D.5.g.5 (requirement to record quantity of open-channel waste collected) should be reinstated in the final permit. Without information on trash removal, assessment of BMP efficacy and the effectiveness of the trash TMDL will be impossible.

Public Information and Participation Program – Please remove all references to specific ethnicities in the permit. Reference to the requirement to target outreach efforts to all communities in the County will suffice. In addition, please delete the paragraph following Part 4.B.c regarding the requirement for a review panel and annual approval requirements for the PIPP. Instead, please insert the following: *The Principal Permittee shall convene an advisory panel of experts in public education to provide recommendations on PIPP development, implementation and assessment of effectiveness. These recommendations shall be forwarded to the Regional Board with the principal permittee's annual report..*

Clarification and definition issues

"Directly adjacent" should be defined as areas within 100 meters of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area (Part 5, pg 48). No justification is provided for why directly adjacent is defined as 200 feet. Clearly storm flows from developed areas can impact receiving waters more than 200 feet from the site.

R0006568

"Outdoor animal care" has not been defined (Part D.7.a.7 - pg 32). Does it include any horse stable? Commercial stable? A certain size facility? Also, **golf courses must be added to this list** because they use enormous amounts of water, pesticides, herbicides, fungicides, and fertilizers, which, without site-specific mitigation, may have serious adverse effects on receiving waters.

The mitigation funding section must be clarified (Part D.11 on pg 33). Situations that warrant a waiver for impracticability must be defined. Geologic hazard and very high groundwater are the only acceptable reasons for issuing a waiver. The waiver must apply only to the infiltration requirement of the SUSMP, since some level of treatment for site runoff can always be provided, regardless of ability to meet SUSMP infiltration requirements. Furthermore, the permit must clarify when a permittee can opt to help fund a regional solution, the process by which the funding amount will be determined, and the criteria for acceptability of the funded project as a mitigation alternative.

Part D. 15. b.2 on pg. 48 - Please add *of discharge* after duration.

As we stated in our earlier comments, we believe the following prohibitions are important and should be added for landscape and recreational facilities management (Add a section under Part F.4. on pg 54). *Disposal of landscape waste in the MS4 and receiving waters is prohibited. The storm water monitoring program must analyze runoff samples for all pesticides, herbicides, rodenticides and fungicides that are used by public agencies.*

The storm drain maintenance BMP requirement to review activities and ensure appropriate BMPs are used has not been clarified (Part 4.F.5.g.2. on pg 57). The permit must state what the Permittees will report to the RWQCB, and what actions are required if Permittees find inappropriate or insufficient BMPs in use.

Add the TMDL section that was included in the Ventura County Storm Water Permit. The language from the permit was as follows: *The permittee shall modify (either directly or through and appendix) the Los Angeles County Stormwater Management Plan to comply with waste load allocations developed and approved pursuant to the process for the designation and implementation of TMDLs for impaired water bodies.*

Monitoring and Reporting Program

The monitoring and reporting program in the third draft permit is much improved. Our only remaining concern is with the estuary monitoring program.

Estuary Monitoring

We recommend annual sediment toxicity testing and benthic community analysis at five sites in at least the Los Angeles River, Ballona Creek and the Dominguez Channel estuaries as part of the estuary monitoring program (Part F on pg T-12). As we stated in our earlier comments, monitoring these parameters once in the life of this permit may not be critical for the Malibu Creek and San Gabriel River estuaries because these receiving waters are not listed for impacts to benthic communities or sediment contamination. However, the

R0006569

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estuaries for the L.A. River, Ballona Creek and the Dominguez Channel are impaired for sediment toxicity and/or benthic community assemblage degradation. Also, all three creeks and rivers have contaminated sediment accumulation and subsequent disposal problems in the estuary that are exacerbated by polluted runoff. As you know, ocean dischargers are required to implement extensive programs on a quarterly or semi-annual basis. Heal the Bay is requesting annual sampling in order for the Regional Board, the County, the Contaminated Sediment Task Force, and the public to assess the biological impacts of runoff on estuary receiving waters. Fewer sites may be used in the estuary mapping studies (e.g. 15 sites instead of 25) to reduce the cost of annual monitoring. During the year that the Principal Permittee participates in the Bight Wide Study, annual sediment toxicity and benthic community analyses need not occur.

If you have any questions about our comments, please don't hesitate to call Mark Gold or Shelley Luce at 310-453-0395.

Sincerely,

Mark Gold, D.Env.
Executive Director

Shelley Luce
Staff Scientist

R0006570

NRDC
THE EARTH'S BEST DEFENSE

NATURAL RESOURCES DEFENSE COUNCIL

November 12, 2001

Dr. Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Comments on the October 11, 2001 Draft of the LARWQCB NPDES Permit No. CAS614001 – Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles and the Incorporated Cities Therein

Dear Dr. Swamikannu:

On behalf of the Natural Resources Defense Council, ("NRDC") and its over 500,000 members, including over 50,000 who reside in Southern California, we submit the following comments on the third draft (October 11, 2001) of the Los Angeles County NPDES Municipal Storm Water Permit ("Draft Permit"). We appreciate the opportunity to provide these written comments on the third Draft Permit.

In addition to the specific comments set forth below, we would like to incorporate by reference our previous comments on earlier drafts of the Permit. NRDC also joins in and hereby incorporates by reference the written comments of the Santa Monica BayKeeper on the third Draft Permit.

Adequacy of SQMP

We note that the Draft Permit's General Requirements language has been amended to require that the SQMP be implemented *and* that any additional steps to comport with the MEP standard also be implemented. This is a very important and positive change, one that comports with legal requirements and sound policy.

However, Finding C.4. of the Draft Permit (page 5) still refers to the proposed SQMP as "meeting the minimum requirements of federal regulations." Draft Permit at 4 (Finding C.4). We believe that staff is attempting to say that, in terms of basic programmatic range, the SQMP covers the general subject areas set forth in federal regulations (*i.e.*, the SQMP does not fail to propose an education program, etc.) To

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avoid potential confusion that this language suggests that the SQMP meets MEP,[1] we propose the following language to clarify that the Board means that the SQMP proposes a broad enough range of programs to satisfy federal application requirements:

> Federal regulations specify a range of programmatic elements that an applicant for a storm water management plan must address as minimum requirements. Without addressing the sufficiency of the SQMP pursuant to the MEP standard, the Regional Board finds that the Permittees' proposed SQMP, incorporating the additional provisions contained in this Order, is of sufficient scope to address these requirements.

TMDL Language

The fact sheet indicates that it is the Board's intent that the language of Part 3.C. "Revision of the Storm Water Quality Management Program" is consistent with the language in the Long Beach and Ventura County Permits with regard to TMDL implementation, and that the the Permittees must modify the SQMP so as to comply with waste load allocations developed pursuant to the TMDL process. However, the actual language of this Paragraph in the third Draft Permit (Part 3.C. on page 20 of the Draft Permit) does not clearly convey this intent. This paragraph should be revised so that the Board's intent is clear and so that it is on its face fully consistent with the other permits in the region. The following is the language from the Ventura County MS4 Permit:

> The Permittees shall modify the SQMP to comply with waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

The language of Part 3.C. can be easily modified to fully incorporate the Board's intent that Permittees must modify the SQMP to comply with TMDLs and WLAs by adding the following underlined language to the existing language:

> The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of TMDLs for impaired water bodies.

[1] There is demonstrable and undeniable evidence showing that water quality violations continue to occur as the result of storm water discharges in this region. We have received no indication to date that the SQMP has been improved to address these violations.

Industrial/Commercial Facilities Program

It is NRDC's position that the federal regulations require the Permittees to conduct *enforcement inspections* of industrial facilities. See 40 C.F.R. § 122.26(d)(2)(i); USEPA, Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (1992). Therefore, staff's proposed Version C of the Industrial/Commercial Facilities Program would not meet the requirements of federal law because it requires only "site visits," and on that basis should be rejected.

We urge the Board to adopt the proposed Version B of the Industrial/Commercial Facilities Program. Version B is identical to Version A except that it also requires inspections of six industrial categories - wholesale trade (scrap, auto dismantling) facilities, fabricated metal products, motor freight, chemical allied products, and primary metals products - which were *ranked in the top seven in terms of pollution potential* on the 1997 Critical Source Selection and Monitoring Report. Clearly, these are facilities with a high potential for causing storm water pollution problems, particularly with regard to heavy metals and other toxics. As heavy metals and toxics are a significant cause of impairment to receiving waters in the Los Angeles region, it is necessary to conduct inspections at these facilities in order to protect water quality in the region.

In addition, as in the previous draft, subsections on reporting and enforcement are conspicuously absent from all three alternatives proposed in the third Draft Permit. Because inspection and enforcement provisions for industrial facilities are required by the federal regulations, the Permit must contain provisions regarding enforcement and reporting. We urge the Board to reinsert the following language from the first draft of this permit into the Industrial/Commercial Facilities Program section of the final permit:

> Enforcement: Each Permittee shall enforce its storm water ordinance at all sites as necessary to maintain compliance with this Order. The Ordinance shall include sanctions to ensure compliance.

We also urge the Board to reinsert the subsection from the first draft of the permit requiring Permittees to report non-compliant sites to the Regional Board within 5 days of the inspection or discovery. Timely reporting is critical for ensuring that the Regional Board is made aware of non-compliant sites and that appropriate action is taken.

Illicit Connections and Illicit Discharges Elimination Program

In the latest draft, the Board has deleted provisions that required documentation and reporting of all illicit connections, illicit discharges and hazardous substances entering the storm drain. (*See* page 60 third Draft Permit, Part 4.G.1.d.) There is no explanation for this deletion. Again, timely reporting and documentation is critical to evaluating the overall impact of these illegal discharges on water quality. We urge the Board to reinstate this permit requirement.

Again, we appreciate the opportunity to provide comments on the third Draft Permit. If you have any questions regarding our comments, please give us a call at 323-934-6900.

Sincerely,

David S. Beckman

Heather L. Hoecherl

cc: Ms. Alexis Strauss, Director, Water Division, United States Environmental Protection Agency, Region IX

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Via Hand Delivery

November 13, 2001

Dennis Dickerson
Attention: Dr. Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, California 90013

RE: Los Angeles County Municipal Storm Water Permit

Dear Mr. Dickerson,

On behalf of the Santa Monica BayKeeper, we appreciate the opportunity to provide comments to the Los Angeles Regional Water Quality Control Board ("RWQCB") on the third draft of the Los Angeles County Municipal Storm Water Discharge Permit ("Municipal Permit"). The Santa Monica BayKeeper is committed to protecting the environmental water quality for the Santa Monica Bay, San Pedro Bay, and adjacent coastal waters and watersheds.

For the reasons set forth below, the Santa Monica BayKeeper respectfully opposes the issuance of the Municipal Permit in its current form. In particular, the unincorporated and incorporated cities in the Los Angeles region whose stormwater discharges are covered by the Municipal Permit ("Permittees") have never submitted the information required by law under 40 CFR 122.26(d). This failure to satisfy the U.S. EPA's application requirements for stormwater discharge permits is a violation of law.

FEDERAL REGULATIONS FOR STORMWATER PERMITS REQUIRE CERTAIN INFORMATION BE PROVIDED BEFORE ISSUANCE OF A PERMIT

Under the 1987 reauthorization of the Clean Water Act (CWA), Congress directed, among other things, the EPA to develop permit requirements designed "to effectively prohibit non-stormwater discharges into storm sewers and controls to reduce the discharge of pollutants to the maximum extent practicable." [Vol. 132 Cong. Rec. HI0576 (daily ed. October 15, 1986) Conference Report]. In interpreting this requirement, the EPA carefully considered the stormwater permit application procedure, believing that each of the requirements mandated by 40 CFR 122.26 (d)

would most effectively meet the Congressional objectives underlying section 402 (p) (3)(B) of the CWA. [*See* 55 FR 47990]. The EPA's requirements in §122.26(d) are part of "a nationally consistent structure designed to create storm water control programs." [55 FR 47990, page 11]. Although there is flexibility within the permitting process itself, "each of the operators of municipal separate storm systems . . . shall comply with the application requirements of §122.26(d)." *Id.*

Section 122.26(d) details the mandatory application requirements necessary for issuing valid permits to operators of large and medium municipal storm sewer systems seeking to discharge storm waters. The EPA deliberately selected mandatory words such as "shall" and "must" to reflect the obligatory nature of the stormwater permit application requirements in 40 CFR 122.26(d). The compulsory language of the requirements under 40 CFR 122.26(d) states that "permit applications . . . **shall** include: (1) Part 1. Part 1 of the application **shall** consist of . . . (2) Part 2. Part 2 of the application **shall** consist of . . ." [40 CFR 122.26(d) (emphasis added).]

The language in §122.26(d) not only demonstrates the compulsory nature of the stormwater permit application requirements, it also is clear on its face and unambiguously written. Section 122.26(d)(2)(viii) states that the "Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph." In other words, the application requirements are mandatory. Moreover, the EPA specifically names the incorporated and unincorporated regions of Los Angeles, California, as a designated area subject to 122.26(d). 55 FR 47990, Appendix F and H. Thus, the RWQCB cannot exclude any Permittee from any of the permit application requirements under §122.26(d).

Even if, arguendo, the requirements of §122.26(d) are ambiguous, the EPA's intent behind the regulations makes clear that compliance with the permit application requirements is not optional. The EPA "**requires** municipalities to submit a two-part application" consistent with §122.26(d). 55 FR 47990, 24 (emphasis added). Moreover, the substantive requirements for stormwater permit applications have the force of law. "Substantive agency regulations have the force of law if authorized by Congress and promulgated to implement a statute." Mora v. Chem-Tronics, Inc., (1998) 16 F. Supp. 2d 1192, 1203. The stormwater permit application requirements in §122.26(d) should be strictly enforced because they constitute agency regulations pursuant to a grant of authority from Congress.

The federal regulations for stormwater permit issuance require that certain information be provided before a permit to discharge stormwater is issued. The Municipal Permit should not be issued until each of the Permittees submits a complete stormwater permit application, which satisfies all of the requirements under 40 CFR 122.26(d).

STAFF HAS FAILED TO COMPLY WITH THE APPLICATION REQUIREMENTS

Although the mandatory storm water permit application requirements articulated in 40 CFR 122.26(d) have been in effect since December 17, 1990, the RWQCB still fails to require that these obligatory provisions be satisfied before issuing the Municipal Permit. The enclosed attachments demonstrate that much of the information required by §122.26(d) is still missing

from the RWQCB's files. Also, the attachments demonstrate that staff at the RWQCB has failed to adhere to the EPA's application requirements for stormwater permits and has failed to require compliance with the clearly articulated and mandatory application requirements under §122.26(d). The Municipal Permit should not be issued until each of the Permittees has completely satisfied all of the provisions of 40 CFR 122.26(d). Based on document reviews pursuant to a Public Records Act request and conversations with Dr. Xavier Swamikannu, it is evident that the Permittees have never submitted a complete application for the Municipal Permit. See Attachments.

Despite this widespread noncompliance with the application requirements, the staff at the RWQCB defends its failed compliance with the law on three different grounds. First, the RWQCB staff relies upon a misinterpretation of *In re City of Irving, Texas* to contend that the §122.26(d) permit application "information can be developed during the permit term." *Summary of Comments and Regional Board Staff Response*, Oct 11, 2001 ("Response") Comment 2 . Second, the Response reveals the undue weight given by the RWQCB to the EPA's *Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems* ("Reapplication Policy"), 61 Fed Reg 41697. Finally, members of the RWQCB staff have made oral representations asserting that they are not bound to comply with 40 CFR 122.26(d) because they issued the first Municipal Permit before the U.S. EPA's regulations became effective. As demonstrated below, each reason offered by the staff for its continued noncompliance with §122.26(d) is unsound.

The RWQCB staff incorrectly cites *In re City of Irving*, NPDES Appeal No. 00-18, at 23 (EAB, July 16, 2001) in support of its position that compliance with §122.26(d) is not necessary because "information can be developed during the permit term." Response, Comment 2. In *Irving*, the City of Irving objected to language in its permit that required it to develop a Storm Water Management Program (SWMP). In that case, the Environmental Appeals Board (EAB) maintained that information for the SWMP could be developed after the permit was issued. The EAB states that "the permit serves as the rule by which the SWMP, over time, will be measured." *Id.* at 23. In their reading of *Irving*, RWQCB staff confuses permissive requirements of the SWMP with the mandatory requirements of the stormwater application process. While information for a SWMP may be permissive and developed during the permit term, the §122.26(d) mandatory application requirements for a stormwater permit are the basis for establishing the rule by which the SWMP will be measured.

In addition to utilizing a misinterpretation of *Irving* to defend its continued noncompliance with 40 CFR 122.26, the RWQCB's Response pays too great deference to the EPA's Reapplication Policy. The staff at the RWQCB "reviewed the reapplication and determined that it was consistent with USEPA's Reapplication Policy (61 FR 41697)". Response, Comment 2. However, the staff should not check for consistency by comparing the Municipal Permit to the policy articulated in the Reapplication Policy, but should check that the Municipal Permit application is consistent with the law under 40 CFR 122.26(d). The law is found in 40 CFR 122.26(d), not in the Reapplication Policy. In fact, *Edward Christensen v. Harris County*, (2000) 529 U.S. 576, 587, clarifies that "interpretations contained in policy statements . . . lack the force of law [and] do not warrant Chevron-style deference." Because the EPA's Reapplication Policy lacks the force of law found in 40 CFR 122.26 (d), the RWQCB should pay less attention to the Reapplication Policy than to the law written by the EPA in §122.26(d).

Not only does the Reapplication Policy not deserve the deference paid to it by the RWQCB staff, it does not make sense to apply the Reapplication Policy when required information has never been submitted. The Regional Board points to language in the Reapplication Policy, which states,

> "the permit application deadline regulations in 40 CFR 122.26 (e) (3) & (4) clearly reflect the 'one time' nature of the Part I & II application requirements . . . [that] should have been addressed in the initial application phase. Therefore to request the same information again, where it has already been provided and has not changed, would be needlessly redundant. Thus, as a practical matter, most first-time permit application requirements are unnecessary for purposes of second round MS4 permit application." (61 Fed Reg 41697, 41698).

However, where information in the initial permit application process is still lacking, as is clearly the case here, the Permitees should be required to supply that information as part of a subsequent application process.

Oral discussions with staff members reveal their final defense for failed compliance with 40 CFR 122.26(d). This final defense conflicts with the staff's Reapplication Policy defense found in the first half of the Response. The staff contends that it issued the first Los Angeles Municipal Stormwater Permit before §122.26(d) became effective. Therefore, it seems that staff believes that the requirements of §122.26(d) do not apply to this Municipal Permit. While the staff's oral representations deny the relevance of the §122.26(d) application process, the argument based on the Reapplication Policy maintains that the Municipal Permit is a reapplication. If the Reapplication Policy argument were correct and the Municipal Permit is a reapplication, then the Permittees must have been subject to the application requirements at some time after 40 CFR 122.26 (d) became effective. Yet, the RWQCB has never required that applications for stormwater discharge comply with the EPA's regulation under §122.26(d). For the Re-application Policy to apply, it seems clear that the Permittees should have been subject to §122.26 at some stage in the stormwater permitting process.

CONCLUSION

The RWQCB staff may argue that it selected application requirements that are superior to those of the CFR. Staff may argue that the requirements of the Los Angeles Municipal Permit better satisfy the purpose underlying the Clean Water Act by more effectively improving water quality for the Los Angeles region. The RWQCB staff may also contend that 40 CFR 122.26 (d) articulates mere suggestions for the storm water permit application procedure.

However, this argument fails because the language of the EPA regulation is mandatory and not permissive. While the RWQCB may have knowledge about the peculiarities of the Los Angeles storm water system, Congress appointed the EPA to establish overall stormwater permit standards, set forth in the CFR. The RWQCB does not have the discretion to select various portions of the law to follow while neglecting to follow other portions of the law. For these

reasons, we believe a permit cannot be issued until, all of the application requirements are satisfied.

We thank you for the opportunity to comment.

Sincerely,

Jessica Farthing
UCLA School of Law
Environmental Law Clinic

Michael Kawaguchi
UCLA School of Law
Environmental Law Clinic

cc: Steve Fleischli

ATTACHMENT A

REPORT OF FINDINGS
FROM REVIEW OF REGIONAL BOARD RECORDS

Review of Regional Board Records

1. The RWQCB Compliance Matrix was developed from the results of a record review conducted at the Los Angeles RWQCB (Regional Board) between October 22 and November 9, 2001.

2. Dr. Xavier Swamikannu and Carlos Urrunaga, from the Regional Board, provided assistance by answering questions and directing researchers to information related to the NPDES Stormwater permits.

3. The matrix reflects the information made available and currently on record at the Regional Board. This information was obtained through a Public Records Act request.

Report of Findings

1. The applicants to the 1990 NPDES Stormwater Permit (Initial Permit) did not provide a complete application to the Regional Board as required under 40 CFR 122.26(d).

2. The Los Angeles RWQCB issued the Initial Permit without having received a complete application from any of the permit applicants.

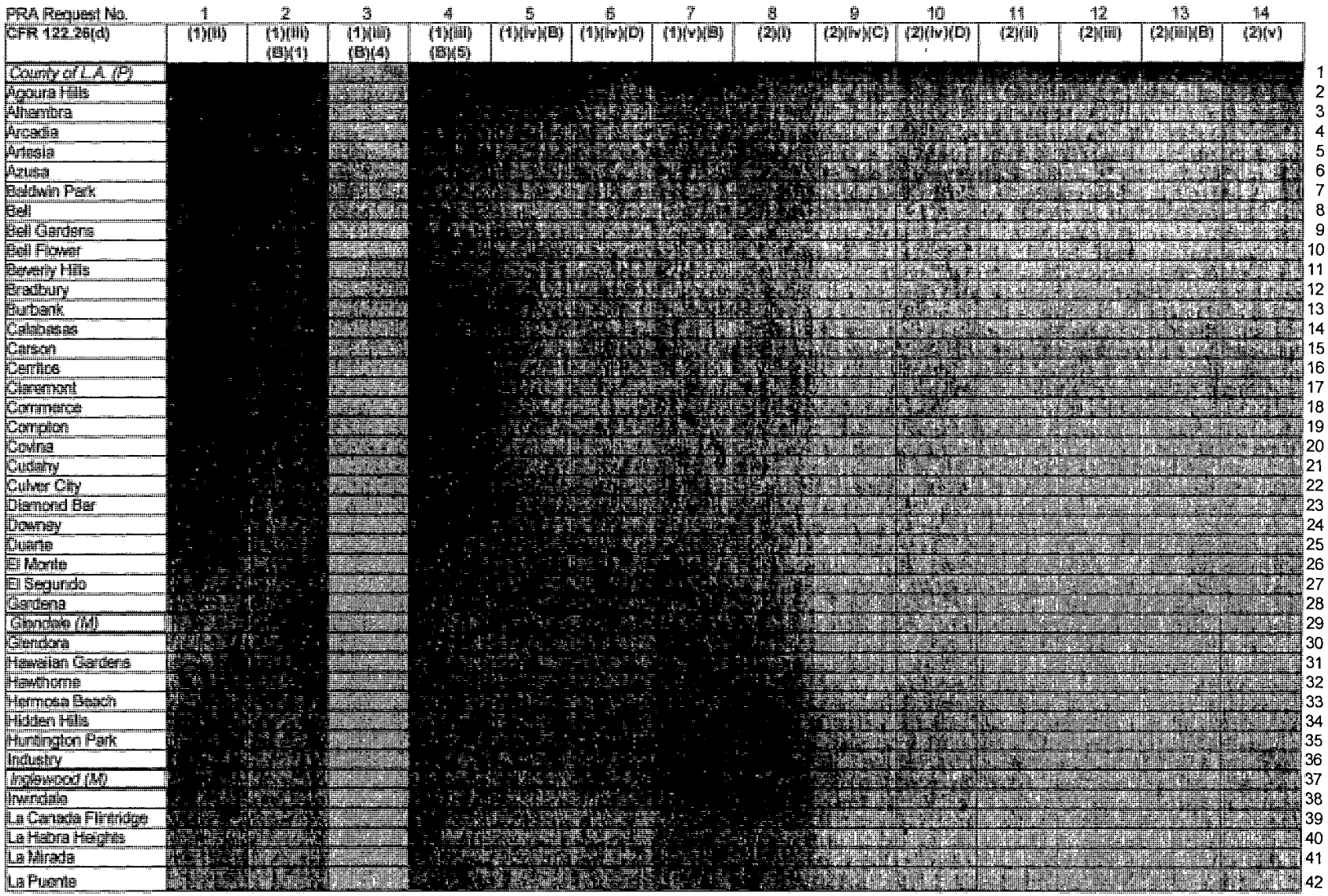
3. The Regional Board received a partial application from seventeen (17) of eighty-five (85) total permit applicants. No applications were submitted from the remaining sixty-eight (68) permit applicants prior to the issuance of the Initial Permit.

4. The Initial Permit went into effect on June 18, 1990, and preceded the Final Rules of the NPDES Phase I requirements that were promulgated on November 16, 1990.

5. The Regional Board has received permittee applicant information through requirements set under both the Initial Permit and 1996 Permit (Permit II).

6. Presently, there are requirements under CFR 122.26(d) that remain unfulfilled over a decade after approval of 40 CFR 122.26(d).

ATTACHMENT B



CFR Requirement has not been met.

CFR Requirement has been met.

CFR Requirement has not been fully met. Part of requirement is missing

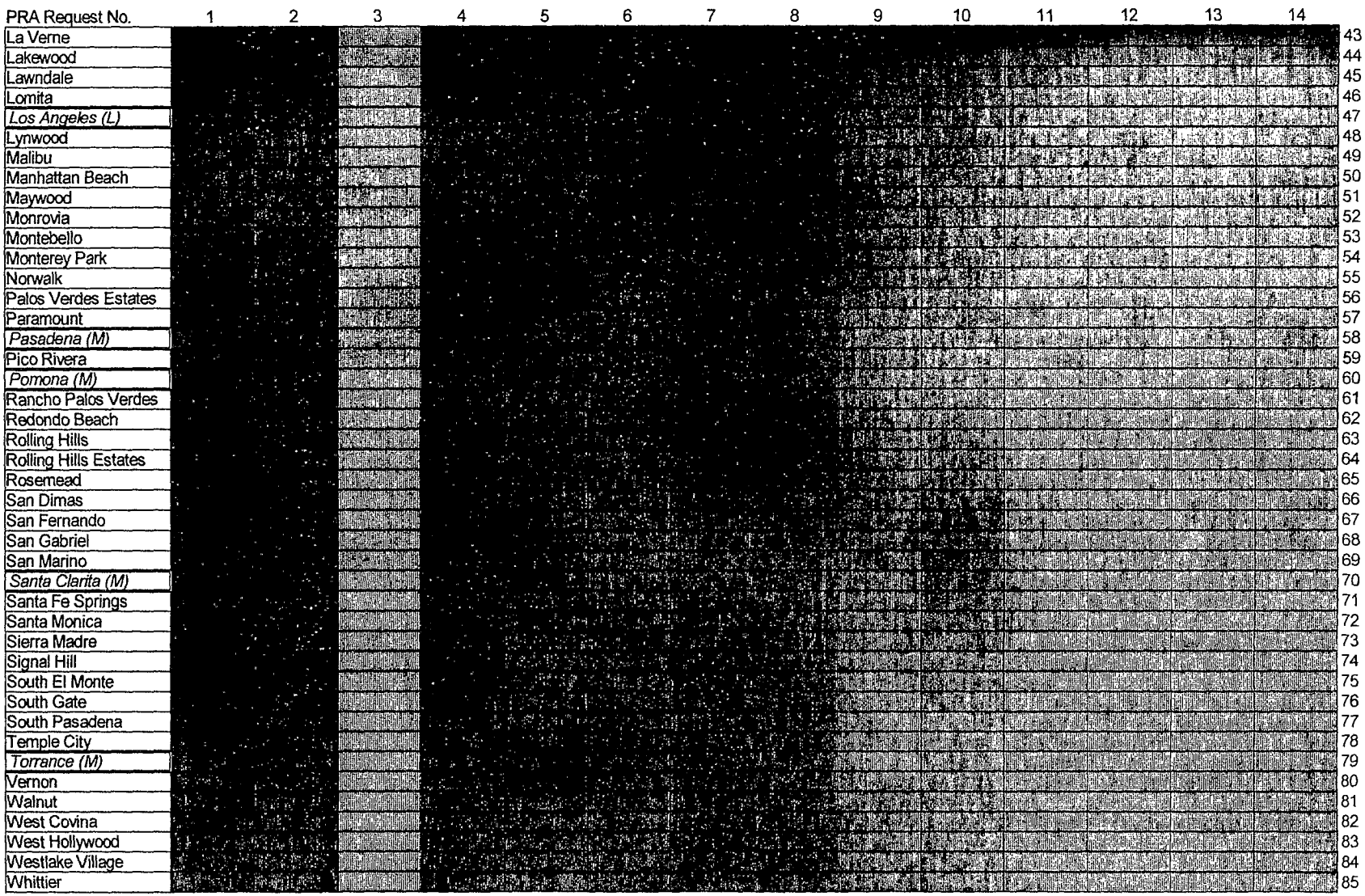
Medium (M) or Large (L) MS4s

The Regional Board has the information required by the regulation.

County of Los Angeles is the Principal (P) Permittee

R0006581

ATTACHMENT B



R0006582

ATTACHMENT C

MATRIX NOTES

Arranged by PRA Request No.

1. 40 CFR 122.26(d)(1)(ii). A description of Legal Authority.

   Compliance

   The Regional Board's records indicate that only seventeen (17) municipalities responded with their description of legal authority prior to issuance of the initial NPDES Stormwater permit of 1990 (Initial Permit). All permittees have since submitted Legal Authority to the Regional Board.

2. 40 CFR 122.26(d)(1)(iii)(B)(1). A map depicting the location of known municipal storm sewer system outfalls.

   Compliance

   The Regional Board requested but did not receive this information prior to the issuance of the Initial Permit. No record was found that L.A. County (County) or any of the Co-permittees provided a map of municipal storm sewer system outfalls prior to issuance of the Initial Permit. No record was found that the municipalities have since provided this information to the Regional Board. The County has gone forward with a plan to provide details of the municipal stormwater sewer system in the Regional Board's Geographic Information System (GIS). However, gaps are still present in the current system due to the unreliable and incomplete information from the older CAD system.

3. 40 CFR 122.26(d)(1)(iii)(B)(4). A map depicting the location and permit number of any known discharge to the municipal storm sewer that has been issued an NPDES permit.

   Compliance

   The Regional Board did not require this information prior to the issuance of the Initial Permit. No record was found that this requirement was met by any of the permittees. However, this information is maintained by the Regional Board in the Geographic Information System.

4. 40 CFR 122.26(d)(1)(iii)(B)(5). A map depicting the major structural controls for storm water discharges.

   Compliance

   The Regional Board did not require this information prior to the issuance of the Initial Permit. The County has this information available for the Board. No record was found that any of the co-permittees have complied with this regulation.

R0006583

5. 40 CFR 122.26(d)(1)(iv)(B). Existing quantitative data describing volume and quantity of discharges from the MS4.

   Compliance

   The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. No record was found that this requirement was met, except by L.A. County. Currently, the County collects this information using the Regional Board's standards of sampling techniques and data collection.

6. 40 CFR 122.26(d)(1)(iv)(D). Results of field screening analysis for illicit connections and discharges.

   Compliance

   The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. No record was found that confirms this requirement has been met by any of the permittees.

7. 40 CFR 122.26(d)(1)(v)(B). A description of existing programs to identify illicit connections to the MS4, including inspection procedures and methods for detecting and preventing illicit discharges.

   Compliance

   The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. The records do support a finding that all permittees have provided a description of existing programs since the issuance of the Initial Permit.

8. 40 CFR 122.26(d)(2)(i). A demonstration of Legal Authority to:
   (a) Control contribution of pollutants and quality of storm water discharge from industrial activity sites;
   (b) Prohibit illicit discharges;
   (c) Control discharge to a municipal separate storm sewer of spills, dumping, disposal;
   (d) Control pollutants from one portion of the municipal system to another portion;
   (e) Require compliance with the conditions of ordinances, permits, contracts or order; and
   (f) Carry out all inspection, surveillance, and monitoring necessary to determine compliance.

   Compliance

   The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. There are six provisions and none of the permittees have complied fully.

   (a), (b) and (c)

   Records indicate that all permittees have met these provisions.

R0006584

(d) No record was found that this provision has been met by any of the permittees. There was an earlier inter-agency agreement in the form of an MOU that has been abandoned. The Board has indicated that with the peculiar circumstances of a single region having 85 permittees under one permit, it is unlikely that such an agreement will ever be reached. The 3rd Draft of Permit III addresses this issue in the Findings section but does not set out such agreement language as a requirement.

(e) Difficult to assess. It is arguable that compliance is implicit in ordinances, permits, contracts or orders. If an affirmative statement that "compliance is mandatory" is required to be present in every municipality's Legal Authority, then most have failed this provision.

(f) No record was found that this provision has been met. The issue of whether it is consititutional to enter private property for the purposes of inspection or monitoring is ongoing.

9. 40 CFR 122.26(d)(2)(iv)(C). A description of a plan to monitor and control discharges from certain areas and facilities as set out in the regulation.

Compliance

The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. No record was found that these descriptions were submitted to the Regional Board by the permittees.

10. 40 CFR 122.26(d)(2)(iv)(D). A description of a program to implement and maintain BMPs for construction sites.

Compliance

The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. The records indicate that all permittees have since complied with a Model Program that includes this requirement.

11. 40 CFR 122.26(d)(2)(ii). Location of any major outfall not previously reported under these regulations.

Compliance

The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. No record was found to confirm that the municipalities have complied by giving L.A. County, as the principal permittee, or the Board the "location of any major outfalls...not reported under CFR 122.26(d)(1)(iii)(B)(1)."

R0006585

12. 40 CFR 122 26(d)(2)(iii) Characterization data.

Compliance

The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. The Board does have extensive sampling material that dates back to the Initial Permit. The County, as the principal permittee, has been conducting sampling under the Regional Board's evolving standards. No record was found to confirm that any of the co-permittees have conducted sampling or submitted characterization data as per this regulatory requirement.

13. 40 CFR 122.26(d)(2)(iii)(B). Annual pollutant loads, and event mean concentration of cumulative discharges from all identified outfalls.

Compliance

The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. L.A. County has submitted annual pollutant loadings and event mean concentration for the six Watershed Management Areas. No record was found to confirm that any of the municipalities have submitted annual pollutant loading data or event mean concentration of cumulative discharges.

14. 40 CFR 122.26(d)(2)(v). Estimated reduction in loadings of pollutants from discharges to the MS4.

Compliance

The Regional Board did not require or receive this information prior to the issuance of the Initial Permit. No record was found that indicates the Regional Board has ever received this information from any of the permittees.

R0006586

ATTACHMENT D

UNIVERSITY OF CALIFORNIA, LOS ANGELES UCLA

BERKELEY · DAVIS · IRVINE · LOS ANGELES · RIVERSIDE · SAN DIEGO · SAN FRANCISCO SANTA BARBARA · SANTA CRUZ

SCHOOL OF LAW
BOX 951476
LOS ANGELES, CALIFORNIA 90095-1476

October 11, 2001

Laura Gallardo
Associate Analyst
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Public Records Act Request

Dear Ms. Gallardo,

This Public Records Act request is made on behalf of the Santa Monica BayKeeper. Santa Monica BayKeeper is active in protecting and restoring the ecological health of the Santa Monica Bay and its habitats. Santa Monica BayKeeper is recognized as a section 501(c)(3) charitable organization by the Internal Revenue Service.

As used in this letter, 'records' includes any writing, picture, sound or symbol, whether paper, film, magnetic media or other document, relating to the public business, which is prepared, owned, used or retained by Los Angeles Regional Water Quality Control Board ("RWQCB"). Pursuant to the California Public Records Act, Government Code §§6250 et seq, we hereby request that the Los Angeles RWQCB provide access to and/or copies of the following records relating to the Los Angeles County Municipal stormwater NPDES permit (County Stormwater Permit) as soon as possible. This request covers not only information relating to Los Angeles County but to all municipalities currently regulated under the County Stormwater Permit:

1. A description of the existing legal authority of each and every municipal entity regulated under the County Stormwater Permit to control discharges to the municipal separate storm sewer. Where this authority is not sufficient to meet the requirements of inspection and monitoring under 40 CFR 122.26 (d)(2)(i), a description of additional authorities as will be necessary to meeting the criteria. See 40 CFR 122.26(d)(1)(ii).

2. A map depicting the location of known municipal storm sewer system outfalls within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit discharging to waters of the United States. See 40 CFR 122.26(d)(1)(iii)(B)(1).

R0006587

3. A map depicting the location and permit number of any known discharge to the municipal storm sewer within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit that has been issued an NPDES permit. See 40 CFR 122.26(d)(1)(iii)(B)(4).

4. A map depicting the major structural controls for storm water discharges (retention basins, detention basins, major infiltration devices, etc.) within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit. See 40 CFR 122.26(d)(1)(iii)(B)(5).

5. Existing quantitative data describing the volume and quantity of discharges from the MS4 within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit. See 40 CFR 122.26(d)(1)(iv)(B).

6. Results of field screening analysis for illicit connections and illicit discharges, including the necessary mapping and protocol requirements under 40 CFR 122.26(d)(1)(iv)(D). If the large or medium municipal separate storm sewer system is unable to comply with CFR122.26(d)(1)(iv)(D) (1) through (6), then we request the field screen mapping of at least 500 major outfalls as required under 40 CFR 122.26(d)(1)(iv)(D)(7).

7. A description of the existing programs within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit to identify illicit connections to the MS4, including inspection procedures and methods for detecting and preventing illicit discharges. See 40 CFR 122.26(d)(1)(v)(B).

8. 40 CFR 122.26(d)(2)(i). A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance, or series of contracts which authorizes or enables the applicant at a minimum to:

    a. Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

    b. Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

    c. Control through ordinance, order or similar means, the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

d. Control through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

e. Require compliance with conditions in ordinances, permits, contracts or orders; and

f. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition on illicit discharges to the municipal separate storm sewer.

9. A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities, that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm water sewer system. See 40 CFR 122.26(d)(2)(iv)(C).

10. A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit. See 40 CFR 122.26(d)(2)(iv)(D).

11. The location of any major outfall within the jurisdiction of each and every municipal entity regulated under the County Stormwater Permit that discharges to waters of the United States that was not reported under 40 CFR 122.26(d)(1)(iii)(B)(1), including an inventory of the name, address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge to the MS4 storm water associated with industrial activity. See 40 CFR 122.26(d)(2)(ii).

12. Characterization data as described by 40 CFR 122.26(d)(2)(iii), including sampling analysis for the listed organic, toxic and other pollutants.

13. Estimates of the annual pollutant loads from ALL identified outfalls and the event mean concentration of the cumulative discharges from all identified outfalls during a storm event for BOD, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead and zinc. See 40 CFR 122.26(d)(2)(iii)(B).

ATTACHMENT D

14. Estimated reductions in loadings of pollutants from discharges to the MS4 expected as a result of the municipal storm water quality management program. See 40 CFR 122.26(d)(2)(v).

Pursuant to Government Code §6256, please contact us regarding the availability of the information requested in this letter within ten days after receipt of this letter. To the extent that your office claims the right to withhold any record, or portion of any record, please describe with specificity each and every record or portion that is being withheld and the claimed reason for the exemption, citing the exact language of the Public Records Act on which you rely for that particular record.

Pursuant to code §6253(a), if any portion of the document is exempt by law, please delete or black out those potions of the records and provide us with the remainder of the documents. If any such deletions are made, please identify the general nature of the material deleted and the legal basis for such deletion.

As this request is by and for a public interest organization interested in the complete execution of all applicable laws for the protection of human health and the environment, we request a waiver of any and all costs associated with the satisfaction of this request. The RWQCB is required under prevailing law to consider this fee waiver request, and the failure to do so is an abuse of discretion subject to judicial review. See North County Parent Organization v. Department of Education (1994) 23 Cal.App.4th 144, 148. Please advise us of any informational and other procedural requirements that you may have in order for this request to qualify for a fee waiver. If you are unable to provide a fee waiver, please notify us immediately.

Our phone number is (310) 390-6717. We look forward to hearing from you.

Sincerely,

Jessica Farthing
Michael Kawaguchi
UCLA School of Law
Environmental Clinic
Box 951476
Los Angeles, CA 90095-1476
(310) 390-6717

cc: Xavier Swamikannu

COUNTY OF LOS ANGELES
DEPARTMENT OF HEALTH SERVICES
Public Health

FRED LEAF
Acting Director of Health Services

JONATHAN E. FIELDING, M.D., M.P.H.
Director of Public Health and Health Officer

Environmental Health
ARTURO AGUIRRE, Director
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Fifth District

November 13, 2001

TO: Xavier Swamikannu, D. Env.
Acting Storm Water Section Chief

FROM: Arturo Aguirre, Director
Environmental Health

SUBJECT: **THIRD DRAFT OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT**

This is in response to the Third Draft of the National Pollutant Discharge Elimination System (NPDES) Permit that was forwarded to this Department for review and comments.

The Los Angeles County Flood Control District has been designated as the Principle Permittee with the responsibility of implementing the requirements of this permit. However, the requirements of this permit will involve Environmental Health inspections of restaurants to determine that Best Management Practices (BMPs) are in effect.

To this end, the following changes should be incorporated into NPDES Tentative Permit:

Page 31:

3. **Restaurants**

The Permittee, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that the following storm water BMPs are being implemented.

a) Frequency: The Permittee shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall ~~confirm~~ determine that ~~BMPs are effectively~~

~~implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP~~ restaurants are in compliance with the California Uniform Food Facilities Law (CURFFL) that ensures the following BMPs are implemented. See CURFFL Sections 114035, 114040, and 114100.

c) Restaurants shall be inspected to verify that these BMPs are in place:

(1) Food oil and grease residue is ~~not poured onto a parking lot, street or adjacent catch basin;~~ properly disposed of in a sanitary manner and is not poured onto the restaurant parking lot or premises. Section 114035.

(2) The trash bin area is clean, the trash bin lid is closed, ~~not filled with liquid or washed out;~~ and the trash bin is not leaking liquid waste. Section 114035.

(3) ~~Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no waswater is poured in those areas;~~

All liquid waste including wash water from floormats, filters and garbage containers shall be disposed of through the plumbing system that shall discharge into public sewerage or into an approved private sewage disposal system. Section 114100.

(4) ~~Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.~~

The restaurant premises (including the parking lot) shall be kept clean and free of litter and rubbish; all such litter and rubbish shall be disposed of in a sanitary manner. Sections 114040 and 114035.

d) ~~Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.~~

Educational materials shall be distributed to facility owners/operators on storm water pollution prevention practices when the Public Health Permit is issued.

The Department of Health Services is supportive of this effort; however, additional funding will be required to cover the additional duties and responsibilities needed to address the stormwater issues of facilities under the jurisdiction of Environmental Health.

If you have any questions or need additional information, please let me know.

FL:byl

c: Chief Administrative Officer
John F.Schnhoff, Ph.D.
James A. Noyes, Director of Public Works

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
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JAMES F. STAHL
Chief Engineer and General Manager

November 13, 2001
File No.: 31-370.10

Dr. Xavier Swamikannu
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

Dear Dr. Swamikannu:

Draft Order No. 01-XXX (NPDES No. CAS004001)
Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach

The County Sanitation Districts of Los Angeles County (Districts) have reviewed the Third Draft (October 11, 2001) *Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach* (Draft Permit). Below are our comments:

- **Treatment Feasibility Study**

  The Draft Permit requires the Permittees, in cooperation with the Districts, to conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows which may impact public health and safety and/or the environment. In addition, the Permittees are required to collectively review their individual prioritized lists and create a watershed-based priority list of drains for potential diversion or treatment; this watershed based priority list shall be submitted to the Regional Board by July 1, 2002. The Districts are concerned that this short time frame may not allow the completion of these two resource intensive tasks, which will require considerable investigative work covering a 1619 square mile area, and which will required the Districts to work with at least 77 individual cities. The Districts request that a more reasonable deadline be specified to coordinate this massive effort (e.g., March 31, 2003, as recommended in our previous comment letter dated August 6, 2001, regarding the Second Draft Permit).

- **Sewage Systems Maintenance, Overflow, and Spill Prevention**

  The Draft Permit includes numerous requirements for sewage system maintenance and prevention of overflows and spills. The Districts request that this requirement be revised to clarify that permittees would not be penalized if a spill occurs and enters the MS4, but is contained in the MS4 and prevented from reaching the receiving waters.

Recycled Paper

- **Use of Collected Data**

  The Districts request that the Regional Board be more specific and include details in the Permit on how monitoring data will be used in assessing the effectiveness of an urban runoff management program. The Districts believe that some of the monitoring requirements are excessive. The primary goal of collecting monitoring data should be to determine the performance or effectiveness of the BMPs. Thus, the monitoring program should be tailored to address BMP effectiveness. For example, various sites should be selected within each land use category and monitored for only those pollutants that can reasonably be expected to be present. Water quality data should be collected and compared with respect to BMPs used at each site. Results can then be used for determining the effectiveness of BMPs and perhaps setting future policies and standards.

  Furthermore, the Districts are also concerned that the Draft Permit may not include appropriate "safe harbor" language particularly for alleged exceedances of water quality objectives. Thus, even if appropriate BMPs were implemented to control pollutants "to the maximum extent practicable," cities may still be subject to enforcement actions and/or fines.

The Districts appreciate the opportunity to comment on the Third Draft Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach. If you have any questions or concerns regarding the information, please contact June Nguyen at (562) 699-7411, extension 2831.

Very truly yours,

James F. Stahl

Jose A. Saez

Jose A. Saez
Supervising Engineer
Monitoring Section

JAS:JN:drm

cc: Dennis Dickerson - LARWQCB

L: NGUYEN\stormwater\municipal permit\comments to third draft municipal permit.wpd:01.11.13

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

November 8, 2001

Mr. Xavier Swamikannu, D.Env
Chief, Los Angeles/Long Beach Storm Water Unit
Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

FEDERAL EXPRESS

Dear Mr. Swamikannu:

Comments on the October 11, 2001 Tentative Draft – Los Angeles County Municipal Storm Water NPDES Permit (NPDES Permit No. CAS004001)

The Metropolitan Water District of Southern California (Metropolitan) appreciates this opportunity to provide comments to the Los Angeles Regional Water Quality Control Board (RWQCB) on the October 11, 2001 Tentative Draft of the Renewal of the Los Angeles County Municipal Storm Water NPDES Permit CAS004001 (tentative draft permit). Metropolitan distributes wholesale water obtained from the Colorado River and Northern California through 26 member agencies (cities and water districts) and serves more than one-half of the water used by approximately 17 million people in the 5,200 square-mile coastal plain of Southern California. To provide this service, Metropolitan operates an extensive system of water conveyances, reservoirs, and water treatment plants that require periodic maintenance dewatering. The comments herein reflect Metropolitan's views and concerns as an affected water agency.

Metropolitan is supportive of the Los Angeles RWQCB's Storm Water Program to minimize the discharge of pollutants to storm water within the County of Los Angeles. We attended the public workshops on April 24, 2001 and July 26, 2001 regarding renewal of this permit and previously participated in the Los Angeles County Municipal Storm Water Permit development process for the permits that were adopted in 1990 and 1996. Additionally, because of Metropolitan's wide distribution area, we have also participated in the recent Municipal Storm Water Permit reissuance processes for Orange County, San Bernardino County, Ventura County and San Diego County. We are providing these comments on behalf of Metropolitan and our member agencies in order to ensure that the Los Angeles County Municipal Storm Water NPDES Permit continues to allow water agencies to release non-storm water discharges that are critical for maintenance and also to meet compliance requirements to provide a safe drinking water supply for Southern California.

As a wholesale drinking water provider, Metropolitan wants to ensure that the tentative draft permit continues to allow water agencies to release non-storm water discharges from water line

flushing and other dewatering activities to the storm drain system, as currently allowed under the existing Los Angeles County Municipal Storm Water Permit. These types of discharges are critical because Metropolitan must routinely dewater pipelines and water storage facilities for the purpose of maintenance, repair, and pressure-relief, and also to comply with the requirements of the Federal Safe Drinking Water Act and Title 22 of the California Code of Regulations. Discharges from the processing of drinking water are unavoidable and are an integral part of the normal operation of water treatment plants and conveyance systems. Metropolitan's ability to properly maintain our pipelines and treatment and distribution facilities is necessary to ensure a safe, reliable, and adequate water supply.

Metropolitan appreciates the changes that were made from the second draft of the permit regarding "potable drinking water supply and distribution system releases". The revised wording in the tentative draft permit [page 16, Part 2 (2)(c)(2)] now more accurately describes the types of water supplier discharges. However, there are still some significant differences between the existing permit and the tentative draft permit that present a few concerns for Metropolitan and other water suppliers. These issues are discussed further below along with recommendations.

The following table compares the existing Los Angeles County Municipal Storm Water Permit (adopted July 15, 1996) with the October 11, 2001 tentative draft permit regarding allowable discharges from water agencies in order to highlight the issues of concern discussed below.

Existing Permit (Order No. 96-054, adopted July 15, 1996)		**Tentative Draft Permit** (NPDES CAS004001, Oct. 11, 2001 tentative draft)	
II. Illicit Connections and Illicit Discharges C. Non-Storm Water Discharges 2. Conditionally Exempted Discharges (page 27 of Order No. 96-054)	(c) Potable water sources provided the discharges are managed in accordance with an approved Industry-wide Standard Pollution Prevention Practices developed by the American Water Works Association, California-Nevada Section, **or equivalent document**; and in compliance with any requirements established by the Permittee(s);	Part 2 Discharge Prohibitions (2) (c) Category C - Flows incidental to urban activities (page 16 of tentative draft permit NPDES CAS004001)	(2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination / debromination and suspended solids reduction practices);

Issue # 1:
The existing permit allows water agencies to discharge potable water sources provided "...the discharges are managed in accordance with Industry-wide Standard Pollution Prevention Practices developed by the American Water Works Association, California-Nevada Section, **or equivalent document**; and in compliance with any requirements established by the Permittee(s);".

In contrast, the tentative draft permit only allows water agencies to discharge water supply and distribution system releases "... (consistent with American Water Works Association guidelines for dechlorination/debromination and suspended solids reduction practices)". The tentative draft permit solely references American Water Works Association (AWWA) guidelines and does not allow use of an equivalent document although the existing permit does. By removing this option of using an equivalent document to ensure that discharges meet all applicable best management practices (BMPs), water agencies are limited to the types of BMPs they can utilize. This also limits flexibility to take advantage of new BMPs or technology advances that may occur within the five-year timeframe of this tentative draft permit once it is adopted. In fact, the AWWA Guidance Manual for Disposal of Chlorinated Water suggests that further work is required to develop BMPs.

Additionally, the AWWA Guidance Manual for Disposal of Chlorinated Water only addresses dechlorination and does not include any guidance on dibromination (refer to Issue # 2 below) or suspended solids reduction practices. Therefore, guidelines from an equivalent document are necessary to ensure that effective suspended solids reduction practices can be implemented.

Recommendation:
In order to allow water agencies the flexibility to take advantage of new BMP developments and technology advances and to address suspended solids reduction practices in discharges, it is recommended that the language in the tentative draft permit be revised to allow the following:

Category C – Flows incidental to urban activities:

(2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines, or equivalent document, for dechlorination and suspended solids reduction practices);

Issue # 2:
The tentative draft permit allows water agencies to discharge water supply and distribution system releases "... (consistent with American Water Works Association guidelines for dechlorination/debromination and suspended solids reduction practices)". The inclusion of debromination practices would indicate that bromine is used in potable drinking water supply systems and therefore debromination is necessary. However, Metropolitan has no knowledge of any water agencies in Los Angeles County using bromine as a disinfectant. In fact, according to AWWA[1], "Bromine has been used in swimming pools for disinfection and in cooling towers, but its use in drinking water has not been recommended." It therefore appears that this reference to debromination is not applicable to water supply and distribution system releases.

[1] F. W. Pontius, *AWWA Water Quality and Treatment, A Handbook of Community Water Supplies*, 4th ed., American Water Works Association, Denver, CO, 1990, p. 98

Recommendation:
Delete the reference to debromination because it is not applicable or relevant to potable drinking water supply and distribution releases. Bromine is not known to be used as a disinfectant for potable drinking water systems.

Issue # 3:
The tentative draft permit includes the following definition:

> "*Potable Water Distribution Systems*" means sources of flows from drinking water storage, supply and distribution systems including, but not limited to, flows from system failures, pressure releases, system maintenance, well development, pump testing fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

This definition does not actually define what a potable water distribution system is, but instead defines the types of various releases from potable water supply and distribution systems..

Recommendation:
To better clarify terms used in the tentative draft permit, it is recommended that the definition of " *Potable Water Distribution Systems*" be revised to define releases from water supply systems as follows:

> "*Potable Drinking Water Supply and Distribution System Releases*" means sources of flows from drinking water storage, supply and distribution systems including, but not limited to, flows from system failures, pressure releases, system maintenance, well development, pump testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

If you have any questions regarding these comments, or if we can be of further assistance, please contact Joyce T. Clark at (213) 217-5593 (e-mail: jtruhan@mwdH2O.com).

Very truly yours,

Jill T. Wicke
Manager, Water System Operations

JTC/sp-R01-248

SOUTHERN CALIFORNIA WATER COMPANY
A Subsidiary of American States Water Company
630 EAST FOOTHILL BLVD • SAN DIMAS, CALIFORNIA 91773 • (909) 394-3600 • FAX (909) 394-0711

November 8, 2001

Mr. Dennis A. Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

LOS ANGELES REGION

Subject: **Comments on Final Draft *(October 10, 2001)***
NPDES No. CAS004001
County of Los Angeles Municipal Storm Water NPDES Permit

Dear Mr. Dickerson:

The Southern California Water Company (SCWC) appreciates your responses to our comments on the second draft and the opportunity to comment on the Final Draft (October 10, 2001) of the County of Los Angeles Municipal Stormwater NPDES Permit. As a major potable water purveyor throughout California, SCWC operates 12 water systems in Los Angeles County and provides potable water service to more than 500,000 persons.

As a major potable water purveyor, we must provide continuous, reliable supply to our customers and the water we serve must meet all drinking water standards. Many operational and maintenance activities are therefore important to ensure the continuous and reliable operation of our facilities. The water from these activities meets drinking water standards. All activities are carried out in accordance with industry-wide water works standards. Any chemical we use must meet NSF certification for drinking water purposes. Most of discharges pose an insignificant (De Minimus) threat to water quality within the basin.

We noticed that the RWQCB has incorporated our comments (on the 2nd Draft) in the current version. For the current version, we have comments on the following three issues:

1. Debromination

Under Part 2, Section II, 2., c) of the current draft:

"The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges are:

...

(2) Potable water supply and distribution system release (consistent with AWWA guidelines for dechlorination/debromination and suspended solids reduction practices):"

For potable water supply, we use various chlorine for disinfection but not bromine. So debromination does not apply.

R0006599

2. Permittee coverage for Private Water Utilities

In the existing permit (Order 96-054) under Findings, Item 9, the permit discussed the coverage:

"For those entities within the Permittees' boundaries, the Regional Board may consider designating them as Permittees under this Order or issuing separate NPDES permits consistent with this Order...."

As you know, private water utilities are not on the list of Permittees although the nature and operation of the water systems are the same as Cities. It is noted in the current draft that it does not have a similar statement as in the old permit. Based on our understanding, the private utilities will report to LA County for similar coverage. Please verify the coverage.

3. Potable Water Definition and Coverage

Under Part 6. Definitions,

"Potable Water Distribution Systems means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults and wells."

It seems the intent here is to include most (if not all) O&M activities for potable water system as long as they are potable. Another critically important maintenance activity is well maintenance, and it is requested that you incorporate *well maintenance* into the above, which is associated with well development activity.

We appreciate your careful consideration of these comments.

If you have any questions, please contact me at 909.394.3600 ext. 624 or Dr. Jason Wen at 562.907.9200 ext. 402.

Very truly yours,

William C. Gedney

William C. Gedney
Water Quality and Environmental Manager

cc: File
J. Wen
K. Cohen
J. Dickson
D. Kruger

UPPER LOS ANGELES RIVER AREA WATERMASTER

CITY OF LOS ANGELES VS. CITY OF SAN FERNANDO, ET AL
CASE NO. 650079 -- COUNTY OF LOS ANGELES

MELVIN L. BLEVINS -- WATERMASTER

OFFICE LOCATION:
111 North Hope Street, Room 1472
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2001 NOV 15 P 2:29

MAILING ADDRESS:
ULARA WATERMASTER
P.O. Box 51111, Room 1472
Los Angeles, CA 90051-0100

November 9, 2001

Dr. Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Dr. Swamikannu:

Comments on October 11, 2001 DRAFT
National Pollutant Discharge Elimination System (NPDES) Permit

This is in response to your request for comments on the October 11, 2001 DRAFT of the Los Angeles County Municipal Storm Water NPDES Permit. My letter dated July 27, 2001 (copy enclosed) expressed my concern over infiltration of untreated, contaminated storm water into the potable groundwater supply. I am still concerned by these provisions of the NPDES Permit, and I noticed in the latest DRAFT a continued effort by the Los Angeles Regional Water Quality Control Board (Regional Board) to promote unmonitored infiltration as a remedy to reduce surface water contamination.

Specifically, Item 6 on Page 3 states that "Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process." Further, "...urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance waste, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants."

It is precisely this kind of pollution that we are attempting to keep out of our groundwater basins. There are no restrictions in the DRAFT on the quality of infiltrated runoff, nor are there any requirements for testing or treatment prior to infiltration. Furthermore, soil aquifer treatment is not always effective, and the capacity of the soil to adsorb non-biodegradable contaminants is not limitless.

That is why the Watermaster Office has been very active in the Water Augmentation Study of the Los Angeles and San Gabriel Rivers Watershed Council. Through various demonstration projects involving the infiltration of storm water and monitoring the effects on groundwater, we hope to prove the efficacy of using infiltration as a way to clean up storm water while enhancing the conjunctive use of our groundwater basins.

However, our understanding of soil aquifer treatment is far from complete, and infiltrating contaminated runoff may, in some cases, result in simply transferring the problem from one medium to another. For municipalities that rely on groundwater for their supply, out of sight is not out of mind.

I urge you to reconsider all provisions in the NPDES permit requirements that mandate, or even allow, the unrestricted infiltration of contaminated runoff into potable groundwater supplies. Our groundwater basins are fragile and valuable. We should not treat them with any less care than surface water resources.

If you have any questions, please contact me at (213) 367-1020.

Sincerely,

MELVIN L. BLEVINS
ULARA Watermaster

Enclosure

c: Administrative Committee Members
Mr. Fred Lantz, City of Burbank
Mr. Michael Sovich, Crescenta Valley Water District
Mr. Michael Drake, City of San Fernando
Mr. Donald Froelich, City of Glendale
Mr. Thomas M. Erb, City of Los Angeles

Mr. Dennis Dickerson, Regional Board
Mr. H. David Nahai, Regional Board
Ms. Francine Diamond, Regional Board
Ms. Susan M. Cloke, Regional Board
Mr. Robert L. Miller, Regional Board
Mr. Bradley H. Mindlin, Regional Board
Mr. Christopher C. Pak, Regional Board
Mr. Timothy J. Shaheen, Regional Board

Mr. Ernest Wong, LADWP

Watermaster Staff
Mr. Melvin L. Blevins, Watermaster
Mr. Frederic Fudacz, Special Counsel
Mr. Mark G. Mackowski, Assistant Watermaster
Ms. Patricia T. Kiechler, Administrator

WSPA
Western States Petroleum Association
Western States Petroleum Association
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2001 NOV 13 P 4:23

November 13, 2001

Dr. Xavier Swamikannu
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: WSPA Comments on the October Draft NPDES Stormwater Permit for Los Angeles County (NPDES No. CAS614001)

Dear Dr. Swamikannu:

The Western States Petroleum Association ("WSPA") appreciates the opportunity to submit comments on the Regional Board's October 11, 2001 draft of the proposed Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges in Los Angeles County (NPDES No. CAS614001) (the "Draft Permit"). WSPA is a trade association representing approximately thirty companies engaged in all aspects of exploration, production, refining, transportation and marketing of petroleum and petroleum products in the Western United States. WSPA continues to be concerned that subjecting retail gasoline outlets ("RGOs") to the structural treatment requirements contained in the Draft Permit does not comply with State Board Order No. WQ 2000-11 ("State Board Order"), will impose significant unnecessary costs and expenses on WSPA members without a demonstrable environmental benefit, and may, in fact, result in unintended safety risks or harm to the environment.

The State Board Order requires "proper justification" before imposing structural treatment requirements on RGOs. *State Board Order No. WQ 2000-11*, p. 23. The "Technical Report"[1] prepared jointly by staff of the Los Angeles and San Diego Regional Boards fails to provide the necessary justification.

On June 15, 2001, WSPA submitted comments asserting that imposition of the structural treatment requirements on RGOs exceeds the Maximum Extent Practicable ("MEP") standard, violates the State Board Order and Section 13360 of the California Water Code ("CWC"), is overly broad, and constitutes an unfunded mandate. In addition, WSPA asserted that the Los Angeles Regional Water Quality Control Board ("Regional Board") failed to adequately evaluate economic considerations and has not satisfied the requirements of the California Environmental

[1] Radulescu, et. al., *Technical Report, Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, June 2001.

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Quality Act ("CEQA") and the California Administrative Procedures Act ("APA"). WSPA also submitted comments dated August 6, 2001 relating to the sufficiency of the Technical Report as "proper justification" for the re-inclusion of RGOs in the structural treatment requirements. Our August 6, 2001 comments also included an analysis of the Technical Report conducted by Mr. Timothy Simpson of Geomatrix Consultants. Inc. ("Geomatrix Report"), and a copy of a recent study conducted by the California Department of Transportation ("Caltrans Report")[2] on the efficiency and costs associated with the same types of structural treatment devices required by the Draft Permit. Because these previous comments, including testimony provided by WSPA at the July 26, 2001 workshop, remain applicable, we hereby incorporate these materials by reference. Please include this letter and all previous correspondence, including the Geomatrix Report and Caltrans Report, in the administrative record for these proceedings.

COMMENTS

1. Stormwater Pollution at RGOs is Best Controlled By Implementation of the Task Force BMPs.

WSPA remains convinced that the best means to control storm water pollution at RGOs is through the implementation of the best management practices ("BMPs") for RGOs published by the California Storm Water Quality Task Force in March 1997 (the "Task Force BMPs"). The stated purpose of the Task Force BMPs is to assist municipal agencies and RGOs in attaining compliance with storm water regulations. By controlling potential sources of storm water pollution from RGOs at their source, the Task Force BMPs will prevent and/or reduce pollution in a safer, more efficient and more cost-effective manner than the structural treatment controls required by the Draft Permit.

There is no evidence in the record that RGOs implementing the Task Force BMPs present a storm water pollution problem. The State Board Order directed the Regional Board to require implementation of all of the Task Force BMPs, stating that these source control measures may be adequate to achieve the MEP standard at RGOs. *State Board Order No. WQ 2000-11*, pp. 22-23.[3] In addition, the draft State Board Order relating to the San Diego County Municipal Storm

[2] *"Performance Evaluation of Structural BMPs: Drain Inlet Inserts and Oil/Water Separators,"* by Othmer, Edward et al. (May 2001).

[3] Notably, this Regional Board found that implementation of the Task Force BMPs was adequate to meet the MEP standard in the Municipal Storm Water Permit for the City of Long Beach (Order No. 99-060, NPDES No. CAS004003, p. 18). There is no evidence in the record or otherwise which shows that RGOs present a storm water pollution problem that cannot be managed by implementation of the Task Force BMPs.

Water Permit (San Diego Regional Board Order No. 2001-01, NPDES No. CAS0108758) adopts the iterative approach.[4]

> "[W]here urban runoff is causing or contributing to exceedances of water quality standards, it is appropriate to require improvements to BMPs that address those exceedances. While we continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvements of BMPs, is appropriate." *Draft State Board Order No. WQ 2001-XX*, p. 9. (Emphasis added.)

The State Board only recently required implementation of the Task Force BMPs which were specifically developed to help municipalities and RGOs attain compliance with water quality standards. There is no evidence in the record to suggest that RGOs implementing the Task Force BMPs cause or contribute to exceedances of water quality standards. Under the State Board's iterative approach, the Regional Board should first assess the sufficiency of the Task Force BMPs before requiring additional controls which pose unique problems at RGOs due to the possibility of gasoline spills that are not within the control of the RGO operator.

Consistent with the State Board's iterative approach, and absent any evidence that RGOs implementing all of the Task Force BMPs present a storm water pollution problem, WSPA requests that the Regional Board exclude RGOs from the application of the structural treatment requirements.

2. The Technical Report Fails to Provide "Proper Justification" as Required by the State Board Order.

To comply with the State Board Order, the Regional Board must provide "proper justification" that the numeric design criteria meets the MEP standard. Staff has prepared a Technical Report that purports to provide this justification; however, an analysis of this report indicates that it is wholly inadequate to either support a finding that RGOs present a water pollution problem that cannot be remedied through the use of the Task Force BMPs, or to demonstrate the appropriateness and effectiveness of infiltration and/or structural treatment controls for RGOs.

The most glaring deficiency of the Technical Report is that it fails to assess the efficiency of the Task Force BMPs. Unlike some other priority categories identified by Staff, the Task Force BMPs are specifically tailored to address storm water pollution at RGOs. The Technical Report doesn't even acknowledge the existence of the Task Force BMPs, let alone assess their effectiveness. WSPA believes that this omission is unacceptable, and contrary to the iterative

[4] The Draft Order is scheduled for adoption by the State Board on November 15, 2001.

approach recently supported by the State Board. The Task Force BMPs serve the same purpose as the treatment devices by reducing pollutants contained in storm water runoff that is discharged from the facility, and nothing in the Technical Report suggests, let alone demonstrates, that the Task Force BMPs are not appropriate or effective. Because the Technical Report fails to consider this necessary aspect, it cannot constitute "proper justification" as required in the State Board Order.

In addition to this obvious deficiency, the Technical Report does not support Staff's position because it cites inapplicable studies, mischaracterizes their findings, and fails to address or even recognize the substantial evidence contradicting Staff's position.[5] First, the Technical Report characterizes RGOs as toxic hotspots to justify the use of structural treatment devices; however, none of the studies cited as supporting this finding assessed storm water runoff from RGOs that were implementing the Task Force BMPs.[6] In fact, in an egregious mischaracterization, the Technical Report cites a Santa Monica Bay study as supporting the proposition that discharges from RGOs are significant contributors of toxicity in the Santa Monica Bay. However, that study does not speculate as to the source of toxicity, and certainly does not support a finding that storm water runoff from RGOs, let alone runoff from RGOs implementing the Task Force BMPs, is the cause.

There continues to be no evidence that RGOs implementing the Task Force BMPs present storm water pollution problems. The only support for a broad statement in the Technical Report that "existing BMPs do not address pollutants generated by motor-vehicle traffic" is Staff's own self serving statement at the State Board hearing.[7] However, this statement is simply false. As the Geomatrix Report describes, the presence of heavy metals in storm water is correlated with sediment. *Geomatrix Report*, p. 6. Regular sweeping, one of the Task Force BMPs required by the State Board, is effective at reducing sediment, and therefore, will be effective at reducing heavy metals in storm water runoff from RGOs.

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[5] A complete summary of our analysis of the Technical Report is provided in our August 6, 2001 comment letter and attached Geomatrix Report.

[6] The Technical Report relies on several studies to suggest that storm water from RGOs are a significant source of pollutants; however, in the case of the Rouge River study, no source control BMPs were being employed. As to the other studies, including a WSPA study, the Task Force BMPs were not being employed because they did not exist at the time the studies were performed. WSPA believes that these studies are not sufficient to support a finding that RGOs implementing the Task Force BMPs present a storm water pollution problem.

[7] Footnote 12 of the Technical Report cites to Staff's own testimony. However, the Technical Report points to no additional data that would support such a finding.

Finally, the Technical Report ignores the substantial information that contradicts Staff's findings that structural treatment devices are effective. The Technical Report primarily cites two studies as supporting the effectiveness of structural treatment devices. The first, the Rouge River study, simply performed an analysis of accumulated debris and filter media at an RGO that was specifically instructed not to use any BMPs rather than sampling actual storm water discharges. Merely sampling filter media at a facility employing no source control measures is not an accurate measure of the effectiveness of these devices at RGOs employing the Task Force BMPs. Staff cites a second study, conducted at a large RGO in Washington, as also supporting its position that these devices are effective. However, not only does the Technical Report overstate the results of this study, it fails to mention that this study actually showed a net increase in the export of oil and grease and nutrients, suggesting that the use of these devices may result in unintended environmental impacts.

Staff has also completely ignored the numerous other studies which have found these devices to be ineffective and costly to maintain due to well documented problems with clogging and flow bypass. Most recently, Caltrans conducted a study of these very same filter devices finding that removal efficiencies ranged between 5.8% and 17.8% for hydrocarbons, total suspended solids, copper, lead and zinc.[8] In addition, the Caltrans study reported maintenance costs of $15,000 per year, considerably more than the $250 to $900 per year estimate contained in the Technical Report. Staff has simply chosen to ignore this contradictory information because it doesn't suit its purposes. Such an approach of selectively using information does not constitute "proper justification," especially when the Technical Report fails to point to any information to support the conclusion that the Task Force BMPs are inadequate or ineffective in preventing water quality impacts due to storm water runoff from RGOs.

3. The Regional Board Conducted No Independent Analysis in Determining Appropriate Sizing Criteria

To the extent that the Regional Board persists in attempting to mandate structural treatment controls for RGOs, the Regional Board must make a closer examination of an appropriate threshold for this requirement. The Technical Report suggests the following criteria: "(i) creates 5,000 square feet or more of impervious surface; and (ii) has a projected trip generation of 100 or more motor vehicles ADT." *Technical Report*, p. 9. Use of these criteria are so overbroad that it would cover virtually every RGO in Los Angeles county which will be constructed or remodeled.

[8] *"Performance Evaluation of Structural BMPs: Drain Inlet Inserts and Oil/Water Separators,"* by Othmer, Edward et al. (May 2001).

The Regional Board appears to take these criteria from regulations in Washington and Oregon without any further analysis or justification.[9] To the extent that the Regional Board intends to apply a threshold to RGOs, such a threshold must be chosen based on independent justification and analysis, rather than simply parroting language used in a different regulation of another state. WSPA is unaware of any independent analysis of the average daily traffic at RGOs in Los Angeles undertaken by the Regional Board, any studies which show that storm water runoff at stations above 5,000 square feet and 100 cars per day requires additional treatment beyond application of the Task Force BMPs, or any independent analysis that installation of structural treatment controls at facilities of this size is feasible given the presence of large underground storage tanks and other subsurface piping and equipment.

To the extent that the Regional Board intends to apply a threshold, the Regional Board is obligated to undertake a thorough analysis of appropriate criteria and provide independent justification which has not been done here.

4. The Regional Board has Failed to Address the State Board's Safety Concerns.

The Technical Report virtually ignores the safety concerns that the more sophisticated structural treatment devices present. Instead, it attempts to analogize the use of structural treatment devices for storm water with oil-water separators currently used at RGOs. "In California, subsurface fabricated treatment systems have been commonly used at RGOs to separate waste-oil before discharge to the sanitary sewer system. Safety or feasibility has not been an issue when sanitation districts require RGOs to install treatment systems in order to obtain connection permits to the sanitary sewer system." *Technical Report*, p. 8. However, common sense reveals that this is not a valid comparison.

The use of oil-water separators is significantly different than the structural treatment devices required by the Draft Permit. As the Geomatrix Report indicates, oil-water separators are connected to drains in maintenance shops or other areas that are isolated from the pump islands where gasoline spills may occur. Lube and waste oils have a much higher flashpoint, lower volatility, or both than gasoline making the collection of gasoline in these devices far more problematic. Normally, gasoline spills occurring at RGOs would take place in an open air environment allowing for rapid evaporation of the fuel. Unlike oil-water separators where there is little chance for gasoline to reach the device, gasoline spills would be purposely routed and contained below grade creating the potential for flammable vapor concentrations to develop and mix with air inside the device itself, a potential safety hazard if exposed to a source of ignition such as automotive engines, smoking or excessive static electricity. Staff has undertaken no independent analysis of whether mitigation measures are available to reduce these potential

[9] Notably, the Washington regulations were adopted in August 2001, after the Technical Report citing these regulations was written.

safety concerns, or whether the cost of such measures, if they exist, would exceed the benefit provided by these devices at RGOs already implementing the Task Force BMPs.

5. The Draft Permit Requirements Applicable to Retail Gasoline Outlets Exceed the "Maximum Extent Practicable" Standard of the Clean Water Act.

The Clean Water Act only requires that storm water control measures be implemented to the "maximum extent practicable." 33 U.S.C. § 1342(p)(3)(B). As the record shows, the Task Force BMPs meet this standard for RGOs. The Draft Permit's structural treatment requirements and use of numeric design criteria, however, are neither effective nor practical for RGOs which are already required to implement the Task Force BMPs. RGOs should not be required to apply the Draft Permit's "belt and suspenders" approach in light of the unique practical problems of implementing structural treatment controls at RGOs.

The State Board Order has elaborated on what is required to meet the MEP standard. The standard focuses not just on technical feasibility, but also on cost and effectiveness.

> "[I]f a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, **or whose cost would exceed any benefit derived**, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where **other effective BMPs will serve the same purpose**, the BMPs would not be technically feasible, or the **cost would be prohibitive**." *State Board Order No. WQ 2000-11*, p. 20. (Emphasis added.)

Based on the direction provided by the State Board, a permittee has complied with the MEP standard if other effective BMPs that serve the same purpose are employed, or if costs of a particular BMP exceed any benefit derived. Therefore, any justification for requiring structural treatment devices for storm water runoff from RGOs must consider, among other things, (1) whether effective BMPs that are already identified, such as the Task Force BMPs, serve the same purpose as the structural treatment devices, (2) whether the structural treatment devices are effective, and (3) whether such devices are cost prohibitive.

Unlike other facilities, RGOs are unique in that the use of structural treatment devices present many practical problems due to the possibility of gasoline spills, a risk not present at other facilities. For example, infiltration provides a direct pathway for liquid runoff to soak into the soil and could lead to groundwater contamination from accidental spills of gasoline since infiltration mechanisms do not distinguish between gasoline and storm water runoff. Accidental spillage is caused by events which are beyond the control of the station owner/operator (e.g. motorist carelessness during refueling, the motorist driving off with the hose/nozzle still in the fuel tank fill neck, and accidental spillage during gasoline deliveries). Such events are recognized and incorporated into the Task Force BMPs.

There is insufficient evidence in the record to show that catch-basin inserts and oil/water separators are effective for controlling storm water pollutants at RGOs. In fact, recent studies show that the effectiveness of such devices have not been proven. See "Investigation of Structural Control Measures for New Development" by Larry Walker Associates, Inc. (November 1999); Task Force BMP Guide, p. 5. See also *"Performance Evaluation of Structural BMPs: Drain Inlet Inserts and Oil/Water Separators,"* by Othmer, Edward et al. (May 2001).

The Rouge River study cited by the Regional Board does not impugn this conclusion since it did not evaluate the impact on water quality, test how the pollutant concentrations in storm water runoff changed as a result of the use of filters or examine how implementing source control practices might have achieved better results. According to a principal author of the Rouge River study, the facilities chosen for the study did not use source control measures (i.e. BMPs) and were instructed not to do so during the study period.

Other types of treatment devices which might be used to meet the Draft Permit requirements (such as oil/water separators, sand filters, and compost filters) would require that an additional subterranean structure be built beneath the retail gasoline outlet. As discussed above, such enclosed spaces can allow gasoline and gasoline vapors to mix with air, resulting in a potentially hazardous situation and public safety concerns.

Based on the record, there is no evidence to justify requiring RGOs already implementing the Task Force BMPs to build structural treatment controls and to meet numeric design standards as required by the Draft Permit. By imposing additional controls on RGOs beyond those that are practicable, the Regional Board exceeds its authority under the Clean Water Act.

In conclusion, WSPA believes that the Technical Report does not provide sufficient justification to require the installation of structural treatment devices at new and redeveloped RGOs. As such, application of the numeric design criteria to RGOs violates the State Board Order. Therefore, WSPA respectfully urges the Regional Board to modify the Draft Permit by exempting RGOs from the structural treatment controls and the numeric design standards.

Sincerely,

R. E. Wilkniss for

Ronald Wilkniss

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LA County MS4 Monitoring Meeting
November 19, 2001
Library at 2:00
Tentative Agenda

1. Peak Discharge Study
   - SCCWRP's involvement in study (County/SCCWRP to explain)
   - Study timeframe (County concerns/questions)

2. New Development Impact Study
   - Discuss possibility of combining with peak discharge study
   - Sampling locations - discuss possible locations that would satisfy the objectives of both studies
   - Status of locations that have already been identified (Matt Yeager)

3. Trash Monitoring (County concerns/questions)

4. Assessment of compliance with applicable water quality standards (County questions/concerns)

5. Toxicity Monitoring
   - County questions
   - Implementation date (County may need more time for RFP)

6. TIE & TRE procedures (County questions/concerns)

7. Tributary Monitoring
   - County questions
   - Implementation date
   - Compton Creek

8. Other

LA COUNTY MS4 MONITORING PROGRAM MEETING 11-19-01

NAME	ORGANIZATION	PHONE	EMAIL
Megan Fisher	LARWQCB		
Wai Co	LACDPW	(626) 458-6986	[illegible]
Caroline Trevizo	LACDPW	(626) 458-6986	ctrevizo@ladpw.org
[illegible]	[illegible]	[illegible]	[illegible]
Travis Lange	City of Santa Clarita	(661) [illegible]	tlange@santa[illegible]
TJ Kim	LACDPW	(626) 458-4320	tjkim@ladpw.org
Adam Anki	LACDPW	(626) 458-5948	[illegible]
Ken Schiff	SCCWRP	(714) 372-9202	kens@sccwrp.org
Steve Bay	SCCWRP	714-372-9204	steveb@sccwrp.org

R0006612

Monitoring Meeting 11-19-01

Peak Discharge

2 phase approach

1st phase - identify problems

Make change to 3 years in development planning section

Water Quality Assessment

Check with TMDL - how much can criteria be scaled down for non-listed waters

reduce # of catch basins

scale to storms

is it just good to list? - can they list in easier way? Can they take pictures - that's listing criteria

talk to Dennis

TRE - clarify when to go into TRE

must have confidence in TIE results

identify priority constituents in each watershed

min. of 3 TIEs 3-5 to determine consistent constituents of concern

is cause of toxicity the same in wet & dry

Can't be successful in TRE if moving target

be able to identify that majority (>50%) of toxicity due to a particular compound or class of constituent

R0006613

From: "Steve Bay" <steveb@SCCWRP.ORG>
To: Megan Fisher <Mfisher@rb4.swrcb.ca.gov>
Date: 11/20/01 12:42PM
Subject: Re: LA County tox language

Megan,
The attached file contains my suggested revisions to your draft language. I have tried to make the information more specific in order to reduce the need for clarification later. I have used the "track changes" feature of word so you can identify my suggestions.

I also suggest that you make a change to item F.3.d.2 (Sediment toxicity for regional monitoring). This section should be changed to state that "Phase I TIEs of interstitial water, using the amphipod test species, shall be conducted ...". It is always preferable to conduct the TIE using the same species that detected the toxicity in the initial test.

Please call if you have questions.

Steve

Megan Fisher wrote:

> Hi Steve,
>
> Thanks so much for coming yesterday. It's always immensely helpful to have an expert around.
>
> I added a few things to the toxicity language (attached), per our discussion yesterday. If you get a minute, please let me know if it makes sense, and if you have any suggestions. I'm not sure if my description of substantial toxicity is accurate, but I really want to have a number in there so there is no uncertaintly about when a TIE is required. Also, I'm still hesitant about the range from 3-5, so I used a minimum of 3, but I want to use the most scientifically sound method, so please let me know if you think it would be better another way.
>
> I'll be out at an inspection until around 1, but I'll be finalizing the change sheet this afternoon, so please let me know what you think, and I'll give you a call this afternoon, if I have questions.
>
> Thanks for all your input!
>
> Megan
>
> Megan Fisher
> Environmental Specialist III
> LA Coastal Storm Water Unit
> Los Angeles Regional Water Quality Control Board
> (213) 576-6790
>
>

> ***The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption***
> ***For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html ***
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> Name: tox language.doc

> tox language.doc Type: WINWORD File (application/msword)
> Encoding: base64

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Steven Bay
Southern California Coastal Water Research Project
7171 Fenwick Lane
Westminster, CA 92683
714-372-9204 (ph)/ 714-894-9699 (fax)
steveb@sccwrp.org

A. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, the *Ceriodaphnia dubia* (water flea) 7-day survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test method or sample type) to ≤ 6% sample.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic (≥ 1 Toxic Unit) to either test species.[1] If a sample is substantially toxic to both species, a TIE shall be performed for both species. ~~At a minimum, 2 Toxic Units shall be considered substantial toxicity in any test.~~ The Phase I TIE shall include the following treatments and corresponding blanks:

   (1) Baseline toxicity;

   (2) Particle removal by centrifugation;

   (3) Solid phase extraction of the centrifuged sample using C18 media;

   (4) Complexation of metals using EDTA addition to the raw sample;

   (5) Neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and

   (6) Inhibition of OP pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. Toxicity Reduction Evaluations (TRE)

   a) When the same ~~a~~ pollutant or class of pollutants is identified through the TIE process as causing at least 50%

[1] Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (*e.g.*, LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. ~~For example, C~~*Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay. (SCCWRP)

of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. ~~If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed.~~ TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:

(1) The potential sources of pollutant(s) causing toxicity;

(2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;

(3) Recommended BMPs to reduce the pollutant(s) causing toxicity;

(4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and

(5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

b) Since the Phase I TIEs may only identify a broad category of toxicants (e.g., nonpolar organics), additional TIE analyses may be required in order to identify or confirm the identity of the pollutants causing toxicity before the TRE can be completed.

~~b)~~c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

~~c)~~d) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

~~d)~~e) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (ie. If a TMDL for

zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

~~e)~~f) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

Coalition for Practical Regulation

Arcadia
Artesia
Baldwin Park
Bellflower
Bell Gardens
Cerritos
Commerce
Compton
Diamond Bar
Downey
Hawaiian Gardens
Industry
Irwindale
La Mirada
Lakewood
Lawndale
Monrovia
Montebello
Norwalk
Palos Verdes Estates
Paramount
Pico Rivera
Pomona
Rancho Palos Verdes
Rosemead
Santa Fe Springs
San Gabriel
Sierra Madre
Signal Hill
South Gate
South Pasadena
Temple City
Vernon
Walnut
Whittier

cc: WP
XS (ASAP)
DR

November 14, 2001

2001 NOV 15 P 2:30

Mr. Dennis A. Dickerson
Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request to Complete Mediation/ Continuance of NPDES Permit Agenda Item on November 29th

Dear Mr. Dickerson:

We wanted to personally thank you for taking time from your busy schedule to participate in the USEPA sponsored mediation session on the inspection requirements of the proposed NPDES permit. We felt that the discussions were very productive in identifying areas of agreement between Board staff, permittees, and environmental community. We also felt that EPA provided a steady hand in conducting the mediation. It is our hope that we can mediate the remaining permit issues.

It is regretful that you had to leave prior to the end of the mediation session and before we had the opportunity to discuss the issue of inspections of industrial facilities. We acknowledge that the permittees have a federal requirement to perform some level of inspection on Phase I facilities, complimenting the State's responsibilities. However, up to this point it appears that the two parties have not been able to discuss implementation of joint inspections. I feel that given the opportunity, we can develop such a plan. It is my hope that we can complete the mediation process sponsored by USEPA and design this plan, as well as resolve the remaining permit issues.

2175 Cherry Avenue ♦ Signal Hill, CA 90806 ♦ (562) 989-7302 ♦ (562) 989-7393 Fax

R0006619

We understand that the Board has tentatively scheduled the NPDES Permit for adoption on November 29th and this will not leave enough time to complete mediation. We believe this timing is unfortunate, since all the parties made good progress at Friday's meeting. We also believe that USEPA would lend their resources to completing mediation on the inspection issue and in resolving the remaining Permit issues. We would request that the Board continue the NPDES Permit agenda item and support USEPA mediation. The cities are committed to resolving the remaining issues and will devote the necessary resources to complete the mediation sessions in a timely manner.

Once again, thank you for your time last Friday. Please let me know if you or the Board accept the offer to continue the USEPA mediation.

Sincerely,

Ken Farfsing
City Manager
City of Signal Hill
CPR Steering Committee

cc: Steering Committee
CPR Members
Mr. Wayne Nastri, USEPA Region IX
Ms. Alexis Strauss, USEPA Region IX
Mr. Harry Seraydarian, USEPA Region IX
Mr. David H. Nahai, Chairman, Regional Board
Regional Board Members
County of Los Angeles
City of Los Angeles

UNIVERSITY OF CALIFORNIA, LOS ANGELES

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SANTA BARBARA • SANTA CRUZ

ENVIRONMENTAL SCIENCE AND ENGINEERING PROGRAM
SCHOOL OF PUBLIC HEALTH
46-081 CHS
BOX 951772
LOS ANGELES, CALIFORNIA 90095-1772

Dan Radulescu
California Regional Water Quality Control Board, Los Angeles
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

November 15, 2001

Dear Mr. Radulescu:

This is in response to your request for me to comment on the GeoMatrix document, "Review of Retail Gasoline Outlets: New Development Design Standards for Mitigation of Stormwater Impacts." On page 3 of their document, GeoMatrix uses the following quote from a document I co-authored (Duke and Shannon, 1992):

> The intend [sic—error in the GeoMatrix quote, not in the original] of the pollution prevention approach is to control pollutants so well that stormwater need not be treated in a hydraulic detention facility or a pollutant removal device. The approach is highly practical from a business standpoint because it focuses on industrial operations and low-cost pollution control practices rather than expensive constructed solutions like new industrial structures or new storm water detention or treatment facilities. This approach is especially preferable in the kind of highly seasonal semi-arid rainfall regimes that are found in much of California and most of the western U.S. (emphasis added by GeoMatrix).

The GeoMatrix document appears to offer the above quote in support of an argument that the Los Angeles municipal stormwater NPDES permit should not require structural BMPs for automobile service stations but that water quality objectives of the Los Angeles region may be attained with non-structural pollution prevention measures. I do not agree that the quote supports that argument.

The Duke and Shannon document was not a technical analysis, but rather a textual overview description of various types of non-structural BMPs and other pollution prevention methods appropriate for stormwater discharges from automotive-service facilities. The document provided basic background information on a wide range of possible pollution prevention measures, with the intent to encourage automotive facility operators to learn more about those measures as they might apply to their own facilities, and for them to then identify pollution prevention activities as part of their efforts to reduce pollutants in runoff. The quote appears to be from an introduction or other material intended to describe motivation for the interest in non-structural BMPs.

The Duke and Shannon statement that "the intent...is to control pollutants so well that stormwater need not be treated...." should not be taken to imply that such thorough control is necessarily possible at any given industrial facility; but that should non-structural, pollution prevention BMPs be sufficiently successful at a facility, then the more-costly structural measures may be avoided. The success of non-structural measures at any given facility is of course a function of a large number of variables and factors, such as: the topography, grading, and paving of the facility; the suitability of the facility's particular business activities for non-structural BMPs; the presence or absence of existing structures such as roofs, drains, buildings to accommodate vehicles, and other infrastructure that can be used to avoid pollutants contacting runoff; success at training personnel to rigorously implement the non-structural BMPs; and many others. I am not aware of any study that documents quantitative reduction of pollutants in storm runoff from automotive service facilities that may be achieved by non-structural pollution prevention measures, and or even any study that demonstrates correlation between on-site activities, the quantity of pollutants that may be expected from those activities, and the efficacy of specific non-structural BMPs at reducing those pollutants. The Duke and Shannon document certainly is not such a study. It is my opinion that such a study would be necessary if an agency were to conclude that structural BMPs will not be necessary in any facilities of a given region, in order for that region to attain water quality objectives impaired by stormwater runoff.

As to the particular appropriateness for California, the statement in Duke and Shannon was intended to convey that for hydrologic reasons, one might expect hydraulic treatment methods such as detention ponds to be quite expensive in the rainfall regimes of California. In semi-arid, 'Mediterranean' climate regions of California, rainfall occurs in discrete events which are highly concentrated seasonally and therefore require much greater capital investment because constructed treatment facilities must have sufficient capacity to capture large storms, but are used only a few times per year when such large storms occur. The statement in Duke and Shannon was not meant to suggest that pollution prevention is especially effective in semi-arid rainfall regimes, only that the most widely-used alternatives are more costly in such locations.

The quote from Duke and Shannon (1992) is, in my judgment, consistent with GeoMatrix's quote on page 2 from an article by Schuler and Shepp, which includes the sentences "Source control may hold the greatest promise to reduce the delivery of pollutants from hotspots...can reduce the chance that automotive fluids and cleaning solvents come into contact with rainwater and run off the site...the Santa Clara Valley Nonpoint Source Program has published an excellent summary [i.e., Duke and Shannon 1992] of pollution prevention practices for gas stations." This quotation similarly points out the relative desirability of pollution prevention from an implementation standpoint, but to my understanding also similarly does not cite or base its conclusions on any data that demonstrate pollution prevention as implemented at filling stations has in fact been proven successful at reducing pollutants to the point where water quality impacts can be removed. The intent of the Shuler and Shepp statement, in my judgment, is similar to the intent of the Duke and Shannon statement, which is to encourage pollution prevention as a first step but not to suggest any conclusions as to whether further steps may be necessary to achieve water quality objectives.

I appreciate the opportunity to comment on this document and hope my discussion above is of some use in your deliberations. If I may be of further assistance, please feel free to contact me by phone at 310-794-2164; or by e-mail at ldduke@ucla.edu.

Best regards,



L. Donald Duke, Ph.D., P.E.
Assistant Professor

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

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Secretary for Environmental Protection

Gray Davis
Governor

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

November 20, 2001

Mr. Kenneth C. Farfsing
City Manager
City of Signal Hill
2175 Cherry Avenue
Signal Hill, California 90806

via FAX

Dear Mr. Farfsing:

Renewal of the Municipal Storm Water Permit for the County of Los Angeles

Thank you for your letter, dated November 14, 2001, on behalf of the Coalition for Practical Regulation. In this letter, you indicated that you believe that our meeting on November 9th was productive, and requested that we have further discussion in a similar format, to be facilitated by the US Environmental Protection Agency (US EPA).

We have contacted the US EPA to request that representatives again facilitate a meeting, on November 29th, to address additional issues. At that meeting, our staff would like to start by presenting a revised section on the inspection requirements that we believe reflects the consensus achieved at our last meeting. Assuming concurrence, we may then proceed to other issues.

As I have already informed you, we have postponed our Board's proposed adoption of the permit, formerly scheduled for November 29th, until a public meeting on December 13th. We are ready to work together in the meantime to try to reach consensus on other issues.

Should you have questions, please do not hesitate to contact me at (213) 576-6605 or Wendy Phillips at (213) 576-6618.

Sincerely,

Dennis A. Dickerson
Executive Officer

cc: Alexis Strauss, US EPA Region IX
Harry Seraydarian, US EPA Region IX
Laura Gentile, US EPA Region IX
Adam Ariki, Department of Public Works, County of Los Angeles
Mark Gold, Heal the Bay
Steve Fleischli, Santa Monica Bay Keeper

R0006624

City of
Arcadia

Office of the
City Manager

2001 NOV 28 P 1:52

November 26, 2001

Congressman David Dreier
U. S. House of Representatives, 28th District
112 North Second Ave.
Covina, CA 91723

SUBJECT: REQUEST SUPPORT FOR USEPA, REGIONAL WATER BOARD, AND LOS ANGELES AREA CITIES MEDIATION EFFORT

William R. Kelly
City Manager

Dear Congressman Dreier:

The City of Arcadia requests your support for the U.S. EPA's mediation effort to resolve differences between the California Regional Water Quality Control Board – Los Angeles Region – and Los Angeles Area Cities regarding the Area-wide Municipal Stormwater Permit. It would be very helpful if you would express your support by contacting the Regional Board Chairman, David Nahai, to recommend continuation of these efforts. Time is of the essence, because the Regional Board is expected to adopt the Permit at their November 29th meeting.

An initial mediation session held on November 9, 2001, was such a success that the cities believe it would be worthwhile to delay the scheduled November 29th Permit adoption date to allow these efforts to continue. While consensus was reached on a number of items at the meeting, the Regional Board Executive Officer was unable to stay until the end, so some important issues remain.

I believe you are familiar with the background of the Area-wide Municipal Stormwater Permit adoption process. The State, through the Regional Board, is attempting to transfer more and more responsibilities to the Cities without providing support and working in partnership. The state has taken an enforcement attitude from the outset. The differences between the Cities and the Regional Board are substantial and will cost millions of dollars for dubious results. Mediation can help to resolve the tremendous cost issues.

240 West Huntington Drive
Post Office Box 60021
Arcadia, CA 91066 - 6021
(626) 574 - 5402
(626) 446 - 5729 Fax

We recognize that the State and Regional Board staff have limited resources and cannot resolve all the issues without assistance from the EPA's mediator. We believe there is common ground, which is yet to be explored. The City of Arcadia and other cities in your District are committed to the goal of improving stormwater quality in cooperation with regulatory agencies and the environmental community.

Again, it would be helpful if you would contact the Regional Board Chairman, David Nahai, to express your support for mediation that will involve the cities, environmental groups, and regulatory agencies. Mr. Nahai can be reached at (310) 201-6800.

Thank you for your time, support, and continued interest.

Sincerely,

William R. Kelly
City Manager

WRK:LH:dw

c: Governor Gray Davis
Art Bagett, Chair – SWRCB
Dennis Dickerson, Executive Officer – CRWQCB
David Nahai, Chair – CRWQCB
U.S. Environmental Protection Agency, Region IX

City of Arcadia
Office of the City Manager

William R. Kelly
City Manager

November 26, 2001

2001 NOV 29 P 2:11

Honorable Robert Margett
California Senate, 29th District
55 E. Huntington Dr., #330
Arcadia, CA 91006

SUBJECT: REQUEST SUPPORT FOR USEPA, REGIONAL WATER BOARD, AND LOS ANGELES AREA CITIES MEDIATION EFFORT

Dear Senator Margett:

The City of Arcadia requests your support for the U.S. EPA's mediation effort to resolve differences between the California Regional Water Quality Control Board – Los Angeles Region – and Los Angeles Area Cities regarding the Area-wide Municipal Stormwater Permit. It would be very helpful if you would express your support by contacting the Regional Board Chairman, David Nahai, to recommend continuation of these efforts. Time is of the essence, because the Regional Board is expected to adopt the Permit at their November 29th meeting.

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Thank you for your time, support, and continued interest.

Sincerely,

William R. Kelly
City Manager

WRK:LH:dw

c: Governor Gray Davis
Art Bagett, Chair – SWRCB
Dennis Dickerson, Executive Officer – CRWQCB
David Nahai, Chair – CRWQCB
U.S. Environmental Protection Agency, Region IX

City of Arcadia
Office of the City Manager

William R. Kelly
City Manager

November 26, 2001

2001 NOV 29 P 2:10

Honorable Richard Mountjoy
California Assembly, 59th District
500 N. First Avenue #3
Arcadia, CA 91006

SUBJECT: REQUEST SUPPORT FOR USEPA, REGIONAL WATER BOARD, AND LOS ANGELES AREA CITIES MEDIATION EFFORT

Dear Assemblyman Mountjoy:

The City of Arcadia requests your support for the U.S. EPA's mediation effort to resolve differences between the California Regional Water Quality Control Board – Los Angeles Region – and Los Angeles Area Cities regarding the Area-wide Municipal Stormwater Permit. It would be very helpful if you would express your support by contacting the Regional Board Chairman, David Nahai, to recommend continuation of these efforts. Time is of the essence, because the Regional Board is expected to adopt the Permit at their November 29th meeting.

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240 W. Huntington Drive
Post Office Box 60021
Arcadia, CA 91066-6021
(818) 574-5402
(818) 446-5729 Fax

R0006629

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Thank you for your time, support, and continued interest.

Sincerely,

William R. Kelly
City Manager

WRK:LH:dw

c: Governor Gray Davis
Art Bagett, Chair – SWRCB
Dennis Dickerson, Executive Officer – CRWQCB
David Nahai, Chair – CRWQCB
U.S. Environmental Protection Agency, Region IX

California Regional Water Quality Control Board

Los Angeles Region

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

November 27, 2001

Ms. Sandy Mathews, Chair
California Stormwater Quality Task Force
Lawrence Livermore National Laboratory
7000 East Avenue, I-627
Livermore, CA 94550-9234

Dear Ms. Mathews:

REVIEW OF THE BEST MANAGEMENT PRACTICE GUIDE FOR THE RETAIL GASOLINE OUTLETS ISSUED BY THE CALIFORNIA STORMWATER QUALITY TASK FORCE (SWQTF BMP GUIDE)

In preparation to reissue the Los Angeles County Municipal Storm Water Permit, Regional Board staff performed a review of the SWQTF BMP Guide for RGOs (1997). The conclusions of this review can be found in the report that is attached. We are forwarding it to you for your information.

We appreciate the opportunity to work with the members of the Task Force in addressing the storm water quality program issues.

Should you have any questions, please do not hesitate to contact Dan Radulescu at (213) 576-6668.

Sincerely,

Xavier Swamikannu, D.Env.
Acting Chief, Storm Water Section

cc: Geoff Brosseau, Executive Director, Bay Area Stormwater Management Agencies Association

R0006631

Cal EPA

Los Angeles
Regional Water
Quality Control
Board

01 Centre Plaza Drive
Monterey Park, CA
91754-2156
213) 266-7500
FAX (213) 266-7600

May 5, 1998

Distributed @ 11/29/01 mediation session

Pete Wilson
Governor

To: Los Angeles County Municipal Storm Water Permittees

REGIONAL BOARD APPROVAL OF RECOMMENDED BEST MANAGEMENT PRACTICES (NPDES Permit No. CAS614001)

Dear Permittees.

On March 31, 1998, we sent you a copy of the Tentative Board Resolution approving the recommended BMPs for Development Construction and Industrial/Commercial Education (Site Visits) Programs, and for Municipal Sidewalk and Street Washing Activities.

On April 13, 1998, after a public hearing, the Regional Board considered and approved (contained in the attached Resolution No. 98-08) the recommended BMPs for the Industrial/Commercial Education (Site Visits) Program and for the Municipal Sidewalk and Street Washing Activities The BMPs for Development Construction will be resubmitted for the Board's consideration after the revised Development Construction Model Program has been approved by the Board's Executive Officer.

If you have any questions or need additional information, please call me at (213) 266-7593 or Dr. Xavier Swamikannu at (213) 266-7592.

Sincerely,

WINNIE D. JESENA, P.E.
Chief, Los Angeles Coastal
Watershed Unit

Attachments as stated

Recycled Paper

Our mission is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

Resolution No. 98-08

APPROVING BEST MANAGEMENT PRACTICES
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF MANAGEMENT PROGRAMS
IN
LOS ANGELES COUNTY

(NPDES NO. CAS614001)

WHEREAS, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION FINDS:

1. Pursuant to the requirements of Order No. 96-054, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles (Permit), the Principal Permittee, in consultation with Permittees, has developed a model program for Industrial/Commercial Education. This program must include Best Management Practices (BMPs) to control/minimize the discharge of pollutants to receiving waters.

2. The Permit required the City of Los Angeles to conduct a study on pollutants entering storm drains from street and sidewalk washing operation by: (i) characterizing municipal street washing and sidewalk washing; (ii) assessing the impacts of such activities; and (iii) recommending appropriate BMPs to control any adverse impact. Accordingly, the City of Los Angeles has completed and submitted a final report entitled *A Study of Pollutants Entering Storm Drains from Street and Sidewalk Washing Operations in Los Angeles, California* that includes recommended BMPs for said activities.

3. The Permit also requires that the BMPs be approved by the Regional Board before the Permittees incorporate them into their regulatory programs.

4. The BMPs have been evaluated and are considered appropriate for the respective program/activity.

THEREFORE BE IT RESOLVED THAT:

1. The Best Management Practices contained in the following Attachments are approved:

   a. Attachment 1 -- Industrial/Commercial Program (Site Visit); and

   b. Attachment 2 -- Sidewalk and Street Washing.

2. Permittees consider these BMPs in their regulatory programs in accordance with the provisions of Order No. 96-054.

I, Dennis Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on April 13, 1998.

DENNIS A. DICKERSON
Executive Officer

BMP List Index

Table 1 is an index to all BMP lists and their SIC codes

Table 1 Index of BMP Lists for Industrial/Commercial Facilities		
Attachment 1		
Page Section	SIC Codes (exceptions in parentheses)	Industry Types
A	24 (2434)	Timber Products Facilities
B	26	Paper and Allied Products Mfg Facilities
C	28 (283)	Chemicals and Allied Products Mfg Facilities
D	29	Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers
E	32	Glass, Clay, Concrete, and Gypsum Product Facilities
F	33	Primary Metals Facilities
G	10	Metal Mining Facilities
H	12	Coal Mines and Coal Mining-Related Facilities
I	13	Oil & Gas Extraction Facilities
J	14	Mineral Mining and Processing Facilities
K	4953	Hazardous Waste Treatment, Storage or Disposal Facilities
L	4953	Landfills and Land Application Sites
M	5015	Automobile Salvage Yards
N	5093	Scrap & Waste Recycling
O	4911	Steam Electric Power Generating Facilities
P	40 41 42 43 5171	Vehicle and Equipment Maintenance Areas at Land Transportation Facilities
Q	44	Vehicle and Equipment Maintenance Areas at Water Transportation Facilities
R	373	Ship & Boat Building or Repairing Yards
S	45	Vehicle and Equipment Maintenance and Deicing Areas at Air Transportation Facilities
T	4952	Treatment Works

Page Section Refers to the Best Management Practices List for the Industrial/Commercial Education Site Visit Program (January 5, 1998) 4/13/98

Table 1
Index of BMP Lists for Industrial/Commercial Facilities

Attachment 1		
Page Section	*SIC Codes (exceptions in parentheses)*	*Industry Types*
U	20 21	Food and Kindred Products Facilities
V	22 23	Textile Mills, Apparel, and Other Fabric Product Manufacturing Facilities
W	2434 25	Wood and Metal Furniture and Fixture Manufacturing Facilities
X	27	Printing and Publishing Facilities
Y	30 39	Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries
Z	31	Leather Tanning and Finishing Facilities
AA	34	Fabricated Metal Products Industry
AB	35 (357) 37 (373)	Facilities that Manufacture Transportation Equip , Industrial, or Commercial Machinery
AC	357 38 36	Manufacturers of Electronic and Electrical Equipment
Attachment 2		
Page Section	*SIC Codes (exceptions in parentheses)*	*Commercial Types*
AD	5013 5014 7532-7534 7536-7539	Vehicle Service Facilities
AE	5541	Gasoline Stations
AF	5812	Restaurants

Page Section Refers to the Best Management Practices List for the Industrial/Commercial Education Site Visit Program (January 5, 1998)

Resolution No 98-08

ATTACHMENT 2

Recommended Best Management Practices
for
Municipal Sidewalk and Street Washing Operations

TYPE OF DISCHARGE	RECOMMENDED BMPS
SIDEWALK WASH WATER	1. Remove trash, debris, and free standing oil/grease spills/leaks (use absorbent material, if necessary) from the area before washing; and 2. Use high-pressure, low volume spray washing using only potable water with no cleaning agents at an average usage of 0.006 gallon per square feet of sidewalk area
STREET/ALLEY WASH WATER FROM AREAS WITH UNSANITARY CONDITIONS*	Collect and divert wash water to the sanitary sewer - publicly-owned treatment works (POTW) Note: POTW approval may be needed.

* This BMP is only to be applied in areas impacted by transient populations. Each Permittee is required to apply this BMP in areas where the congregation of transient populations can reasonably be expected to result in a significant threat to water quality.

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The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities

A Case for Inspection Activities in the Large and Medium Municipal Separate Storm Sewer System Permits

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INTRODUCTION

A question that has been frequently asked during the process to renew the Los Angeles NPDES Municipal Stormwater Permit was if the storm water regulations require municipalities to conduct inspections at industrial or commercial facilities. This requirement establishes municipalities' responsibility to verify the effective implementation of best management practices to control the contribution of pollutants to the municipal storm drain system from industrial or commercial sites.

A second issue raised was the extent of responsibility municipalities have to control the contribution of pollutants from industrial or commercial sites and what is the relationship with the responsibilities that the Regional Board has over the same type of facilities.

This document attempts to answer to those specific questions raised by the Permittees and other stakeholders. The author adds emphases in the text.

I. Federal Mandate

The Federal Water Pollution Control Act Amendments (FWPCA) of 1972 created the framework for addressing critical pollution problems in the Nation's waters. Section 101, "Congressional Declaration of Goals and Policy", concisely summarized the new act. Section 101(a) stated, "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." This way a strong emphasis was put on the ecological and environmental aspects of protecting water quality. Elaborating on that position, the same section set down two "national goals": (1) eliminating the discharge of pollutants into navigable waters by 1985, and (2) achieving an interim water quality level that would protect fish, shellfish, and wildlife while providing for recreation in and on the water wherever attainable. The 1972 Amendments focused their attention on point sources such as municipal discharges through publicly owned treatment works and direct industrial discharges. The Act also focused the efforts on two categories of pollutants: conventional (BOD, SS, and pH), and what was classified as toxic.

Much of the effort following the enactment of FWPCA was to establish the United States Environmental Protection Agency (U.S. EPA) and the framework of the National **Pollutant Discharge Elimination** System (NPDES) permit program. Many other efforts were initiated in areas of construction of treatment plants, basin planning, treatment technologies development, establishment of effluent standards for toxic pollutants and the creation of appropriate regulations to implement the intent of the Act.

Under the provisions of the Act, the U.S. EPA could delegate NPDES permitting authority to the States. California is a delegated State and has full authority to issue NPDES permits with U.S. EPA's concurrence.

Between 1972 and 1987, the law has been subject to mid-course corrections and a change of name to the Clean Water Act (CWA).

The 1987 amendments, known as the Water Quality Act (WQA) of 1987, were aimed at addressing a number of issues on which progress was deemed to have been unsatisfactory. These issues included toxics, nonpoint sources, storm water, coastal

pollution, and others. States were required to identify waters not meeting designated uses because of toxic pollutants even after the application of technology based controls and to develop strategies for controlling them.

New provisions to permit discharges of storm water from separate storm sewers were also added. Section 402 phases in storm water permits. Originally, the 1972 Act required U.S. EPA to issue a NPDES permit for all point sources of pollution. The Agency interpreted that requirement so that it could issue areawide permits for separate storm sewers, rather than each storm water outfall.

The first phase of the program, commonly referred to as "Phase I", was promulgated on November 16, 1990 (55 FR 47990, 40 CFR 122). Phase I requires NPDES permits for storm water discharge from a large number of priority sources including municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

The second phase of the storm water program, recently promulgated on December 8, 1999 (64 FR 68722) expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb between one and five acres of land. The new rule allows certain sources to be excluded from the national program based on a demonstrable lack of impact on water quality. The rule also allows other sources not automatically regulated on a national basis to be designated for inclusion based on increased likelihood for localized adverse impact on water quality.

II. Water Quality Concerns

After FWPCA was adopted in 1972, the implementation of end-of-pipe control methods from traditional point sources started to show improvement in the quality of the effluent discharged from Publicly Owned Treatment Works (POTW) and industrial wastewater treatment plants. However, it also become evident that receiving waters still did not attain designated uses, and water quality standards were frequently exceeded. That focused the attention to the other major component contributing to beneficial use impairments of the receiving water quality: pollution from diffuse sources, such as runoff from urban areas, construction sites, agricultural areas, land disposal and resource extraction. Early on, the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), along with U.S. EPA, conducted a comprehensive study of diffuse pollution sources that resulted in the 1985 report, "America's Clean Water – The States Nonpoint Source Assessment." This report indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, U.S. EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP)[1]. The NURP included 28 projects across the Nation. One focus of the NURP was to characterize the water quality of discharges from separate storm sewers that drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for

eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition the study indicated that the annual loading of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, (although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff), with the median for all sites being around 21,000/100 ml. This is generally consistent with studies that found that fecal coliform mean values range from 1,600 coliform fecal units (cfu)/100 ml to 250,000 cfu/100 ml[2]. Makepeace, et al., summarized ranges of contaminants from storm water, including physical contaminants such as total solids (76--36,200 mg/L) and copper (up to 1.41 mg/L); organic chemicals; organic compounds, such as oil and grease (up to 110 mg/L); and microorganisms.

Although NURP did not evaluate oil and grease other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/l. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges, from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. The NURP data also showed a significant number of these samples exceeded various U.S. EPA freshwater water quality criteria. The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, **industrial site runoff** and illegal dumping. Other studies showed that storm water from industrial facilities might contain toxics and conventional pollutants when material management practices allow exposure to storm water.

Since the NURP study many other studies and programmatic assessments confirmed the magnitude of the diffuse pollution problem. Data from the NURP study were analyzed further in the U.S. Geological Survey (USGS) Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States survey[3]. The USGS report summarized additional monitoring data compiled during the mid-1980s, covering 717 storm events at 99 sites in 22 metropolitan areas and documented problems associated with metals and sediment concentrations in urban storm water runoff. More recent reports have confirmed the pollutant concentration data collected in the NURP study[4].

Other recent studies have not found significantly different pollutant concentrations in urban runoff when compared to the original NURP data[5].

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables[6]. After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in "first flush" discharges, which occur during the first major storm after an extended dry period[7]. Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction. Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans.

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loadings in storm water discharged to receiving waterbodies[8]. Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff[9].

Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters. For example, a study in the Puget Sound lowland ecoregion found that when the level of basin development exceeded 5 percent of the total impervious area, the biological integrity and physical habitat conditions that are necessary to support natural biological diversity and complexity declined precipitously[10]. Research conducted in numerous geographical areas, concentrating on various variables and employing widely different methods, has revealed a similar conclusion: stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent according to the findings of the Washington study referenced above)[11]. Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking[12].

In addition to impervious areas, urban development creates new pollution sources as population density increases, and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household

hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges from municipal separate storm sewer systems. A modeling system developed for the Chesapeake Bay indicated that contamination of the Bay and its tributaries from runoff is comparable to, if not greater than, contamination from industrial and sewage sources[13].

In addition, the 1996 305(b) Report, provides a national assessment of water quality based on biennial reports submitted by the States as required under CWA section 305(b)[14]. In the CWA 305(b) reports, States, Tribes, and Territories assess their individual water quality control programs by examining the attainment or nonattainment of the designated uses assigned to their rivers, lakes, estuaries, wetlands, and ocean shores. A designated use is the legally applicable use specified in a water quality standard for a watershed, waterbody, or segment of a waterbody. The designated use is the desirable use that the water quality should support. Examples of designated uses include drinking water supply, primary contact recreation (swimming), and aquatic life support. Each CWA 305(b) report indicates the assessed fraction of a State's waters that are fully supporting, partially supporting, or not supporting designated beneficial uses. In their reports, States, Tribes, and Territories first identified and then assigned the sources of water quality impairment for each impaired waterbody using the following categories: industrial, municipal sewage, combined sewer overflows, urban runoff/storm sewers, agricultural, silvicultural, construction, resource extraction, land disposal, hydrologic modification, and habitat modification.

The 1996 Inventory, based on a compilation of 60 individual 305(b) reports submitted by States, Tribes, and Territories, assessed the following percentages of total waters nationwide: 19 percent of river and stream miles; 40 percent of lake, pond, and reservoir acres; 72 percent of estuary square miles; and 6 percent of ocean shoreline waters. The 1996 Inventory indicated that approximately 40 percent of the Nation's assessed rivers, lakes, and estuaries are impaired. Waterbodies deemed as "impaired" are either partially supporting designated uses or not supporting designated uses. The 1996 Inventory also found urban runoff/discharges from storm sewers to be a major source of water quality impairment nationwide. Urban runoff/storm sewers were found to be a source of pollution in 13 percent of impaired rivers; 21 percent of impaired lakes, ponds, and reservoirs; and 45 percent of impaired estuaries (second only to industrial discharges). Additionally, urban runoff was found to be the leading cause of ocean impairment for those ocean miles surveyed.

In addition, a recent USGS study of urban watersheds across the United States has revealed a link between urban development and contamination of local waterbodies. The study found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion of wood, grass, and fossil fuels), in the reservoirs of urbanized watersheds[15].

In addition to the large-scale nationwide studies and assessments, a number of local and watershed-based studies from across the country have documented the detrimental effects of urban storm water runoff on water quality. A study of urban streams in Milwaukee County, Wisconsin found local streams to be highly degraded due primarily to urban runoff, while three studies in the Atlanta, Georgia region were characterized as being, "the first documentation in the Southeast of the strong negative relationship

between urbanization and stream quality that has been observed in other ecoregions"[16]. Several other studies, including those performed in Arizona (*Maricopa County*), California (*San Jose's Coyote Creek*), Massachusetts (*Green River*), Virginia (*Tuckahoe Creek*), and Washington (*Puget Sound lowland ecoregion*), all had the same finding: runoff from urban areas greatly impair stream ecology and the health of aquatic life; the more heavily developed the area, the more detrimental the effects[17]. Pitt and others also described the receiving water effects on aquatic organisms associated with urban runoff[18]. In Wisconsin runoff samples were collected from streets, parking lots, roofs, driveways, and lawns. Source areas were broken up into residential, commercial, and industrial. Geometric mean concentration data for residential areas included total solids of about 500-800 mg/L from streets and 600 mg/L from lawns. Fecal coliform data from residential areas ranged from 34,000 to 92,000 cfu/100 mL for streets and driveways. Contaminant concentration data from commercial and industrial source areas were lower for total solids and fecal coliform, but higher for total zinc[19,20]. A number of other studies have indicated that urban roadways often contain significant quantities of metal elements and solids[21].

Automotive service stations have been characterized as potential "hot spots" for hydrocarbon pollutants and heavy metals in urban storm water discharges[22]. In an urban area, **industrial and commercial activities** can also be considered hot spots as sources of pollutants[23]. Urban storm water also can contribute significant amounts of toxicants to receiving waters. Pitt et. al., found heavy metal concentrations in the majority of samples analyzed. Industrial or commercial areas were likely to be the most significant pollutant source areas[24].

Wet weather flows have been recognized as the primary sources of estuarine pollution in coastal communities. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows have become the largest causes of beach closings in the United States in the past years. Storm water discharges from urban areas not only pose a threat to the ecological environment, they also can substantially affect human health. A survey of coastal and Great Lakes communities reports that in 1998, more than 1,500 beach closings and advisories were associated with storm water runoff[25]. Other reports also document public health, shellfish bed, and habitat impacts from storm water runoff, including more than 823 beach closings/advisories issued in 1995 and more than 407 beach closing/advisories issued in 1996 due to urban runoff[26].

The studies and research performed in the Southern California area, including Los Angeles County, show the similar impacts of polluted urban runoff on the local receiving waters, with significant impacts on the health of the environment and local economy. The "Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay", concluded that there is a 57 percent higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains[27]. This and other studies document a relationship between gastrointestinal illness in swimmers and water quality, the latter of which can be heavily compromised by polluted storm water discharges. Other impacts on the Santa Monica Bay from the discharge of polluted storm water runoff have been documented[28].

In addition, the situation analysis of the "Los Angeles County Five-Year Public Education Overview" concluded:

Even after a generation of fighting water pollution, studies show the danger of illness to people swimming in waters near urban storm drain outfalls. The urban runoff that drains into the County's storm channels first litters and contaminates neighborhood streets and walks. Litter, fertilizers, pesticides, automobile soot and oil drippings, pet waste, and deteriorating leaves and plant debris not only make our communities unattractive, but also are swept untreated down the storm drains into our waterways...In total, the impacts of stormwater/urban runoff pollution encompass:

- losses to the County's $2 billion a year tourism economy
- health risks associated with swimming in areas near storm drain outfalls
- loss of recreational resources
- dramatic cost increases for cleaning up contaminated sediments
- impaired function and vitality of our natural resources
- losses to Southern California's commercial and sportfishing industry
- contamination to marine life[29].

III. Responsibility of Municipal Operators of Large and Medium Municipal Separate Storm Sewer Systems

The water quality impacts of urban runoff are well documented and identified as a leading cause of receiving water beneficial uses impairments. Many States and Municipalities in cooperation with U.S. EPA moved aggressively to control the sources of pollution within the framework of the NPDES permitting system and through other non-point source programs.

A. Role of Municipal Operator

As early as the promulgation of the 1990 Phase I storm water regulations, U.S. EPA clearly defined the roles and identified the responsibilities of all parties involved in the permitting process. Early on, the agency envisioned a partnership, a cooperative approach between U.S. EPA, States and Municipalities, recognizing that only through a coordinated effort will the difficult and complex issues of diffuse pollution be addressed appropriately. In the preamble to the 1990 Phase I storm water regulations, the agency stated that the:

> ...EPA still believes that municipal operators of large and medium municipal systems have an important role in **source identification** and the **development of pollutant controls for industries** that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because **storm water from industrial facilities may be a major contributor of pollutants** to municipal separate storm sewer systems, **municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program**... EPA believes that the permitting of municipal storm sewer systems and the industrial discharges through them will act in a complimentary manner to

fully control the pollutants in those sewer systems. This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible.

U.S. EPA continued to clarify its intent for:

> "...[t]he permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, **address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity**. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system... In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system... Controls developed in management plans for municipal permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop **measures to reduce pollutants or halt** storm water discharges with high level of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designated to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water."

U.S. EPA reconfirmed its position in regard to the role of municipal operators of large and medium MS4s when it issued, in 1993 (58 FR 61146), the notice for the proposed multi-sector stormwater general permit for discharges of storm water associated with industrial activity (multi-sector permit).

In the Fact Sheet for the proposed multi-sector permit, U.S. EPA reiterated its position regarding the complimentary permit approach envisioned to address storm water discharges associated with industrial activity:

> "A second permit issued to the operator of the large or medium municipal storm sewer, establishes the **responsibilities** of the municipal operators in controlling pollutants from storm water associated with industrial activity which discharge through their system... The municipal storm water management programs that will be incorporated into NPDES permits for discharges from MS4s will generally address (in addition to other possible requirements) the following three major components:
>
> - Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers.
> - Reducing pollutants in construction site runoff through municipal separate storm sewers.
> - Identifying and controlling non-storm water discharges to municipal separate storm sewers...

> Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through MS4s **specifically will address municipal responsibilities in controlling pollutants from industrial facilities.**"

Recently, in its Storm Water Phase II Compliance Assistance Guide (Guide)[30], U.S. EPA restated and further clarified its intention regarding the integration of NPDES programs for storm water discharges: "...[t]he Phase I permits for MS4s mostly cover larger cities, and require them to develop a storm water management program, **track and oversee industrial facilities** regulated under the NPDES storm water program, conduct some monitoring, and submit periodic reports."

Furthermore, when referring to integration of NPDES program for construction (which is one of the eleven industrial categories addressed by the storm water program) with NPDES program for MS4s, the Guide specifies:

- "These are two **separate** and **distinct** construction programs.
- A construction operator is subject to requirements under **BOTH** programs if it is located in an NPDES-regulated MS4's jurisdiction."

In addition, the No Exposure Certification Form for Exclusion from NPDES Storm Water Permitting[31], includes in the certification section the following statements:

> "I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that **I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections** to confirm the condition of no exposure and to make such inspection reports publicly available upon request."

Once more, U.S. EPA clearly states its standpoint that NPDES permitting authority responsibilities are intertwined with those of the local agency.

It can be reasonably inferred from the regulatory record and actions that U.S. EPA clearly envisioned a dual coverage and a strong role and clear responsibilities for the municipal operator in controlling pollutants from industrial sites as distinct from the activities required by the NPDES permitting agency. However, activities required by both entities should be coordinated and integrated as much as possible to achieve to common goal of effectively controlling and reducing the discharge of pollutants into the storm water runoff.

B. Legal Authority

40 CFR §122.26(d)(2)(i) ***Adequate legal authority.*** A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:
(A) Control through ordinance, permit, contract, order or similar means, the **contribution of pollutants to the municipal storm sewer by storm water discharges associated**

with industrial activity and the quality of storm water discharged from sites of industrial activity;
(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;
(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;
(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;
(E) Require compliance with conditions in ordinances, permits, contracts or orders; and
(F) **Carry out all inspection, surveillance** and monitoring procedures necessary to determine compliance and noncompliance with permit conditions **including** the prohibition on illicit discharges to the municipal separate storm sewer.

40 CFR §122.26(d)(2)(iv)(A)(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for **inspections** and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section);

40 CFR §122.26(d)(2)(iv)(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), **and industrial facilities** that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:
(1) **Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges**;...

In its Guidance Manual[32] U.S. EPA explicitly states on what the municipalities must achieve: "The municipality, as a permittee, is responsible for compliance with its permit and must have the authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to **hold dischargers accountable for their contributions** to separate storm sewers."

The Guidance Manual provides more clarification in regard to the extent of facilities that must be addressed and the link that must be made with the potential sources of pollutants: "However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**... [t]he Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization

components), but ***are identified as a high priority*** under the proposed management program." It can be concluded that the scheme envisioned by the regulations do not only address industrial sites covered under the definition of storm water discharge associated with industrial activity, but depending on the identified significant sources contributing pollutants to the storm water runoff, other types of industrial facilities, such as commercial, must be addressed in the municipal program to inspect facilities contributing pollutants to the municipal separate storm drain system.

Many existing permits issued by U.S. EPA or authorized States, nationwide, already include these kind of requirements and municipalities are actively implementing them.[33] Regional Boards in California also issued MS4 permits requiring a program for inspections at industrial or commercial facilities.[34] Municipalities used a large spectrum of methods and innovative ways to implement the inspection program, and many local jurisdictions have the adequate required legal authority or have adopted ordinances giving them the necessary legal authority. Even smaller cities, to be covered under Phase II, not required to obtain the legal authorities for inspections as yet, decided to pass ordinances giving them the necessary authority for the implementation of the storm water program, including the authority to inspect industrial or commercial facilities and adopt and impose BMPs.[35]

As early as 1993, U.S. EPA Region 9, clarified the role of municipalities in addressing industrial sources.[36] More recently the same position was restated.[37] Regional Board's position, starting with the 1990 MS4 Permit was that an inspection program was required in the municipal storm water permit and was supported by the legal analysis provided by the State Board's Office of Chief Counsel[38].

C. Source Identification

40 CFR §122.26(d)(2)(ii). Source Identification... *Provide an inventory, organized by watershed of the name and address, and a description (such as SIC Codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.*

A very careful consideration was given to the issue of the pollutant sources in storm water discharges through MS4s and the control of those pollutant sources. The Agency continued to discuss and describe its intent of the elements needed to be addressed by a municipality through the application process in regards to the sources that contribute pollutants to the municipal storm sewers. Under the source identification heading in the preamble to the 1990 Phase I storm water regulations, U.S. EPA stated that, "...**the identification of sources which contribute pollutants** to municipal separate storm sewers is a **critical step** in characterizing **the nature and extent of pollutants in discharges** and in **developing appropriate control measures**." The agency expands the scope of the source identification concept leaving it general instead of focusing on any particular area, such as industrial, commercial, residential, roadways, etc., but linking it to the existing water quality problems. It is clear that the intent of the agency was to draw the attention of applicants to addressing, in a flexible way, the real issues and focus their limited resources on controlling the most problematic sources:

> "...**source identification** can be useful for providing **an analysis of pollutant source contribution** and for **identifying the relationship between pollutant**

sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm sewer system to support **a targeted approach to control pollutant sources**."

The agency continues to comment and clarify the provisions under the application requirements of the regulations:

> "...Part 1 of the application will also include: [...]**the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities** which discharge storm water to the municipal storm sewer system;...Part 2 of the application will supplement the information reported in part 1 of the application so that,[...]municipal or public entities responsible for and obtaining an NPDES permit will be required to **identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water with industrial activity into a large or medium municipal separate storm sewer system.** Requiring **these source identification measures is supported by the legislative history of section 405 of the WQA**, which instructs that '[i]n writing **any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge.**'[39]"

In answering some of the comments regarding the value of source identification information, the agency responded:

> [..]the **source identification** information serves several purposes. It is the first step for **identifying potential sources of pollutants** from which more in depth analysis can be accomplished...The **source identification component** of the municipal application also requires that **municipal applicants identify the industrial activity within the drainage area associated with each major outfall**...[A]pplicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility.

D. Los Angeles MS4 Permittees Compliance Efforts

The Permittees covered under the Los Angeles MS4 permit addressed the element of source identification and prioritization through compliance with the requirements of the 1996 permit (Board Order No. 96-054). The Critical Source Selection and Monitoring Report (Critical Source Report), identified 30 categories of industrial and commercial activities that may impact the quality of the stormwater runoff discharged to the MS4[40]. The study also ranked the critical sources on the basis of potential impact and proposed a Critical Source/BMP Monitoring program at the five highest ranked facility types: (i)

wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products.

At the same time, the Permittees, under the coordination of the Los Angeles County Department of Public Works, compiled, in 1997, a facilities database for the MS4 program identifying approximately 58,000 facilities that could have been potentially addressed by the public education site visit program. Out of the total universe of 58,000 facilities identified by their SIC Code, 21,000 were food or food related establishments. The 36,000 remaining facilities were in industrial/commercial sectors. An updated review of the potential number of facilities within the LA MS4 area, identified in the 30 industrial/commercial sectors Critical Source Report (not including food establishments), revealed that the number of facilities can be as high as 26,300 sites as of 2001. The survey was performed with the help of the Los Angeles City Stormwater Management Division staff. A significant portion of the total number of facilities, up to 60%, may be located within the City of Los Angeles boundaries. The SIC Code system proved to be inadequate in identifying the correct type of activity performed on-site, and also a significant number of facilities may not have activities or materials exposed to stormwater, which will make the actual number of sites potentially addressed through the municipal stormwater program much smaller than predicted.

The results of the Critical Source/BMP Monitoring program confirmed that the five highest ranking activities indeed contribute significant quantities of pollutants and source control BMPs alone were not effective in reducing the amount of pollutants into the stormwater runoff. The majority of the sampling results were in excess of the Criteria for Priority Toxic Pollutants for the State of California.[41] However, since the implementation of the source control BMPs was voluntary, the study could not determine with certainty that the apparent failure was due to the inefficacy of the BMPs or the lack of proper implementation.[42]

Furthermore, the Research Report on Issues, Pollutants and Materials[43](Research Report) accomplishes a comprehensive analysis of sources of pollutants, generation and receiving water impacts. The Research Report puts in a concise form and creates the link between typical pollutant sources, pollutants found in the County's waterbodies, pollutant of concerns for each Watershed Management Area and pollutants of concerns detected through previous monitoring. The Research Report clearly identifies the targeted pollutants: (i) heavy metals, (ii) oil and grease/PAHs, (iii) sediments, (iv) oxygen demanding substances, (v) litter/trash/debris, (vi) nutrients, (vii) other toxic materials, such as pesticides.[43] The Research Report confirms once again that the urban environment in the Los Angeles area is similar to the other urban areas in the nation when it comes to stormwater runoff characterization and receiving water impacts. The Los Angeles area is probably unique due to the highly industrialized and vast area served by an interconnected storm sewer system unlike any other in the nation. But that makes it even more imperative that significant efforts must be allocated in order to control the discharge of pollutants in the urban runoff.

CONCLUSION

From the record and all the studies referenced in this report it is evident that an inspection program at industrial and commercial facilities is not only required under the storm water

regulations but it is an essential component to control the contribution of pollutants from industrial or commercial facilities into storm water discharges through the municipal storm drain system. This inspection program is separate and in addition to the program administered by the Regional Board, and the municipalities have a clear responsibility to perform them.

The dual coverage is intended in the regulations, in order to maximize the use of limited resources at the State and local level, and assure through active coordination that significant sources of pollutants are not overlooked or missed due to lack of legal authority.

The Permittees under the Los Angeles MS4 Permit have made great strides in preparing the ground work for next phase of implementation: they performed a comprehensive source identification study confirmed by the monitoring results, the Regional Board approved the minimum menu of BMPs presented by the Permittees and they already put facilities on notice and performed the educational part through the site visits effort.

The introduction of the inspection program in the new MS4 permit is not capricious or arbitrary but based on facts. It utilizes tools already developed by Permittees and follows a widespread precedent in MS4 permits nationwide and in California.

R0006652

Selected References

Requirement	Reference
"Today's rule also requires the municipal storm sewer permittee to describe **a program to address industrial discharges** that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges..., provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal storm sewer system, **identify priorities and procedures for inspections**, and **establish and implement control measures for such discharges**."	Final Rule (Federal Register, Vol. 55, p. 48056)
Part 2 application requirement: [The applicant must demonstrate that it can control through] Adequate Legal Authority which authorizes or enables at a minimum to: **Control** through **ordinance, permit, contract, order or similar means**, the **contribution of pollutants** to the municipal storm sewer by **storm water discharges associated with industrial activity** and the quality of **storm water discharged from sites of industrial activity**;	40 CFR 122.26(d)(2)(i)(A)
Carry out all inspection, surveillance and **monitoring** procedures necessary to **determine compliance and noncompliance** with **permit conditions *including*** the prohibition on illicit discharges to the municipal separate storm sewer.	40 CFR 122.26(d)(2)(i)(F)
In part 2 of the application, municipal applicants **must demonstrate** that **they now possess adequate legal authority** to: • **Control** construction site and **other industrial discharges** to the MS4;... • **Control potential sources of pollutants from discharges to or from** coapplicants' MS4s, or MS4s that are interconnected or shared with other entities;... • **Carry out inspection, surveillance, and monitoring** procedures.	Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (Guidance Manual) USEPA 1992 Pag. 3-1
"Control"[...] means not only to require disclosure of information, but **also** to **limit, discourage, or terminate** a storm water discharge to the MS4.	Guidance Manual pag. 3-1
However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**.	Guidance Manual pag. 3-1
In their part 2 applications, municipalities must propose programs to **control** the contributions of pollutants from industrial facilities **and prohibit** illicit discharges. For **both** of these activities, municipalities **must have the legal authority** to **carry out inspection, surveillance, and monitoring** procedures necessary to **determine compliance**.	Guidance Manual pag. 3-3
In their part 2 applications, municipalities should provide documentation of **their authority to enter, sample, inspect, review, and copy records,** etc. as well as demonstrate their authority to require regular reports.	Guidance Manual pag. 3-3
A description of **a program** to **monitor and control pollutants** in storm water discharges to municipal systems from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the**	40 CFR 122.26(d)(2)(iv)(C)

Requirement	Reference
Superfund Amendments and Reauthorization Act of 1986 (SARA), and ***industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading*** to the municipal storm sewer system. The program **shall**: (1) **Identify priorities and procedures for inspections** and **establishing and implementing control measures** for such discharges;	
NPDES permits for MS4s will establish *responsibilities* for municipal system operators to control pollutants from industrial storm water discharged through their system.	Guidance Manual pag. 6-16
Proposed storm water management programs must address the reduction of pollutants in storm water discharges from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, facilities subject to SARA Title III;** and ***other priority industrial facilities***, as determined by the applicant. **Municipalities should consider** the information gathered for [..] the part 2 application (**particularly the Source Identification and Characterization Data** components) when prioritizing storm water discharges from these sites.	Guidance Manual pag. 6-16
In part 2 application, the Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization components), but ***are identified as a high priority*** under the proposed management program.	Guidance Manual pag. 6-16 [Commercial Sites]
The municipality is **ultimately responsible** for discharges from their MS4. Consequently, the proposed storm water management program should describe how **the municipality will help** EPA and authorized NPDES States: • **Identify priority industries** discharging to their systems; • **Review. and evaluate storm water pollution prevention plans and other procedures that industrial facilities must develop under general or individual permits;** • **Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them);** and • ***Inspect*** **and monitor industrial facilities *to verify* that the industries discharging storm water to the municipal systems *are in compliance with their NPDES storm water permit***, if required.	Guidance Manual pag. 6-17
At a minimum, priority facilities include: • Operating and closed municipal landfills; • Hazardous waste treatment, disposal or recovery facilities; and • Facilities subject to SARA Title III.	Guidance Manual pag. 6-17

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Requirement	Reference
Municipalities must identify these **and *other priority industrial facilities* and describe the criteria used to identify them**. For example, information from the Toxics Release Inventory is one source a municipality could use to identify industrial facilities subject to SARA Title III. **Other sources** may include CWA Section 205 or 208 use-attainability studies, other studies that **indicate a site-specific beneficial use impairment immediately downstream of a storm water outfall**, or **records of industrial pretreatment programs or other permit programs that identify facilities that may be the source of a use impairment or a major contribution of pollutants**. The program should also describe procedures for modifying the inventory of priority industries based on **additional evaluation** that occurs throughout the permit term.	
During the term of the permit, as additional information becomes available, **the municipality should target and set priorities for other program elements** that emerge.	Guidance Manual pag. 6-18
As noted above, when identifying priority sites, applicants must consider all the facilities listed in 122.26(d)(2)(iv)(C)(1). When municipalities develop criteria for **identifying additional priority industrial facilities**, they are advised to consider, **at a minimum:** • The **type of industrial activity** (SIC codes can help characterize the type of industrial activity); • The **use and management of chemicals or raw products** at the facility and **the likelihood** that storm water discharge from the site **will be contaminated**; and • The **size and location of the facility in relation to sensitive watersheds.**	Guidance Manual pag. 6-18
The proposed management program **must include procedures for inspecting priority industrial sites**. The results of inspection may be used as a basis for **requiring storm water management controls and enhanced pollution prevention measures**. It should also establish an **inspection schedule** for each priority facility at the time it is identified.	Guidance Manual pag. 6-18
Applicants also should describe a procedure for **conducting follow-up inspections**, where necessary, as part of this program component. For example, follow-up inspections **might be needed to verify the installation of a specific control or implementation of a practice specified** in a negotiated agreement between the municipality and the industrial site. A system-wide approach to establishing priorities for inspection procedures is recommended. The system-wide approach should begin with the evaluation of existing information, followed by the identification and evaluation of new information during the permit term. Therefore, applicants **should link** these procedures with information from the Source Identification and Discharge Characterization components.	Guidance Manual pag. 6-19
A municipality **must consider** if it **should place more stringent controls on discharges associated with industrial activity than are required in an industrial facility's existing NPDES storm water**	Guidance Manual pag. 6-19

R0006655

Requirement	Reference
permit.	
Priority industrial facilities should focus on controlling activities such as the use, storage, and handling of toxic chemicals. Standard methods for implementing control measures at different types of facilities should be described. To facilitate this, municipalities **should obtain copies of the pollution prevention plans developed by industrial permittees. Control measures** that the municipality **may suggest include preventing exposure of pollutant sources to precipitation, on-site pretreatment, and oil/water separators.**	Guidance Manual pag. 6-19
The proposed management program **should describe the inspection procedures that will be followed. Storm water inspections can be coupled with inspections for other purposes** (e.g., pretreatment programs, fire and safety). Proposed management **programs should address minimum frequency for routine inspections**. For example, **how often, how much of the site, and how long an inspection may take** are appropriate to explain in this proposed management program component. Applicants should also describe **procedures for conducting inspections and provide an inspector's checklist**. In addition, these inspection procedures should identify the **minimum number of inspectors** that will be employed and **describe the programs to train them.**	Guidance Manual pag. 6-19
Municipalities are **urged to *evaluate* pollution prevention plans and discharge monitoring data collected by the industrial facility to *ensure* that the facility is *in compliance with its NPDES storm water permit. Site inspections* should include (1) *an evaluation of the pollution prevention plan*** and any other pertinent documents, **and (2) an *on-site visual inspection of the facility*** to ***evaluate the potential* for *discharges of contaminated storm water*** from the site and ***to assess the effectiveness of the pollution prevention plan.***	Guidance Manual pag. 6-20
On November 16, 1990 (55 FR 47990), EPA promulgated a permitting scheme where controls for storm water discharges associated with industrial activity through large and medium municipal separate storm sewer systems may be addressed by two permits issued in a coordinated manner. This complementary permit approach envisions cooperative efforts by the permit issuing agency and municipal operators of large and medium municipal separate storm sewer systems to develop programs that will result in controls on pollutants in storm water discharges associated with industrial activity which discharge through municipal systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Under the complementary permit approach, storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems are required to obtain permit coverage. Permits for these discharges will establish requirements (such as controls or monitoring) for industrial operators of the discharge into the municipal system. In addition, these permits provide a basis for enforcement actions directly against the owner or operator of storm water discharges associated with industrial activity.	Federal Register, Vol. 58, No. 222 pag. 61158
A second permit, issued to the operator of the large or medium municipal separate storm sewer, establishes the responsibilities of the	Federal Register, Vol. 58, No. 222 pag. 61158

Requirement	Reference
municipal operators in controlling pollutants from storm water associated with industrial activity which discharges through their system. The framework for permits for discharges from large and medium municipal separate storm sewer systems has been developed to establish the responsibilities of the municipals systems.	
At the heart of the permit program for discharges from municipal separate storm sewer systems serving a population of 100,000 or more are requirements that municipal applicants develop and implement municipal storm water management programs.	Federal Register, Vol. 58, No. 222 pag. 61158
The municipal storm water management programs that will be incorporated into NPDES permits for discharges from municipal separate storm sewer systems will generally address (in addition to other possible requirements) the following three major components: • Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage, and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers. • Reducing pollutants in construction site runoff through municipal separate storm sewers. • Identifying and controlling non-storm water discharges to municipal separate storm sewer systems. These components of a municipal program can initiate the role of the municipality in assisting EPA and authorized NPDES States in implementing controls to reduce pollutants in storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through municipal separate storm sewer systems specifically will address municipal responsibilities in controlling pollutants from industrial facilities.	Federal Register, Vol. 58, No. 222 pag. 61158
EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system.	Federal Register, Vol. 55, No. 222 pag. 47997-98
Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The	Federal Register, Vol. 55, No. 222 pag. 47998

Requirement	Reference
notification procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water, the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.	
EPA also expressed its belief, based upon an analysis of ordinance controlling construction site runoff in places in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule.	Federal Register, Vol. 55, No. 222 pag. 47998
Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers.	Federal Register, Vol. 55, No. 222 pag. 47998
In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits.	Federal Register, Vol. 55, No. 222 pag. 48000
Although today's rule will require industrial discharges through municipal storm sewers to be covered by a separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate.	Federal Register, Vol. 55, No. 222 pag. 48000
Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program.	Federal Register, Vol. 55, No. 222 pag. 48000
The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal.	Federal Register, Vol. 55, No. 222 pag. 48000
As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.	Federal Register, Vol. 55, No. 222 pag. 48000
Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal	Federal Register, Vol. 55, No. 222 pag. 48000

Requirement	Reference
systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.	
EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems.	Federal Register, Vol. 55, No. 222 pag. 48000
This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.	Federal Register, Vol. 55, No. 222 pag. 48000-01
In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system.	Federal Register, Vol. 55, No. 222 pag. 48001

Endnotes:

[1] *Results of the Nationwide Urban Runoff Program, Volume 1--Final Report.* Office of Water. U.S. EPA. 1983.

[2] *"Urban Storm Water Quality: Summary of Contaminant Data." Critical Reviews in Environmental Science and Technology 25(2):93-139.* Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995.

[3] *U.S. Geological Survey Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States. Report No. 85- 337 USGS.* Driver, N.E., M.H. Mustard, R.B. Rhinesmith, and R.F. Middleburg. *Lakewood, CO.* 1985.

[4] *Evaluation of Pollutant Loads from Urban Nonpoint Sources. Wat. Sci. Tech. 22(10/ 11):23-30* Marsalek, J. 1990.; Makepeace, et al., 1995 (see endnote 2).

[5] See Makepeace, et al., 1995 (endnote 2); Marsalek, 1990(see endnote 4); and Pitt, et al., 1995

[6] *Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001.* Office of Water. Washington, DC. U.S. EPA. 1992.

[7] *First Flush of Stormwater Pollutants Investigated in Texas." Note 28. Watershed Protection Techniques 1(2).* Schueler, T.R. 1994.

[8] U.S. EPA, 1992 (See endnote 6).

[9] *Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97- 009.* Office of Water. Washington, DC. U.S. EPA, 1997.

[10] *Quality Indices for Urbanization Effects in Puget Sound Lowland Streams, Technical Report No. 154. University of Washington Water Resources Series.* May, C.W., E.B. Welch, R.R. Horner, J.R. Karr, and B.W. May. 1997.

[11] *The Importance of Imperviousness. Watershed Protection Techniques 1(3).* Schueler, T.R. 1994.; *Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion. Watershed Protection Techniques 2(4).* May, C., R.R. Horner, J.R. Karr, B.W. Mar, and E.B. Welch. 1997.; *Assessing the Status of Aquatic Life Designated Uses in Urban and Suburban Watersheds. In*

Proceedings: National Conference on Retrofits Opportunities in Urban Environments. EPA 625-R-99-002, Washington, DC. Yoder, C.O., R.J. Miltner, and D. White. 1999.;
Assessing Biological Quality and Limitations to Biological Potential in Urban and Suburban Watersheds in Ohio. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers, Auckland, New Zealand. Yoder, C.O and R.J. Miltner. 1999.

[12] Schueler, T.R. 1994 (See endnote 11).

[13] *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation. The Environmental Professional, Vol. 14.* Cohn-Lee, R. and D. Cameron. 1992.

[14] *The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R- 97-008. Office of Water. Washington, DC.* U.S. EPA. 1998.

[15] *Research Reveals Link Between Development and Contamination in Urban Watersheds. USGS news release. USGS National Water-Quality Assessment Program.* U.S. Geological Survey 1998.

[16] *Impacts of Storm Water Runoff on Urban Streams in Milwaukee County, Wisconsin. Paper presented at National Symposium on Water Quality: American Water Resources Association.* Masterson, J. and R. Bannerman. 1994.;
Fish Dynamics in Urban Streams Near Atlanta, Georgia. Technical Note 94. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.

[17] *Selected Chemical Characteristics and Acute Toxicity of Urban Stormwater, Streamflow, and Bed Material, Maricopa County, Arizona. Water Resources Investigations Report 95-4074.* USGS Lopes, T. and K. Fossum. 1995.;
Effects of Urban Runoff on Aquatic Biota." In Handbook of Ecotoxicology. Pitt, R. 1995.;
Ecological Effects of Urban Stormwater Runoff on Benthic Macroinvertebrates Inhabiting the Green River, Massachusetts. Completion Report Project No. A-094. Water Resources Research Center. University of Massachusetts at Amherst. Pratt, J. and R. Coler. 1979.;
Historical Change in a Warmwater Fish Community in an Urbanizing Watershed. Technical Note 93. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.;
May, C., et.al. 1997 (See endnote 11).

[18] *Biological Effects of Urban Runoff Discharges.* Pitt, R.E. 1995. *In Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment,* ed. E.E Herricks, Lewis Publishers; Crunkilton, R., J. Kleist, D. Bierman, J. Ramcheck, and W. DeVita. 1999.;
Importance of Toxicity as a Factor Controlling the Distribution of Aquatic Organisms in an Urban Stream. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers. Auckland, New Zealand.

[19] *Sources of Pollutants in Wisconsin Stormwater. Wat. Sci. Tech. 28(3-5):241-59.* Bannerman, R.T., D.W. Owens, R.B. Dods, and N.J. Hornewer. 1993.

[20] *Basic Data on Urban Storm-Water Quality, Portland, Oregon* – USGS Open File Report 76-594 -1976

[21] *Partitioning and First Flush of Metals in Urban Roadway Storm Water. ASCE Journal of Environmental Engineering 123(2).* Sansalone, J.J. and S.G. Buchberger. 1997;
Physical Characteristics of Urban Roadway Solids Transported During Rain Events. ASCE Journal of Environmental Engineering 124(5). Sansalone, J.J., J.M. Koran, J.A. Smithson, and S.G. Buchberger. 1998.;
Sources of Metals in New York City Wastewater. J. Water Pollution Control Federation 46(12):2653-62. Klein, L.A., M. Lang, N. Nash, and S.L. Kirschner. 1974.;
A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction. Research Report 1943-1. Center for Transportation Research, University of Texas, Austin. Barrett, M.E, R.D. Zuber, E.R. Collins, J.F. Malina, R.J. Charbeneau, and G.H Ward., 1993.

[22] *Cars Are Leading Source of Metal Loads in California. Technical Note 13. Watershed Protection Techniques 1(1):28;*
Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program – Report to Congress. EPA 833-K-94-002;
Innovative Urban Wet-Weather Flow Management Systems. Technomic Publishing Co. Inc. Richard Field et. al. 2000.

[23] *Practical Pollution Prevention Emphasized for Industrial Stormwater. Technical Note 36. Watershed Protection Techniques 1(3):131-132.* L. Donald Duke.;

Santa Clara Valley Nonpoint Source Control Program. Source Identification and Control Report. 1992. Woodward Clyde Consultants;
Critical Source Selection and Monitoring Report prepared for Los Angeles County Department of Public Works. 1996. Woodward Clyde Consultants;
Water Quality of First Flush Runoff from 20 Industrial Sites. Water Environment Research 69 (3):305-310. D.E. Line et. al.;
Comparison of NPDES Program Findings for Selected Cities in United States. USGS Fact Sheet 192-97 January 1998;
Stormwater Runoff for Selected Watersheds in the Edwards Aquifer Recharge Zone, Bexar County USGS Fact Sheet 172-98 March 1999;
Quantity and Quality of Urban Stormwater Runoff from Selected Drainage Basins – Water-Resources Investigations Report 98-4168. 1998 USGS;
Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use. Fourth Biennial Stormwater Research Conference, Florida. Rabanal et al. 1995;
Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses. in Watershed '96 Proceedings – Baltimore. David L. Shepp, 1996;
Water Quality Of Storm Runoff And Comparison Of Procedures For Estimating Storm-Runoff Loads, Volume, Event-Mean Concentrations And The Mean Load For A Storm For Selected Properties And Constituents For Colorado Springs, Southeastern Colorado, 1992 – USGS Water-Resources Investigations Report 94-4194, 1995

[24] *Urban stormwater toxic pollutants: assessment, sources, and treatability. Water Environment Research, 67(3):260-75.* Pitt, R., R. Field, M. Lalor, M. Brown 1993.

[25] *A Guide to Water Quality at Vacation Beaches. New York, NY.* Natural Resources Defense Council. 1999.

[26] *Testing the Waters Volume VI: Who Knows What You're Getting Into. New York, NY.* Natural Resources Defense Council. 1996.;
Testing the Waters Volume VII: How Does Your Vacation Beach Rate. New York, NY. NRDC. 1997.;
Draining to the Ocean: The Effects of Stormwater Pollution on Coastal Waters. American Oceans Campaign, Santa Monica, CA. Morton, T. 1997.

[27] *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Final Report prepared for the Santa Monica Bay Restoration Project.* Haile, R.W., et. al. 1996.

[28] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994

[29] *County of Los Angeles Five-Year Stormwater Public Education Plan* 1996

[30] *EPA 833-R-00-002*, March 2000

[31] *NPDES Form 3510-11*

[32] *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* U.S. EPA 1992

[33] Broward County MS4, Palm Beach County MS4, Sarasota County MS4, issued by U.S. EPA Region 4, City of Tulsa MS4, Oklahoma City MS4, City of Corpus Christi MS4, City of Forth Worth MS4 issued by U.S. EPA Region 6, City of Seattle MS4 issued by Washington State Department of Ecology, City of Portland MS4 issued by the Oregon Department of Environmental Quality

[34] County of Santa Clara and co-permittees MS4 (issued 2001), San Diego County and co-permittees MS4 (issued 2001)

[35] *City of Monterey Stormwater Ordinance* 1997

[36] Letter from Eugene Bromley, Stormwater Coordinator U.S. EPA Region 9, to Maryann Jones Storm Water Section, California State Water Resources Control Board December 1993

[37] Letter from Alexis Strauss, Director Water Division, US EPA Region 9 to Dennis A. Dickerson in support of a municipal enforcement program for industrial sites included in the renewed MS4 Permit for LA County - December 2000;
Letter to James DeStefano, Interim City Manager – Diamond Bar, from Alexis Strauss, EPA Region 9 Water Division Director, regarding comments on the letter concerning inspection requirements – May 2001;
Letter from Christine Todd Whitman, U.S. EPA Administrator to The Honorable David Dreier, U.S. House of Representatives - July 2001

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[38] Response To Comments Received On The December 18, 1995 Draft NPDES Permit For Municipal Storm Water And Urban Runoff Discharges Within The County Of Los Angeles - March 1996; Memorandum from Jorge A. Leon, Senior Staff Counsel, State Water Resources Control Board to Catheryne Tyrrell, Assistant Executive Officer Regional Board Los Angeles – April 1996

[39] Vol. 133 Cong.Rec. S733-02 (daily ed. Jan. 14, 1987).

[40] *The Critical Source Selection and Monitoring Report.* Woodward-Clyde Consultants prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997.

[41] *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (CTR)*, 40 CFR 131.38.

[42] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.*

[43] *Research Report on Issues, Pollutants and Materials for the Stormwater/Urban Runoff Public Education Program.* Prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997

R0006662

PERMIT NO. FLS000004
Major MS4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

Sarasota County - Municipal Separate Storm Sewer System Permittees:

Sarasota County
Engineering Department
Sarasota, Florida

Town of Longboat Key
Department of Public Works
Longboat Key, Florida

City of North Port
Roads and Drainage Department
North Port, Florida

City of Sarasota
Department of Public Works
Sarasota, Florida

City of Venice
Department of Public Works
Venice, Florida

Florida Department of Transportion
District One
Bartow, Florida

are authorized to discharge, in accordance with the approved Storm Water Management Program(s), effluent limitations, monitoring requirements, and other provisions as set forth in Parts I, II, III, IV, V, VI, VII, and VIII herein, from all portions of the

Municipal Separate Storm Sewer System owned or operated by any Permittee listed above,

to waters of the United States and all tributaries thereto.

This permit shall become effective on January 1, 1995.

This permit and the authorization to discharge under the National Pollutant Discharge Elimination System shall expire at midnight, on December 31, 1999.

DEC 0 1 1994
Date Issued

Robert F. McGhee, Acting Director
Water Management Division

R0006663

g. *Limitation of Sanitary Sewer Seepage:* The permittees shall prevent (or require the operator of the sanitary sewer to eliminate) unpermitted discharges of dry and wet weather overflows from sanitary sewers into the MS4. Each permittee shall eliminate the infiltration of seepage from sanitary sewers into the MS4.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.7.g. on page 36 of this permit.

8. *Industrial and High Risk Runoff:* The permittees shall develop and implement a program to identify and control pollutants, to the MEP and shall not cause or contribute to violations of State water quality standards of the receiving stream, in storm water discharges to the MS4 from the municipal landfill(s); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge in which the permittees determine is contributing a substantial pollutant loading to the MS4.

To satisfy the two (2) requirements of this section, the permittees shall:

a. *Identify priorities and procedures for inspections:* Identify all targeted facilities and determine priority sites in accordance with the schedule provided in Part III.A.8.a. on pages 37 and 38 of this permit. Inspection schedules and procedures for the identified facilities shall be developed and implemented. Also, the permittees shall provide a listing in each ANNUAL REPORT of additionally identified industrial facilities which discharge storm water into the MS4 which have not been previously reported. The industrial storm water discharges that must be included in this inventory fall into the eleven (11) classes of industrial activities as defined in the November 1990 regulations under 40 CFR 122.26(b)(14).

b. *Monitoring for High Risk Industries:* Develop and implement a monitoring (or self monitoring) program for facilities identified under this section in accordance with the schedule provided in Part III.A.8.b. on page 38 of this permit. The monitoring program shall include the collection of quantitative data on the following constituents:

- any pollutants limited in an existing NPDES permit for an identified facility;
- oil and grease;
- chemical oxygen demand (COD);
- pH;
- biochemical oxygen demand, five-day (BOD_5);
- total suspended solids (TSS);
- total phosphorous;
- total Kjeldahl nitrogen (TKN);
- nitrate plus nitrite nitrogen; and
- any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

Data collected by the industrial facility to satisfy the monitoring requirements of an NPDES or State discharge permit may be used to satisfy this requirement. Permittees may require the industrial facility to conduct self-monitoring to satisfy this requirement.

9. *Construction Site Runoff:* The permittees shall develop and implement a program to reduce the discharge of pollutants from construction sites to the MEP, and to shall not cause or contribute to violations of State water quality standards of the receiving stream.

a. *Site Planning and Non-structural & Structural Best Management Practices:* The permittees shall require the use and maintenance of appropriate structural and non-structural best management practices to reduce pollutants discharged to the MS4 during the time of construction.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.9.a. on page 39 of this permit.

b. *Inspection and Enforcement:* The permittees shall develop and implement a program for inspecting construction sites and for enforcing the requirement for control measures.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.9.b. on pages 40 and 41 of this permit.

E. Legal Authority. To the extent allowed by law, each permittee shall ensure legal authority to control discharges to and from those portions the MS4 over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements between permittees with adequate existing legal authority to accomplish Items 1 - 6 below. This legal authority for FDOT may be a combination of State statutes administered and enforced by sister agencies within the State of Florida government system which have adequate existing legal authority to accomplish Items 1 - 6 below.

1. Control the contribution of pollutants to the MS4 by Storm Water Discharges Associated with Industrial Activity and the quality of storm water discharged from sites of industrial activity;

2. Prohibit illicit discharges to the MS4;

3. Control the discharge of spills and the dumping or disposal of materials other than storm water (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;

4. Control through interagency or inter-jurisdictional agreements among permittees the contribution of pollutants from one portion of the MS4 to another;

5. Require compliance with conditions in ordinances, permits, contracts or orders; and

6. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

F. Storm Water Management Program Resources. Each permittee shall provide adequate finances to implement their activities under the Storm Water Management Program. Each permittee shall also have a source of funding for implementing all other requirements included within this NPDES storm water permit.

3. Provide a Summary Table of Storm Water Management Program Elements.

a. A Summary Table of appropriate SWMP annual activities for each permittee shall be provided. The purpose of the Summary Table is to document in a concise form the program activities and permittees' compliance status with quantifiable permit requirements. Program elements that are administrative (e.g.: planning procedures, program development and pilot studies) are inappropriate for the summary table and shall be discussed in the narrative section of the ANNUAL REPORT. The following are examples of SWMP activities to be included in the Summary Table:

(1) Structural Controls - maintenance and/or inspection activities of existing structural controls

(2) Roadway Maintenance - street sweeping, litter control activities, and maintenance on storm water structures & roadside ditches

(3) Municipal Waste TSD Facilities - inspections, monitoring, and implementation of control measures

(4) Pesticide, Herbicide, and Fertilizer Application - certification training and public education

(5) Illicits - facility inspections, investigations, enforcement actions, illicit (dry weather) screening, illicit public reporting, oil/household hazardous waste collection, and storm sewer inlet stencilling

(6) High Risk Industrial Facilities - inspection activities and monitoring

(7) Construction - training of inspectors, certification of construction site operators, inspections, and enforcement actions

(8) Storm Water Treatment Projects - description of municipal storm water treatment projects that have been completed, including a brief description of the affected drainage basin

b. The Summary Table shall indicate each permittee's SWMP activities and accomplishments. The format for this information shall adhere to the example shown in Table V.C.1. on page 55. Items to be reported include:

(1) Activity description;

(2) Number of activities (with frequency) that were scheduled for implementation and/or accomplishment in program element discussion (i.e., once/6 months, 100%/5 years, 6 sites monitored once/year, all sites inspected/permit term). Enter "Not Applicable" (N/A) if no specific schedule was specified;

(3) Status of schedule for year ("yes" for schedule was adhered to, or "no" for schedule was not adhered to);

(4) Number of activities which were accomplished; and

(5) The availability of documentation (i.e., inspection reports) for those activities which were accomplished and comments describing the reason(s) for any non-compliance.

4. The ANNUAL REPORT shall contain a Narrative Report to succinctly discuss the SWMP Elements which were not included within the SWMP Summary Table. Those SWMP Elements required to be developed under Parts II and III of the permit shall be discussed within this section of the ANNUAL REPORT following development.

a. The permittees shall include a brief discussion of the following applicable SWMP Elements:

(1) Structural Controls Maintenance
(2) Development Planning Procedures
(3) Roadway Maintenance
(4) Flood Management
(5) Municipal Facilities
(6) Pesticides, Herbicides, and Fertilizers
(7) Illicits Inspection/Investigation/Enforcement
(8) Field Screening
(9) Spill Response

(10) Public Reporting of Illicit Discharges
(11) Oil and Household Hazardous Waste
(12) Sanitary Sewer Seepage
(13) High Risk Industrial Facility Inspection
(14) Construction Planing Procedures
(15) Construction Inspections
(14) Education Activities
(15) Monitoring Activities
(16) Any additional elements of Storm Water Management Program

b. The format for the Narrative Report section of the ANNUAL REPORT shall be a brief discussion of the SWMP Element. The aspects of each permittee's activities concerning a SWMP Element shall be succinctly discussed in the section of the Narrative Report dedicated to that Element. The discussion shall include the following:

(1) Objective of SWMP Element,

(2) SWMP Element activities completed and those in progress,

(3) General discussion of Element. Explanation of all Element activity deficiencies (e.g.: activities described in the program that have not been fully implemented or completed). Results of activities shall be summarized and discussed (e.g.: maintenance caused by inspection, pollutants detected by monitoring, investigations as a result of dry and wet weather screening, number and nature of enforcement items, education activities participation),

(4) Status of SWMP Element with compliance, implementation, and augmentation schedules in Part III of the permit,

(5) SWMP Element strengths and weaknesses,

(6) Assessment of controls, and

(7) Discussion of Element revisions that are summarized elsewhere in the ANNUAL REPORT.

STORM WATER MANAGEMENT PROGRAM	PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
8. *Industrial and High Risk Runoff*			
a.) Identification of Priorities and Procedures for Inspections	ALL	Develop an inventory of all existing high risk facilities discharging into the MS4. This inventory shall identify the outfall and surface waterbody into which each high risk facility drains.	Within 24 Months of the Effective Date of the Permit
		Based upon historical information and available monitoring & screening data, prioritize the identified high risk facilities.	Within 24 Months of the Effective Date of the Permit
	ALL **except for** FDOT	Develop procedures for inspecting high risk facilities and establish an inspection schedule. After development, include a summary of the procedures & inspection schedule in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	FDOT	Develop procedures for the inspection of high risk facilities which hold FDOT drainage connection permits to ensure compliance with permit requirements. In cases where another regulatory agency requires a periodic certification of compliance, the program developed may allow FDOT to accept this certification of compliance in lieu of further inspections by FDOT. After development, include a summary of the procedures & inspection schedule in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	ALL	Begin inspections of identified high risk facilities. Maintain an internal log documenting the results of the inspections performed.	Within 36 Months of the Effective Date of the Permit

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STORM WATER MANAGEMENT PROGRAM	PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
8. *Industrial and High Risk Runoff* (continued)			
a.) *Identification of Priorities and Procedures for Inspections* (continued)	ALL	Maintain a list of all industrial storm water sources discharging to MS4 & update in ANNUAL REPORTS.	Effective Date of the Permit
b.) *Monitoring for High Risk Industries*	ALL **except for** FDOT	Develop a monitoring (or self monitoring) program for high risk industrial facilities. Include a description of the specific enforcement steps to be taken to require compliance with local storm water ordinances if violations are identified. After development, include a summary of the monitoring program in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	FDOT	Develop a monitoring (or self monitoring) program for high risk industrial facilities which hold FDOT drainage connection permits. Include a description of the specific enforcement steps to be taken to require compliance with permit conditions if violations are identified. After development, include a summary of the monitoring program in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit
	ALL	Implement the monitoring program for high risk industrial facilities.	Within 36 Months of the Effective Date of the Permit

R0006671

NPDES Permit No. OKS000201

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, 33 U.S.C. 1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

City of Tulsa
Department of Public Works
200 Civic Center
Tulsa, Oklahoma 74103

is(are) authorized to discharge, in accordance with the Storm Water Management Program(s), effluent limitations, monitoring requirements, and other provisions set forth in Parts I, II, III, IV, V, VI, VII, and VIII herein,

from all portions of the City of Tulsa Municipal Separate Storm Sewer System (MS4) owned or operated by any permittee listed above, to waters of the United States.

This permit will become effective October 1, 1994

This permit and the authorization to discharge under the National Pollutant Discharge Elimination System shall expire at midnight, on September 30, 1999

Signed this 26 day of August, 1994

Monica L. Burrell
Environmental Engineer
Municipal Section (6W-PM)

Myron O. Knudson, P.E.
Director
Water Management Division (6W)

R0006672

weather screening activities to locate portions of the Municipal Separate Storm Sewer System with suspected illicit discharges and improper disposal. Follow-up activities to eliminate illicit discharges and improper disposal may be prioritized on the basis of magnitude and nature of the suspected discharge; sensitivity of the receiving water; and/or other relevant factors. This program shall establish priorities and schedules for screening the entire Municipal Separate Storm Sewer System at least once per five years. The permittee(s) shall utilize a consistent method (e.g. by land area, by outfall, etc.) for determining the percentage of the municipal separate storm sewer system that has been screened. Facility inspections may be carried out in conjunction with other municipal programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the municipality.

f. Each permittee shall require the elimination of illicit discharges and improper disposal practices as expeditiously as reasonably possible. Where elimination of an illicit discharge within thirty (30) days is not possible, the permittee shall require an expeditious schedule for removal of the discharge. In the interim, the permittee shall require the operator of the illicit discharge to take all reasonable and prudent measures to minimize the discharge of pollutants to the Municipal Separate Storm Sewer System.

g. The permittee(s) shall maintain, and update as necessary, a list of discharges to municipal separate storm sewers that has been issued a NPDES permit. The list shall include the name, location and NPDES permit number of the discharger.

7. *Spill Prevention and Response:* A program to prevent, contain, and respond to spills that may discharge into the Municipal Separate Storm Sewer System shall be implemented. The spill response program may include a combination of spill response actions by the permittee(s) (and/or another public or private entity), and legal requirements for private entities within the permittee's municipal jurisdiction.

8. *Industrial & High Risk Runoff:* A program to identify and control pollutants in storm water discharges to the Municipal Separate Storm Sewer System from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines are contributing a substantial pollutant loading to the Municipal Separate Storm Sewer System shall be implemented. The program shall include:

a. priorities and procedures for inspections and establishing and implementing control measures for such discharges;

b. a monitoring program (Part II.A.11.c.); and

c. a list of industrial storm water sources discharging to the Municipal Separate Storm Sewer System shall be maintained and update as necessary.

b. *Wet Weather Screening Program:* The permittee(s) shall identify, investigate, and address areas within their jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System. The wet weather screening program:

(1) shall screen the Municipal Separate Storm Sewer System, in accordance with the procedures specified in the Storm Water Management Program.

(2) shall specify the sampling and non-sampling techniques to be used for initial screening and follow-up purposes. Sample collection and analysis need not conform to the requirements of 40 CFR Part 136. However, samples taken to confirm (e.g. in support of possible legal action) a particular discharger is a source of significant quantities of pollutants should conform to the requirements of 40 CFR Part 136.

c. The *Industrial and High Risk Runoff Monitoring Program* shall include monitoring for pollutants in storm water discharges to the Municipal Separate Storm Sewer System from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities; facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee(s) determines are contributing a substantial pollutant loading to the Municipal Separate Storm Sewer System.

(1) Except as provided in (2) below, the monitoring program shall including the collection of quantitative data on the following constituents:

(a) any pollutants limited in an existing NPDES permit for a subject facility;
(b) oil and grease;
(c) chemical oxygen demand (COD);
(d) pH;
(e) biochemical oxygen demand, five-day (BOD_5);
(f) total suspended solids (TSS);
(g) total phosphorous;
(h) total Kjeldahl nitrogen (TKN);
(i) nitrate plus nitrite nitrogen; and
(j) any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv).

Data collected by the industrial facility to satisfy the monitoring requirements of an NPDES or State discharge permit may be used to satisfy this requirement. Permittee(s) may require the industrial facility to conduct self-monitoring to satisfy this requirement.

(2) Alternative Certification: In lieu of monitoring, the permittee may accept a certification from a facility that raw and waste materials, final and intermediate products, by-products, material handling equipment or activities, industrial machinery or operations, or significant materials from past industrial activity are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period. Where the permittee(s)

accept a "no exposure" certification, the permittee(s) shall conduct at least one site inspection of the facility every five years to verify the "no exposure" exemption.

B. Area-specific Storm Water Management Program Requirements. Reserved.

C. Deadlines for Program Implementation. Except as provided in Part III., full implementation of the Storm Water Management Program shall begin within 90 days from the effective date of the permit.

D. Roles and Responsibilities of Permittee(s). The Storm Water Management Program, together with any attached interagency agreements, shall clearly identify the roles and responsibilities of each permittee.

E. Legal Authority. Each permittee shall ensure legal authority to control discharges to and from those portions the Municipal Separate Storm Sewer System over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements with permittees with existing legal authority to:

1. Control the contribution of pollutants to the Municipal Separate Storm Sewer System by Storm Water Discharges Associated with Industrial Activity and the quality of storm water discharged from sites of industrial activity;

2. Prohibit illicit discharges to the Municipal Separate Storm Sewer System;

3. Control the discharge of spills and the dumping or disposal of materials other than storm water (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the Municipal Separate Storm Sewer System;

4. Control through interagency or interjurisdictional agreements among permittees the contribution of pollutants from one portion of the Municipal Separate Storm Sewer System to another;

5. Require compliance with conditions in ordinances, permits, contracts or orders; and

6. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

F. Storm Water Management Program Resources. Each permittee shall provide adequate finances, staff, equipment, and support capabilities to implement their activities under the Storm Water Management Program.

G. Storm Water Management Program Review and Update.

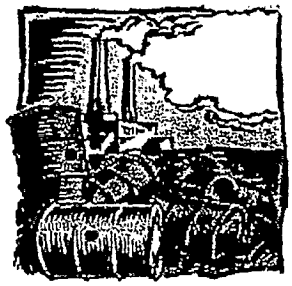
1. *Storm Water Management Program Review:* Each permittee shall participate in an annual review of the current Storm Water Management Program in conjunction with preparation of the annual report required under Part V.C.

2. *Storm Water Management Program Update:* The permittee(s) may change the Storm Water Management Program during the life of the permit in accordance with the following procedures:

   a. The approved Storm Water Management Program shall not be changed by the permittee(s) without the approval of the Director, unless in accordance with Parts II.G.2.b. and 2.c.

STORM WATER MANAGEMENT PROGRAM COMPONENT	ACTIVITY	DATE DUE/FREQUENCY
7. Flood Control Projects	a. Complete evaluation of existing flood control structures for feasible water quality retrofit projects.	October 1, 1998
	b. Complete schedule for proposed water quality retrofits to existing flood control structures.	November 1, 1998
8. Industrial and High Risk	a. Develop program to identify, monitor, and control pollutants from targeted facilities	July 1, 1995
	b. Implement program	July 1, 1996
9. Pesticide, Herbicide, and Fertilizer Application	a. Implement annual training/education on pesticide and fertilizer management techniques.	January 1, 1995
	b. Establish requirement for commercial pesticide applicators to be licensed under the Oklahoma Pesticide Applicators Law.	April 1, 1995

R0006676



Fort Worth's Industrial Inspection Program

The City's Industrial Inspection Program was created as a requirement of the City's NPDES Storm Water Permit with the EPA. For the purposes of compliance with the permit, the City must inspect (1) SARA Title III Section 313 industrial facilities, (2) hazardous waste treatment, disposal or recovery facilities, (3) municipal facilities under NPDES regulations and (4) industries that discharge, or have the potential to discharge, substantial pollutant loadings to the storm drain system. Each of these facilities must be inspected once every five years, at a minimum. These inspections are based upon EPA criteria and primarily include a review of the facility's Storm Water Pollution Prevention Plan (SWPPP) and a physical inspection of the facility to identify any potential sources of storm water pollution.

The City of Fort Worth Department of Environmental Management (DEM) has taken a unique approach in performing these inspections. As a regulatory agency, the City has the authority to impose fines and initiate state and federal investigations upon non-compliant industries. However, the federal storm water regulations are not only complicated, they are new to many industries.

DEM is cognizant of this and has taken an approach of education and cooperation with the industries, as opposed to enforcement. When our inspectors visit an industry for the first time, they will perform a comprehensive review of the industry's SWPPP. Any deficiencies in the SWPPP are noted and the industry is given 30 days to make appropriate corrections. During this initial phase, the inspector is willing to assist the industry gain compliance with its permit. This assistance may be in the form of supplying EPA paperwork, answering questions, performing plan reviews, interpreting data, or anything else needed by the industry.

At the end of the 30 day period, the inspector reviews the SW3P again and notes whether the facility is in compliance. In some cases, the industry may not be in compliance at the end of the 30 day period. DEM recognizes that in some special cases, 30 days may not be enough time to make major changes. In such cases, DEM will continue to work with the industry until the industry is in compliance. Industries that do not obtain permits or make reasonable efforts to implement SWPPPs are referred to the EPA for possible federal enforcement action.

For additional information on the inspection process, please call 817-871-5451 and ask for an Industrial Inspector.

Return to Storm Water Discharges Associated With Industrial Activity

FORT WORTH

This page was last modified on February 22, 2001.

HIGHLIGHTS OF TULSA'S SWMP

- **Areas of New Development and Significant Redevelopment**

  - Tulsa has until February 1, 1995, to adopt and implement the Draft Storm Water Management Criteria Manual (Criteria Manual).

- **Illicit Connections/Improper Disposal including Household Hazardous Waste/Used Motor Vehicle Fluids**

  - Operation and maintenance programs on both the storm sewers and sanitary sewers.

  - Tulsa has until May 1, 1995, to install two floatable monitoring locations for removal of floatable material in discharges to or from the Municipal separate storm sewer system. The City will also have to complete the study for targeting structural controls and develop schedule for implementation.

  - Currently have eight (8) locations for collection of used motor vehicle fluids which are open 24 hours a day, 7 days a week. They also have plans to open more recycling centers in the future.

  - Will have semi-annual collection events located within 5 miles of most folks in City.

  - Ongoing program to detect and eliminate illicit discharges and improper disposal.

- **Industrial & High Risk Runoff**

  - [redacted] operating and closed municipal landfills, all treatment, storage, and disposal facilities for municipal wastes, Hazardous waste treatment, storage and disposal facilities, and industrial facilities regulated under SARA Title III, Section 313 once per permit term.

- **Construction Runoff**

  - The city of Tulsa Stormwater Management Criteria Manual, Chapter 1500, addresses erosion and sedimentation control for construction related activities.

- **Public Education**

12/01/01

BROWARD COUNTY PERMITTEES
NPDES PERMIT FOR
MUNICIPAL SEPARATE STORM SEWER SYSTEMS

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BROWARD COUNTY PERMITTEES
NPDES PERMIT FOR
MUNICIPAL SEPARATE STORM SEWER SYSTEMS

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PART I.

DISCHARGES AUTHORIZED UNDER THIS PERMIT

A. Permit Area. This permit covers all areas located within the political boundary of Broward County, excluding all areas within the City of Hollywood and the City of Fort Lauderdale, served by municipal separate storm sewer systems owned or operated by the permittees identified in Part I.C.

B. Authorized Discharges. Except for discharges prohibited under Part I.D., this permit authorizes all existing or new storm water point source discharges to waters of the United States from those portions of the Municipal Separate Storm Sewer System (MS4) owned or operated by the permittees.

C. Permittees.
The following entities are permittees subject to the conditions of this permit:

- Unincorporated Broward County
- City of Coconut Creek
- City of Cooper City
- City of Coral Springs
- City of Dania
- Town of Davie
- City of Deerfield Beach
- City of Hallandale
- Town of Lauderdale by the Sea
- City of Lauderdale Lakes
- City of Lauderhill
- City of Lighthouse Point
- City of Margate
- FDOT (District Four and Turnpike District)
- City of Miramar
- City of North Lauderdale
- City of Oakland Park
- City of Parkland
- Town of Pembroke Park
- City of Pembroke Pines
- City of Plantation
- City of Pompano Beach
- Village of Sea Ranch Lakes
- City of Sunrise
- City of Tamarac
- City of Wilton Manors

References to "permittee" in this permit include each of the entities above.

1. Each permittee is individually responsible for:

   a. Compliance with permit conditions relating to discharges from portions of the MS4 where they are the operator;

   b. Storm water management program implementation on portions of the MS4 where they are the operator;

   c. Where permit conditions are established for specific portions of the MS4, the permittee need only comply with the permit conditions relating to those portions of the MS4 for which they are the operator; and

   d. A plan of action to assume responsibility for implementation of storm water management and monitoring programs on their portions of the

into the MS4.

(1) To satisfy the requirements of this section, the permittees shall implement the Storm Water Management Programs identified in Part III.A.7.g. on page 35 of this permit.

8. *Industrial and High Risk Runoff:* The permittees shall implement the SWMP to identify and control pollutants in storm water discharges to the MS4 from the municipal landfill(s); hazardous waste treatment, storage, disposal and recovery facilities; facilities that have reported under the requirements of EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittees determine is contributing a substantial pollutant loading to the MS4. The program implemented shall be consistent with State Water Policy.

To satisfy the two (2) requirements of this section, the permittees shall:

a. *Identification of priorities and procedures for inspections:* In accordance with the schedule provided in Part III.A.8.a. on page 36 of this permit, the permittee(s) shall identify all targeted facilities and determine priority sites. Inspection schedules and procedures for the identified facilities shall be implemented regularly. Also, the permittees shall provide a listing in each ANNUAL REPORT of additionally identified industrial facilities which discharge storm water into the MS4 which have not been previously reported. At a minimum, the industrial storm water discharges that shall be included in this inventory fall into the eleven (11) classes of industrial activities as defined in the November 1990 regulations under 40 CFR 122.26(b)(14).

b. *Monitoring for High Risk Industries:* Implement the monitoring program for facilities identified under this section in accordance with the schedule provided in Part III.A.8.b. on page 37 of this permit. The monitoring program shall include the collection of quantitative data on the following constituents:

- any pollutants limited in an existing NPDES permit for an identified facility;
- oil and grease;
- chemical oxygen demand (COD);
- pH;
- biochemical oxygen demand, five-day (BOD_5);
- total suspended solids (TSS);
- total phosphorous;
- total Kjeldahl nitrogen (TKN);

Management Program(s) identified in Part III.A.9.c. on page 40 of this permit.

B. Area-specific Storm Water Management Program Requirements.

NONE

C. Deadlines for Program Compliance. Except as provided in Part III, compliance with the storm water management program shall be required 90 days from the effective date of the permit.

D. Roles and Responsibilities of Permittees. The Storm Water Management Program, together with any attached interagency agreements or interagency agreements developed subsequent to the effective date of the permit, shall clearly identify the roles and responsibilities of each permittee. Following the effective date of the permit, interagency agreements developed and implemented must be included in the ANNUAL REPORT covering the permit year in which the agreement became effective.

E. Legal Authority. To the extent allowed by law, each permittee shall ensure legal authority to control discharges to and from those portions of the Municipal Separate Storm Sewer System (MS4) over which it has jurisdiction. This legal authority may be a combination of statute, ordinance, permit, contract, order or inter-jurisdictional agreements among permittees with adequate existing legal authority to accomplish items 1 - 6 below. This legal authority for FDOT may be a combination of State statutes administered and enforced by sister agencies within the State of Florida government system which have adequate existing legal authority to accomplish the following items 1 - 6:

1. **Control the contribution of pollutants to the MS4 by Storm Water Discharges Associated with Industrial Activity and the quality of storm water discharged from sites of industrial activity;**

2. Prohibit illicit discharges to the MS4;

3. Control the discharge of spills and the dumping or disposal of materials other than storm water (e.g. industrial and commercial wastes, trash, used motor vehicle fluids, leaf litter, grass clippings, animal wastes, etc.) into the MS4;

4. Control through interagency or inter-jurisdictional agreements among permittees the contribution of pollutants from one portion of the MS4 to another;

5. Require compliance with conditions in ordinances, permits, contracts or orders; and

6. Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions.

F. Storm Water Management Program Resources.

Each permittee shall provide adequate finances to implement their activities under the Storm Water Management Program. Each permittee shall also have a source of funding for implementing all other requirements included within this NPDES storm water permit.

G. Storm Water Management Program Review and Modification.

1. *Program Review:* Each permittee shall participate in an annual review of the current Storm Water Management Program (SWMP) in conjunction with preparation of the ANNUAL REPORT required under Part V.C. of the permit.

2. *Program Modification:* The permittee(s) may modify the SWMP during the life of the permit in accordance with the following procedures:

   a. Modifications adding (but not subtracting nor replacing) components, controls, or requirements to the approved SWMP may be made by the permittee(s) at any time. A description of the modification shall be included within the subsequent ANNUAL REPORT.

   b. Modifications replacing an ineffective or unfeasible BMP specifically identified in the SWMP with an alternate BMP may be made by the permittee(s) at any time. A description of the replacement BMP shall be included in the subsequent ANNUAL REPORT along with the following information:

      (1) an analysis of why the former BMP was ineffective or infeasible (including cost prohibitive);

      (2) expectations on the effectiveness of the replacement BMP; and

STORM WATER MANAGEMENT PROGRAM:

8. a.) Industrial and High Risk Runoff - Identification of priorities and procedures for inspections.

PERMITTEE(S)	ACTIVITY	DATE DUE / FREQUENCY
ALL except FDOT	Inventory and prioritize all existing high risk facilities discharging into the MS4 within each permittee's jurisdictional area. High risk facilities shall include municipal landfills, hazardous waste treatment, storage, disposal and recovery facilities, facilities that have reported under the requirements of EPCRA Title III, Section 313, private and municipal waste handling facilities and any other industrial or commercial discharge which the permittee determines is contributing a substantial pollutant loading to the MS4. This inventory shall identify the outfall and surface water body into which each high risk facility drains.	Within 24 Months of the Effective Date of the Permit
	Implement procedures, within each permittee's jurisdictional area, to determine if the identified high risk facilities are in compliance with all appropriate aspects of the storm water program (e.g. no illicit connections; compliance with local storm water regulation requirements; and if the facility is required to have NPDES permit coverage, a copy of the NPDES storm water pollution prevention plan on site). Maintain a list of all industrial storm water sources discharging to the MS4 and include an update in each ANNUAL REPORT of any additionally identified industrial facilities not previously listed. Maintain a log documenting the results of the inspections performed.	Effective Date of the Permit
FDOT	Develop procedures for the inspection of high risk facilities which hold FDOT drainage connection permits to verify compliance with FDOT Drainage permit requirements. In cases where another regulatory agency requires a periodic certification of compliance, the program developed may allow FDOT to accept this certification of compliance in lieu of further inspections by FDOT.	Within 24 Months of the Effective Date of the Permit

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STORM WATER MANAGEMENT PROGRAM: *8. a.) Industrial and High Risk Runoff - Identification of priorities and procedures for inspections.*		
PERMITTEE(S)	ACTIVITY	DATE DUE/ FREQUENCY
	After development, include a summary of the procedures & inspection schedule for incorporation into the permit.	Provide in the subsequent ANNUAL REPORT

STORM WATER MANAGEMENT PROGRAM: *8. b.) Industrial and High Risk Runoff - Monitoring for High Risk Industries.*		
PERMITTEE(S)	ACTIVITY	DATE DUE/ FREQUENCY
Broward County	Begin implementing Broward County's DNRP monitoring program for identified high risk industrial facilities.	Effective Date of the Permit
	Initiate enforcement action on those facilities having storm water discharges to the MS4 which violate water quality standards. Send to EPA a copy of each Notice of Violation at the address shown in Part V.E.2., page 55 of the permit.	Within 12 Months of the Effective Date of the Permit
FDOT	Develop a monitoring program which addresses the water quality criteria included in the FDOT permitting process for those high risk industrial facilities which hold FDOT drainage connection permits. Include a description of the specific enforcement steps to be taken to require compliance with permit conditions if violations are identified. After development, include a summary of the monitoring program in the subsequent ANNUAL REPORT for incorporation into the permit.	Within 24 Months of the Effective Date of the Permit

R0006686

PUBLIC WORKS

City of Monterey

Behind the City scene ...

Storm Drain Pollution & You

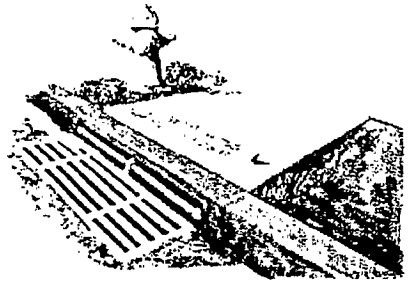
Education Materials

Management Program

Ordinance

Model Urban Runoff Program: A How-to-Guide NEW!

Stormwater Information



Stormwater pollution is one of the top five polluters of lakes, rivers, creeks, and estuaries in the United States. We can all help to clean up our water environments by following a few simple tips. To find out more about what you can do to help reverse this trend, see Storm Drain Pollution & You.

One of the most effective tools for preventing storm drain pollution is education. We have developed educational materials for the community. Specific practices for preventing stormwater pollution have been published for the auto repair industry, the food and restaurant industry, the construction industry, and for homeowners and do-it-yourselfers. General materials have also been developed.

The City's "water quality ethic" has led to the development of a Stormwater Management Program which is continually changing and expanding. This program is the result of a commitment to protecting our resources on the Central Coast, especially to our receiving water, the Monterey Bay National Marine Sanctuary.

In an effort to regulate what is allowed to flow down the storm drain, a Stormwater Ordinance was developed and passed in 1997. This ordinance limits stormwater flows to clean rain water and non-polluted incidental flows such as lawn irrigation runoff and groundwater infiltration. This ordinance borrows elements from many other cities who have existing ordinances.

Engineering & Surveying Services | Parks, Forestry & Cemetery
Traffic Engineering Services | Construction Management | Maintenance Div.
Contract Services/Recycling | FAQs | Stormwater Information | Contact Us
Public Works *Home Page*

City of Monterey

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Rev 11/01/01 - E.A. West - http://www.monterey.org/publicworks/storminfo.html

City of Monterey Stormwater Ordinance

ORDINANCE NO. _____ C.S.

ORDINANCE ADDING NEW ARTICLE 2 TO CHAPTER 31.5

OF THE MONTEREY CITY CODE REGARDING

URBAN STORM WATER QUALITY MANAGEMENT AND DISCHARGE CONTROL

- - - - -

THE COUNCIL OF THE CITY OF MONTEREY DOES ORDAIN AS FOLLOWS:

SECTION 1. A new Article 2 is hereby added to Chapter 31.5 of the Monterey City Code regarding Urban Storm Water Quality Management and Discharge Control, which shall read in its entirety as follows:

"ARTICLE 2.

URBAN STORM WATER QUALITY MANAGEMENT AND DISCHARGE CONTROL.

Division I.

Title, Purpose and General Provisions.

Section 31.5-4. Title.

This Article shall be known as the "Urban Storm Water Quality Management and Discharge Control Ordinance" of the City of Monterey and may be so cited.

Section 31.5-5. Purpose and Intent.

The purpose and intent of this Article is to ensure the health, safety, and general welfare of citizens, and protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. '1251 et seq.) by reducing pollutants in storm water discharges to the maximum extent practicable and by prohibiting non-storm water discharges to the storm drain system.

Section 31.5-6. Definitions.

The terms used in this Article shall have the following meanings:

(a) Best Management Practices. Activities, practices, and procedures to prevent or reduce the discharge of pollutants directly or indirectly to the municipal storm drain system and waters of the United States. Best Management Practices include but are not limited to: treatment facilities to remove pollutants from storm water; operating and maintenance procedures; facility management practices to control runoff, spillage or leaks of non-storm water, waste disposal, and drainage from materials storage; erosion and sediment

control practices; and the prohibition of specific activities, practices, and procedures and such other provisions as the City determines appropriate for the control of pollutants. Please refer to the City of Monterey's *BMP Guidance Series*, as discussed further un Section 31.5-16(c) herein, for specific requirements.

(b) City. The City of Monterey.

(c) Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. ' 1251 et seq.), and any subsequent amendments thereto.

(d) Construction Activity. Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of 5 acres or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

(e) Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (California Health and Safety Code '25117).

(f) Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Division II, Section 31.5-12 of this chapter.

(g) Illicit Connections. An illicit connection is defined as either of the following:

1. Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by a government agency; or

2. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City.

(h) Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

(i) National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permits. General, group, and individual storm water discharge permits which regulate facilities defined in federal NPDES regulations pursuant to the Clean Water Act. The California Regional Water Quality Control Board, Central Coast Region (hereinafter, Regional Board) and the State Water Resources Control Board have adopted general storm water discharge permits, including but not limited to the General Construction Activity and General Industrial Activity permits.

(j) Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.

(k) Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and

fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure (including but not limited to sediments, slurries, and concrete rinsates); and noxious or offensive matter of any kind.

(l) Pollution. The human-made or human-induced alteration of the quality of waters by waste to a degree which unreasonably affects, or has the potential to unreasonably affect, either the waters for beneficial uses or the facilities which serve these beneficial uses (California Water Code '13050).

(m) Porter-Cologne Act. The Porter-Cologne Water Quality Control Act and as amended (California Water Code '13000 et seq.).

(n) Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

(o) Storm Drain System. Publicly-owned facilities operated by the City by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures which are within the City and are not part of a publicly owned treatment works as defined at 40 CFR Section 122.2.

(p) Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from rain storm events.

(q) Waters of the United States. Surface watercourses and water bodies as defined at 40 CFR ' 122.2. including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry storm water at and during all times and seasons.

Section 31.5-7. Applicability.

This Article shall apply to all water entering the storm drain system generated on any developed and undeveloped lands lying within the City of Monterey including any amendments or revisions thereto.

Section 31.5-8. Responsibility for Administration.

The Public Works Director of the City shall administer, implement, and enforce the provisions of this Article. Any powers granted or duties imposed upon the Public Works Director may be delegated in writing by the Public Works Director to persons or entities acting in the beneficial interest of or in the employ of the City.

Section 31.5-9. Severability.

The provisions of this Article are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Article or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Article.

Section 31.5-10. Regulatory Consistency.

This Article shall be construed to assure consistency with the requirements of the Clean Water Act and Porter-Cologne Act and acts amendatory thereof or supplementary thereto, or any applicable implementing

regulations.

Section 31.5-11. Ultimate Responsibility of Discharger.

The standards set forth herein and promulgated pursuant to this Article are minimum standards; therefore this Article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into waters of the U.S. caused by said person. This Article shall not create liability on the part of the City of Monterey, or any agent or employee thereof for any damages that result from any discharger's reliance on this Article or any administrative decision lawfully made thereunder.

Division II.

Discharge Prohibitions.

Section 31.5-12. Prohibition of Illegal Discharges.

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(a) Discharges from the following activities will not be considered a source of pollutants to the storm drain system and to waters of the U.S. when properly managed to ensure that no potential pollutants are present, and therefore they shall not be considered illegal discharges unless determined to cause a violation of the provisions of the Porter-Cologne Act, Clean Water Act, or this ordinance: potable water line flushing; uncontaminated pumped groundwater and other discharges from potable water sources; landscape irrigation and lawn watering; diverted stream flows; rising groundwater; groundwater infiltration to the storm drain system; uncontaminated foundation and footing drains; uncontaminated water from crawl space pumps; air conditioning condensation; uncontaminated non-industrial roof drains; springs; individual residential and occasional non-commercial car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; and flows from fire fighting.

(b) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered by the State of California under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted by the City of Monterey for any discharge to the storm drain system.

(c) With written concurrence of the Regional Board, the City of Monterey may exempt in writing other non-storm water discharges which are not a source of pollutants to the storm drain system nor waters of the U.S.

Section 31.5-13. Prohibition of Illicit Connections.

(a) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

Section 31.5-14. Waste Disposal Prohibitions.

No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, left, or maintained, in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the storm drain system, or water of the U.S., any refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that the same may cause or contribute to pollution. Wastes deposited in streets in proper waste receptacles for the purposes of collection are exempted from this prohibition.

Section 31.5-15. Discharges in Violation of Industrial or Construction Activity NPDES Storm Water Discharge Permit.

Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Public Works Director prior to or as a condition of a subdivision map, site plan, building permit, or development or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause.

Division III.

Regulations and Requirements.

Section 31.5-16. Requirement to Prevent, Control, and Reduce Storm Water Pollutants.

(a) Authorization to Adopt and Impose Best Management Practices. The City will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the U.S. as a separate *BMP Guidance Series*. Where Best Management Practices requirements are promulgated by the City or any federal, State of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or water of the U.S., every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

The Public Works Director will report to the City Council annually on the status of implementation of BMP's, the pollutants of concern to be addressed the next year, and any new BMPs to be developed. BMP's developed under this program will be included in the City of Monterey's *BMP Guidance Series*.

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(b) New Development and Redevelopment. The City may adopt requirements identifying appropriate Best Management Practices to control the volume, rate, and potential pollutant load of storm water runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The City shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this Article and the City Storm Water Utility Ordinance, Chapter 31.5, Article 1.

(c) Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections (a) and (b), any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering storm water, the storm drain system, or waters of the U.S. shall implement Best Management Practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from aecidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

Best Management Practices required by the City can be obtained from the Public Works Department by requesting the BMP manual appropriate to a commercial or industrial activity from the *BMP Guidance Series*. BMP's are broken into three categories: "high priority" which are required to be implemented, "medium priority" which are desirable to implement, and "low priority."

Section 31.5-17. Requirement to Eliminate Illegal Discharges.

Notwithstanding the requirements of Division IV, Section 31.5-23 herein, the Public Works Director may require by written notice that a person responsible for an illegal discharge immediately, or by a specified date, discontinue the discharge and, if necessary, take measures to eliminate the source of the discharge to prevent the occurrence of future illegal discharges.

Section 31.5-18. Requirement to Eliminate or Secure Approval for Illicit Connections.

(a) The Public Works Director may require by written notice that a person responsible for an illicit connection to the storm drain system comply with the requirements of this Article to eliminate or secure approval for the connection by a specified date, regardless of whether or not the connection or discharges to it had been established or approved prior to the effective date of this Article.

(b) If, subsequent to eliminating a connection found to be in violation of this Article, the responsible person can demonstrate that an illegal discharge will no longer occur, said person may request City approval to reconnect. The reconnection or reinstallation of the connection shall be at the responsible person's expense.

Section 31.5-19. Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property reasonably free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse. The owner or lessee shall not remove healthy bank vegetation beyond

that actually necessary for maintenance, nor remove said vegetation in such a manner as to increase the vulnerability of the watercourse to erosion. The property owner shall be responsible for maintaining and stabilizing that portion of the watercourse that is within their property lines in order to protect against erosion and degradation of the watercourse originating or contributed from their property.

Section 31.5-20. Requirement to Remediate.

Whenever the Public Works Director finds that a discharge of pollutants is taking place or has occurred which will result in or has resulted in pollution of storm water, the storm drain system, or water of the U.S., the Public Works Director may require by written notice to the owner of the property and/or the responsible person that the pollution be remediated and the affected property restored within a specified time pursuant to the provisions of sections 31.5-25 through 31.5-28 below.

Section 31.5-21. Requirement to Monitor and Analyze.

The Public Works Director may require by written notice of requirement that any person engaged in any activity and/or owning or operating any facility which may cause or contribute to storm water pollution, illegal discharges, and/or non-storm water discharges to the storm drain system or waters of the U.S., to undertake at said person's expense such monitoring and analyses and furnish such reports to the City of Monterey as deemed necessary to determine compliance with this Article.

Section 31.5-22. Notification of Spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. from said facility, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of a hazardous material said person shall immediately notify emergency response officials of the occurrence via emergency dispatch services (911). In the event of a release of non-hazardous materials, said person shall notify the City's Public Works Department in person or by phone or facsimile no later than 5:00 p.m. of the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the City's Public Works Department within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

Division IV.

Inspection and Monitoring.

Section 31.5-23. Authority to Inspect.

Whenever necessary to make an inspection to enforce any provision of this Article, or whenever the Public Works Director has cause to believe that there exists, or potentially exists, in or upon any premises any

condition which constitutes a violation of this Article, the Director may enter such premises at all reasonable times to inspect the same and to inspect and copy records related to storm water compliance. In the event the owner or occupant refuses entry after a request to enter and inspect has been made, the City is hereby empowered to seek assistance from any court of competent jurisdiction in obtaining such entry.

Section 31.5-24. Authority to Sample, Establish Sampling Devices, and Test.

During any inspection as provided herein, the Public Works Director may take any samples and perform any testing deemed necessary to aid in the pursuit of the inquiry or to record site activities.

Division V.

Enforcement.

Section 31.5-25. Notice of Violation.

Whenever the Public Works Director finds that a person has violated a prohibition or failed to meet a requirement of this Article, the Director may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

(a) The performance of monitoring, analyses, and reporting;

(b) The elimination of illicit connections or discharges;

(c) That violating discharges, practices, or operations shall cease and desist;

(d) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and

(e) Payment of a fine to cover administrative and remediation costs; and

(f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by the City or a contractor designated by the Public Works Director and the expense thereof shall be charged to the violator pursuant to Section 31.5-27 below.

Section 31.5-26 Appeal.

Notwithstanding the provisions of Section 31.5-29 below, any person receiving a Notice of Violation under Section 31.5-25 above may appeal the determination of the Public Works Director to the City Manager. The notice of appeal must be received by the City Manager within 5 days from the date of the Notice of Violation. Hearing on the appeal before the City Manager or his/her designee shall take place within 15

days from the date of City's receipt of the notice of appeal. The decision of the City Manager or designee shall be final.

Section 31.5-27 Abatement by City.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or , in the event of an appeal under section 31.5-26, within 10 days of the decision of the City Manager upholding the decision of the Public Works Director, then the City or a contractor designated by the Public Works Director shall enter upon the subject private property and is authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the City or designated contractor to enter upon the premises for the purposes set forth above.

Section 31.5-28 Charging Cost of Abatement/Liens.

Within 30 days after abatement of the nuisance by City, the Public Works Director shall notify the property owner of the property of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment with the City Clerk within 15 days. The City Clerk shall set the matter for public hearing by the City Council. The decision of the City Council shall be set forth by resolution and shall be final.

If the amount due is not paid within 10 days of the decision of the City Council or the expiration of the time in which to file an appeal under this Section, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. A copy of the resolution shall be turned over to the County Auditor so that the auditor may enter the amounts of the assessment against the parcel as it appears on the current assessment roll, and the tax collector shall include the amount of the assessment on the bill for taxes levied against the parcel of land.

Section 31.5-29 Urgency Abatement.

The Public Works Director is authorized to require immediate abatement of any violation of this Article that constitutes an immediate threat to the health, safety or well-being of the public. If any such violation is not abated immediately as directed by the Public Works Director, the City of Monterey is authorized to enter onto private property and to take any and all measures required to remediate the violation. Any expense related to such remediation undertaken by the City of Monterey shall be fully reimbursed by the property owner and/or responsible party. Any relief obtained under this section shall not prevent City from seeking other and further relief authorized under this Article.

Section 31.5-30. Violations.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Article. A violation of or failure to comply with any of the requirements of this Article shall constitute a misdemeanor and shall be punished as set forth in City Code Section 1.7.

Section 31.5-31. Compensatory Action.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Article, the Public Works Director may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

Section 31.5-32. Violations Deemed a Public Nuisance

In addition to the enforcement processes and penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this Article is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored by the City at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken by the City.

Section 31.5-33. Acts Potentially Resulting in a Violation of the Federal Clean Water Act and/or California Porter-Cologne Act.

Any person who violates any provision of this Article or any provision of any requirement issued pursuant to this chapter, may also be in violation of the Clean Water Act and/or the Porter-Cologne Act and may be subject to the sanctions of those acts including civil and criminal penalties. Any enforcement action authorized under this Article shall also include written notice to the violator of such potential liability."

SECTION 2. All ordinances and parts of ordinances in conflict herewith are hereby repealed.

SECTION 3. This ordinance shall be in full force and effect 30 days after its final passage and adoption.

PASSED AND ADOPTED BY THE COUNCIL OF THE CITY OF MONTEREY this ____ day of _____, 19__, by the following vote:

Business Inspection

Detention Inspection

Complaint Form

Surface Water Quality Complaint Response

Best Management Practices

Surface Water Pollution Prevention Home

Business Inspection Program

Seattle's waterways are vulnerable to pollution from a wide variety of human activities. Some businesses within Seattle drain to a creek, lake or bay. Spills or debris may be washed from properties into a public storm system and flow to these aquatic habitats.

Seattle Public Utilities is inspecting commercial and industrial properties to improve stormwater pollution prevention practices in the City of Seattle. The intent of this program is to work with local businesses to improve stormwater quality in Seattle's creeks, lakes and Puget Sound.

Business inspections are part of the City's stormwater pollution prevention program, a requirement of the Washington State Department of Ecology administered through the City's National Pollution Discharge Elimination System (NPDES) permit for municipal stormwater discharges.

Stormwater Pollution Prevention Requirements

Under the Seattle Stormwater, Grading, and Drainage Control Code (SMC 22.800), all businesses are required to implement certain operational and structural source controls to reduce stormwater pollution.

- **Operational stormwater source controls consist of management practices that prevent or reduce the amount of pollutants in stormwater runoff.** Best Management practices include simple housekeeping activities such as regularly sweeping parking lots and sidewalks, maintaining existing drainage systems, training employees about stormwater pollution prevention practices, and maintaining spill control supplies onsite to prevent and cleanup accidental spills.
- **Structural stormwater source controls are physical, structural, or mechanical devices or facilities that are constructed to prevent pollutants from entering stormwater.** Examples of structural source controls include: enclosing and/or containing the pollutant source; constructing berms, curbs, or dikes to prevent unpolluted stormwater from entering an area where pollution-generating activities take place; and containing and/or treating runoff from contaminated areas.

Check the Director's Rules to see what the new requirements are for public property. If your property drains are connected to the city stormwater system, then you are responsible for maintaining your drainage structures:

- conveyance systems, detention systems and treatment systems
- maintaining streets, driveways, parking lots and sidewalks
- identifying and eliminating illicit connections to the drainage control system.

Business Inspection Program FAQs

R0006698

More Information for business owners
Four Director's Rules describe City requirements for stormwater flow control, treatment, and construction-related drainage requirements for new and redevelopment projects. They also cover stormwater pollution source control requirements for existing and new or redevelopment projects.

- DR 16-2000 (5.7MB PDF), Volume 2, Construction Stormwater Control Technical Requirements Manual
  Describes requirements for construction projects (temporary erosion and sedimentation control and control of other pollutants).
- DR 17-2000 (1.6MB PDF), Volume 1, Source Control Technical Requirements Manual
  Describes the operational and structural source controls that are required to reduce stormwater pollution.
- DR 26-2000 (1.9MB PDF), Volume 3, Flow Control Technical Requirements Manual
  Describes requirements for controlling peak flow rates for new and redevelopment projects.
- DR 27-2000 (3.7MB PDF), Volume 4, Stormwater Treatment Technical Requirements Manual
  Describes requirements for treating stormwater from new and redevelopment projects.

Paper copies of these rules are also available at the DCLU Applicant Services Center, Key Tower, 700 5th Avenue, 20th Floor. However, due to their considerable length, a fee is being charged to cover production costs.

If you have any questions or concerns regarding the business inspection process, please contact our business inspectors.

Tasha Bassett
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Last Updated: 05/10/01

PUBLIC WORKS

City of Monterey

Behind the City scene ...

Stormwater Ordinance

ORDINANCE NO. _____ C.S.

ORDINANCE ADDING NEW ARTICLE 2 TO CHAPTER 31.5 OF THE MONTEREY CITY CODE REGARDING URBAN STORM WATER QUALITY MANAGEMENT AND DISCHARGE CONTROL

THE COUNCIL OF THE CITY OF MONTEREY DOES ORDAIN AS FOLLOWS:

SECTION 1. A new Article 2 is hereby added to Chapter 31.5 of the Monterey City Code regarding Urban Storm Water Quality Management and Discharge Control, which shall read in its entirety as follows:

"ARTICLE 2. URBAN STORM WATER QUALITY MANAGEMENT AND DISCHARGE CONTROL.

Division I. Title, Purpose and General Provisions.

Section 31.5-4. Title.

This Article shall be known as the "Urban Storm Water Quality Management and Discharge Control Ordinance" of the City of Monterey and may be so cited.

Section 31.5-5. Purpose and Intent.

The purpose and intent of this Article is to ensure the health, safety, and general welfare of citizens, and protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act (33 U.S.C. §1251 et seq.) by reducing pollutants in storm water discharges to the maximum extent practicable and by prohibiting non-storm water discharges to the storm drain system.

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Section 31.5-6. Definitions.

The terms used in this Article shall have the following meanings:

(a) Best Management Practices. Activities, practices, and procedures to prevent or reduce the discharge of pollutants directly or indirectly to the municipal storm drain system and waters of the United States. Best Management Practices include but are not limited to: treatment facilities to remove pollutants from storm water; operating and maintenance procedures; facility management practices to control runoff, spillage or leaks of non-storm water, waste disposal, and drainage from materials storage; erosion and sediment control practices; and the prohibition of specific activities, practices, and procedures and such other provisions as the City determines appropriate for the control of pollutants. Please refer to the City of Monterey's BMP Guidance Series, as discussed further in Section 31.5-16(c) herein, for specific requirements.

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(b) City. The City of Monterey.

(c) Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.
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(d) Construction Activity. Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of 5 acres or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

(e) Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (California Health and Safety Code §25117).

(f) Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Division II, Section 31.5-12 of this chapter.
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(g) Illicit Connections. An illicit connection is defined as either of the following:

1. Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by a government agency; or

2. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City.

(h) Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

(i) National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permits. General, group, and individual storm water discharge permits which regulate facilities defined in federal NPDES regulations pursuant to the Clean Water Act. The California Regional Water Quality Control Board, Central Coast Region (hereinafter, Regional Board) and the State Water Resources Control Board have adopted general storm water discharge permits, including but not limited to the General Construction Activity and General Industrial Activity permits.

(j) Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.
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(k) Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes;

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wastes and residues that result from constructing a building or structure (including but not limited to sediments, slurries, and concrete rinsates); and noxious or offensive matter of any kind.

(l) Pollution. The human-made or human-induced alteration of the quality of waters by waste to a degree which unreasonably affects, or has the potential to unreasonably affect, either the waters for beneficial uses or the facilities which serve these beneficial uses (California Water Code §13050).

(m) Porter-Cologne Act. The Porter-Cologne Water Quality Control Act and as amended (California Water Code §13000 et seq.).

(n) Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
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(o) Storm Drain System. Publicly-owned facilities operated by the City by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures which are within the City and are not part of a publicly owned treatment works as defined at 40 CFR Section 122.2.

(p) Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from rain storm events.

(q) Waters of the United States. Surface watercourses and water bodies as defined at 40 CFR § 122.2. including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry storm water at and during all times and seasons.
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Section 31.5-7. Applicability.

This Article shall apply to all water entering the storm drain system generated on any developed and undeveloped lands lying within the City of Monterey including any amendments or revisions thereto.

Section 31.5-8. Responsibility for Administration.

The Public Works Director of the City shall administer, implement, and enforce the provisions of this Article. Any powers granted or duties imposed upon the Public Works Director may be delegated in writing by the Public Works Director to persons or entities acting in the beneficial interest of or in the employ of the City.
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Section 31.5-9. Severability.

The provisions of this Article are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Article or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Article.

Section 31.5-10. Regulatory Consistency.

This Article shall be construed to assure consistency with the requirements of the Clean Water Act and Porter-Cologne Act and acts amendatory thereof or supplementary thereto, or any applicable implementing regulations.

Section 31.5-11. Ultimate Responsibility of Discharger.

The standards set forth herein and promulgated pursuant to this Article are minimum standards; therefore this Article does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into waters of the U.S. caused by said person. This Article shall not create liability on the part of the City of Monterey, or any agent or employee thereof for any damages that result from any discharger's reliance on this Article or any administrative decision lawfully made thereunder.
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Division II. Discharge Prohibitions.

Section 31.5-12. Prohibition of Illegal Discharges.

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(a) Discharges from the following activities will not be considered a source of pollutants to the storm drain system and to waters of the U.S. when properly managed to ensure that no potential pollutants are present, and therefore they shall not be considered illegal discharges unless determined to cause a violation of the provisions of the Porter-Cologne Act, Clean Water Act, or this ordinance: potable water line flushing; uncontaminated pumped groundwater and other discharges from potable water sources; landscape irrigation and lawn watering; diverted stream flows; rising groundwater; groundwater infiltration to the storm drain system; uncontaminated foundation and footing drains; uncontaminated water from crawl space pumps; air conditioning condensation; uncontaminated non-industrial roof drains; springs; individual residential and occasional non-commercial car washing; flows from riparian habitats and wetlands; dechlorinated swimming pool discharges; street wash waters; and flows from fire fighting.
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(b) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered by the State of California under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted by the City of Monterey for any discharge to the storm drain system.

(c) With written concurrence of the Regional Board, the City of Monterey may exempt in writing other non-storm water discharges which are not a source of pollutants to the storm drain system nor waters of the U.S.
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Section 31.5-13. Prohibition of Illicit Connections.

(a) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(b) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

Section 31.5-14. Waste Disposal Prohibitions.

No person shall throw, deposit, leave, maintain, keep, or permit to be thrown,

deposited, left, or maintained, in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the storm drain system, or water of the U.S., any refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that the same may cause or contribute to pollution. Wastes deposited in streets in proper waste receptacles for the purposes of collection are exempted from this prohibition.
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Section 31.5-15. Discharges in Violation of Industrial or Construction Activity NPDES Storm Water Discharge Permit.

Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Public Works Director prior to or as a condition of a subdivision map, site plan, building permit, or development or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause.

Division III. Regulations and Requirements.

Section 31.5-16. Requirement to Prevent, Control, and Reduce Storm Water Pollutants.

(a) Authorization to Adopt and Impose Best Management Practices. The City will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the U.S. as a separate BMP Guidance Series. Where Best Management Practices requirements are promulgated by the City or any federal, State of California, or regional agency for any activity, operation, or facility which would otherwise cause the discharge of pollutants to the storm drain system or water of the U.S., every person undertaking such activity or operation, or owning or operating such facility shall comply with such requirements.

The Public Works Director will report to the City Council annually on the status of implementation of BMP's, the pollutants of concern to be addressed the next year, and any new BMPs to be developed. BMP's developed under this program will be included in the City of Monterey's BMP Guidance Series.

(b) New Development and Redevelopment. The City may adopt requirements identifying appropriate Best Management Practices to control the volume, rate, and potential pollutant load of storm water runoff from new development and redevelopment projects as may be appropriate to minimize the generation, transport and discharge of pollutants. The City shall incorporate such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this Article and the City Storm Water Utility Ordinance, Chapter 31.5, Article 1.
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(c) Responsibility to Implement Best Management Practices. Notwithstanding the presence or absence of requirements promulgated pursuant to subsections (a) and (b), any person engaged in activities or operations, or owning facilities or property which will or may result in pollutants entering storm water, the storm drain system, or waters of the U.S. shall implement Best management Practices to the extent they are technologically achievable to prevent and reduce such pollutants. The owner or operator of a commercial or industrial establishment shall provide reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses. Facilities to prevent accidental discharge of prohibited materials or other wastes shall be provided and maintained at the owner or operator's expense.

Best Management Practices required by the City can be obtained from the Public Works Department by requesting the BMP manual appropriate to a commercial or industrial activity from the BMP Guidance Series. BMP's are broken into three categories: "high priority" which are required to be implemented, "medium priority" which are desirable to implement, and "low priority."
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Section 31.5-17. Requirement to Eliminate Illegal Discharges.

Notwithstanding the requirements of Division IV, Section 31.5-23 herein, the Public Works Director may require by written notice that a person responsible for an illegal discharge immediately, or by a specified date, discontinue the discharge and, if necessary, take measures to eliminate the source of the discharge to prevent the occurrence of future illegal discharges.

Section 31.5-18. Requirement to Eliminate or Secure Approval for Illicit Connections.

(a) The Public Works Director may require by written notice that a person responsible for an illicit connection to the storm drain system comply with the requirements of this Article to eliminate or secure approval for the connection by a specified date, regardless of whether or not the connection or discharges to it had been established or approved prior to the effective date of this Article.

(b) If, subsequent to eliminating a connection found to be in violation of this Article, the responsible person can demonstrate that an illegal discharge will no longer occur, said person may request City approval to reconnect. The reconnection or reinstallation of the connection shall be at the responsible person's expense.
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Section 31.5-19. Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property reasonably free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse. The owner or lessee shall not remove healthy bank vegetation beyond that actually necessary for maintenance, nor remove said vegetation in such a manner as to increase the vulnerability of the watercourse to erosion. The property owner shall be responsible for maintaining and stabilizing that portion of the watercourse that is within their property lines in order to protect against erosion and degradation of the watercourse originating or contributed from their property.
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Section 31.5-20. Requirement to Remediate.

Whenever the Public Works Director finds that a discharge of pollutants is taking place or has occurred which will result in or has resulted in pollution of storm water, the storm drain system, or water of the U.S., the Public Works Director may require by written notice to the owner of the property and/or the responsible person that the pollution be remediated and the affected property restored within a specified time pursuant to the provisions of sections 31.5-25 through 31.5-28 below.

Section 31.5-21. Requirement to Monitor and Analyze.

The Public Works Director may require by written notice of requirement that any person engaged in any activity and/or owning or operating any facility which may

cause or contribute to storm water pollution, illegal discharges, and/or non-storm water discharges to the storm drain system or waters of the U.S., to undertake at said person's expense such monitoring and analyses and furnish such reports to the City of Monterey as deemed necessary to determine compliance with this Article.
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Section 31.5-22. Notification of Spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. from said facility, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of a hazardous material said person shall immediately notify emergency response officials of the occurrence via emergency dispatch services (911). In the event of a release of non-hazardous materials, said person shall notify the City's Public Works Department in person or by phone or facsimile no later than 5:00 p.m. of the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the City's Public Works Department within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.
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Division IV. Inspection and Monitoring.

Section 31.5-23. Authority to Inspect.

Whenever necessary to make an inspection to enforce any provision of this Article, or whenever the Public Works Director has cause to believe that there exists, or potentially exists, in or upon any premises any condition which constitutes a violation of this Article, the Director may enter such premises at all reasonable times to inspect the same and to inspect and copy records related to storm water compliance. In the event the owner or occupant refuses entry after a request to enter and inspect has been made, the City is hereby empowered to seek assistance from any court of competent jurisdiction in obtaining such entry.

Section 31.5-24. Authority to Sample, Establish Sampling Devices, and Test.

During any inspection as provided herein, the Public Works Director may take any samples and perform any testing deemed necessary to aid in the pursuit of the inquiry or to record site activities.
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Division V. Enforcement.

Section 31.5-25. Notice of Violation.

Whenever the Public Works Director finds that a person has violated a prohibition or failed to meet a requirement of this Article, the Director may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

(a) The performance of monitoring, analyses, and reporting;

(b) The elimination of illicit connections or discharges;

(c) That violating discharges, practices, or operations shall cease and desist;

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(d) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and

(e) Payment of a fine to cover administrative and remediation costs; and

(f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by the City or a contractor designated by the Public Works Director and the expense thereof shall be charged to the violator pursuant to Section 31.5-27 below.
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Section 31.5-26 Appeal.

Notwithstanding the provisions of Section 31.5-29 below, any person receiving a Notice of Violation under Section 31.5-25 above may appeal the determination of the Public Works Director to the City Manager. The notice of appeal must be received by the City Manager within 5 days from the date of the Notice of Violation. Hearing on the appeal before the City Manager or his/her designee shall take place within 15 days from the date of City's receipt of the notice of appeal. The decision of the City Manager or designee shall be final.

Section 31.5-27 Abatement by City.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or , in the event of an appeal under section 31.5-26, within 10 days of the decision of the City Manager upholding the decision of the Public Works Director, then the City or a contractor designated by the Public Works Director shall enter upon the subject private property and is authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the City or designated contractor to enter upon the premises for the purposes set forth above.
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Section 31.5-28 Charging Cost of Abatement/Liens.

Within 30 days after abatement of the nuisance by City, the Public Works Director shall notify the property owner of the property of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment with the City Clerk within 15 days. The City Clerk shall set the matter for public hearing by the City Council. The decision of the City Council shall be set forth by resolution and shall be final.

If the amount due is not paid within 10 days of the decision of the City Council or the expiration of the time in which to file an appeal under this Section, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. A copy of the resolution shall be turned over to the County Auditor so that the auditor may enter the amounts of the assessment against the parcel as it appears on the current assessment roll, and the tax collector shall include the amount of the assessment on the bill for taxes levied against the parcel of land.
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Section 31.5-29 Urgency Abatement.

The Public Works Director is authorized to require immediate abatement of any violation of this Article that constitutes an immediate threat to the health, safety or

well-being of the public. If any such violation is not abated immediately as directed by the Public Works Director, the City of Monterey is authorized to enter onto private property and to take any and all measures required to remediate the violation. Any expense related to such remediation undertaken by the City of Monterey shall be fully reimbursed by the property owner and/or responsible party. Any relief obtained under this section shall not prevent City from seeking other and further relief authorized under this Article.

Section 31.5-30. Violations.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Article. A violation of or failure to comply with any of the requirements of this Article shall constitute a misdemeanor and shall be punished as set forth in City Code Section 1.7.
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Section 31.5-31. Compensatory Action.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Article, the Public Works Director may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

Section 31.5-32. Violations Deemed a Public Nuisance

In addition to the enforcement processes and penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this Article is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored by the City at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken by the City.
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Section 31.5-33. Acts Potentially Resulting in a Violation of the Federal Clean Water Act and/or California Porter-Cologne Act.

Any person who violates any provision of this Article or any provision of any requirement issued pursuant to this chapter, may also be in violation of the Clean Water Act and/or the Porter-Cologne Act and may be subject to the sanctions of those acts including civil and criminal penalties. Any enforcement action authorized under this Article shall also include written notice to the violator of such potential liability."

SECTION 2. All ordinances and parts of ordinances in conflict herewith are hereby repealed.

SECTION 3. This ordinance shall be in full force and effect 30 days after its final passage and adoption.
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City of Monterey

Rev 11/01/01 - H. Uslar - http://www.monterey.org/publicworks/stormord.html

R0006708

MEETING NOTES
L.A. MS-4 Mediation, November 29, 2001

Note: revisions to draft notes denoted by underlining

Agenda
Mediated Dialogue on L. A. MS-4 Permit Language
November 29, 2001

I. Introduction – **9:45 -10:00**
Introduction/expectations
Review agenda
Review Ground rules

II. Review Consensus and action items from Nov. 9 th meeting **10:00-10.20**

III Review proposed changes to Industrial/ Commercial Inspection section 10:20- 11:05
* Presentation- Dan Radelescu-5 min
* clarifying questions
* facilitated dialogue
* desired outcome- consensus on proposed changes

V. Implementation Issues **11:05-12:00**
* See attached list

* facilitated dialogue: clarify expectations, identify options and factors (possibly based on common interests)
Desired outcome: consensus on provisions and/or next steps

BREAK (12:00 -12:15)

V. Issues (continued) (working lunch) **12:15-2:45**

NOTE: permitees caucused for approximately one hour after lunch

VI. Other issues B as time permits – **2:45-3:15**
*facilitated dialogue: options and factors
Desired Outcome: consensus on next steps

VII. Wrap Up **3:15-3:30**
Consensus items
Action items
Next steps

Information from flip charts --

Implementation Issues

1) Phase I/ State permitted facilities
How can we use resources efficiently and minimize Phase I overlap?

2) Inspections
a) automotive service facilities
How can we target our resources most effectively?
b) RGOs
Need clarification- is permit consistent with SWRCB guidance?

3) Inventory of Industrial uses
How can we clarify which uses characteristics the city should inspect prior to inventory?

4) Deadlines. Submittals
Can we incorporate some flexibility in deadlines/ submittal dates?

5) Funding
How can we assure permit requirements do not limit eligibility for grant funds?

6) Land Use Authority
How can we eliminate redundancy in permit compared to CEQA guidelines and general plan guidelines?

7) MEP definition
How can we clarify the definition and application of MEP in the permit?

8) SUSMPS
How can we assure the permit is consistent with SWRCB order 2001-11?
(ESA, RGOs, Redevelopment, and ministerial projects)

Other Implementation Issues

Construction site inspections

Frequency of catch basin cleaning

Trauma scene exemption

Dry weather diversions

Illicit connections

MEETING NOTES

I. Introduction

II. Consensus and Action Items from last meeting

- **Consensus Items-- refer to meeting summary dated November x, 2001**
- **Review of Action Items:**

1. Dan (Regional Board) will provide copies of inspection provisions in other permits to all parties within one week-- attached to information handed out at meeting

2. Laura (EPA) will provide copies of MOUs used in Bay area cities to all parties within one week-- handed out today

3. Howard (County of L.A.) will propose "bridge" language on Water Quality language and provide to all parties within one week -- completed

4. Laura will ask Alexis Strauss if she wants to express an opinion on the alternative language provided by County of L.A. -- answer: no

5. Wendy (Regional Board) will consider any changes by the State Board in San Diego permit in deciding on final language for water quality limitations -- State Board final decision on November 20

6. Board will consider trial inspection approach for categories other than restaurants before finalizing the permit by November 21st -- Board indicated willing to do

III. Review proposed changes to industrial/commercial inspection section-- Regional Board presentation-provided by e-mail on November 28

- Summary of Handout by regional Board (Wendy Phillips)

-longer-term goal -- tailor to watersheds
-short-term goal -- increase field presence
-revised proposal -- reformat of Option B
  -clarify expectations
  -recognize resource constraints
-track
-inspect
  a) commercial
  b) Phase I-role of regional Board
  c) other
-ensure compliance

- Modifications to regional Board handout (note: consensus or agreed upon changes indicated by italics)

Clarifications by regional Board:

Regional Board's intent for Phase I inspections conducted by Board -- 1/3 of all permitted facilities will be inspected per year (approximately 2/3 in a 24 month period). Therefore the expectation is that the permitees inspect 1/3 of all permitted facilities every 24 months-later revised to every 30 months.

Frequency: change from 24 months to twice per permit cycle every 30 months with at least one inspection per year in between for Tier I

Need separate dialogue on coordinating Phase I inspections

Regional Board will inspect those with individual permits
Remove petroleum from the list

Permittee Concern-the designation of High vs. Low priority inspections has been removed from the permit

Definition of high priority facilities: 100 % of universe will be inspected every two years

R0006711

Definition of low priority facilities: 100% of universe will be inspected within the first two years of the permit cycle then reduced to 20% of the universe for the remainder of the permit cycle

Regional Board will put high and low designations back into the permit-- will keep concept in the permit (later reclassified as Tier I and II)

7,9, 10, add to Tier I or II
the categories below will be moved to Tier I (high)
-oil and gas
-rail yards
-airports
-transits

clarify in Tier I and II which SIC codes are covered under the general industrial storm water permit

Change p. 37 as follows:copy paragraph from page 36, 2a.iii. (Level of inspection) to page 37, b and c.

Permitees Concern: Need to identify individual storm water permitees that will be inspected by regional Board (i.e., refineries) annually-- can regional Board identify facilities they will inspect to avoid duplication of effort?

Regional Board response: yes, but not in permit

Clarification-pp. 34 and 37: add regulatory citation 122.26 (d) (2) (IV) (c) to "other federal facilities"

Clarification-page 38, ESA and impaired waters: will clarify intent to focus on pollutants violating water quality objectives; BMPs considered shall be linked to water quality impairment

Clarification on page 38: add "ensure compliance"

Change page 34 C 1 (a) replace "include" with "are"

page 39 concern-- add the following... " (when available)"... after "staff"
support of regional Board enforcement

Suggested by regional Board: Two corrections on page 39 --
-- Line 8: insert "follow-up" between "two" and "inspections"
-- Referral of complaints: replace "referral" with "investigate"

Suggestion: add language to reflect quicker referral to board if a facility is already under permit (page 38, 3c, progressive enforcement)-- will reflect 2 tiers of enforcement, one for facilities permitted by Board (Phase I) and one for facilities without permit

Permittee Concern: Page 39 (d), Referral of Complaints- "complaints", "one business day", "situations" -- need clarification-is complaint from regional Board or others?

Regional Board will add language to clarify "Tiered response" based on severity of situation) and will add language to clarify that complaints originate from regional Board

Permittee concern: can wording be provided to allow flexibility to use 319 funding where appropriate?

Regional Board response: Can this be addressed at the policy level rather than in the permit?
EPA requested to provide guidance/flexibility on this issue

Permitees Question: How can regional Board help permitees to adopt stronger ordinances allowing BMP enforcement without documented release?

Options identified to result in stronger local ordinances:
1. Strengthen language in Findings 8-9.
2.-regional Board offered *to attend city council meetings to explain the permit requirements to council members*
3. Consider Monterey ordinance

Note: consensus was reached on Option 1 and part of 2 -- see Action Items as well as subsequent letter by Dickerson e-mail to group by Gentile on 12/6/01

V. Major implementation Issues

Major Item 1- Phase I/State permitted facilities

1-3 below represents an agreement in principle (regional Board needs to develop language in the future):

1. Put information on regional Board web site regarding past inspections
2.Regional Board will work out means to communicate inspection plan to permitees
3Identify sectors (i.e. geographic category) to be inspected by regional Board

Major Item 2-Inspections

2a) Automotive Inspections
SIC codes 5013, 5014
maintenance vs. warehousing

regional Board will revise the definition of automotive service facilities as follows:
"except for wholesalers without outside exposure", page 63 definition of automotive service facilities

Major Item 3-Inventory of Industrial Uses
"addressed in modified B"

Major Item 4-Deadlines/Submittals-referred to Signal Hill handout (regional Board agreed to review schedule provided)

VI. Other Issues (not on agenda)-Funding and access

- Funding -- Major Concern of Permitees-$$for medium/small cities

Regional Board asked for commitment to proposed handout, as modified:

Dennis: need endorsement of modified proposal by those at the table; challenges of the permit are

expected; need endorsement at Board meeting by people at table "ringing endorsement", assuming we reach agreement, as follows:
-- personal support
-- acknowledge any disagreement at political level

the following parties at the table acknowledged endorsement: Signal Hill, City of L.A., County of L.A., Downey. Farfsing will recommend endorsement to the Coalition and Desi will recommend endorsement to the EAC. Baykeeper will support if cities support but still maintains the right to challenge other provisions in the permit.

- Permitees Concern regarding access -- can you determine compliance without gaining access?
- Regional Board concern regarding access -- permitees ability to determine compliance without gaining access

Need to clarify exception to definition of inspection as described in permit--- that is, those situations where BMP compliance for restaurants can be determined without access

Overall Support of modified industrial/commercial program with understanding
1. Need for additional dialogue on funding
2. Add dialogue on acceptable local ordinances regarding access

VII. Wrap up

- **Action Items**

Action Item 1-Wendy will develop stronger language for findings 8,9 with input from Rich Watson

Action Item 2-regional Board will consider adding language to the General Industrial Permit to require compliance with any local permits

Action Item 3-Montevideo will contact environmental groups (Steve and Mark) to see if they can identify and agree on other categories where a determination of compliance can be made without access

Action Item 4- Regional Board will modify November 29 proposal based on agreements made today by December 4th for close of business and will distribute to all parties.

Action Item 5- All parties can, by December 10, provide input – yes or no

Action Item 6- If consensus, will propose modified option to the Board

- **Meeting Evaluation**

What worked-
good dialogue

What didn't work-
-more time needed

-draft permit was not out early enough for review
-more time needed for caucus
-some people had to leave early

For 11/29/01 Meeting

C. Industrial/Commercial Facilities Program [Version B]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. The pollutant reduction and control measures can be used alone or in combination and include nonstructural, structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database ~~for~~to Identify Critical Sources ~~Identification~~

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. **Inspect Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

c) Enforcement

The Permittees shall abide by the requirements at paragraph 8.

3. Inspect Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months. Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

~~c)~~Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

~~d)Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.~~

c) Enforcement

The Permittees shall abide by the requirements at paragraph 8.

d) The Permittees, as they see fit, are free to develop additional BMPs for restaurants.

4. Inspect Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

~~c)~~RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

~~d)A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.~~

c) Enforcement

The Permittees shall abide by the requirements at paragraph 8.

5. Inspect Automotive Service Facilities

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

~~c)~~Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

c) Enforcement

The Permittees shall abide by the requirements at paragraph 8.

6. **Visit Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities**

a) Frequency: The Permittees shall inspect each facility in the following categories once every 24 months.

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

c) Enforcement

The Permittees shall abide by the requirements at paragraph 8.

7. Visit Sites ~~Visits to~~in Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances. The Permittees may use appropriate enforcement mechanisms against facilities failing to comply with the municipal storm water requirements, if they deem necessary.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 7.

GENERAL REQUIREMENTS

8. Enforcement

In the event a Permittee determines, after initial inspection, that a facility failed to implement or appropriately implement the suitable BMPs, they shall initiate, within a reasonable time period, a follow-up thorough inspection. During a follow-up inspection the Permittees may require implementation of additional BMPs. If a facility continues to be in non-compliance even after the follow-up inspection, the Permittees shall follow the activities specified at paragraph 10.c. of this section.

9. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

~~**8.Complaint Response**~~

~~In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.~~

~~9.~~10. Interagency Coordination

a) The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

b) In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

c) For facilities that are still not in compliance with the municipal storm water requirements, even after the follow-up inspection, the Permittees shall pursue the progressive enforcement procedures specified in the local code or ordinance to the maximum extent reasonably possible.

After an additional follow-up inspection and after the lower level administrative enforcement procedures are exhausted, in the event the facility is still out of compliance, the Permittees may chose to refer the non compliance case to the Regional Board for further enforcement activity. The Permittees shall include the appropriate records to document the set of circumstances for referral to the Regional Board. The Permittees may also elect to pursue further judicial or recovery measures as specified in the local code, if deemed necessary.

Copies of other ~~the~~ inspection/site visit reports and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

d) The Regional Board and the Permittees may choose to establish a joint Storm Water Enforcement Task Force to coordinate their enforcement activities. The creation and details of the Task Force activities shall be finalized through consultation and mutual agreement between the parties.

~~10.~~11. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the

Permittee need not inspect the facility during the same 24 month inspection period.

~~11.~~12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

Business Inspection
Detention Inspection
Complaint Form
Surface Water Quality Complaint Response
Best Management Practices
Surface Water Pollution Prevention Home

Business Inspection Program

Seattle's waterways are vulnerable to pollution from a wide variety of human activities. Some businesses within Seattle drain to a creek, lake or bay. Spills or debris may be washed from properties into a public storm system and flow to these aquatic habitats.

Seattle Public Utilities is inspecting commercial and industrial properties to improve stormwater pollution prevention practices in the City of Seattle. The intent of this program is to work with local businesses to improve stormwater quality in Seattle's creeks, lakes and Puget Sound.

Business inspections are part of the City's stormwater pollution prevention program, a requirement of the Washington State Department of Ecology administered through the City's National Pollution Discharge Elimination System (NPDES) permit for municipal stormwater discharges.

Stormwater Pollution Prevention Requirements

Under the Seattle Stormwater, Grading, and Drainage Control Code (SMC 22.800), all businesses are required to implement certain operational and structural source controls to reduce stormwater pollution.

- **Operational stormwater source controls consist of management practices that prevent or reduce the amount of pollutants in stormwater runoff.** Best Management practices include simple housekeeping activities such as regularly sweeping parking lots and sidewalks, maintaining existing drainage systems, training employees about stormwater pollution prevention practices, and maintaining spill control supplies onsite to prevent and cleanup accidental spills.
- **Structural stormwater source controls are physical, structural, or mechanical devices or facilities that are constructed to prevent pollutants from entering stormwater.** Examples of structural source controls include: enclosing and/or containing the pollutant source; constructing berms, curbs, or dikes to prevent unpolluted stormwater from entering an area where pollution-generating activities take place; and containing and/or treating runoff from contaminated areas.

Check the Director's Rules to see what the new requirements are for public property. If your property drains are connected to the city stormwater system, then you are responsible for maintaining your drainage structures:

- conveyance systems, detention systems and treatment systems
- maintaining streets, driveways, parking lots and sidewalks
- identifying and eliminating illicit connections to the drainage control system.

Business Inspection Program FAQs

More Information for business owners
Four Director's Rules describe City requirements for stormwater flow control, treatment, and construction-related drainage requirements for new and redevelopment projects. They also cover stormwater pollution source control requirements for existing and new or redevelopment projects.

- DR 16-2000 (5.7MB PDF), Volume 2, Construction Stormwater Control Technical Requirements Manual
  Describes requirements for construction projects (temporary erosion and sedimentation control and control of other pollutants).
- DR 17-2000 (1.6MB PDF), Volume 1, Source Control Technical Requirements Manual
  Describes the operational and structural source controls that are required to reduce stormwater pollution.
- DR 26-2000 (1.9MB PDF), Volume 3, Flow Control Technical Requirements Manual
  Describes requirements for controlling peak flow rates for new and redevelopment projects.
- DR 27-2000 (3.7MB PDF), Volume 4, Stormwater Treatment Technical Requirements Manual
  Describes requirements for treating stormwater from new and redevelopment projects.

Paper copies of these rules are also available at the DCLU Applicant Services Center, Key Tower, 700 5th Avenue, 20th Floor. However, due to their considerable length, a fee is being charged to cover production costs.

If you have any questions or concerns regarding the business inspection process, please contact our business inspectors.

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California Regional Water Quality Control Board

Los Angeles Region

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December 3, 2001

Mr. Steve Arita
Western States Petroleum Association
1115 11th Street Suite 150
Sacramento, CA 95814

Dear Mr. Arita:

SUPPLEMENT DOCUMENT TO THE JUNE 2001 TECHNICAL REPORT - RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

In preparation to reissue the Los Angeles County Municipal Storm Water Permit (LA Municipal Permit), Regional Board staff prepared and issued in June 2001 a Technical Report - Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts.

On August 6, 200, WSPA submitted a critique of the RGO Technical Report in its comment on the second draft of the LA Municipal Permit.

Attached to this letter, is a supplement document discussing some of the points raised by WSPA. We appreciate WSPA's involvement in the LA Municipal Permit renewal process.

Should you have any questions, please do not hesitate to contact Dan Radulescu at (213) 576-6668.

Sincerely,

Xavier Swamikannu, D.Env.
Acting Chief, Storm Water Section

cc: Ron Wilkniss, Western States Petroleum Association

R0006727

RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

SUPPLEMENT

(To June 2001 Technical Report)

December 2001

Dan Radulescu and Xavier Swamikannu
California Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Introduction

On March 23, 2001, the Western States Petroleum Association (WSPA), a trade association for the petroleum industry in the Western U.S., submitted a petition to the State Water Resources Control Board (State Board) which challenged the inclusion of numerical design standards for Retail Gasoline Outlets (RGOs) in the Municipal Separate Storm Sewer (MS4) permit for San Diego County.[1]

In June 2001, the California Water Quality Control Board, Los Angeles Region (LA Regional Board) and the California Water Quality Control Board, San Diego Region (SD Regional Board) issued a Technical Report, 'Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts' (RGO Technical Report). The Technical Report was prepared in response to the direction provided by the State Board in its decision in, *In Re*: City of Bellflower et al. (Order No. WQ 200-11, hereafter the LA SUSMP Decision) for the inclusion of numerical design standards for RGOs in future MS4 permits. The RGO Technical Report addressed presumptive concerns expressed by the State Water Resources Control Board (State Board) in the LA SUSMP Decision such as, (i) heavily regulated; (ii) limitations of space; (iii) feasibility and safety of treatment; (iv) absence of a threshold relative to RGO size. It also recommends a threshold relative to RGO size as directed by the State Board. WSPA claims that the Regional Board's evidence and findings are not "proper justification" as

[1] The State Board upheld WSPA's petition on procedural grounds. See *In Re*: Building Industry Association of San Diego and Western States Petroleum Association (Order No. WQ 2001-15)

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required by the State Board. In contrast, Regional Board Counsel has determined that the criteria established are lawful and proper.[2]

On August 6, 200, WSPA submitted a critique of the RGO Technical Report in its comment on the second draft of the Los Angeles County MS4 permit. WSPA, in large part, contended that the justification was not proper. The LA Regional Board staff has prepared this Supplement to the RGO Technical Report to clarify issues raised by WSPA in its critique of the RGO Technical Report, and WSPA's comments on applicability of numerical design standards to RGOs in reference to the October 11 tentative draft of the Los Angeles County MS4 permit.[3]

Lack of Specific Analyses by WSPA

We are concerned as to the lack of substantive documentation by WSPA of its assertions that the treatment of storm water to remove pollutants of concern in California is technically not feasible, not safe, and prohibitively costly. WSPA has not technically documented the bases of such claims or conducted any analyses of such conditions at RGOs. Rather WSPA and its consultants appear to misinterpret data from other studies; misstate facts; draw questionable inferences, and gloss over important differences. Regional Board staff on the hand have conducted independent analyses of these factors and facts to ensure "proper justification" for the inclusion of RGOs.

For example contrary to WSPA's claims, (i) WSPA member RGOs in Western Washington and Northern Oregon have been required by their municipalities to utilize tiered treatment since 1992 to remove petroleum hydrocarbons in storm water runoff from the fueling areas and other pollutants such as heavy metals from adjacent areas, and not after "August 2001" (Figure 1);[4] (ii) treatment control BMP pollutant concentrations were higher in the effluent at a Washington State RGO study site only because the parameters were either a component of the treatment media (phosphorous and nitrates) or the influent concentration was low (oil and grease), not because the BMP was ineffective;[5] (iii) treatment control BMPs tested by Caltrans performed as expected but needed more maintenance because of undersizing and no pre-treatment, not because they were ineffective;[6] (iv) space at RGOs for installation of treatment

[2] Regional Board Staff Counsel's Brief (November 9, 2001) at p.7.

[3] See, WSPA Comment Letter on October Draft dated November 13, 2001.

[4] See p 9 where is reproduced the e-mail communication between Mr. Ciuba at Washington Department of Ecology and Dr. Swamikannu (dated Sept. 20, 2001). Mr. Ciuba explains that the criteria applied to RGOs in the State of Washington is "virtually the same as in 1992".

[5] See, Stormwater Sampling – Stormfilter, Performance Results; Burwell/ Straley's Union 76 Station, Bremerton, WA (2000) 7 pp.

[6] *See Performance Evaluation of Structural BMPs: Drain Inlet Inserts and Oil Water Separator,* Othmer, E.F. *et al.* (2001) at p 1 (cited by WSPA)

control BMPs is not constrained to render it infeasible (Table 1)[7], (iv) subsurface treatment control BMPs are safe, as demonstrated by WSPA member RGOs in Washington and Oregon who have installed these systems for some years; and (v) cost of installation of treatment control BMPs (actually a retrofit of existing facilities) tested by Caltrans was well within estimated costs; the larger expense was for monitoring and analysis...not installation.[8]

RGOs are Storm Water Pollutant Hotspots

RGOs are incontrovertible hot spots for pollutants of concern in storm water and have been widely documented as such. The most common pollutants of concern in storm water runoff from RGOs are heavy metals, petroleum hydrocarbons (such as Polycyclic Aromatic Hydrocarbons (PAHs)), and oil and grease.[9] These pollutants have been identified through analyses of: (i) trapped sediments in on-line oil water separators; (ii) particulates removed by treatment control BMPs such as media filters; (iii) simulated runoff; or (iv) storm water runoff leaving RGOs. In studies conducted, since 1970, in relation to automotive related activities and their impact on the quality of storm water runoff, a strong correlation has emerged between the volume and duration of automotive exposure and its impact on water quality and sediment quality criteria. As a result, several areawide storm water management programs already identify RGOs as pollutant hotspots and require the implementation of treatment control BMPs.[10,11,12]

An 18-month study was performed in the Washington Metropolitan area ("Washington Study"), to compare storm water quality with the National Urban Runoff Program (NURP) monitoring results.[13] One of the monitoring locations was situated at a

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[7] Table 1 illustrates that more than two-thirds of the surface area (at a sampling of RGOs in the Los Angeles area) is available for installation for WQF treatment control BMPs (some which are as compact as 50 sq. ft in dimension).

[8] *Ibid.* Footnote 6, ref. at p. 12.

[9] *A Review of Semivolatile and Volatile Organic Compounds in Highway Runoff and Urban Stormwater,* Open-File Report 98-409, U.S. Department of the Interior, U.S. Geological Survey (1998)

[10] *New York Stormwater Design Manual-Draft*, (2001) New York State Dept. of Environmental Conservation.

[11] *Virginia Stormwater Management Handbook*, Volumes 1 and 2, First Edition, (1999).

[12] *Stormwater Management Manual for Western Washington* (2001), Washington State Dept. of Ecology.

[13] *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use* – F.I. Rabanal and T.J. Grizzard (1995), Proceedings of the 4th Biennial Conference on Stormwater, FL. Note that NURP catchments generally contained both pervious and impervious surfaces, while the study surfaces here were completely impervious, which may account for comparability in some pollutant concentrations.

gasoline station. The Washington Study confirmed NURP findings, i.e., water quality criteria for metals and Chemical Oxygen Demand (COD) are exceeded for storm water runoff from sites exposed to vehicular traffic (such as gasoline stations, parking lots and streets).[14] In the Washington Study the high COD values were attributed to the presence of high concentrations of petroleum hydrocarbons in the runoff from the gasoline station site. In addition, the U.S. General Accounting Office, in its report to Congressional requesters on urban runoff water quality (Report No. GAO-01-679) cites research in Texas that shows PAH concentrations are related to the volume of vehicular traffic.[15] Nationwide studies confirm the increased concentrations of PAHs in sediments deposited by storm water from urban watersheds.[16] A similar link between the duration and volume of automotive exposure at automotive-intensive land uses, including RGOs, demonstrated that, even at moderate duration and volume of automotive exposure, the observed hydrocarbon concentrations in storm water runoff were high.[17] For the Los Angeles area, a number of studies have identified PAHs and heavy metals as pollutants of concern in storm water runoff discharging to Santa Monica Bay.[18,19]

Implementation of Storm Water Quality Task Force (Source Control) BMPs Alone is Inadequate to Control Pollutants in Storm Water

WSPA's total reliance on the Storm Water Quality Task Force RGO BMP Guide (RGO BMP Guide) is misplaced. We have reviewed the RGO BMP Guide[20] and found it to be obsolete.[21] The recommendations of the Task Force for the implementation of default source control BMPs were not an "end all" and ultimate method to control storm water pollution at RGOs. The Task Force itself suggested that these source control

[14] WSPA has never disputed the fact that pollutants in storm water discharges from RGOs often exceed water quality criteria. Their claim has been that it is no worse than the quality of storm water from urban land-uses characterized in the NURP study from the 1970s.

[15] *Urban Sprawl Leaves Its PAH Signature* - P. Van Metre *et al.* (2000), Env. Science Technol., 34 (19).

[16] *Selected Findings and Current Perspective on Urban and Agricultural Water Quality by the National Water-Quality Assessment Program* —USGS FS-047-01 April 2001.

[17] *Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses* – D.L. Shepp, In Watershed ' 96 Conference Proceedings, June 1996, Baltimore, MD.

[18] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994.

[19] *Study of the Impact of Stormwater Discharge on Santa Monica Bay* – Executive Summary – Southern California Coastal Water Research Project – 1999.

[20] *Best Management Practice Guide Retail Gasoline Outlets* - California Stormwater Quality Task Force (1996).

[21] *Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets: Review and Comment*, D. Radulescu (Nov. 2001), California Regional Water Quality Control Board, 5 pp.

BMPs were not the one and only method to address the discharge of pollutants in storm water runoff from RGOs. In fact, the Task Force contemplated the addition of treatment control BMPs in the future to the recommended BMPs menu. The RGO BMP Guide was intended to provide a default menu of source control BMPs as a pre-treatment step, until treatment BMPs were added to the Guide. The RGO BMP Guide has not been updated, and as a result is woefully inadequate for guidance to reduce the discharge of pollutants in storm water to protect the beneficial uses of receiving waters in the Los Angeles Region.[22]

WSPA's contention that the RGO Guide is the 'end all' originates from two unsupported assumptions – that source control BMPs: (i) alone are sufficient to control the discharge of pollutants in storm water runoff from RGOs so that no exceedances of water quality standards will occur, and (ii) are consistently and diligently implemented. A study conducted recently in the Los Angeles Region deflates both assumptions.[23] The results from the study demonstrate that the implementation of source control BMPs alone (similar to those recommended in the RGO BMP Guide) are insufficient to reduce the concentration of pollutants discharged in storm water to meet water quality standards. Treatment control BMPs must be employed to adequately reduce pollutants in storm water to meet water quality standards. Secondly, source control BMPs by their nature are difficult to verify and often are at the operator's discretion. While pollution prevention practices recommended in the RGO BMP Guide are desirable, neither WSPA nor others have demonstrated that the implementation of such practices reduces pollutants successfully to where water quality impacts are eliminated.[24] In fact the opposite evidence now exists.[25]

Implementation of Properly Designed Treatment Control BMPs is Necessary

Treatment control BMPs in order to be effective have to be properly designed based on either the Water Quality Flow (WQF) or Water Quality Volume (WQV) criteria or both. The WQF and WQV criteria developed by the Los Angeles Regional Board are based on characteristics of precipitation in the region. The most common precipitation events are small size storms and extreme events are rare. Consequently, for water quality purposes, the design standards ensure proper design for the treatment of the small more frequent precipitation events.

More than likely a multi-chamber treatment train or a set of treatment control BMPs will be necessary to remove the full suite of pollutants of concern in storm water

[22] *Ibid.*

[23] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report* – 2000. Part of the critical sources study was conducted at automotive service facilities which have similar traffic volume and duration exposure as RGOs.

[24] See Letter from Professor L.D. Duke at UCLA to Mr. Radulescu dated Nov. 15, 2001, explaining the meaning of his statement on pollution prevention in a report cited by WSPA as proof that source control BMPs are all that are needed.

[25] *Supra.* See Footnote 23

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discharges from RGOs, and regular maintenance of the treatment systems will be necessary to keep it performing optimally. Current approaches to treating runoff from RGOs include isolation of the fuel servicing area to treat VOCs, petroleum hydrocarbons, and oil and grease. The area should not be connected to an infiltration type of BMP because of the potential for soil and groundwater contamination from gasoline. These areas should be connected to the sanitary sewer system with the permission of the sewer agency or to an oil water separator and a basic treatment control BMP (such as a media filter or a biofilter). VOC concentrations in storm water because of their volatility are seldom detectable. Storm water from the general area is separately treated to remove pollutants of concern adhering to particulates. Basic treatment control BMPs being implemented elsewhere in the U.S. include sand filters, vegetated buffers, biofilters, flow-through filter cartridges, and multi-chamber treatment train.[26]

The percent removal efficiencies of treatment control BMPs are highly dependent on the influent concentration of pollutants. The higher the influent concentration the higher the percent removal. For filter media based treatment control BMPs the characteristics of the medium also matter and removal efficiencies vary according to the type of filter material.[27]

Implementation of BMPs is Safe

WSPA contends that the installation of subsurface treatment control BMPs raises safety concerns because gasoline spills would purposely be routed below grade thus presenting a potentially explosive environment. We agree that the fueling area, vehicle maintenance areas, and vehicle traffic areas represent different problems. They require different solutions. To control spills, the fuel-island may be designed with a dead-end sump or spill control separator in compliance with the Uniform Fire Code (UFC); and as a spill containment pad (UFC § 790.18). The canopy should be designed to prevent the entry of rain into the fuel pad area. Storm water collected in the fuel island area may be conveyed to the sanitary sewer system after pre-treatment (if the sewer authority approves) or discharged after passing through a treatment train that includes an oil-water separator and basic treatment BMPs (media filters, biofilters, etc.). Storm water from the vehicle traffic areas may be treated using biofilters, linear sand filters, media filters or similar BMPs.[28] Contrary to WSPA's assertions, it is feasible to minimize safety concerns by designing the fueling area at RGOs consistent with UFC standards to

[26] (i) *Storm Water Management Manual for Western Washington* (2001) Vol. 1, 4-6 to 4-11; Vol. IV 2-19 – 2-21 and Vol. V; (ii) *Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, (1999) Wayne County, MI, (iii) *Multi-Chamber Treatment Train Developed for Storm Water Hotspots*, Technical Note #87, Watershed Protection Techniques 2: 11-13 (1999).

[27] For filter medium performance see, *Catch Basin Inserts to Reduce Pollution from Stormwater.* S.L. Lau *et al* (2001), Water Science and Technol. 44: 23-34.

[28] See Table 4.1, which lists treatment control BMP options, *Storm Water Management Manual for Western Washington* (2001) Vol. 1, at p. 4-11.

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control spills, while also incorporating treatment control BMPs to reduce the discharge of storm waters pollutants.

Treatment Control BMPs are Reasonable in Cost

We have previously reviewed the literature on the cost of treatment control BMPs for RGOs and determined them to be reasonable.[29] Biofilters are expected to cost about $6,500 per 5,000 square feet.[30] The multi-chamber treatment train has been estimated to cost between $5,000 and $10,000 per 5,000 square feet of drainage area.[31] Based on the estimated project cost to build a RGO (Table 2), the cost of installation of treatment control BMPs appears to be between 1.75 – 2.3 percent of the project cost. These estimates are consistent with the Regional Board's empirical basis of reasonable cost to meet the mitigation criteria (1-2 percent of the project development cost).[32]

Conclusion

Water quality protection should be no less important for RGO operators in California than they are for their counterparts in other Western states. The RGO BMP Guide which emphasizes pollution prevention practices may be considered as the pre-treatment step that optimizes the cost-effectiveness of treatment control BMPs. Both source control and treatment control BMPs are essential to reduce the discharge the pollutants in storm water effectively and to minimize treatment costs. A suite of treatment control BMPs or a treatment train of BMPs most likely will be needed to remove the range of pollutants of concern in storm water runoff from RGOs. The thresholds established by the Regional Board for the numerical mitigation criteria to apply to RGOs are reasonable and fair, have been properly justified, and have fully met all evidentiary requirements set forth in the LA SUSMP Decision by the State Board for the inclusion of RGOs.

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[29] *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*), Radulescu *et al.*, (June 2001) at p 7.

[30] See, "Cost and Benefits of Storm Water BMPs" in, *Preliminary Data Summary of Urban Storm Water Best Management Practices*, USEPA, No. EPA-821-R-99-012 (1999) pp. 6-1 – 6-44.

[31] *Multi-Chamber Treatment Train Developed for Storm Water Hotspots*, Technical Note #87, Watershed Protection Techniques 2: 11-13 (1999), at p 29.

[32] See State Board Order No. WQ 2000-11 (LA SUSMP Decision) at p. 21, where the State Board finds that this cost basis is reasonable.

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Monday, September 10, 2001 5:36 PM
To: Lynch, Donna
Subject: RE: Manual and Questions

Would you kindly respond to the following two questions:

1. Does a new gas station development that creates 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?
2. Does an existing gas station that replaces 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?

Thanks for your assistance.

Sincerely
Xavier
Storm Water Program
CalEPA- RWQCB Los Angeles"

-----Original Message-----
From: Lynch, Donna
Sent: Wednesday, September 12, 2001 9:42 AM
To: Ciuba, Stan
Subject: FW: Manual and Questions

Stan,
Please answer these gas station questions. Thanks.

>>> "Ciuba, Stan" <sciu461@ECY.WA.GOV> 09/12/01 01:37PM >>>
Xavier, the new manual, which should be published in the next couple of weeks, applies to new and redevelopments. Local governments can also use it for retrofits as they judge necessary. The impervious containment area of the fuel island is considered a pollutant generating source requiring treatment for hydrocarbon pollutants. The 5000 square foot threshold pollutant generating surface applies to the parking area adjacent to the fuel island and includes any convenience store parking area. Hope this helps.
Stan

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Thursday, September 13, 2001 2:38 PM
To: Ciuba, Stan
Cc: Dan Radulescu
Subject: Re: FW: Manual and Questions

Hello Stan:

Some follow-up questions.
Have these requirements for gas-stations been in effect for certain parts of Western Washington State for some time....for e.g. the Puget Sound Area?
What were the requirements for gas stations in the Stormwater Management Manual for the Puget Sound Basin (1992)?
Xavier

"The answer to your question is that the gas station BMPs in the new Manual (published last week), is virtually the same as in the 1992 Manual. The language has been changed and several items are expressed more directly. The new 2001 Manual applies to Western WA and is offered as technical guidance to local governments and others. However, the BMPs in the new Manual may be incorporated into the various municipal and industrial general NPDES Stormwater Permits. Exactly how and when that will happen has not been determined.
Best regards, Stan

Figure 1. Text of e-mail communications between staff from the Regional Board and Washington Department of Ecology on treatment control BMPs at RGOs (Sept 10 to Sept. 20, 2001).

Table 1. Summary of surface and underground spatial areas of typical structures at a sample of RGOs in the Los Angeles area.

	Mobil Station #18-EDP (Gardena)	United Oil Station #51 (Harbor City)	United Oil Station #4 (Lawndale)	Thrifty Station #1 (Maywood)	Mobil Station #18-L81 (Torrance)
Total Surface Area (sq. ft.)	11,000	12,000	12,000	16,000	24,000
Area of fuel canopy (%)	6	10	14	15	10
Area of building (%)	10	3	4	2	11
Area of subsurface UST* (%)	4	6	14	9	6
Remaining area (sq. ft.)	8,800	9,720	9,360	11,840	17,520
Remaining area (%)	80	81	78	74	73

* UST = Underground Storage Tanks

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Table 2. Summary of estimated costs associated with the construction of a new gas station. Costs slightly vary from location to location, and auxiliary activities such as mini-mart, car wash, and vehicle service involve additional facility construction costs (Cost Estimates provided by a commercial land developer in the Los Angeles region).

Gas Station Development Characteristics	
Area (sq. ft.)	40,000
Land Cost ($)	800,000
Buildings and Site Improvement Costs($)	1,000,000
Entitlements (design, permits, etc.) Cost ($)	200,000
Off site Connections (signals, water lines, etc.) Cost ($)	300,000
Total Cost ($M)	2.3
Total Cost/ 5,000 sq. ft	287,500

R0006737

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Rancho Palos Verdes
Rosemead
Santa Fe Springs
San Gabriel
Sierra Madre
Signal Hill
South Gate
South Pasadena
Temple City
Vernon
Walnut
Whittier

December 3, 2001

Mr. Dennis A. Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

2001 DEC -5 PM 4:11

Re: Request to Complete Mediation/Continuance of NPDES Permit Agenda Item on December 13th

Dear Mr. Dickerson:

I want to thank you and your staff for taking the time to continue with the mediation presided over by US EPA on the various issues in the proposed NPDES Permit. As with the discussion on November 9th, we believe that the November 29th session was very productive in identifying areas of agreement and resolution in the proposed Inspection Plan B.

As you know, we did not have sufficient time to complete the mediation session as outlined by US EPA. We believe that it would be fruitful to continue the discussions, not only to address the remaining issues with the Inspection Program, but just as importantly, to address the remaining issues of concern. The cities are very concerned about the resources and funding necessary in order to implement the programs required in first year of the Permit. The Permit requires the implementation of 34 of the Permit's 44 programs in the first year. This item was not addressed at our session.

Mediation should focus on discussing and resolving the major issues identified by US EPA, including 1) Deadlines & Submittals, 2) Funding, 3) Land Use Authority, 4) MEP and 5) SUSMPs. Other issues were identified on EPA's agenda. However, it was clear from your comments that the Board has decided to move ahead with Permit adoption on December 13th. You also indicated that you plan to recommend the existing version of Inspection Version B, in spite of the progress made in reviewing the draft inspection plan your staff submitted at the beginning of the Mediation Session on November 29th.

2175 Cherry Avenue ♦ Signal Hill, CA 90806 ♦ (562) 989-7302 ♦ (562) 989-7393 Fax

We continue to believe that the December 13th hearing date is inappropriate, given the progress made in mediation. It is also inappropriate, given the Permittees willingness to continue mediation to resolve the remaining issues. Cities will be given very little time to consider the action of the Regional Board over the Holiday Season, since most cities cancel their meetings in late December. Also, many city council's have rescheduled their first meetings in January, since New Year's Eve falls on the first Monday of the month and New Year's Day falls on the first Tuesday, conflicting with many regular council meetings. Most cities will effectively have only one week in January to consider the permit. I believe that this short time frame will work against the Board's wish to work with the cities as partners.

Mr. Harry Seraydarian, the EPA's appointed mediator, has committed to proceed with the process, if all of the parties are willing to do so. The Permittees are committed to the mediation process and to our improving dialogue with the Regional Board. We would hope that the Regional Board has the same level of commitment. We have observed that the San Diego Regional Board and the Permittees are spending an inordinate amount of time in the same implementation and clarification discussions – only their permit has been adopted – and they are all rushing to make decisions. It has placed the Regional Board, staff and the Permittees in a difficult situation. We believe that the time would be better spent now in solving the implementation questions and issues in the proposed Permit, than in scrambling after adoption.

We are proposing that mediation move forward and the Board continue the public hearing on the NPDES Permit until January. Given the importance of these issues, the number of people within our communities they will impact, the need for improved relationships between the Regional Board and local government, we are hopeful that you will reconsider the decision to conclude the mediation process and your decision to adopt the Permit on December 13th.

Sincerely,

Kenneth C. Farfsing
City Manager
City of Signal Hill
CPR Steering Committee

cc: Congressman Horn
Congressman Drieir
Mr. Wayne Nastri, US EPA Region IX
Ms. Alexis Straus, US EPA Region IX
Mr. Harry Seraydarian, US EPA Region IX
Mr. David Nahai, Chair
County of Los Angeles
City of Los Angeles
Mediation Participants

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

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320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

Gray Davis
Governor

December 3, 2001

Mr. Harry Seraydarian
US Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Seraydarian:

MUNICIPAL STORM WATER PERMIT – FOR THE COUNTY OF LOS ANGELES

We would like to thank you for facilitating a second facilitation session on Thursday, November 29th at the Signal Hill Community Center. At that session, staff at the Regional Board committed to rapidly producing another version of the proposed permit requirement for an Industrial/Commercial Facilities Control Program, which blends elements from Options A, B, and C which we are have presented to our Board for possible adoption on December 13, 2001. We have attached this new version, designated Version A/C, for the purpose of discussion. This version blends elements from both Option A and Option C (many of the Permittees' preferred option).

We believe that this new Version A/C reflects the start of a promising partnership among the Regional Board and municipalities. In this new draft, the Regional Board has tried to be responsive to several of the permittees' concerns over funding requirements and a preference, on the part of several permittees, for a program based solely on an education approach. To respond to these concerns, we have modified and clarified the scope of the inspections and clarified our expectation for enforcement on the part of permittees. Specifically, we have:

- Clarified and Reduced the Scope of Inspections.

  - Inspection Frequencies: In general, frequencies have been reduced from once every 24 months to once every 30 months. In addition, we have designated Tier 1 and Tier 2 categories for Phase 1 facilities, and further reduced the frequency of inspections for Tier 2 categories to once every 5 years. Finally, those Tier 2 categories with no exposure of industrial activity to storm water need not be inspected, after the initial determination of no exposure.

  - Phase 1 Categories: We have reduced the categories to be inspected, by eliminating Petroleum Refining.

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- Duplication of Regional Board and Permittee Inspections: We have added a requirement relieving permittees of the responsibility to inspect those Phase 1 facilities that the Regional Board has inspected within the previous 24 months. We intend to work out a system with the Permittees to efficiently communicate facilities that have been inspected by the Regional Board.

- Level of inspections: We have clarified our expectations regarding minimum Best Management Practices that Permittees' inspectors need to check during inspections.

- Tiered inspections: We have modified the definition of inspections, to allow permittees to conduct inspections of restaurants from the curbside.

➢ Provided a clearer definition of expectations concerning the scope of enforcement.

- Progressive enforcement: We have clarified minimum steps that permittees must take in their progressive efforts to enforce their municipalities' storm water requirements.
- Referrals to the Regional Board: In recognition of some of the permittees' concern regarding the resource intensive efforts needed to elevate enforcement actions, we have added a mechanism by which permittees can refer cases to the Regional Board.
- Accelerated referrals to the Regional Board: For violations of the State's General Permit for Industrial Activities, we have made provision for expedited referrals.
- Complaints: We have clarified the complaints will be referred by the Regional Board staff.
- Support of Regional Board enforcement actions: We have noted that permittees must provide staff for joint inspections with the Regional Board when available.

We have made other minor editorial changes as suggested by participants at the meeting, again to achieve greater clarity.

We are providing this draft to address your underlying concern regarding the cost of implementing program. We also want to acknowledge, as discussed at our meeting, a commitment on our part to support Permittees' efforts to strengthen their storm water ordinances. Toward this end, we are elaborating upon findings in the proposed permit, and we also are prepared to attend City Council meetings and testify on the requirement for storm water ordinances.

With this Version A/C, we hope we have achieved consensus on the requirement for an Industrial/Commercial Facilities Control Program. We believe that this consensus addresses our common interests to protect water quality while optimizing both State (Regional Board) and local resources, without significantly changing requirements in the existing Version A, B, and C. We need the participants at the meeting on November 29th to indicate, as soon as possible (but no later than Monday, December 10th), their consensus on these issues and support for Version A/C. Please do not hesitate to contact me at (213) 576-6605, Wendy Phillips (Acting Assistant

Executive Officer) at (213) 576-6618, or Dan Radulescu (Water Resources Control Engineer) at (213) 576-6668. Again, thank you for your significant efforts to assist all of us toward reaching our goal of effectively protecting water quality.

Sincerely,

Dennis A. Dickerson
Executive Officer

attachment

cc: Participants at the Signal Hill meeting of November 29, 2001 (sent via email)

Storm Water Quality Task Force BMP Guide For Retail Gasoline Outlets

Review and Comment

November 2001

Dan Radulescu
Storm Water Section

CalEPA,
California Regional Water Quality Control Board,
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Introduction

The California Regional Water Quality Control Boards, Los Angeles Region (LA Regional Board) and the San Diego Region (SD Regional Board) issued a technical document (RB technical report) on new development standards for Retail Gasoline Outlets (RGOs) in June 2001. The RB technical report provided justification that RGOs should be subject to numerical design criteria for treatment control Best Management Practices (BMPs). On August 6, 2001, the Western States Petroleum Association (WSPA), a trade group for the petroleum industry in Western U.S., released a technical document that challenges the recommendations and the conclusions of the RB technical report. Among other claims, WSPA asserts that the California Storm Water Quality Task Force BMP Guide (Guide), a default collection of soft source control BMPs (Task Force BMPs) are sufficient and treatment control BMPs are not necessary at new and redeveloped RGOs.

The Storm Water Quality Task Force (Task Force) is primarily comprised of municipalities, private organizations and individuals responsible for and/or interested in the implementation of municipal separate storm sewer system (MS4) programs in California. Its Executive Committee is comprised of 17 members, including 11 municipal representatives, 2 industrial representatives, and 4 at-large members. The Executive Committee approves work products generated by the work groups, sets Task Force priorities, identifies issues of concern, appoints committees and work groups, updates the State Water Resources Control Board (State Board) on key issues, and establishes the agendas for bi-monthly meetings. Some Regional Board and State Board staff attend the Task Force meetings.

The following constitutes LA Regional Board staff review and comment on the Task Force BMPs and Guide.

R0006743

Review of the Task Force BMPs and the Guide

The Task Force BMPs, mostly a collection of source control BMPs, are a "default" set of BMPs recommended for implementation at RGOs in 1997. The Task Force BMPs listed in the Guide carry over BMPs suggested by the USEPA in 1992 in a guidance document.[1]

The Guide recommends that BMPs be included in the construction and design of new and substantially remodeled RGO facilities. These Task Force BMPs are:

(i) Fueling area design and construction - Portland cement concrete with a 2% to 4% slope around fuel dispensing areas to prevent ponding, and minimum separation by a grade break to prevents run-on of storm water; fuel dispensing area is defined as extending 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus 1 foot, whichever is less. The paving around the fuel dispensing area may exceed the minimum dimensions of the "fuel dispensing area" stated above. In addition, the fuel dispensing area must be covered, and the cover's minimum dimensions must be equal to or greater than the area within the grade break or the fuel dispensing area, as defined above. The cover must not drain onto the fuel dispensing area.

(ii) Fuel-dispensing areas maintenance - routinely swept for removal of litter and debris, and use of rags and absorbents for leaks and spills. It is also suggested that wash down of fueling areas should never be performed (but avoids the use of word: "prohibited") unless the wash water is collected and disposed of properly.[2]

(iii) Employee training - training in management of waste materials, labeling drains and flow patterns at the facility (seldom observed in practice), inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries (also not performed routinely).

(iv) Fuel dispenser signage - posting signs close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles.[3]

(v) Outdoor waste receptacle and air/water supply area design and maintenance - clean-up of leaks and drips, grading the site in such a way to prevent run-on of storm water, segregation of flow, and the installation of a roof cover or a low containment berm.

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[1] *Storm Water Management for Industrial Activities – Developing Pollution Prevention Plans and Best Management Practices*, EPA 832-R-92-006, pg. 3-2 to 3-4

[2] One might infer from this statement that the quality of the wash water cleaning the fueling areas is not appropriate for disposal, due to contamination from spills, stains and deposits from vehicular traffic. That raises the question of whether the practice of sweeping for removal of debris or the use of rags and absorbents for leaks and spills, at RGOs is adequate in itself. Numerous studies have shown that there is pollutant build-up and entrapment in the base pavement that can not be removed even after multiple episodes of pressure washing.

[3] Although the signs are a very good educational BMP, both the heavy automobile traffic at RGOs and accidental spills invariably contribute to pollutant build-up.

The language in the Guide is overly broad, voluntary, non-specific, and vague from a regulatory perspective. It is not known if the BMPs are mandatory throughout the petroleum retailing industry and are routinely implemented.[4]

No evidence has been provided to date to demonstrate that the sole implementation of source controls BMPs is sufficient to achieve the goal of reducing the discharge of pollutants in storm water from RGOs. Rather, more recent data shows that the opposite is true. Source control BMPs while essential to pollution reduction efforts, and presumptively cost effective, do not obviate the need for treatment control BMPs to remove pollutants of concern in storm water from RGOs. Essentially, these BMPs are the pre-treatment step in the treatment train to reduce the discharge of storm water pollutants.

The Guide has not been updated, although much research on the effectiveness of treatment control BMPs has been done and well documented in the literature since 1997. Some of these studies have determined that the implementation of source control BMPs alone is not sufficient to adequately address storm water pollution[5]. There is a tremendous body of evidence and numerous studies have been conducted in recent years since the Guide was first issued.

Summary of Research to Date

The US General Accounting Office (GAO) Report to Congress[6] mentions the relationship between automobile traffic (such as at RGOs) and sources of pollutants in storm water runoff, including toxic pollutants such as heavy metals and petroleum hydrocarbons. The GAO Report discusses (i) the evidentiary direct correlation between vehicular traffic and Polycyclic Aromatic Hydrocarbon (PAH) concentrations in lake-bottom sediment and, (ii) the occurrence of toxicity from heavy metal concentrations in receiving waters in urban and suburban communities in the U.S. Both PAH and heavy metal concentrations have increased with the increase of vehicular traffic in these areas.

Studies analyzing the effectiveness of source control BMPs reveal that there is scant evidence to demonstrate that source control BMPs are by themselves adequate to prevent pollutants from entering storm water discharges. The effectiveness of most storm water treatment control practices is dependent on their ability to remove pollutant particles from the water, or possibly from intermediate accumulating locations and not through source reduction.[7] To the contrary, some of the more recent studies show that some source control BMPs (such as sweeping) are ineffective in removing pollutants.[8] Other studies, performed at RGOs specifically demonstrate that some potent treatment control BMPs (mobile high pressure water cleaning) are still not effective in removing

---

[4] The tentative LA County MS4 permit (October 11, 2001) includes requirements for municipalities to inspect RGOs to verify implementation of BMPs in the Guide. p 35A and 35 B.

[5] *Comparison of Critical Source Results Before and After BMP Implementation* – Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report [Table 4-15, 4-16], July 31, 2000

[6] *Water Quality Better Data and Evaluation of Urban Runoff Programs Needed to Assess Effectiveness (June 2001)* US General Accounting Office

[7] *Innovative Urban Wet-Weather Flow Management Systems*. Field, Richard, James P. Heaney and Robert Pitt. (2000). Technomic Publishing Co., Inc. Lancaster.

[8] *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*. L. L. Tiefenthaler *et. al* (2001). Southern California Coastal Water Research Project; *Effectiveness of Street Sweeping for Storm water Pollution Control*, Technical Report 99/8, T.A. Walker and T.H.F. Wong (1999), CRC for Catchment Hydrology, Victoria, Australia.

pollutants due to the high pollutant deposition rates, heavy pollutant buildup and entrapment in the base pavement and also that soft source control BMPs are not likely to have a significant impact on the sources of pollution.[9] Furthermore, studies performed in the Los Angeles region at automotive service facilities and monitoring data collected through those studies show no improvement in storm water discharge quality after the implementation of source control BMPs, similar to those suggested by the Task Force.[4] Other studies indicate that while the data to recommend outright acceptance of a number of treatment control BMPs at this time may be limited, some of these treatment control BMPs are conditionally acceptable.[10,11,12]

Conclusion

The Guide is a basic document that has become obsolete. BMPs in the Guide are not substantive. They cannot be considered as being adequate to ensure that storm water discharges from RGOs meet the standard of Maximum Extent Practicable (MEP standard) under CWA § 402(p) and do not cause or contribute to the exceedance off water quality standards in receiving waters under CWA § 301. Rather, the Guide is a "default" list of source control BMPs identified as pollution prevention measures by the Task Force to be implemented as a first step. The Task Force, unlike WSPA, has never claimed that the Task Force BMPs constitute the MEP standard for MS4 permittees for controlling the discharge of pollutants from RGOs to the MS4. The Task Force BMPs and Guide were a recommendation of a minimal "default" set of source control BMPs agreed to by a representative workgroup in 1997, nothing more. WSPA's absolute reliance on the Guide appears misplaced, considering that nearly a decade ago, USEPA identified the need to implement treatment control BMPs at RGOs to address and control storm water pollution.[13]

In light of numerous recent studies, which demonstrate the need for aggressive treatment control BMPs at RGOs in addition to pollution prevention measures, the Guide is obsolete. The source control BMPs in the Guide are insufficient to control the sources of pollutants in storm water discharges at RGOs, where such discharges cause or contribute to an exceedance of water quality standards for toxic constituents such as heavy metals and petroleum hydrocarbons.

Regional Board staff stands behind the conclusions of the previously released *Technical Report – Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts – June 2001.* The justification in the RB technical report is valid and is supported by numerous studies and monitoring data. The recommendations in

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[9] *Action Plan Demonstration Project (APDP) - Demonstration of Gasoline Fueling Station Best Management Practices, County of Sacramento, (1994)*, Submitted to US EPA Region IX, San Francisco Estuary Project.

[10] *Investigation of Structural Control Measures for New Development* (1999) Larry Walker Associates, Inc. Prepared for Sacramento Storm water Management Program

[11] *National Conference on Retrofit Opportunities for Water Resource Protection in Urban Environments* Proceedings Chicago, IL February 9-12, 1998, EPA/625/R-99/002 pag. 252

[12] *Multi-Chamber Treatment Train Developed for Storm water Hot Spots* – Article 111: Technical Note from Watershed Protection Techniques 2(3): 11-13

[13] *Urban Runoff Pollution Prevention and Control Planning (Handbook)* EPA/625/R-93/004. Pag. 111: "Certain commercial and industrial sites can be responsible for disproportionate contributions of some pollutants (e.g., grit, oils, grease, and toxic materials) to the drainage system. Typical sources of potential concern include gasoline stations, railroad yards, freight loading areas, and parking lots. In specific cases where significant pollutant loadings to the system are contributed by well-defined locations of limited area, pretreatment of the runoff from these areas could be a practical and effective control measure. Pretreatment measures can be required as part of a community's regulations. Examples of pretreatment measures include oil/water separators for gasoline stations, or the use of modified catch basin designs to enhance the retention of oil and grease or solids

the document are sound, balanced, and responsive to areas of concern raised by the State Board in the SUSMP decision.

The overarching objective of new development and redevelopment requirements for RGOs is to protect an important natural resource: the quality of waters of the State. Implementation of the source control BMPs in the Guide alone will not and cannot achieve that objective. The implementation of treatment control BMPs adequately designed for water quality volume and water quality flow for pollutants of concern in storm water discharges from new and redeveloped RGOs is necessary.

R0006747

MESSAGE CONFIRMATION DEC-04-2001 11:42AM TUE

FAX NUMBER: 2135765777
NAME :

NAME/NUMBER	:	918185450954
PAGE	:	017
START TIME	:	DEC-04-2001 11:36AM TUE
ELAPSED TIME	:	05'28"
MODE	:	G3 STD ECM
RESULTS	:	[O.K]

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640
Internet Address: http://www.swrcb.ca.gov/~rwqcb4

Gray Davis
Governor

FAX TRANSMITTAL

DATE: 12/4/01

TO : Mr. Ronald Wilkinson
WSPA

FAX NO. (818) 545 0954

FROM:
DAN RADULESCU
CRWQCB LA REGION
PHONE 213 576 6668
FAX 213 576 6660

TEL.# (213) 576 - 6668
FAX# (213) 576 - 6660

NUMBER OF PAGES SENT (INCLUDING THIS COVER PAGE): 17

MESSAGE:

Hello,

Attached are the documents for your consideration.

Thank you,

vbc 3/17/99

R0006748

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

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December 3, 2001

Mr. Steve Arita
Western States Petroleum Association
1115 11th Street Suite 150
Sacramento, CA 95814

Dear Mr. Arita:

SUPPLEMENT DOCUMENT TO THE JUNE 2001 TECHNICAL REPORT - RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

In preparation to reissue the Los Angeles County Municipal Storm Water Permit (LA Municipal Permit), Regional Board staff prepared and issued in June 2001 a Technical Report - Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts.

On August 6, 200, WSPA submitted a critique of the RGO Technical Report in its comment on the second draft of the LA Municipal Permit.

Attached to this letter, is a supplement document discussing some of the points raised by WSPA. We appreciate WSPA's involvement in the LA Municipal Permit renewal process.

Should you have any questions, please do not hesitate to contact Dan Radulescu at (213) 576-6668.

Sincerely,

Xavier Swamikannu, D.Env.
Acting Chief, Storm Water Section

cc: Ron Wilkniss, Western States Petroleum Association

R0006749

WSPA Meeting Regarding the Tentative MS4 Permit for LA County

December 5, 2001

Notes from Dan Radulescu

- Maryann Gonzalez – representative for BP
- Dennis Dickerson

  ⇒ status of the permit

  ⇒ technical documents (response to comments on RGOs issues)
- Ron Wilkins

  ⇒ response to comments (supplemental)

  ⇒ are not on subject

  ⇒ maybe some quotes
- Spotty implementation of source control BMPs
- If the Task Force BMPs are applied, are they enough to address water quality objectives?
- Issues of treatment vs. spills danger

  ⇒ Explosion danger vs. waster quality
- Consistency as recommended by the State Boards
- Task Force BMPs distributed
- Iterative process

PLEASE SIGN FOR RECORD OF PARTICIPATION Meeting with WSPA regarding Tentative MS4 Permit for LA County

Location: CRWQCB - REGION 4
JUNIPERO-SERRA BUILDING
320 W. FOURTH STREET, SUITE 200, LOS ANGELES, CA 90013

Date: 12/5/01

PLEASE WRITE LEGIBLY

	NAME	AGENCY/COMPANY/ RESIDENT	MAILING/E-MAIL ADDRESS	TEL. NO.	FAX NO.
1.	Dan Radulescu	LARWQCB	dradules@rb4.swrcb.ca.gov	(213) 5766668	(213) 5766660
2.	Xavier Swamikannu	-"-	xswami@rb4.swrcb.ca.gov	(213) 576 6654	-"-
3.	Wendy Phillips	-"-	wphillip@rb4.swrcb.ca.gov	(213) 576 6618	
4.	Maryann Gonzalez	BP	gonzam@bp.com	Fax. (213) 486 0308	Tel. (213) 486 0225
5.	Ron Wilkins	WSPA			
6.	Dennis Dickerson	LARWQCB		(213) 576 6605	(213) 576 6600
7.					
8.					
9.					

R0006751

Brad

From: Dennis Dickerson [DDICKERS@rb4.swrcb.ca.gov]
Sent: Wednesday, December 05, 2001 7:04 PM
To: MEDIAFRAN@aol.com; cpak@archeongroup.com; susancloke@earthlink.net; rolemi@ix.netcom.com; bmindlin@mindlinreg.com; hnahai@nahailaw.com; Dennis Dickerson; jbuckner@sbcglobal.net; tshaheen@sun-world.com; stevehines@westcentralbasin.com
Cc: Michael Lauffer; Dennis Dasker; Deborah Smith; Jenny Newman; Laura Gallardo; Ronji Harris; Robert Sams; Wendy Phillips; Xavier Swamikannu
Subject: Re: December 13th Board Meeting

One additional point. The change sheet for the MS4 permit is a condensed version (which should precede the staff report) but difficult to track against the permit itself. We are working on a corrected version of the entire permit that will show these changes. We will get this to you ASAP and have copies available for those attending the hearing.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
***For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html ***

>>> Dennis Dickerson 12/05/01 06:57PM >>>
Our next meeting is scheduled for Thursday, December 13th, at 9:00 am at the MWD, 700 N. Alameda, LA. I believe all board members plan to attend. I would appreciate your sending me a confirming reply e-mail.

For board materials you should have four volumes of material (one for all items other than item 10 - the MS4 permit- and three volumes -two binders and one accordion file for the MS4 permit). If you do not thave these please let me know soonest.

Please plan for a full day, the major item on the calendar will be consideration of the LA County MS4 NPDES Stormwater permit renewal. This permit was last issued in 1996 amidst great controversy and which led to litgation by the City of Long Beach, which as you know, was successfully negotiated and set us on our current track by providing the basic framework of MS4 permits permits we have since adopted for Long Beach and Ventura County. This permit is largely similar to both.

The other significant items on the agenda are NPDES permits for Praxair and Equilon (Carson Terminal) and an information item on the development of the Regional 303(d) list of impaired waters. This latter item is the result of direction from the board last summer which approved the approach to make these listings. While highly based on the application of a scientific approach to determine listings, any new listings (or the failure to remove some listings) are always controversial. Be prepared for some critical comments on the issue since it is the critical link in the TMDL process, i.e., if you are on the list a TMDL will be developed, if not, no TMDL, so the incentive is to those who really want to avoid a listing.

Praxair is still working on some issues with us. You might want to hold off on that review until the last since it might drop.

Also on Praxair, we have sent supplemental materials including a Change Sheet. As always, pls place the change sheet at the beginning of the binder in advance of the staff report. A comment letter from Heal the Bay has been added as pages 8.1-114 and 8.1-115 (note: technically the

page number should have been 8.1-113 a and b. - pls correct your copies). Pls insert the Response to Comments Cover Sheet - comments will be forwarded following a meeting we are having with Praxair tomorrow.

Item 11 is a Prospective Purchaser Agreement. I understand from staff that the parties have been working cooperatively with us to bring this before you.

With regard to Item 10, we are sending you some supplemental materials:

First: the item which says to replace pages B-39 to B-56 is incorrect. Pls add these pages, do not remove the existing pages B-36 through B-56. instead, pls number these pages B-39a, B-39b, etc. A new set will be available at the meeting with corrected numbers if you prefer to use those.

Let me explain what these new pages are. We met with interested parties in two USEPA sponsored mediation sessions to see if we could develop some consensus language on the permittee inspection program. The outgrowth of this effort was this new language. We are incorporating it as version A/C.

Currently, you have three versions of the inspection program, Version A, Version B and Version C. We will be offering the new Version A/C for your consideration provided it does not trigger the significant change provision that would require renoticing. We believe the new version is a reworking of the language in the earlier versions that reads better and which has some minor changes that should not trigger the renoticing requirement.

This new version may not be endorsed by all, if any, of the permittees that attended the mediation session. The end result, however, we feel is a much improved version that we are offering to the Board. Only one version will be adopted by you and, of course, the version you approve is subject to additional modification during the course of your deliberations.

We are also sending the final decision of the State Board on the San Diego MS4 permit that was appealed by BIA and WSPA. We have made every effort to ensure that the draft before you is consistent with the SWRCB's decision.

Note: the response to comments already in your binder that was prepared previously addressed most of the comments that we have received. One of the supplements we are sending is a small additional response to comments document that addresses new issues from draft 2 to draft 3 (the current version before you).

There are a few other minor supplemental materials being sent on this item.

I hope the above is helpful in preparing for the meeting. If you have any questions, pls call me for assistance.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
***For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html ***

R0006753

WSPA
Western States Petroleum Association
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FAX COVERSHEET

☐	Per Your Request	☒	FYI
☐	Review/Comment	☐	Approval/Return

Date: 12-6-2001

To: Dennis Dickerson

Company: State of California

Fax Number: (213) 576-6625

From: Ron Wilkniss

Number of Pages (including coversheet): 2

MESSAGE:

505 N. Brand Blvd., Suite 1406, Glendale, California 91203
(818) 545-4105• FAX: (818) 545-0954 • www.wspa.org

Ron Wilkniss

From: Ron Wilkniss
Sent: Thursday, December 06, 2001 8:40 AM
To: 'ddickers@rb4.swrcb.ca.gov'
Subject: Thanks for your time

Dennis: Thanks very much for your time yesterday afternoon. We discussed the staff's Supplement to the June Technical Report, and you offered to consider making select language changes. I appreciate that. But, regretfully, I will be involved in multiple meetings today and tomorrow and, as a result, will not be able to get any sort of mark-up to you within the time-frame you have requested.

Please do not hesitate to call me (818/543-5324) if further discussion would be useful to you.

Sincerely,
Ron Wilkniss

R0006755

From: "Shahram Kharaghani" <SXKhragh@SAN.LACITY.ORG>
To: <mfisher@rb4.swrcb.ca.gov>, <xsami@rb4.swrcb.ca.gov>
Date: 12/6/01 5:36PM
Subject: Suggested Language for the MS4 Permit

Hi folks,

Here is the language that we have prepared in response to your request on Tuesday. Please call me if you have any questions or comments. Thanks.

CC: "John Dorsey" <JDorsey@SAN.LACITY.ORG>, "Morad Sedrak" <MSedrak@SAN.LACITY.ORG>

Suggested Revisions to the MS4-NPDES Permit
Watershed Protection Division
City of Los Angeles
December 6, 2001

Page 70 – Insert after "Runoff" definition,

"Screening" means those proactive methods that the Permittee uses in identifying illicit connections in its jurisdiction. The methods may include: establishing a 24-hour hot-line, performing baseline monitoring of open channels, conducting special investigations, analyzing the maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains.

Page 55, Section (5)

(5) Storm Drain Operation and Management

Permittees who are not subject to the Trash TMDL shall implement the following except (e):

(a) Designate catch basin inlet...
(b) Clean catch basins...
(c) For any special events...
(d) Place trash receptacles...
(e) Permittees subject to the Trash TMDL shall implement the requirements contained in (f) and (g), in addition to the requirements of Order No. 96-054: NPDES Permit No. CAS614001; Part 5. (a) for catch basin cleaning, until such time that the Trash TMDL measures are adopted. After that time, said Permittees shall implement programs in conformance with the TMDL implementation schedule and will no longer be subject to the additional requirements of Order No. 96-054: NPDES Permit No. CAS614001.
(f) Each Permittee shall...
(g) Each Permittee shall...

CAPITOL OFFICE
STATE CAPITOL
ROOM 3082
SACRAMENTO CA 95814
TEL 916 445-2848

DISTRICT OFFICE
55 E HUNTINGTON DRIVE
SUITE 330
ARCADIA CA 91006
TEL 626 447-5894

California State Senate

SENATOR
BOB MARGETT
TWENTY-NINTH SENATORIAL DISTRICT

COMMITTEES
LOCAL GOVERNMENT
BUDGET & FISCAL REVIEW
LABOR & INDUSTRIAL RELATIONS
PUBLIC SAFETY

December 7, 2001

2001 DEC 10 P 3:44

Mr. H. David Nahai, Chair
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

Re: Storm water – NPDES Permit Renewal

Dear Chairman Nahai:

It has come to my attention the Los Angeles Regional Water Quality Control Board (hereinafter the Board) will be discussing the renewal of the storm water – NPDES permit. The NPDES permit will be effective for the next five-year period, mandating new programs and development controls on Los Angeles County and the municipalities.

It is my understanding issues still remain between the municipalities and the Board with regard to the permit renewal. Several of the cities within the 29th Senate District have also expressed concern over the costs associated with the more restrictive permit being forwarded. In these difficult economic times, these additional costs also concern me.

While I am supportive of efforts to protect the quality of water in Los Angeles County and its municipalities, the efforts should not be overly burdensome to the local entities that must implement the protections. Since the municipalities still have concerns over the proposed permit and are willing to continue discussions on the issues, I would request the Chairman consider postponing a vote on the permit and continue mediation with the interested parties.

I am a strong advocate for open discussions and negotiations among interested parties. This issue has numerous stakeholders and should be resolved in a manner that takes into

consideration as many views as possible. I believe continued discussions would result in a more equitable and feasible solution for all those involved.

Thank you for considering this request. If you have any questions, please do not hesitate to contact my office at (916) 445-2848.

With Kind Regards,

Bob Margett

BOB MARGETT
State Senator, 29th District

cc: City of Arcadia
City of Claremont
City of Monrovia
City of Walnut

CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90806

2001 DEC 12 P 5:04

December 10, 2001

Dennis A. Dickerson, Executive Director
CRWQCD – Los Angeles Regional
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Proposed Inspection Program- Version A/C

Dear Mr. Dickerson:

I would like to thank you and your staff for the quick turn around of the revisions to the proposed storm water inspection program for the NPDES Permit (Permit) for Los Angeles County and the cities (Permittees). We appreciate the hard work of Wendy Phillips and Dan Radulescu in drafting Version A/C. This inspection program is much improved from the inspection Versions A&B in the draft Permit. I believe the efforts of all of the participants in the Mediation Sessions resulted in a better understanding of the concerns of all of the parties, including the concerns of the environmental community.

Version A/C has several improvements over Version A&B, addressing some of the resource problems presented by both Versions A&B. We appreciate the progressive enforcement section of Version A/C. This will help to alleviate expensive and sometimes inconclusive enforcement referrals in the local court system. We also appreciate the reduction in inspection frequencies and clarifications of the scope of the inspections.

I have begun a dialogue with John Schunhoff, with the Los Angeles County Health Department, over the storm water component in the restaurant inspections, as it would impact city resources. Only four of the Permittees have their own health departments. The majority of cities contract with Los Angeles County for restaurant inspections. Our goal is to coordinate the storm water component with the present restaurant inspections, maximizing the use of existing resources.

Phase I Facilities

Section 3b) of the revised inspection program indicates that the Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. During the Mediation Session of November 29th, we had a spirited discussion of the State permitted facilities. You anticipated that the State will be able to inspect 67% of the State's permitted facilities. Some of these facilities are a major concern to the environmental community – including refineries, airports, railroad facilities and regional transit yards.

You also indicated that the remaining 33% of the State permitted facilities will need to be inspected by the municipalities and that you would develop a system to coordinate which inspections the Regional Board was to complete versus those to be completed by the municipalities, in order to avoid confusion and double inspections. Dan Radulescu distributed copies of an MOU between Alameda County and the San Francisco Bay Regional Board that was designed to address these coordination issues. A similar MOU should be considered in connection with Version A/C Inspection Program. For example, Version A/C is unclear as to which facility categories the State intends to inspect. It is also unclear as to what will happen if the State budget is reduced and the Regional Board cannot reach your target of inspecting 67% of the State permitted facilities. Will the State require that the municipalities complete a greater number of the State's inspections?

We similarly had a spirited discussion on the State charging permit fees to these facilities, but not performing the inspections. At the Mediation Session, the cities proposed that the State pass through the inspection fees for the State permitted facilities, that you are asking the cities to inspect. You stated you would not discuss the fee issue with us. It was also unclear if the cities would be permitted to charge an additional inspection fee on already permitted State facilities. The ability of the cities to recoup their costs for State permitted facilities is a critical resource issue that remains unresolved.

During the Mediation Session of November 29th, you asked each of the participants to indicate their consensus on Version A/C by December 10th. You indicated that if you did not hear support for Version A/C, that you would recommend Version B, the most resource intensive inspection program. As you recall, we did not complete the Mediation Session. In particular two critical questions remained on the fee issue, on the ability to pass through the State's inspection fee, and the second on the ability of the cities to "double fee" a business.

I would like to recommend the Version A/C inspection plan to the CPR cities. However, we believe it is essential that the Mediation process be given time to work both on the other permit issues in dispute as identified by the US EPA Mediator, and on the remaining inspection issues. We continue to believe the effort spent prior to adoption of the Permit resolving these issues, will reduce the confusion and time demands placed on your staff and on the Permitees after Permit adoption. As evidenced of this, recognize the post permit discussions underway in San Diego County on this issue, and the Alameda County MOU. I will present Version A/C to the CPR cities at their meeting of December 12th.

Please do not hesitate to contact me if you have any questions regarding my position.

Sincerely,

Kenneth C. Farfsing
City Manager

cc: Mediation Participants
CPR Members

Coalition for Practical Regulation

Arcadia
Artesia
Baldwin Park
Bellflower
Bell Gardens
Cerritos
Commerce
Compton
Diamond Bar
Downey
Hawaiian Gardens
Industry
Irwindale
La Mirada
Lakewood
Lawndale
Monrovia
Montebello
Norwalk
Palos Verdes Estates
Paramount
Pico Rivera
Pomona
Rancho Palos Verdes
Rosemead
Santa Fe Springs
San Gabriel
Sierra Madre
Signal Hill
South Gate
South Pasadena
Temple City
Vernon
Walnut
Whittier

December 10, 2001

Dennis A. Dickerson, Executive Officer
CRWQCD – Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

2001 DEC 12 P 2:30

Re: NPDES Permit Schedule

Dear Mr. Dickerson:

The proposed NPDES Permit (Permit) for Los Angeles County and the cities (Permittees) contains a series of requirements for new programs or revisions to existing programs. We have prepared a chronological review of the Permit's programs and their deadlines (see attached Exhibit). This chronological review was passed out at our Mediation Session on November 29th, but was not discussed since we ran out of time. It is important that we discuss these and come up with realistic deadlines.

Review of the Exhibit illustrates that 34 of the 44 programs in the new Permit are due within the first year. This is going to be a tremendous burden on the Permittees. Many of these programs are new unfunded mandates and present a serious resource challenge for the Permittees. Aside from the unfunded mandate question, the Permit schedule should be modified in order to reduce the resource demands in the first year of the Permit and to in order to clarify ambiguities. The Permit contains a series of unclear due dates and confusion in several of the programs.

<u>First Year – Programs for Immediate Implementation</u>

A series of new programs are to be implemented immediately after the adoption of the Permit. Some of the programs have no due dates, so is it safe to assume that they would be implemented at the end of the Permit? For example, the requirement for trash receptacles at each transit stop has no specific due date. Does this mean that the

2175 Cherry Avenue ♦ Signal Hill, CA 90806 ♦ (562) 989-7302 ♦ (562) 989-7393 Fax

requirement is left for the last year of the Permit? There are also no specific due dates for catch basin cleaning and street sweeping.

Reasonable time must be given to start these programs. Cities plan their budgets on a fiscal year matching the State of California, beginning July 1, 2001. These new programs will require time to develop the details.

The following first year programs will be difficult to implement immediately, even if funding is found:

Increased catch basin cleaning
Increased street sweeping
Twice monthly City owned parking lot cleaning
Numeric criteria study
Inspection Program
Illicit Connection Program
Dry Weather Diversion Report
Transit stop trash receptacles

Dry Weather Diversion Report

We understand that the Los Angeles County Sanitation District is funding the Dry Weather Diversion Report for the 77 cities that it serves. This requirement was approved by the Regional Board in lieu of a fine against the Sanitation Districts. It makes sense that the Sanitation Districts take the lead on this report, since they are in the best position to determine sewer and treatment facility capacities. Cities and the County Flood Control District are in the best position to submit candidate storm drains for possible diversion.

It will be extremely difficult to coordinate 77 cities and the County during the 120-day time period called out for in the Permit. A more realistic time frame would be 24 months to complete the report. Perhaps the Board should break the report into phases, concentrating on areas near the beaches and water bodies of major concern. The second phase of the report could concentrate on industrial areas or commercial areas of concern. The last phase of the report could concentrate on the remaining areas. This Permit requirement should be modified to reflect that the cities are not in position to require that a separate legal entity, the Sanitation Districts, comply with either the time schedule or the program requirement in the NPDES Permit.

Technical Manual for BMP's

The Permit requires that we develop a technical manual for the siting and design of BMP's at the 10-month period or roughly at the 300-day mark. We are supposed to train our inspection and planning staff at the 120th day. It seems logical that we would be training our staff after the development of the technical manual.

Confusion in Deadlines

The Permit is very confusing because it uses three types of deadlines in order to measure compliance. This deadline confusion may create problems in determining when a particular program is due and in turn make it difficult for the Permittee be in compliance. The following are examples of the confusion:

- Set dates (for example - October 15, 2002 to implement trash monitoring)
- Days (for example – 180 days from the date of adoption to implement the post development BMP's)
- Months (for example 9 months from the date of adoption to pass city ordinances)

Set dates have become a particular problem, since the Permit adoption date has been modified. The Permittees should be given a more realistic time frame in order to implement these programs. Also, you might also want to translate months into days in the first year of the Permit.

It is important that we discuss the program schedule more fully prior to the adoption of the Permit, since we did not complete the Mediation Sessions. Please do not hesitate to contact me at 562-989-7302 in order to arrange for a meeting.

Sincerely,

Kenneth C. Farfsing
City Manager
Signal Hill
CPR Steering Committee

cc: Steering Committee
CPR Members
Mr. Jim Noyes, Los Angeles County
Mr. Jim Stahl, County San. Districts

Permit Deadlines – Chronological Order

Deadline	Detail
Immediately	CEQA Changes
	Institute 24-hour verbal notice & 5 day written notice
	Provide development planning SUSMP guidelines to developers
	Complete catch basin and street sweeping prioritization
	Clean high priority catch basins monthly (wet season)/ once during dry season
	Clean B priority catch basins 40% full in rainy season
	Place trash receptacles at all transit stops
	Begin street sweeping – Priority A – twice per month, Priority B - monthly
	Begin County/City owned parking lot cleaning – twice per month
	Inspect County/City owned parking lots – twice per month
	Begin inventory of facilities for inspection/ prioritization
	Begin numeric criteria study (County & Cities)
	Begin drafting of development ordinances, post construction BMP's (page 44 uses), inspection, enforcement and SUSMP ordinances
	Begin inspection programs
	Begin illicit connection lists
	Begin field screen lists

Deadline	Detail
30 days	Provide reporting contact information (County)
60 days	Provide reporting contact information (Cities)
120 days	Submit ESA Maps
	Train employees for Development Planning
	Targeted employee training, including construction inspectors (6 months from effective date)
	Complete dry weather diversion report (July 1, 2002)
	Complete annual report (due each fiscal year)
180 days	Require SUSMP and post construction BMPs for projects adjacent to ESA
	Require post development BMP's for non-SUSMP sites
October 15, 2002	Implement trash monitoring
9 months (270 days?)	Amend or adopt city ordinances for inspection, enforcement, SUSMP
10 months (300 days?)	Obtain legal opinion
	Develop technical manual for siting and design of BMPs (County & City) (Note: Shouldn't technical manual be completed prior to training staff?)
I year	Develop outreach materials
	Update Watershed Inventory of Priority Facilities (annual updates there after)
	Complete illicit connection tracking list
	Field screen all open channels
	Update inventory of facilities and prioritization for inspections (annually thereafter)

Deadline	Detail
540 days	Implement numeric criteria from peak flow control
2 years	Site visits to all industrial/commercial facilities in Section 1 already in inspection program
	Mark all inlets and public access points
March 9, 2003	Require SUSMP and post construction BMP's for one acre industrial/commercial sites
	Public construction projects of 1-5 acres must receive Statewide general construction permit
March 10, 2003	Require proof of WDID# and SWPPP certification prior to issuance of grading permits for projects of 1 to 5 acres
3 years	Field screen all underground pipes in priority areas (36 inches or above?)
5 years	Field screen all underground pipes less than 36 inches in diameter
	Complete review of all permitted connections to storm drains
As revisions are scheduled	Revise General Plan Elements

BALDWIN
P · A · R · K

2001 DEC 12 P 5:05

December 11, 2001

Dennis Dickerson
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street – Suite 200
Los Angeles, California 90013 - 1105

Subject: Alternative to Industrial/Commercial Pollution Control Program Version "A/C"

Dear Mr. Dickerson:

The City of Baldwin Park ("City") extends its most sincere appreciation to you and your staff for participating in the USEPA endorsed mediation over the industrial/commercial facilities control program (I/CFCP). Many issues associated with this program were resolved through the 2 mediation sessions. Still are there issues and problems that require further mediation. The City hopes that the Regional Board staff recognizes that is far more advantageous to continue mediation to resolve issues. To help facilitate this, a recommendation to modify the program is provided.

- Inspection/Enforcement of GIASWP Requirements

The most recent version of the I/CFCP, designated "A/C," requires municipalities to inspect industrial facilities for conformance with the General Industrial Activity Storm Water Permit (GIASWP) -- a permit that is issued by the State Water Resources Control Board. Version A/C also requires municipalities to enforce requirements against GIASWP- by requiring subject industrial facilities to adopt local codes that facilitate to (1) implement best management practices; (2) copy records and require regular reports from industrial facilities; and (3) control pollutants from them.

R0006769

The City finds Version A/C, in its current form, unsupportable for the following reasons:

1. The Regional Board is required to enforce state-mandated GIASWP requirements subject industrial facilities, not municipalities. The regional board even receives funds generated from GIASWP fees ($250.00 per year) to pay for inspections and enforcement. The Regional Board is unwilling to compensate municipalities to conduct inspections and enforcement of GIASWP requirements. Further, because the Regional Board, historically, has not bothered to inspect most of the several thousand subject industrial facilities that operate in Los Angeles County, cities fear that this program will be transferred entirely on them and without compensation. However, the City would be willing to accept some responsibility for assuring that industrial facilities comply with GIASWP, without compensation, but if certain conditions were met (see alternative to industrial enforcement and inspection).

2. GIASWP-subject industrial facilities would be subject to 2 sets of requirements: one state and one local. This would create a legal nightmare for municipalities and confusion and frustration for industrial facilities because the GIASWP calls for pollution prevention requirements that are less stringent than requirements that municipalities would be compelled to enforce. The following excerpt from the current GIASWP illustrates this point:

> *"The State Water Board recognizes that industrial activities and operating conditions at many facilities change over time. In addition, new and more effective BMPs are being developed by various facility operators and by industrial groups. The SWPPP and monitoring program requirements include various inspections, reviews, and observations all of which recognize, encourage, and mandate an* ***iterative self-evaluation process*** *that is necessary to consistently comply with this General Permit. In general, facility operators that develop and implement SWPPPs that comply with this General Permit should not be penalized when discovering minor violations through this iterative self-evaluation process. The General Permit provides facility operators up to 90 days to revise and implement the SWPPP to correct such violations."*

Thus, while a subject industrial facility would be in compliance with GIASWP requirements, it could be in non-compliance with the local codes affecting such facilities because of a "minor violation.

R0006770

3. Legally, there is sufficient reason to believe that municipalities are preempted by State law from enforcing local codes that mimic GIASWP requirements. A subject industrial discharger covered under GIASWPs, but found in violation of local requirements affecting them, would be likely to challenge a municipality for imposing the more stringent local requirement.

4. Referring GIASWP violators to the Regional Board for enforcement in the event municipal compliance efforts fail does not guarantee that the Regional Board will assume that responsibility. Under version A/C, a provision exists to refer GIASWP violators to the Regional Board. However, nothing in this provision obligates the Regional Board to act on the referral. Therefore, a non-complying subject GIASWP facility would continue to be subject to enforcement under municipal code until the Regional Board takes action in compelling GIASWP compliance -- which could be never.

- Inspection/Enforcement of Commercial Program

The City has no objection to inspecting and enforcing storm water and non-storm water pollution prevention requirements for commercial facilities (viz., gas stations, restaurants, and automotive repair facilities). However, instead of conducting two rounds of inspections during the permit period (5 years), the City would like the option of having to conduct only 1 site visit, if the facility is already in compliance with BMP requirements (listed under the legal authority section of the permit). This would give the City more time to concentrate on those commercial facilities that are problematic. The City would be exclusively responsible for enforcement and, therefore, would not need refer chronic or serious violators to the Regional Board for assisted enforcement. In this case, the City would rely on its inspection/enforcement authority to compel compliance with violating commercial facilities.

- An Alterative to Industrial Inspections and Enforcement

The City proposes a revision to the industrial/commercial pollution control program to the extent described below.

1. The City would be responsible for industrial facilities (i.e., all industries that are subject to General Industrial Activity Storm Water Permits) only to the following extent (without the expectation of being compensated by the Regional Board):

   (i) Conducting a non-invasive inspection program of subject industries that would involve:

a. Determining if the facility is covered under a GIASWP and reporting that information to the Regional Board (this may not require a site visit). If the facility is not covered under GIASWP, it shall notify the owner/operator in writing or visit the facility to convey its need to obtain one within a reasonable time (to be determined by the Regional Board). For its part, the Regional Board would be obligated to take steps to assure that the subject facility obtains GIASWP coverage.

b. Visiting each subject facility to conduct an informal evaluation of its compliance with basic BMPs (good housekeeping and source control) and to see the facility's SWPPP. If the facility has a SWPPP and the facility appears to be reasonably well managed in terms of its low potential to discharge pollutants to the MS4 and/or effective BMPs, then that facility should only be visited once during the term of the permit (5 years, in other words). If the facility has a GIASWP but does not have a SWPPP or has SWPPP but the facility is not well-managed, the City would urge the facility to prepare a SWPPP or revise the SWPPP to include BMPs to place the facility into well managed status. If, however, the facility still does not comply, the Regional Board would be obligated to take enforcement action. Municipalities, would not be responsible for copying records and requiring regular reports from industrial facilities; and would only be responsible for controlling[1] pollutants from industrial facilities to a limited extent (i.e., by enforcing illicit discharge prohibitions and relying on site visits and other public education programs.

In closing, the City looks forward to presenting this alternative at a subsequent USEPA sponsored mediation session. In the meantime, if you have any questions, please feel free to contact David Lopez at (626) 960-4011 extension 458.

Sincerely,

Shafique Naiyer, P.E.
Director of Public Works

cc:

Dayle Keller, CEO
David Lopez, Associate Engineer

[1] Control means not to require disclosure of information and to limit, discourage, or terminate a storm water discharge to the MS4".

R0006772

P.O. Box 682, Walnut, CA 91788-0682
21201 LA PUENTE ROAD
WALNUT, CALIFORNIA 91789-2018
Telephone (909) 595-7543
FAX (909) 595-6095

OFFICE OF THE MAYOR

CITY OF WALNUT

December 11, 2001

Mr. H. David Nahai, Chair
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, California 90013

2001 DEC 12 P 5:04

Dear Mr. Nahai:

Subject: NPDES – Storm Water/Urban Runoff Permit

On behalf of the City of Walnut I would like to express our great concern that the Los Angeles Regional Water Quality Control Board will take action at their December 13, 2001 meeting to approve the NPDES Permit for Los Angeles County and its Permittees without satisfactorily addressing unresolved issues which have been brought to your attention by several agencies serving this City. The action of the Regional Board will have a devastating impact on the vital services currently provided by the City to our residents.

It is important to reiterate some of the major issues we feel have been abandoned:

Lack of Legal "Safe Harbor"

The current Municipal NPDES Permit provides a legal "safe harbor" when cities implement the permit's provisions. The "safe harbor" clause insures that our city is in compliance when we implement the permit's programs to the maximum extent possible. The "safe harbor" clause is not included in the proposed permit. It should be added to help us focus on improving water quality, rather than spending city resources on defending against third party lawsuits.

Unknown Costs and Unrealistic Time Frames

The potential financial costs to the City to implement the new programs are not precisely known, but are estimated to be in the tens of thousands to hundreds of thousands of dollars range per year, during the next five year period. This includes a full range of storm water treatment controls, which will be included in the development of the TMDL's (Total Maximum Daily Loads) for storm water constituents – such as trash, copper, bacteria, pesticides, etc.

The Permit will require that the City implement or revise 44 separate programs during the five-year cycle. The City will be required to implement 34 new programs in the first year of the Permit alone. These include improved street sweeping, catch basin cleaning, illicit connection tracking programs, dry-weather storm water diversion reports, and other costly items.

Maximum Extent Practical

The final Permit has modified the definition of the amount of time, effort and funding a city must put into storm water programs – known as the maximum extent practical. The elimination of considerations for costs, environmental benefits and available technology from the NPDES Permit is major problem for the City of Walnut. It is inconsistent with existing state and federal law, including the requirement that new regulations must be reasonable under Water Code Section 13000. The passage of the Permit in its current form will result in exceedingly expensive requirements, with dubious or minimal environmental and human health benefits.

New Storm Water Inspection Programs

The final Permit continues to require that the City conduct inspections that are the responsibility of the Regional Board and for which they receive fees. The Permit also expands the current site education program to mandatory inspections for manufacturing facilities, restaurants, automotive uses and other businesses. The inspection program has also raised concerns about the ability of the City to gain access to properties for inspections, the costs of protracted legal enforcement and other inspection issues. In some cases, the Permit appears to require that the city adopt regulations that will violate property owner's constitutional rights against illegal searches and seizures.

General Plan and CEQA Mandates

The NPDES Permit would require that the City amend four elements of the General Plan, including the land use element. The Permit also requires that the City amend the CEQA process. These requirements are contrary and duplicative to State laws, which adequately cover both General Plans and environmental review.

Storm Drain Diversion Plans

The NPDES Permit requires that the City complete a plan for the diversion of the storm drains into the sewer system in the next six months. Although, supportive of a dry weather diversion program, the County Sanitation District expressed concern that it would be impossible to coordinate reports from the 77 cities within the next six months. It is not clear how much these reports would cost and who would pay for them. It is also not clear as to whether these reports will be used to require that the cities construct storm water diversion projects at a tremendous cost.

Illicit Sewer Connection Inspections

The Permit requires that the City complete an inspection of the entire storm drain system in the next six months to determine if any illicit connections exist. This requirement drafted after the City of Los Angeles found that a business had illegally connected their sewer to the storm drain. Based on years of field experience, very few illicit connections will be found.

A clear and workable new municipal NPDES permit is essential if we are going to achieve the goals of the Clean Water Act. The City of Walnut acknowledges that maintaining clean water is an environmentally sound policy and that we all have to do a better job maintaining water quality. However, we feel that it should not be accomplished by sacrificing the health, safety, and well-being of the residents it intends to protect.

We need to work together to implement cost-effective programs that address real water quality programs. Please consider postponing the vote on the permit and continuing the mediation process with the interested parties. The City of Walnut is prepared to work toward this end, will you help us?

Cordially,

Larry L. Waldie
Mayor

C: Walnut City Council
Governor Gray Davis
Senator Bob Margett
Assemblyman Bob Pacheco
Winston H. Hickox, Secretary Cal/EPA
Art Bagget, Chair SWRCB
Francine Diamond, Vice-Chair LARWQCB
Julie C. Buckner-Levy, Member LARWQCB
Susan M. Cloke, Member LARWQCB
R. Keith McDonald, Member LARWQCB
Robert L. Miller, Member LARWQCB
Bradley H. Mindlin, Member LARWQCB
Christopher C. Pak, Member LARWQCB
Timothy J. Shaheen, Member LARWQCB
Dennis Dickerson, Exec. Dir. LARWQCB
Celeste Cantu, Exec. Dir. SWRCB
Larry Forester, CPR Steering Committee

City of
IRWINDALE

2001 DEC 13 P 3:33

December 12, 2001

Dennis Dickerson, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region, 320 West 4th Street
Los Angeles, California 90013

Dear Mr. Dickerson:

RE: **ALTERNATIVE TO INDUSTRIAL/COMMERCIAL POLLUTION CONTROL PROGRAM VERSION "A/C"**

The City of Irwindale ("City") extends its most sincere appreciation to you and your staff for participating in the USEPA endorsed mediation over the Industrial/Commercial Facilities Control Program (I/CFCP). Many issues associated with this program were resolved through the two mediation sessions. Still there are issues and programs that require further mediation. The City hopes that the Regional Board staff observes that it is far more advantageous to continue mediation to resolve issues than to compel their resolution by adversarial means. To help facilitate this, a recommendation to modify the program is provided as follows:

- Inspection/Enforcement of GIASWP Requirements

The most recent version of the I/CFCP, designated "A/C," requires municipalities to inspect industrial facilities for conformance with the General Industrial Activity Storm Water Permit (GIASWP) - a permit that is issued by the State Water Resources Control Board. Version A/C also requires municipalities to enforce requirements against GIASWP- subject industrial facilities by requiring the adoption of local codes that facilities (1) implement best management practices, (2) copy records and require regular reports from industrial facilities, and; (3) control pollutants from them.

The City finds Version A/C, in its current form, unsupportable for the following reasons:

1. The Regional Board is required to enforce state-mandated GIASWP requirements subject industrial facilities, not municipalities. The Regional Board also receives funds generated from GIASWP fees ($250.00 per year) to pay for inspections and enforcement. The Regional Board is unwilling to compensate municipalities to conduct inspections and enforcement of

5050 North Irwindale Ave. Irwindale, CA 91706 (626) 430-2200 Facsimile: (626) 962-4209

R0006776

GIASWP requirements. Further, because the Regional Board historically has not bothered to inspect most of the several thousand subject industrial facilities that operate in Los Angeles County, the City fears that this program will be dumped entirely on them and without compensation. However, the City would be willing to accept some responsibility for assuring that industrial facilities comply with GIASWP, without compensation, but only if certain conditions were met (see alternative to industrial enforcement and inspection).

2. GIASWP- subject industrial facilities would be subject to two sets of requirements: (1) state and (2) local. This would create a legal nightmare for municipalities with confusion and frustration for industrial facilities because the GIASWP calls for pollution prevention requirements that are less stringent than the requirements municipalities would be compelled to enforce. The following excerpt from the current GIASWP illustrates this point:

> *"The State Water Board recognizes that industrial activities and operating conditions at many facilities change over time. In addition, new and more effective BMPs are being developed by various facility operators and by industrial groups. The SWPPP and monitoring program requirements include various inspections, reviews, and observations all of which recognize, encourage, and mandate an* ***iterative self-evaluation process*** *that is necessary to consistently comply with this General Permit. In general, facility operators that develop and implement SWPPPs that comply with this General Permit should not be penalized when discovering minor violations through this iterative self-evaluation process. The General Permit provides facility operators up to 90 days to revise and implement the SWPPP to correct such violations."*

Thus, while a subject industrial facility would be in compliance with GIASWP requirements, it could be in non-compliance with the local codes affecting such facilities because of a "minor violation".

3. Legally, there is sufficient reason to believe that municipalities are preempted by State law from enforcing local codes that mimic GIASWP requirements. A subject industrial discharger covered under GIASWPs, but found in violation of local requirements affecting them, would be likely to challenge a municipality for imposing the more stringent local requirement against it.

4. Referring GIASWP violators to the Regional Board for enforcement in the event municipal compliance efforts fail does not guarantee that the Regional Board will assume that responsibility. Under version A/C, a provision exists to refer GIASWP violators to the Regional Board. However, nothing in this provision obligates the Regional Board to act on the referral. Therefore, a non-complying subject GIASWP facility would continue to be subject to enforcement under municipal code until the Regional Board takes action in compelling GIASWP compliance-which could be never.

- Inspection/Enforcement of Commercial Program

The City has no objection to inspecting and enforcing storm water and non-storm water pollution prevention requirements for commercial facilities (via gas stations, restaurants, and automotive repair facilities). However, instead of conducting two rounds of inspections during the permit period (5 years), the City would like the option of conducting only one site visit, if the facility is already in compliance with BMP requirements (listed under the legal authority section of the permit). This would give the City more time to concentrate on the commercial facilities that are problematic. The City would be exclusively responsible for enforcement, therefore, would not need to refer chronic or serious violators to the Regional Board for assisted enforcement. In this case, the City would rely on its inspection/enforcement authority to compel compliance with violating commercial facilities.

- An Alternative to Industrial Inspections and Enforcement

The City proposes a revision to the industrial/commercial pollution control program to the extent described as follows:

1. The City would be responsible for industrial facilities (i.e., all industries that are subject to General Industrial Activity Storm Water Permits) only to the following extent (without the expectation of being compensated by the Regional Board):

   Conducting a non-invasive inspection program of subject industries that would involve:

   a. Determining if the facility is covered under a GIASWP and reporting that information to the Regional Board (this may not require a site visit). If the facility is not covered under GIASWP, it shall notify the owner/operator in writing or visit the facility to convey its need to obtain one within a

reasonable time (to be determined by the Regional Board). For its part, the Regional Board would be obligated to take steps to assure that the subject facility obtains GIASWP coverage.

b. Visiting each subject facility to conduct an informal evaluation of its compliance with basic BMPs (Good Housekeeping and Source Control) and to observe the facility's SWPPP. If the facility has a SWPPP and the facility appears to be reasonably well managed in terms of its low potential to discharge pollutants to the MS4 and/or effective BMPs, then that facility should only be visited once during the term of the permit (5 years, in other words). If the facility has a GIASWP but does not have a SWPPP or has SWPPP but the facility is not well-managed, the City would urge the facility to prepare a SWPPP or revise the SWPPP to include BMPs to place the facility into well managed status. If, however, the facility still does not comply, the Regional Board would be obligated to take enforcement action. Municipalities would not be responsible for copying records and requiring regular reports from industrial facilities; and would only be responsible for controlling[1] pollutants from industrial facilities to a limited extent (i.e., by enforcing illicit discharge prohibitions and relying on sites visits and other public education programs.

In closing, the City looks forward to presenting this alternative at a subsequent USEPA sponsored mediation session. In the meantime, if you have any questions, please feel free to contact me at (626) 430-2212.

Sincerely,

Kwok Tam,
Public Works Director/City Engineer

KT:vs

[1] Control means not to require disclosure of information and to limit, discourage, or terminate a storm water discharge to the MS4".

[redacted]

Fax

To:	Dennis Dickerson	**From:**	Angela Hudnall
Fax:	213-576-6640	**Pages:**	2
Phone:	213-576-6600	**Date:**	12/12/01
Re:	Storm Water Permit	**CC:**	

X **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

- **Comments:** Please think of taxpayers when you meet on December 13, 2001.

Angela V Hudnall

9106 Park Street
Bellflower, CA 90706

Home Phone 562-804-1334
Email ahsome@aol.com

December 12, 2001

Los Angeles Regional Water
Quality Control Board
320 West 4th Street
Los Angeles, CA 90013
Attn: Mr. Dennis Dickerson,
Executive Officer

Dear Mr. Dickerson,

I am writing regarding the "Storm Water Permit" proposal. Based on the information I have regarding this proposal, the proposal would substantially increase my property taxes. I cannot afford to pay any additional property taxes, especially during this recession period. Not only would the proposal impose a financial burden on my household, the proposal itself is unreasonable.

I can understand the need to keep our water clean and free of pollution. But the fines that would be imposed are outrageous and will end up being paid by all taxpayers. Voters should have the right to decide how to clean up our water and how much we are willing to pay to do it. The city of Bellflower already has many needs for our tax dollars. We cannot afford to cut funding from those projects to fund this one.

There has to be other ways to achieve your goal. Perhaps you should fine the individuals who contaminate our water and not entire cities. We should not all have to pay for the sins of others. Work with cities to educate their citizens on how dumping trash into our storm drains ruins our water supply. Individual cities can determine how much they can afford to promote their "clean water" campaigns. Do not rob our cities of their financial resources without considering how detrimental it would be for the individual citizens who are trying to make it through these difficult times.

Sincerely,

Angela V. Hudnall

Angela V. Hudnall

CITY HALL
LOS ANGELES, CALIFORNIA 90012

JAMES K. HAHN
MAYOR

December 12, 2001

2001 DEC 17 P 3:57

The Honorable David Nahai
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90031

Re: Municipal Storm Water and Urban Runoff Discharge Permit

Dear Chairman Nahai:

On December 13, 2001, your Board plans to consider adopting a Municipal Stormwater National Pollution Discharge Elimination System (NPDES) Permit for the Los Angeles Region. This Permit is issued to Los Angeles County as the Principal Permittee and 84 other cities as co-permittees every five years. The City of Los Angeles, one of the co-permittees, has been a leader on environmental issues in the nation over the past decades. We take pride in our environmental stewardship and have invested billions of dollars into the City's infrastructure system to improve the quality of water, air, and land and will continue to support regulations that bring about sound environmental improvements for our citizens. We also have an obligation to our citizens to ensure that money invested in meeting regulations is commensurate with the benefits to the environment and that we have the ability to fund compliance with these regulations on an on-going basis.

We have reviewed the final draft of the NPDES permit that your Board will consider tomorrow. We are very pleased that many of the outstanding issues have been resolved cooperatively between your staff and the City. We believe the final draft NPDES Permit is a great improvement from its first draft version released in April 2001. This draft is progressive and should improve the quality of our City's environment over the next five years. However, there remain three major items of concern to the City of Los Angeles:

1. **Receiving Water Limitations Clause:** This section prohibits violation of the water quality standards or objectives established for the City's receiving water bodies.

   Concern: We believe that the Permit language will place the City in non-compliance immediately on the date the Permit becomes effective. It also exposes the City to third party lawsuits. While the section provides a process to meet these water quality

objectives, there is no limit to the process and to the cost of achieving water quality objectives.

2. **Maximum Extent Practicable Definition:** This definition has been used throughout the Permit as a measure of effort that a permittee should take to meet Permit requirements.

   Concern: While we have no problem with the intent of the definition, we believe the standard set by the definition should include other issues such as cost, environmental benefits, feasibility, technology and public support in achieving the Permit requirements.

3. **State Permitted Facilities:** Currently, the State Water Resources Control Board (SWRCB) issues General Construction Activity Storm Water permits for construction developments of certain sizes. It also issues General Industrial Activity Storm Water permits for certain industrial facilities in the City. The SWRCB receives fees for these permits, and performs inspection activities.

   Concerns: The new NPDES Permit that your Board will consider for adoption shifts the inspection responsibility to the City with no monetary compensation. This is unfair when considering that the Regional Board has issued permits and collected money from these facilities. We believe the Regional Board should continue to perform the inspection of these permitted sites and not request the City to perform that function. Alternatively, if the City were provided with appropriate funding by the Regional Board for inspecting these facilities, the City would be glad to perform that function.

I am confident that your Board will understand the position that the City has taken on these three issues while supporting the remainder of the Permit. I am also hopeful that your Board will find ways to resolve these concerns before adopting the NPDES Permit. This way both the City and the Regional Board could collectively and effectively utilize energy and resources in improving our environment. Shahram Kharaghani, Program Manager of the City's Watershed Protection Division has submitted language to your staff that would address the City's concerns. He may be reached at (213) 847-6346 if you have any questions or comments. Thank you for your consideration of this matter.

Very truly yours,

James K. Hahn

JAMES K. HAHN
Mayor

JKH:ltb

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

NOTICE OF EXEMPTION
From the Requirements of the
California Environmental Quality Act

TO: State of California
The Resources Agency
Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, CA 95814

FROM: California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Project Title: Waste Discharge Requirements and NPDES Permit for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles, and the Incorporated Cities Therein, Except The City Of Long Beach (NPDES No. CAS004001)

Project location - Specific: 900 South Fremont Avenue, Alhambra, California
Project location - County: Los Angeles County

Description of Nature, Purpose, and Beneficiaries of Project:

Nature: Discharge of storm water from the municipal separate storm sewer system (MS4).
Purpose: To dispose of storm water discharged from the MS4.
Beneficiaries: Los Angeles County Flood Control District and 84 incorporated cities within the district.

Name of Public Agency Approving Project: The activity is subject to waste discharge requirements adopted by this Board.

Name of Person or Agency Carrying Out Project: Los Angeles County Flood Control District and 84 incorporated cities within the district.

Exempt Status:
__ Ministerial (Section)
__ Declared Emergency (Section)
__ Emergency Project (Section)
__ Category Exception. State type and Section Number
__ Other Exception. State type. Statutory Exception
X California Water Code, Div. 7, Chapter 5.5, Section 13389

Reason why Project is Exempt: Discharge to waters of the United States under meaning of California Water Code, Division 7, Chapter 5.5, Section 13370 et. seq., and, therefore, the actions exempt under California Water Code, Division 7, Chapter 5.5, Section 13389.

Contact Person: Xavier Swamikannu **Telephone:** (213)576-6654
Date Filed: December 13, 2001

Xavier Swamikannu, Chief
Storm Water Coastal Unit

R0006784

ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural
Agoura Hills
*Calabasas
Los Angeles County Flood Control
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban
Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates

*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles (City of)
Los Angeles County Flood Control

Los Angeles (County of)
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
*Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount

Pasadena
Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
*Long Beach[1]
Los Angeles County Flood Control
Los Angeles (County of)
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

*Santa Clarita
Los Angeles County Flood Control
Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

[1] *The City of Long Beach is covered under order No. 99-060*

R0006785

448th REGULAR BOARD MEETING

November 29, 2001

ITEM 10

CONSIDERATION OF THE RENEWAL
OF THE
MUNICIPAL STORM WATER NPDES PERMIT
FOR THE
COUNTY OF LOS ANGELES
AND THE INCORPORATED CITIES THEREIN, EXCEPT
THE CITY OF LONG BEACH

Section A

Agenda Item

California Regional Water Quality Control Board, Los Angeles Region
448th Regularly-scheduled Meeting of November 29, 2001 (Los Angeles)

Item 10

Subject Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges, within the County of Los Angeles and the incorporated cities therein except for the City of Long Beach (hereafter referred to as the "municipal storm water permit" or "permit").

Purpose To conduct a public hearing on the proposed Municipal Separate Storm Sewer System (MS4) permit for Los Angeles County and incorporated cities therein except the City of Long Beach. The Regional Board at the meeting will consider adoption of the permit after receiving comment from Permittees, interested parties, and the public.

At a workshop on July 26, 2001, the Regional Board commented that the second draft permit was rather complete. Staff was asked to review the appropriateness of ambiguous terms in the second draft permit (such as "potential contribution"; "minimize"; "maximize", and "measurably") to ensure that permit requirements are enforceable, and issue a third draft in October for consideration at the November 29 Board Meeting. The tentative draft permit has been appropriately revised to be consistent with Regional Board direction. The Regional Board directed as follows:

- Ensure that the proposed permit requirements are at least as stringent as the Long Beach MS4 and Ventura County MS4 permits. Include specific language on trash Total Maximum Daily Loads (TMDLs) similar to the one in the Long Beach MS4 permit. Develop a strategy to get to compliance with water quality standards.

- Ensure that Best Management Practices (BMPs) being implemented are targeted to controlling particular pollutants of concern. Consider requiring permittees to enforce the Illicit Connection/ Illicit Discharges Elimination (ICID) programs with fines for illicit discharges and connections. Include an inspection program for gas stations in addition to outreach. Regional Board

staff should upgrade their activities to monitor compliance and enforce implementation of the MS4 permit

- Review the draft permit requirements for conflicts with other state and federal regulations such as air pollution [water and chemical stabilizers for dust control] fire code, health and safety etc.

- Provide justification for the development thresholds for projects in environmentally sensitive areas [2,500 sq. feet of impervious surface. Review the requirement to map MS4 discharge points relative to the cost of setting up such a system.

- Review the suggestions by the Santa Monica Bay Restoration Project (SMBRP) on monitoring and reporting for inclusion.

- Identify a contact person on Regional Board staff to provide and assist in information on funding sources. Convene an advisory committee on the public information and participation program before the November public hearing.

Background

The storm drain system regulated by the Board is principally owned and operated by the Los Angeles County Flood Control District (Principal Permittee). This system drains the coastal slopes of the Transverse Ranges, moving storm flows as well as a significant amount of dry weather runoff into the Santa Monica Bay and the Los Angeles/Long Beach Harbor.[1] It is one of the largest storm drain systems in the nation, when measured in terms of both aerial extent as well as differences in vertical elevations.

The storm drain system is also one of the most complex to operate, when considering that it encompasses 87 municipalities. Although principally owned and operated by the Principal Permittee, this system collects runoff from 87 municipalities, which, except for the City of Long Beach, are all Co-Permittees. These Co-Permittees have varying degrees of responsibility for development and maintenance of their portions of the overall system. The Permittees' physical assets that comprise the infrastructure of the

[1] The Los Angeles County Flood Control District also operates a storm drain system on the inland side of the Transverse Ranges; this system falls under the jurisdiction of the Lahontan Regional Board.

system include over 100,000 catch basins, about 4,300 miles of underground storm drains, and about 500 miles of open channels. The City of Los Angeles alone accounts for 220 miles of open channel, 1,900 miles of storm drain pipe, and 62,660 catch basins. An exact summary of these physical assets in the system is not possible, as the Permittees do not have a comprehensive map or database that can accurately show the location, extent, and ownership of all underground drains and catch basins – which is an illustration of difficulties arising from the complex ownership structure of the storm drain assets.

Regulatory History

1990: The Regional Board adopted the first municipal storm water permit for the County in 1990, Order No. 90-079, which required Permittees to develop storm water/ urban runoff ordinances and implement BMPs – in particular, a minimum of 13 BMPs such as public education, street sweeping and construction site controls.

1996: After 18 months of effort to renew the 1990 permit, the Board adopted Order No. 96-054 (i.e. the existing permit – see attachment 10.E). Key elements of this permit were requirements that Permittees develop and implement model programs for Public Information and Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges Elimination, Public Agency Activities, and Development Planning. The permit does not include a requirement for inspections as part of an industrial/commercial control program; rather, after significant debate, the Board included a requirement that Permittees conduct site visits of industrial facilities in their jurisdictions. This was intended as an interim step, to give Permittees a 5-year period to educate businesses before requiring a stronger industrial/commercial control program.

1999: Following a settlement of the litigation brought by the City of Long Beach on Board Order No. 96-054, the Board adopted Order No. 99-060 with separate requirements for the City of Long Beach. The Regional Board Executive Officer during 1998 and 1999 approved countywide model programs for ICID, Development Construction, and Public Agency Activities after making revisions.

2000: The Permittees' proposed model program for Development Planning was vigorously debated in public workshops in 1999 and 2000, culminating in the Board's adoption of Order 00-02, specifying design criteria for a Standard Urban Storm Water Mitigation Plan (SUSMP). In response to a petition of the Board's action by 33 of the Permittees and other interested parties, the State

Water Resources Control Board (State Board) affirmed in large part the Regional Board action (See State Board Order WQ 2000-11, attachment 10.F.1).

2001: On January 31, 2001, the Permittees submitted a renewal application for the permit, which expired on July 30, 2001.[2] Since then, staff, the Permittees, and Heal the Bay (on monitoring issues) have devoted significant time to exchanging information and reviewing drafts of the proposed permit, which will enter a third term since the initial permit was adopted in 1990. Staff conducted a staff workshop on April 24, 2001 after the first draft was issued. After the second draft was issued, staff conduct a workshop before the Regional Board on July 26, 2001. In addition, staff, on November 9, 2001, participated with some of the Permittees in a USEPA led workshop session to review inspection requirements after the tentative permit was issued.

Compliance Status

Staff took very few actions to enforce the permit between 1996 and 2000, as lack of staff resources prevented rigorous oversight of Permittees' compliance status. Had staff resources been adequate for systematic compliance checks of all Permittees, many more enforcement actions most likely would have needed to be taken. The few enforcement actions that were taken were generally in response to complaints, and included 5 Notices of Violation (NOVs) issued to the:

- City of Culver City (February 1998), for failure to maintain erosion and sediment controls at one of its construction sites, which resulted in a discharge of mud into Ballona Creek. The City ultimately implemented sediment controls, but only after repeated discussions with Regional Board staff and the City's consultant.

- Cities of Pomona and Lynwood, for failure to submit Annual Reports for 1996/97 by the due date of October 15, 1997. The City of Lynwood submitted its delinquent Annual Report after receiving the NOV. The City of Pomona did not submit its Annual Program Report until the Executive Officer issued an Administrative Civil Liability (ACL) in the amount of $6,700, which the City promptly paid.

[2] Order No. 96-054 continues to be in effect until the Regional Board acts to reissue the permit (40 CFR § 122.6 (d)).

- City of Alhambra, for a discharge of muddy water to the storm drain from a pipeline repair (1998). The City complied after receiving this NOV.

- City of Monterey Park, for failure to protect slopes from erosion at a city construction site on Ramona Boulevard (1999). The City of Monterey Park ultimately complied but only after repeated discussions with City staff.

In July 2001, staff completed a review of the 1999/00 Annual Program Report, and issued 11 NOVs for failure to implement various programs, including, among others, requirements to: modify planning procedures (such as a CEQA checklist) to integrate storm water considerations; and require pollution prevention plans at construction sites between 2 and 5 acres. The 11 NOVs were issued to each of the Cities of: Azusa, Cerritos, Huntington Park, Inglewood, Malibu, Maywood, Monrovia, Rolling Hills Estates, San Gabriel, South Pasadena, and Vernon. Many of these Permittees have vehemently objected to these NOVs, have submitted documentation of their objections, and demanded that the Regional Board Executive Officer invoke a "Notice to Meet and Confer" provision, as set forth in the existing permit (see also a discussion on this provision on page 8 of this Item). Regional Board staff has held the matter in abeyance, pending a review of the documentation submitted to date.

In March 2001, staff issued NOVs to each of the Cities of Los Angeles and Covina for discharges of sediment to the storm drain.

Staff are currently reviewing the 2000/2001 Annual Program Report which was submitted on October 22, 2001. A preliminary review of the Development Construction compliance reporting summarized in Table 1 indicates apparent implementation deficiencies, reporting inconsistencies, and possible violations of Board Order No. 96-054 among Permittees. For example, seventy-four municipalities reported that less than 5 percent of construction project approvals were being reviewed for storm water controls. Three municipalities did not report at all. Several municipalities reported that zero percent of projects were reviewed or inspected for construction controls because they were either considered exempt or were non-priority. On the other hand, other municipalities reported that 100 percent of projects were reviewed because all were considered priority.

Permit Objectives

Staff proposes consideration of a tentative permit that implements regulations and guidance from USEPA, State Board, and Regional Board. Specific objectives for the third-term renewal are to:

- more effectively prohibit non-storm water (dry weather) discharges to the storm drain system, through elimination of illicit connections and unauthorized discharges;
- more effectively reduce the discharge of pollutants in storm water; and
- require that Permittees implement additional control measures that the Board may determine are necessary for TMDLs that staff anticipates over the next five years.

Permit Approach

To meet these objectives, staff has structured the tentative permit with several improvements over the existing permit, as outlined below:

Findings: Strengthened, to elaborate upon the technical and legal basis for the permit requirements. Included in these Findings are references to technical analyses staff conducted regarding regulation of retail gasoline outlets (RGOs); see Findings C.5 and C.6.

Receiving Water Limitations (Part 2, page 18): Clarifies that discharges must meet water quality objectives, including that they must not cause nuisance (in addition to the statutory requirement to reduce the discharge of pollutants to the maximum extent practicable). Additionally, staff have added a requirement to implement load allocations approved by the Board in a TMDL, without reopening the permit.

Storm Water Quality Management Plan (SQMP): Adds specific performance measures to measure progress on the various elements of the SQMP. Furthermore, the following significant requirements have been added to the Permittees' SQMP:

Industrial/Commercial Inspections (Part 4, Section C, pages 33B-39B): Option B (staff's recommended option) specifies that Permittees must expand a site visit program to also include inspections of facilities in specified industrial and commercial sectors. These sectors were selected based on the results of a risk-based prioritization performed by the County of Los

Angeles Department of Public Works (LACDPW) in 1996 and critical sources monitoring conducted between 1997 and 2000.

Development Planning (Part 4, Section D, pages 40-48): Lowers the threshold of industrial/commercial development that is subject to Standard Urban Storm Water Mitigation Plan (SUSMP) requirements from 100,000 square feet to one acre (consistent with USEPA Phase II regulations), beginning in 2003; and expands SUSMPs to cover:

- environmentally sensitive areas
- ministerial as well as discretionary projects.

Also, Permittees will need to ensure that design of RGOs comply with the SUSMP numerical design standards to capture and/or treat the first ¾ inches of precipitation (or equivalent runoff volume or flow). This design standard applies to new or redeveloped RGOs that exceed a threshold of 5,000 square feet of impervious surface area and projected Average Daily Traffic (ADT) of 100 vehicles. For derivation of this threshold, see Technical Reports [Attachment 10.B-2].

Development Construction (Part 4, Section E, pages 48 to 51): Lowers the threshold for a local Storm Water Pollution Prevention Plan (SWPPP) and wet weather inspection program to construction sites one acre and greater in size (currently two acres and greater in the existing permit). Also, requires that construction projects five acres and greater have a local SWPPP to demonstrate compliance with local ordinances. The local SWPPP may substitute for the State SWPPP required under the State's General Construction Activities Storm Water Permit if the local SWPPP is at least as inclusive in BMPs and construction controls.

Public Agency Activities (Part 4, Section F, pages 52 to 59): Includes explicit requirements to control the discharge of trash to the MS4. It explicitly requires municipal departments to comply with the same development planning and development construction standards that municipalities impose on private development.

Illicit Connections and Discharges (Part 4, Section G, pages 60 to 62): Requires the Principal Permittee to take more responsibility for tracking illicit discharges and connections, and upgrades passive field screening activities (during

regularly scheduled maintenance) to a proactive field screening program.

Monitoring (Attachment T): Adds mass emissions monitoring on the Santa Clara River and Dominguez Channel, and requirements to conduct a biomonitoring assessment with a minimum of 20 stations. Reduces the suite of monitoring parameters that are not conventional and not priority pollutants. Enhances toxicity testing. Facilitates participation in regional research and special studies.

Reporting: (Attachment U): Includes a standard reporting form to elicit information on implementation and status of progress for the various requirements in the permit.

Enforcement: Deletes the Notice to Meet and Confer provision in the existing permit, and instead relies upon the State's policy of progressive enforcement.

Permittees have not provided specific estimates of additional costs that they might be incurred by the requirements highlighted above. The Los Angeles Economic Council cites a Caltrans report that the cost of compliance may exceed $50 billion. Permittees have provided estimates of their 2000/01 and 2001/2002 budget allocations for storm water programs. These amounts aggregate to $142 million and $145 million respectively, and are reproduced in the tables 3 and 4 [3] on pages 22-28.

Critical Issues

Since receiving the application for renewal, on January 31, 2001, staff have dedicated significant time and effort to involving the public in the renewal process, and have been responsive to public comment. However, some critical issues have not been resolved to the satisfaction of all parties and are before the Regional Board, as summarized below.

Enforcement:

Should the new permit contain a safe harbor clause (i.e. a "Notice to Meet and Confer")?

During the 18-month renewal effort from 1995 to 1996, the Regional Board approved a "Notice to Meet and Confer" (NTMC) provision (existing permit, Part 2, section G). Many of the Permittees strongly advocated for this provision, which they

[3] The amounts in the table 3 and 4 (pages 22-27) are self-reported. As permittees may not have compiled their expenditures in a consistent manner, the amounts should be regarded as rough estimates.

envisioned as an important administrative review process for resolving permit disputes before the Board could take formal enforcement action. It was actually used only once, in 2000, when the Regional Board issued NTMC letters in order to obtain information on permittees' efforts to abate trash in the Los Angeles River and Ballona Creek watersheds. As mentioned above, several Permittees want to invoke the NTMC as an interim step to any penalties the Board might issue for the 1999/00 Annual Program Report violations.

Subsequent to renewal of the existing permit, the State developed an enforcement policy (State Board Resolution 96-030) and guidance, which sets forth a progressive strategy that has the goal of ensuring consistent, predicable, and fair enforcement of regulations. This is now a well-established and widely implemented policy throughout the State, and has been successfully implemented in Los Angeles Region. Therefore, staff submits that the NTMC provision should not be included in the renewed permit.

Receiving Water Limitation: ***In structuring a receiving water limitation, has staff correctly complied with State Board direction?***

Some environmentalists contend that the draft permit should contain numerical effluent limitations to protect water quality standards. Permittees, for the most part, believe that they should not be subject to either numerical or narrative receiving water limits, as their SQMP (Storm Water Quality Management Plan) is designed to reduce pollutants in storm water to the maximum extent practicable.[4]

In Part 2 (page 16) of the draft permit, staff incorporated narrative receiving water language as directed by the State Board in Order No. 99-05 (Attachment 10B-2). Subsections 2.1 and 2.2 slightly modify the State Board language in that: §§ 2.1 separately states that discharges that cause or contribute to the exceedences of water quality standards are prohibited, and §§ 2.2 separately states the

[4] Regulations do not define what exactly constitutes the Maximum Extent Practicable (MEP) standard. However, the Office of Chief Counsel has issued a memorandum on the matter (dated February 11, 1993). In general, MEP relies on best management practices that emphasize pollution prevention and source control (i.e. the first line of defense), with additional structural controls as needed (an additional line of defense). Municipalities are required to implement technically feasible BMPs to reduce storm water pollutants unless they can show locational impracticability or that the costs outweigh the water quality benefits to be derived.

discharges shall not cause a condition of nuisance [such as trash]. Some Permittees contend that these modifications exceed State Board Order No. 99-05. However, a review of language in other recent municipal storm water permits issued by the State Board itself and by other Regional Boards, indicates that the subsection language is substantially similar. The State Board affirms this structure of the receiving water limits language in its tentative decision in, *In Re*: Building Industry Association of San Diego County and Western States Petroleum Association (Order No. WQ 2001-xx) scheduled to be adopted on November 15, 2001. See also Regional Counsel's legal memorandum dated November 9, 2001 (Attachment 10.D)

Some Permittees also contend that the draft language is inconsistent with the U.S. Court of Appeals decision in, *Defenders of Wildlife v. Browner* (9th Cir. 1999). This decision held that the Clean Water Act does not require MS4 discharges to strictly comply with water quality standards. However, the decision also found that the permitting authority can compel compliance with water quality standards, as it deemed necessary. As discussed in State Board's Office of Chief Counsel memorandum (Attachment 10.A-1), States can include such provisions under the Clean Water Act. In any case, the memorandum concluded that the 9th Circuit decision did not contradict State Board Order No. 99-05. See also, *In Re*: Building Industry Association of San Diego County and Western States Petroleum Association (Order No. WQ 2001-xx)

Inspections: ***Should the Regional Board require Permittees to inspect industrial/commercial facilities?***

Yes. The County of Los Angeles is one of the most urbanized areas in the nation. If the Regional Board is to make significant progress toward cleaning up impaired waters, control of conventional and toxic pollutants from industrialized and commercial activities is critical. Indeed, the federal regulations clearly acknowledge the significance of pollutants from heavy industry, and mandate that municipal permittees have source control programs for facilities in specified industrial sectors. The significance of these industrial activities – plus commercial activities such as automotive repair – was underscored in a critical source identification program that the Principal Permittee

undertook per a requirement in the existing permit.[5] Accordingly, staff proposes that the Board upgrade the Permittees' industrial control program to specify inspections of facilities in specified sectors at specified intervals.

In Table 4, staff has compared requirements among the existing permit and various options discussed with Permittees during this renewal process. Under the existing permit, no inspections are required; rather, the Board has allowed the Permittees and industry 10 years (i.e. the first two permit terms) to educate industrial and commercial facilities through "site visits." Various options have evolved as follows:

First draft (April 13, 2001): Staff took a "top-down" approach to inspections, proposing that Permittees screen databases of tens of thousands of industrial and commercial facilities to identify facilities that should be targeted for an inspection program.

Second draft (June 29, 2001): In response to comments submitted on the first draft, staff attempted to better structure a partnership between the Regional Board and Permittees. The Regional Board would lead efforts to regulate "Phase 1" industrial facilities (which are subject to the State's General Industrial Activities Storm Water Permit[6]), and the Permittees lead efforts to regulate other problem sectors, such as automotive service facilities, restaurants, and RGOs.

Third draft (October 11, 2001): Staff structured an Option A (pages 33A-39A) to encompass inspections of:

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[5] Critical Source Selection and Monitoring Report, County of Los Angeles Department of Public Works (September 3, 1996), in which the Principal Permittee identified high risk activities that pollute storm water in the County. Five of these activities – scrap metals, trucking, chemical, primary metal, metal fabricating – are partly regulated by the State's General Industrial Activities Storm Water Permit for Industrial Activities. The other activity – automotive services – is not subject to the State's General Industrial Activities Storm Water Permit or to USEPA Phase 1 regulations. Also, through industrial waste inspections conducted during the first permit term for sanitation departments, several Permittees identified two additional activities – retail gas outlets (RGOs) and restaurants – as high risk for storm water pollution.

[6] For select cities, Table 5 lists the number of facilities currently on record as covered under the State's General Industrial Activities Storm Water Permit. For many of the cities (with the exception of the City of Los Angeles) the number of industrial facilities to be inspected is going to be similar if not the same because these facilities predominate in there jurisdiction.

- USEPA mandated facilities (i.e. landfills, Resource Conservation and Recovery facilities, and toxics treatment storage disposal facilities "TSDF"),
- the automotive sector,
- restaurants, and
- retail gasoline outlets.

In Regional Board staff's opinion, such a minimal requirement fails to address other critical industrial sources of pollutants. To address this concern and to ensure that pollutants from other critical sources are controlled, staff recommends that the Board adopt Option B (pages 33B-39B). This Option B captures sectors in Option A plus five other priority sectors, which are sources of pollutants that match many of the causes of impairments to surface waters in Los Angeles County. These five priority sectors:

- scrap recycling,
- automotive dismantling,
- metal fabrication,
- motor freight,
- chemical manufacturing, and
- primary metal products.

Option C (pages 33C-36C) is status quo – it retains the site visit program as required by permits issued by the Regional Board since 1990. It does not recognize what staff believes was the Board's long-term intent to upgrade the site visit program to an inspection-based program.

For a discussion on legal issues related to inspection, please refer to the Regional Counsel's legal brief (Attachment 10.D. at pages 2 and 14)

Development Planning: ***Does the extension of SUSMP requirements to cover RGOs, ministerial projects, and environmentally sensitive areas, comply with the State Board's SUSMP decision?***

Yes. The Development Planning subsection (Part 4, Section D, pages 26-53) incorporates SUSMP requirements as upheld by the State Board in State Board Order No. 2000-11 "SUSMP Order" (Attachment 10.F.1) and corrects deficiencies that were identified.

The SUSMP Order set aside the applicability of the SUSMP requirements to development projects in environmentally sensitive

areas and to ministerial projects, as defined in the California Environmental Quality Act (CEQA), until full and fair consideration by the Regional Board during permit reissuance. The SUSMP Order also set aside the applicability of numerical mitigation criteria to RGOs until the Regional Board provided proper justification and established thresholds. While some commenters have suggested that the proposed permit violates the SUSMP Order by the extension, a memorandum issued by the State Board Chief Counsel identifies these three areas as potential areas for extension of SUSMP requirements by Regional Boards in the future consistent with State Board guidance in its SUSMP Order (Attachment 10.F.1). Staff has prepared technical reports to support the extension of the SUSMP requirements (Attachment 10 B).

It is proper to extend coverage of SUSMP requirements to developments within, adjacent to or discharging directly to environmentally sensitive areas. Development and urbanization especially threaten environmentally sensitive areas, because these areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. A development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. Staff has provided thresholds for developments in environmentally sensitive areas to exclude small developments (less than 2,500 square feet impervious surface) Findings B.6, B.7, and E.4.

It is appropriate to apply numerical design criteria for storm water mitigation to new and redeveloped retail gasoline outlet developments. RGOs are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks. RGOs in western States such as Oregon and Washington are already subject to storm water numerical mitigation criteria. As recommended by the State Board in its SUSMP Order, Board staff has established thresholds for the criteria to apply to RGOs (5,000 square feet or more of impervious surface and projected Average Daily Traffic of 100 vehicles or more) with proper justification. Finding C.6., Attachment 10.B.

It is proper to apply SUSMP requirements to all planning priority project SUSMP categories, including ministerial projects. The California Environmental Quality Act (CEQA) (Cal Pub Resources

Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects (i.e., projects which involve the use of established standards or objective measurements). For purposes of water quality, CEQA distinctions are not germane because it is a procedural statute that provides a public forum for consideration of environmental impacts of governmental decision-making. CEQA is not a statute for water quality protection. Municipalities have multiple ways of ensuring that SUSMP requirements are applied in a consistent manner within SUSMP categories. A municipality may give itself discretionary authority by adopting local ordinance provisions that create decision-making discretion for SUSMP categories. Alternatively, a municipality may establish standards and objective criteria for review of ministerial projects that are in SUSMP categories administratively.

Consistent with the Regional Board's action in the Ventura County municipal storm water permit, the proposed permit includes numerical design criteria for water quality flow in addition to water quality volume.

Development Construction: ***Are new requirements to inspect construction sites 1 acre or greater appropriate, and are they consistent with regulations and other permits?***

Small construction sites (1-5 acres) account for a significant amount of pollution from construction activities, in addition to construction sites five acres or greater. In response to this concern, the Development Construction subsection (starting in Part 4, Section E, page 48 of the draft permit) requires that Permittees inspect all construction projects one acre or greater to ensure compliance with local agency ordinances and model programs to prevent erosion, control sediment, and manage on-site construction wastes.

The existing permit has a similar requirement for construction sites two acres or greater. Staff proposes to lower the threshold to 1 acre beginning 2003, when USEPA Phase II regulations for small construction sites become effective. Also, the Regional Board has already issued municipal permits with such a requirement, to the City of Long Beach in 1999 and the County of Ventura in 2000.

Total Maximum Daily Loads (TMDLs): ***Should the Board include a provision requiring implementation of TMDL load reductions, without reopening the permit?***

TMDLs are one of the Board's highest priorities. In view of the Region's highly urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions can't be forecast at this time, staff has structured the permit as a vehicle for achieving load reductions (Part 3, Section C).

Public review of TMDLs, which will typically be in the form of an amendment to the Basin Plan, will occur during the TMDL adoption process; and staff does not anticipate that there will be a need for an additional public process for TMDL implementation measures. Therefore, upon approval of a TMDL, implementation of municipal storm water requirements (specified in that TMDL) will become effective and enforceable under the permit. In other words, municipal storm water requirements will be automatically included in this proposed permit upon adoption of a TMDL by the Board, without reopening this permit. This TMDL requirement and structure is consistent with TMDL provisions in the City of Long Beach and County of Ventura permits.

Monitoring: ***In the event that monitoring indicates storm water from a particular municipality as a source of toxicity, should the Regional Board require that Permittee to implement additional BMPs needed to reduce toxicity?***

Per the *Basin Plan*, there should be no toxicity in receiving waters. Per Parts 2 and 3 of the draft permit, Permittees must revise their Storm Water Management Plan (SQMP), as necessary, to meet receiving water limitations, including water quality objectives. Attachment T to the Monitoring and Reporting Program requires the Principal Permittee to monitor for toxicity and, upon finding toxicity, to conduct a "Toxicity Identification Evaluation" (TIE) and submit a "Toxicity Reduction Evaluation" (TRE) to the Regional Board. As a result of the TRE, the affected Permittee would then be responsible for modifying its SQMP to implement BMPs to eliminate toxicity based on the sources of toxicity within its jurisdiction.

Illicit Connections and Discharges: ***Should the Regional Board require the Principal Permittee to better track IC/ID (illicit discharge and illicit connection) problem areas, and should the Regional Board also upgrade Permittees' passive field screening program to better identify and eliminate IC/ID problems?***

During dry weather, much of the flow to the storm drain system consists of illicit discharges.[7] Reporting of these problems, as summarized in the Fact Sheet/Staff Report (pages 26 to 35), shows erratic IC/ID occurrences that bear no relationship to land uses or to estimated expenditures by Permittees. Under current operating practices, the Principal Permittee is unable to track reports of illicit connections and discharges in order to identify problem areas and prioritize corrective action. Many of the Permittees cannot estimate the length of their portion of the storm drain system. Many more of these Permittees are unable to estimate how much of their portion of the storm drain system has been field screened for IC/ID problems over the past 5 years, partly because the Permittees' existing SQMP requires field screening only "during regularly scheduled maintenance."

In the first draft, staff proposed that the Permittees develop a Geographical Information System (GIS) to better track IC/ID problems and, based upon annual evaluations of IC/ID problems, to implement an active screening program in problem areas. Several Permittees objected to this, stating that a GIS was too expensive to develop, and that simpler systems (e.g. pin maps) could suffice. In this draft, staff is proposing that the Principal Permittee – with the cooperation of Permittees – develop a system (type of system unspecified) to track and prioritize IC/ID problems. The Principal Permittee objects to this requirement out of concern over: (a) anticipated difficulties in coordinating with other Permittees, and (b) the cost of a GIS (as the Principal Permittee feels this is the only system that is sophisticated enough to comprehensively track IC/ID occurrences in the storm drain system), which cost could be well in excess of $15 million.

Staff submits that a comprehensive map[8] or system is needed to track and evaluate IC/ID occurrences, that the Principal Permittee is the

[7] Federal regulations (at 40 CFR 122.26 (b). 2.) define an illicit discharge as "...any discharge to an MS4 that is not composed entirely of storm water..." with some exceptions (such as NPDES-permitted discharges and emergency fire fighting flows).

[8] Indeed, basic requirements such as a map demonstrating a basic awareness of the storm drain system, are part of a Permittees' initial application requirements, and should have been met back in 1990 when the permit was first issued.

appropriate entity with adequate control to take on this responsibly, and that other Permittees should be required to undertake active field screening such needs are indicated by better tracking.

Conclusion

Pollutants in dry weather runoff and storm water are the most significant source of impairment to water quality in the Los Angeles Region. For the third 5-year term of the Los Angeles County MS4 permit, staff has tried to carefully and reasonably structure requirements – including specific performance objectives – that are needed to better focus Permittees' storm water management programs in order to more effectively control pollutants in storm water.

Recommendation

Staff proposes that the Regional Board adopt the tentative permit - including Option B in the Industrial/ Commercial Inspection Program. Comment letters submitted by the Permittees and interested persons, which were received by November 13, will be compiled and forwarded to the Regional Board no later than November 21.

Attachments

10.B. Tentative Permit Package

1. Tentative Permit Strike-out Version (10/11/01)
2. Fact Sheet/ Staff Report/ Technical Reports (10/11/01)
3. Summary of Comments and Staff Response (10/11/01)

10.C. Tentative Permit Clean Copy

10. D. Regional Counsel's Legal Brief (11/09/01)

10. E. Regional Board Order No. 96-054 (07/15/96)

10. F. State Board Water Quality Orders

1. LA SUSMP Order (Order No. WQ 2000-11) (03/08/00)
2. SD MS4 Permit Draft Order (Order No. WQ 2001-xx) (11/02/01)

10.G. Additional Technical Reviews

1. Staff Review of Storm Water Quality Task Force (SWQTF) BMP Guide (11/01)
2. WSPA Technical Report – Review of RGOs: New Development Design Standards (08/06/01)
3. SWQTF RGO BMP Guide (03/1997)

10.H. Response

Table 1. Summary of Development Construction Project Reviews and Inspections (July 2000 – June 2001 Annual Program Report)

CITY	# of Projects	# Const. Exempt	% Const. Exempt	# Const. Non-Priority	% Const. Non-Priority	# Priority	% Priority	# Gen. Permit	% Gen. Permit	# of Inspect.	% Violations	% Enforce
Agoura Hills	940	437	46%	482	51%	21	2%	3	0.3%	N/A	2%	10%
Alhambra	591*	19	73%	5	19%	2	8%	0	0%	N/A	0%	0%
Arcadia	3695	1968	53.4%	1723	46.6%	3	0.08%	1	0.02%	N/A	0.46%	N/A
Artesia	346	208	60%	138	40%	0	0%	0	0%	N/A	2%	1%
Azusa	1300	1289	99.02%	7	0.005%	4	0.003%	0	0%	N/A	NONE**	0%
Baldwin Park	545	525	96%	18	3%	6	1%	0	0%	N/A	NONE**	N/A
Bell	616	615	99.8%	0	0%	0	0%	1	0.2%	N/A	0%	2%
Bellflower	445	442	99.3%	2	0.5%	0	0%	1	0.2%	N/A	NONE**	0%
Bell Gardens	327	224	66%	100	33%	3	1%	1	0%	N/A	35%	30%
Beverly Hills	1687	N/A	10%	N/A	85%	0	0%	2	N/A	N/A	75%	60%
Bradbury	42	6	15%	32	75%	4	10%	0	0%	N/A	5%	25%
Burbank	2403	264	11%	2128	88.95%	0	0%	11	0.05%	N/A	0.5%	25%
Calabasas	1679	1166	69%	496	29%	14	1%	3	1%	N/A	1%	0%^
Carson	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0%
Cerritos	1205	1196	99%	7	0.6%	0	0%	2	0.2%	N/A	0%**	90%
Claremont	3400	N/A	97%	N/A	3%	N/A	N/A	6	N/A%	N/A	4%	5%
Commerce	398	54	14%	337	85%	6	>1%	1	>1%	N/A	NONE	0%
Compton	3564	3558	99.9%	4	>1%	1	>1%	1	>1%	N/A	See Doc	0%
Covina	1124	1117	99.4%	4	0.3%	3	0.3%	0	0%	N/A	7%	10%
Cudahy	826	750	89%	70	10%	6	1%	0	0%	N/A	25%	15%
Culver City	820	0	N/A	818	N/A%	2	N/A%	1	N/A%	N/A	10%	0%
Diamond Bar	97	0	0%	97	100%	0	0%	18 ^^	18.50%	N/A	22%	22%
Downey	2097	2049	98%	48	2%	4	0%	2	0%	N/A	3%	3%
Duarte	325	311	311%	14	95.6%	0	0%	0	0%	N/A	NONE	0%
El Monte	891	556	62.4%	93	10.4%	10	1.12%	N/A	N/A	N/A	40%	50%
El Segundo	1325	0	0%	0	0%	1325	100%	0	0%	N/A	0%	%
Gardena	2000	1700	85%	300	15%	0	100%	0	100.0%	N/A	1%	30%
Glendale	337	17	N/A	31	N/A%	270	N/A%	0	0%	N/A	N/A	N/A
Glendora	874	732	84%	132	15%	10	1%	0	0%	N/A	NONE	0%
Hawaiian Gardens	323	235	73%	87	27%	1	0%	0	0%	N/A	10%	0%
Hawthorne	651	567	87.1%	74	11.4%	8	1.2%	2	0.3%	N/A	0%	NONE
Hermosa Beach	283	221	78%	62 E62	22%	0	0%	0	0%	N/A	0%	0%
Hidden Hills	121	12	10%	109	90%	0	0%	0	0%	N/A	0.29%	0%
Huntington Park	1	0	0%	1	100%	0 (0%)	0%	0	0%	N/A	0%	10%
Industry	26	N/A	N/A	6	23%	10	38%	10	38%	N/A	0%	1%
Inglewood	945	0	0%	944	99.9%	1	0.1%	1	0.1%	N/A	0%	100%
Irwindale	53	33	62%	13	25%	3	6%	4	0%	N/A	1%	0%
La Cañada Flintridge	605	293	48%	227	38%	85	14%	0	0%	N/A	50%	45%
La Habra Heights	30	N/A	10%	N/A	10%	N/A	80%	N/A	.0%	N/A	5%	0%
Lakewood	792	783	99%	89	1%	0	0%	0	0%	N/A	NONE	0%
La Mirada	673	0	0%	0	0%	1	0.0015%	1	0.0015%	N/A	N/A	N/A
La Puente	14	N/A	0%	N/A	10%	N/A	90%	N/A	10%	N/A	5%	1%
La Verne	587	N/A	N/A	2	0.3%	3	0.1%	1	0.1%	N/A	<1%	1%
Lawndale										N/A		
Lomita	224	184	82%	38	17%	1	1%	0	0%	N/A	N/A	0%
Los Angeles	39,566	25556	64 6%	10851	27.4%	2942	7.4%	217	0.5%	N/A	3.40%	35%
Los Angeles County	12,013	7076	59%	4512	38%	140	1%	285	2%	N/A	~4%	1%
Lynwood	0 (0%)	0	0%	0	0%	0	0%	0	0%	N/A	0 (0%)	1%
Malibu	1329	1156	87%	1329	100%	0	0%	173	13%	N/A	2%	2%
Manhattan Beach	1265	1264	99.9%	1264	99.9%	1	0.1%	0	0%	N/A	0.003%	>1%
Maywood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0%
Monrovia	15^^	0	0%	14	93%	1	7%	0	0%	N/A	0%	0%
Montebello	748	632	84.5%	114	15.2%	1	0.3%	1	0.3%	N/A	NONE	0%
Monterey Park	21	11	52%	10	48%	0	0%	0	0%	N/A	NONE	0%
Norwalk	1770	769	43.4%	978	55.3%	19	1.1%	4	0.2%	N/A	1%	N/A*
Palos Verdes Estates	91	90	N/A	10	N/A%	0	0%	0	0%	N/A	10%	5%
Paramount	553	320	58%	200	36%	33	6%	0	0%	N/A	35%	30%
Pasadena	2668	2657	99.5%	2657	99.5%	11	1%	11	1%	N/A	0%	0%
Pico Rivera	891	450	50%	434	48%	5	0.005%	2	0.002%	N/A	5%	5%

Redondo Beach	2308	1179	51%	1128	48%	0	0%	1	1%	N/A	1%	0%
Rolling Hills	97	85*	87.6%	9	10%	0	0%	0	0%	N/A	0.02%	0.02%
Rolling Hills Estates	261	2	1%	2	10%	0	0%	0	0%	N/A	5%	0%
Rosemead	509	300	59%	177	35%	32	6%	0	0%	N/A	25%	45%
San Dimas	664	364	N/A	654	98%	10	2%	2	2%	N/A	5%	16%
San Fernando	499	20	4%	478	96%	1	0.2%	0	0%	N/A	20%	10%
San Gabriel	607	600	98.9%	6	>1%	0	0%	1	>1%	N/A	0%	0%
San Marino	607	600	98.9%	6	>1%	0	0%	1	>1%	N/A	0%	0%
Santa Clarita	3096*	143	5%	2351	76%	15	1%	587	18%	N/A	2%	2%
Santa Fe Springs	~700	965	99%	5	1%	0	0%	0	0%	N/A	55%	10%
Santa Monica	1485	1385	93%	0	0%	0	0%	0	0%	N/A	0%	0%
Sierra Madre	193	148	77%	45	23%	0	0%	0	0%	N/A	15%	15%
Signal Hill	349	110	31%	236	68%	0	0%	3	10%	N/A	15%	4%
South El Monte	240	228	95%	12	5%	0	0%	0	0%	N/A	5%	5%
South Gate	3621	3117	86%	3117	86%	2	<1%	1	<1%	N/A	0.6%	0%
South Pasadena	69	65	94%	4	6%	0	0%	0	0%	N/A	25%	5%
Temple City	N/A	N/A	N/A	N/A	N/A%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Torrance	6205	6176	99%	24*	37%	5*	8%	36*	55%	N/A	NONE	NONE
Vernon	1687	1644	97.45%	32	0.189%	3	0.018%	8	0.047%	N/A	0%	0%
Walnut	18	N/A	0%	N/A	10%	N/A	90%	N/A	10%	N/A	5%	1%
West Covina	1380	1377	99.9%	1380	100%	0	0%	0	0%	N/A	0.5%	0%
West Hollywood	697*	689	99%	3	0.4%	3	0.4%	3	0.4%	N/A	3%	2%
Westlake Village	6	4	67%	4	67%	2	33%	6	100%	N/A	8%	0%
Whittier	3057	3035	99%	14	0.46%	6	0.20%	2	0.07%	N/A	NONE**	0%
TOTALS	125197	85447		42496		5026		1363				

*565Bldg/26Grdg Permits; **Stop Work Action Threat; ^Public Ag. Sites; ^^Grading Permits

Table 2. Comparison of Changes to the Industrial/ Commercial Facilities Program and Options for Consideration in the Tentative Draft

Item	Existing Permit	Second Draft	Tentative Option A	Tentative Option B	Tentative Option C
Focus	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities	Critical sources prioritization (regardless if they are industrial or commercial) based on the critical sources identification study prioritizing 34 categories	Critical sources prioritization (regardless if they are industrial or commercial) based on the critical sources identification study prioritizing 34 categories	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities
Inspection	NO	Restaurants, Automotive Service Facilities	USEPA Mandated: Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA), Restaurants (focus on Municipal BMPs), RGOs (focus on Municipal BMPs), Automotive Service Facilities (focus on Municipal BMPs)	**Same as Option A with the addition of** facilities identified as highest ranking in the critical sources evaluation: Wholesale trade (scrap, auto dismantling), Fabricated metal products, Motor freight, Chemical/allied products, Primary metals products	NO
Site Visits	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities	USEPA Phase I facilities	The remaining lower priority categories facility site visits All in the first 24 months, including "no-exposure" facilities. In the second inspection cycle spot check visits at minimum 20% of the remaining total number/per year (excluded facilities deemed "no-exposure")	The remaining lower priority categories facility site visits All in the first 24 months, including "no-exposure" facilities In the second inspection cycle spot check visits at minimum 20% of the remaining total number/per year (excluded facilities deemed "no-exposure")	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities
Frequency	Once every 24 months	Once every 24 months	Once every 24 months	Once every 24 months	Once every 24 months

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c) These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

Table 3. Summary of Fiscal Resources Budgeted for FY 2000/2001

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$22,000	$	$15,000	$130,000	$10,000	$0	$15,000	$170,000
[illegible]	$20,000	$20,000	$7,500	$75,000	$32,500	$0	$20,000	$175,000
[illegible]	$25,000	$5,000	$4,000	$658,138	$22,000	$30,000	$0	$744,138
[illegible]	$0	$0	$0	$0	$0	$0	$0	$0
[illegible]	$14,000	$9,000	$8,000	$211,000	$21,000	$0	$2,000	$265,000
[illegible]	$4,000	$2,750	$7,000	$278,363	$21,240	$0	$62,005	$375,378
[illegible]	$35,000	$1,350	$8,000	$50,700	$5,900	$0	$0	$112,650
[illegible]	$12,500	$10,000	$11,000	$90,000	$10,000	$0	$0	$463,500
[illegible]	$14,500	$40,000	$7,000	$2,000	$10,000	$0	$11,000	$90,500
[illegible]	$62,153	$20,000	$40,000	$45,000	$50,000	$60,000	$179,787	$1,006,939
[illegible]	$9,000	$1,500	$9,000	$ [illegible]	$1,500	$0	$0	$20,700
[illegible]	$176,800	$46,700	$150,000	$1,102,800	$76,400	$76,500	$2,980,000	$5,053,800
[illegible]	$60,000	$20,450	$20,000	$428,500	$10,000	$20,000	$360,000	$923,550
[illegible]	$1,350	$0	$2,400	$344,000	$26,850	$0	$0	$378,450
[illegible]	$6,200	$73,000	$6,000	$286,000	$11,000	$0	$0	$383,400
[illegible]	$7,000	$74,000	$36,000	$518,700	$15,000	$0	$0	$623,700
[illegible]	$21,000	$0	$5,000	$109,000	$10,000	$0	$325,000	$470,000
[illegible]	$17,700	$7,000	$5,500	$428,500	$20,000	$0	$0	$488,520
[illegible]	$43,000	$17,000	$4,000	$179,800	$4,000	$0	$0	$143,110
[illegible]	$1,200	$4,000	$5,000	$4,000	$10,000	$0	$0	$60,105

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$0	$ [illegible]	$ [illegible]
[illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]	$ [illegible]

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$5,000	$3,500	$3,500	$4,500	$3,500	$1,000	$2,000	[illegible]
[illegible]	$190,870	$0	$0	$178,290	$0	$0	$0	[illegible]
[illegible]	$18,698	$22,645	$13,280	$310,100	$56,020	$0	$1,445,852	[illegible]
[illegible]	$15,915	$6,995	$8,995	[illegible]	$18,760	$27,175	$0	[illegible]
[illegible]	$30,000	$50,000	$5,000	$31,000	$10,000	$0	$40,000	[illegible]
GRAND TOTAL	$9,075,904	$9,685,512	$4,507,565	$95,579,268	$9,826,717	$3,029,098	$10,342,220	$142,046,284

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Table 4. Summary of Fiscal Resources Budgeted for FY 2001/2002

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Agoura Hills	$30,000	$2,500	$15,000	$100,000	$11,000	$0	$20,000	$178,500
Alhambra	125,000	$25,000	$10,000	$60,000	$45,000	$0	$100,000	$265,000
Arcadia	$48,329	$6,600	$37,550	$537,873	$33,775	$19,900	$0	$677,998
Artesia	$5,300	$200	$8,400	$1,400	$12,500	$250	$0	$28,050
Azusa	$16,000	$7,000	$7,000	$259,000	$23,000	$0	$2,000	$324,000
Baldwin Park	$4,030	$2,750	$7,000	$278,383	$21,240	$0	$62,605	$375,378
Bell	$55,030	$2,250	$8,000	$131,700	$21,000	$1,000	$0	$218,950
Bell Gardens	$13,000	$20,000	$100,000	$332,000	$7,000	$1,000	$0	$473,000
Bellflower	$14,520	$40,000	$5,000	$2,000	$18,000	$0	$11,000	$90,500
Beverly Hills	$774,749	$20,000	$43,300	$476,000	$50,200	$60,000	$119,790	$1,543,039
Bradbury	$6,000	$5,000	$7,000	$7,000	$2,500	$0	$0	$27,500
Burbank	$211,000	$128,000	$167,000	$1,573,000	$85,000	$4,000	$292,000	$2,460,000
Calabasas	$89,604	$3,000	$20,000	$486,300	$15,600	$25,000	$220,000	$858,204
Carson	$10,030	$5,000	$5,000	$344,700	$28,680	$0	$0	$392,886
Cerritos	$12,000	$11,000	$12,500	$355,000	$12,000	$2,000	$10,000	$414,500
Claremont	$49,009	$23,972	$50,245	$518,000	$11,415	$0	$0	$651,641
Commerce	$20,000	$5,000	$5,000	$105,000	$10,000	$0	$325,000	$470,000
Compton	$17,600	$7,150	$6,820	$429,000	$26,950	$0	$0	$487,520
Covina	$49,470	$13,120	$4,910	$215,960	$20,630	$0	$0	$303,990
Cudahy	$5,030	$2,000	$8,000	$97,500	$4,000	$1,000	$0	$119,500
Culver City	$30,000	$10,000	$5,000	$2,555,000	$34,900	$0	$2,980,000	$5,614,900

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Diamond Bar	$93,051	$12,388	$56,894	$229,171	$28,017	$0	$0	$440,340
Downey	$70,006	$3,524	$25,462	$703,722	$25,000	$0	$0	$827,703
Duarte	$18,000	$15,000	$13,500	$425,100	$1	$0	$0	$469,103
El Monte	$12,000	$5,000	$9,000	$202,000	$46,500	$0	$0	$271,500
El Segundo	$10,000	$10,000	$21,500	$99,000	$5,000	$30,000	$10,000	$171,000
Gardena	$100,000	$12,600	$2,000	$177,600	$22,200	$0	$0	$314,300
Glendale	$146,177	$311,81	$692,019	$11,036,177	$243,000	$0	$0	$13,347,975
Glendora	$50,000	$10,000	$15,000	$100,000	$30,000	$0	$0	$245,000
Hacienda Heights	$9,000	$5,000	$59,000	$82,500	$4,000	$0	$0	$157,500
Hawthorne	$8,960	$8,000	$11,130	$255,000	$20,025	$0	$38,000	$341,075
Hermosa Beach	$13,600	$5,000	$16,950	$1,112,387	$17,202	$1,000	$16,000	$1,185,129
Hidden Hills	$12,900	$12,700	$12,010	$10,620	$20,080	$0	$0	$68,310
Huntington Park	$105,000	$6,150	$43,000	$249,500	$5,250	$3,600	$77,000	$489,500
Industry	$66,500	$21,000	$122,000	$345,000	$232,000	$0	$3,500	$790,000
Inglewood	$55,000	$120,000	$23,000	$780,000	$38,000	$7,000	$0	$1,023,000
Irwindale	$25,000	$15,000	$7,500	$90,000	$5,000	$0	$5,000	$147,500
La Canada Flintridge	$10,000	$5,000	$27,000	$376,275	$10,000	$30,000	$0	$458,775
La Habra Heights	$7,000	$0	$1,000	$1,000	$1,000	$1,000	$0	$6,000
Lakewood	$35,000	$25,000	$35,000	$391,000	$30,000	$0	$105,000	$624,000
La Mirada	$223,575	$43,975	$253,000	$493,348	$7,500	$0	$0	$1,019,402
La Puente	$3,000	$1,700	$2,700	$3,250	$2,500	$500	$0	$13,150

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
La Verne	$30,001	$5,000	$15,000	$141,400	$27,002	$0	$0	$221,403
Lawndale								
Lomita	$4,000	$2,000	$2,000	$259,000	$0	$0	$30,000	$297,000
Los Angeles	$2,117,609	$954,247	$1,053,915	$13,696,319	$2,645,781	$578,537	$570,520	$21,626,928
County of Los Angeles	$4,994,250	$597,423	$396,320	$46,341,676	$3,832,636	$700,000	$0	$58,662,305
Lynwood	$9,000	$1,000	$2,000	$3,000	$5,000	$2,000	$0	$21,000
Malibu	$68,263	$3,000	$10,000	$210,344	$6,800	$153,000	$0	$478,397
Manhattan Beach	$24,900	$4,000	$3,500	$239,600	$22,450	$1,600	$520,000	$816,050
Maywood	$5,400	$0	$10,500	$103,000	$3,750	$0	$0	$122,650
Monrovia	$21,434	$9,359	$10,339	$264,922	$23,687	$0	$0	$325,641
Montebello	$12,100	$16,100	$8,000	$232,000	$11,000	$22,800	$310,000	$612,000
Monterey Park	$20,000	$3,800	$5,000	$462,901	$20,300	$0	$291,144	$803,145
Norwalk	$65,000	$5,000	$12,000	$387,616	$35,150	$0	$0	$504,766
Palos Verdes Estates	$15,000	$35,000	$17,000	$1,256,000	$8,900	$0	$0	$1,332,900
Paramount	$10,000	$3,000	$230,000	$286,900	$18,000	$25,000	$0	$572,900
Pasadena	$24,000	$24,500	$49,550	$2,118,500	$32,200	$20,000	$230,728	$2,569,478
Pico Rivera	$71,410	$6,710	$23,000	$164,400	$1,750	$0	$37,000	$304,270
Pomona								
Rancho Palos Verdes	$11,270	$4,375	$16,590	$75,972	$14,000	$0	$15,000	$137,507
Redondo Beach	$21,840	$28,915	$42,783	$790,430	$115,484	$47,844	$54,880	$1,102,126
Rolling Hills	$26,683	$3,900	$9,189	$816	$2,043	$0	$0	$41,241

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Rolling Hills Estates	$20,116	$10,500	$35,000	$41,725	$22,245	$0	$0	$132,587
Rosemead	$13,500	$20,000	$456,000	$378,000	$21,000	$0	$0	$888,500
San Dimas	$3,169	$13,387	$5,456	$129,949	$9,117	$0	$486	$161,566
San Fernando	$10,200	$3,500	$3,570	$130,620	$17,170	$0	$2,750	$186,810
San Gabriel	$25,000	$5,000	$10,000	$165,000	$10,000	$0	$400,000	$615,000
San Marino	$2,800	$600	$500	$89,450	$100	$0	$100	$93,550
Santa Clarita	$357,109	$122,328	$242,157	$923,369	$294,123	$0	$502,155	$2,441,241
Santa Fe Springs	$80,000	$10,400	$15,200	$237,500	$222,200	$0	$226,000	$791,400
Santa Monica	$150,000	$100,000	$40,000	$2,250,000	$102,500	$160,000	$50,000	$2,852,500
Sierra Madre	$9,200	$2,750	$5,180	$52,456	$9,120	$0	$0	$78,706
Signal Hill	$15,500	$9,360	$12,840	$137,400	$14,200	$5,000	$269,000	$463,300
South El Monte	$11,000	$9,500	$8,100	$141,000	$30,120	$0	$32,673	$232,393
South Gate	$9,990	$4,600	$16,900	$379,353	$31,610	$0	$407,813	$850,163
South Pasadena	$72,000	$343,700	$190,000	$517,300	$27,500	$5,000	$0	$1,155,500
Temple City	$2,500	$3,500	$0	$127,550	$8,600	$0	$0	$142,150
Torrance								
Vernon	$56,573	$56,310	$28,434	$473,484	$28,346	$0	$0	$623,149
Walnut	$5,000	$3,500	$3,500	$4,500	$3,500	$0	$0	$20,000
West Covina	$187,700	$0	$0	$165,550	$0	$0	$0	$353,250
West Hollywood	$18,688	$22,645	$13,280	$310,100	$56,020	$0	$1,445,852	$1,966,585
Westlake Village	$42,000	$2,600	$5,300	$50,761	$18,625	$27,895	$0	$147,181

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Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Whittier	$40,000	$5,000	$5,000	$128,000	$10,000	$0	$136,000	$324,000
GRAND TOTAL	$10,937,410	$3,673,510	$5,051,045	$104,802,376	$9,050,442	$1,928,426	$9,908,396	$145,351,612

Table 5. Number of Active Facilities Covered under the General Industrial Activities Storm Water Permit in Selected Cities

City	Number of Active Facilities
ARCADIA	3
ARTESIA	3
BELL GARDENS	5
BURBANK	37
CERRITOS	13
COMMERCE	56
COMPTON	54
DOWNEY	19
INDUSTRY	105
LA MIRADA	25
LAKEWOOD	1
LAWNDALE	1
LOS ANGELES	873
MONROVIA	14
MONTEBELLO	26
NORWALK	8
PARAMOUNT	24
PICO RIVERA	14
POMONA	40
ROSEMEAD	4
SAN GABRIEL	2
SANTA FE SPRINGS	130
SIERRA MADRE	1
SIGNAL HILL	4
SOUTH GATE	56
VERNON	63
WALNUT	8
WHITTIER	23
Grand Total	**1,612**

Section B

Tentative Permit Package
(Strike Out Version)

- Transmittal Letter
- Public Notice
- Tentative Draft of the County of Los Angeles NPDES Municipal Permit
- Monitoring and Reporting
- Fact Sheet/Staff Report
- Response to Comments
- Distribution List
- Amended Public Notices and Change of Venue Notice

Transmittal Letter

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

TO: Interested Parties (see attached distribution list), including: Permittees–County of Los Angeles Municipal Storm Water Permit; Resource and Regulatory Agencies; Water Districts; Environmental Organizations; Consultants; Other Local Agencies; and Other Interested Parties

FROM: Dennis A. Dickerson
Executive Officer

DATE: October 11, 2001

SUBJECT: **Announcement of a Public Hearing and Transmittal of the Tentative Draft – County of Los Angeles Municipal Storm Water NPDES Permit**

ATTACHMENTS:

1. Public Notice
2. Tentative Permit (underline/strike-out version)
3. Staff Report
4. Response to Comments
5. Distribution List

The Regional Water Quality Control Board (Regional Board) will conduct a public hearing to consider adoption of the attached tentative permit during a public meeting on:

Thursday, November 29, 2001, starting at 9:00 a.m.
Richard H. Chambers U.S. Court of Appeals Building (Courtroom 3)
125 S. Grand Avenue, Pasadena, CA

A tentative agenda and public comment protocol for this Board Meeting will be posted on our web site by November 19, 2001. The public will have an opportunity to provide oral testimony before the Regional Board on November 29, 2001.

The County and Cities in Los Angeles County discharge storm water under a municipal storm water permit (Board Order No. 96-054), which expired on July 30, 2001. The Regional Board will consider adoption of a renewed permit at a public meeting on November 29, 2001. As part of the renewal process, we are pleased to transmit the tentative draft of the proposed new permit – the Municipal Storm Water NPDES Permit for the County of Los Angeles and incorporated cities (except for the City of Long Beach, which is covered under a separate permit). The version attached is an underlined/strike-out version to simplify the review of changes from the June 29, 2001 draft.

We have reviewed the comments received and have made changes accordingly. The main revisions are in the following programs:

1. Development Planning:
   a. Single family structures are excluded from the redevelopment requirements; and
   b. We have proposed a time period for a study to recommend peak flow controls.
2. Inspections:
   a. Option A - Focus inspections on critical sources prioritization confirmed by monitoring study; Inspect municipal landfills, hazardous waste treatment facilities, EPCRA facilities, restaurants, retail gasoline outlets, and auto service facilities; and remaining facilities are site visits.
   b. Option B - Focus inspections on critical sources prioritization confirmed by monitoring study; Inspect the same facilities as Option A with the addition of wholesale trade (scrap, auto dismantling), fabricated metal products, motor freight, chemical/allied products, primary metals products, and facilities identified as highest ranking in their critical sources evaluation; and remaining facilities are site visits.
   c. Option C – Continued Site Visits as currently in place.
3. Illicit Connections/Illicit Discharges: Development of a listing of all permitted connections to the storm drain system.
4. Monitoring and Reporting Program: Included a reporting program with reporting requirements and performance criteria.

We have attached a staff report, containing technical justifications for changes from the existing permit. If you would like a non underline/strike-out version of the permit (clean version), please contact Wendy Abarquez by phone at (213) 576-6802 or by e-mail at wabarque@rb4.swrcb.ca.gov. Alternatively, the tentative permit and other renewal documents will be placed on our website by next week for dissemination and viewing.

Please submit your comments on the attached tentative draft in writing, to this office by November 12, 2001. This will give staff time to review and consider the comments, respond to them, propose changes to the tentative permit, and if necessary, resolve issues prior to the Regional Board consideration of the tentative permit during the public hearing. Written comments should be either hand delivered or mailed to this office to the attention of: Dr. Xavier Swamikannu.

Any comments received after November 12, 2001, will be provided to the Regional Board members ex agenda, and may not receive full consideration. Following the consideration of written comments and oral testimony, the Board may take action to adopt tentative Order No. 01-XXX during a public meeting on November 29, 2001. At its discretion, however, the Board may direct further investigation.

Please call Dr. Xavier Swamikannu at (213) 576-6654 or Wendy Phillips at (213) 576-6618 should you have any questions. Thank you for your interest in and comments on this proposed regulatory action for the County of Los Angeles and the Cities of Los Angeles County.

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Public Notice

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

320 W. 4th Street, Suite 200
Los Angeles, California 90013
Tel No. (213) 576-6600; Fax No.: (213) 576-6660

Public Notice No. 01-060

NPDES No. CAS004001

NOTICE OF PUBLIC HEARING

CONSIDERATION OF A STORM WATER MANAGEMENT/URBAN RUNOFF PERMIT

FOR

THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN,

EXCEPT THE CITY OF LONG BEACH

Los Angeles Regional Water Quality Control Board will conduct a public hearing to consider the adoption of a municipal storm water permit for Los Angeles County (the renewal of an existing five-year permit). Regional Board staff will provide background and a brief overview of the proposed draft permit. The public will have the opportunity to testify regarding the proposed permit.

HEARING DATE AND LOCATION:

DATE: Thursday, November 29, 2001
TIME: 9:00 a.m.
PLACE: Richard S. Chambers, U.S. Court of Appeals Building
Courtroom 3
125 S. Grand Avenue
Pasadena

AVAILABILITY OF DOCUMENTS

You may contact Weindy Abarquez, at (213) 576-6802, to request a copy of the tentative draft permit and staff report. After October 15, you may also download the tentative draft permit and other related documents from the Regional Board Storm Water web page at www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html.

BACKGROUND

On January 31, 2001, the Los Angeles County Department of Public Works submitted an application for renewal of the five-year Municipal Storm Water Management/Urban Runoff Discharges Requirements for the County of Los Angeles, and the incorporated cities, except for the City of Long Beach (Board Order No. 96-045). Regional Board staff conducted a public workshop on April 24 and a formal workshop with the Regional Board on July 26 to give

background on the permit and allow for public comment. Regional Board staff have considered comments in the issuance of each of the three draft permits.

Under the requirements of the permit, the County will implement the Storm Water Quality Management Plan which includes the following provisions: (a) Program Management; (b) Public Information and Participation Program; (c) Programs for industrial/commercial facilities; (d) Public Agency Activities; (e) Programs to eliminate illicit connections and discharges; (f) Programs for development planning; and (g) Programs for construction sites. These programs collectively are expected to reduce pollutants in storm water discharges to the Maximum Extent Practicable.

In addition, the County will conduct a storm water monitoring program to assess permit compliance, assess the chemical physical and biological impacts on receiving waters from storm water runoff, characterize storm water discharges, and identify sources of water quality exceedances and toxic pollutants.

HEARING PROCEDURE

The hearing will start at 9:00 am. Regional Board staff will present an overview of the proposed permit. Interested persons are invited to attend and to testify in front of the Regional Board. For the accuracy of the record, comments should also be submitted in writing. The Regional Board may ask questions of staff and persons who testify prior to making a decision on the adoption of the proposed permit.

Date: September 27, 2001

R0006821

Tentative Draft of the County of Los Angeles NPDES Munipal Permit

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Attachment B

Monitoring and Reporting **T-1**

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. **Existing Permit ~~and Report of Waste Discharge~~**

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles rRegion. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, ~~and~~ which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. **Nature of Discharges and Sources of Pollutant**

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.

2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine

operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, ~~heavy metals,~~ lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and ~~bis (2-ethylhexyl) phthalate and mercury as resulting from atmospheric deposition~~, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order ~~are~~is intended to reduce ~~and will contribute to reduced~~ the entry of these pollutants into storm water and their discharge to receiving waters.

~~3.These compounds can have damaging effects on both human health and aquatic ecosystems. In addition, the high volumes of storm water discharged from MS4s in areas of urbanization can significantly impact aquatic ecosystems due to physical modifications such as bank erosion and widening of channels. It is anticipated that, due to the nature of storm water events (i.e., large volumes of water and high velocities) that there may be short term, reversible impacts to beneficial uses that are not directly related to water quality.~~

~~4.~~3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (iii) audit of MS4 Permittee programs; and (iv) clarifying enforcement responsibilities between the State and local governments.

5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California.~~,~~ See, e.g.,- [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight,* Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation:*

Technical Review (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight,* Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000),* County of Los Angeles (2001).

6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings ~~with it~~ proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated ~~with~~ as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool,* Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York.)

8. The County of Los Angeles has identified as the ~~five~~ seven highest ~~priority potential~~ priority industrial and commercial critical source types, (~~i~~i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/-parking; (iii) fabricated metal products; (iv) motor freight; ~~and~~ (v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report,* Los Angeles County Department of Public Works (-Sept 1996).

Monitoring conducted by Los Angeles County demonstrates that the priority industrial sectors and auto repair facilities (~~the only~~ one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (~~-~~*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works (~~-~~July 2000)~~)~~.

9. A review of industrial waste/ pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board. 1987. Huron River Pollution Abatement Program)

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) adequate legal authority, (ii) fiscal resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) monitoring and reporting program.

2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements ~~and a proposed~~ that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed ~~Storm Water Quality Management Plan (~~SQMP~~)~~ and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

   Public Information and Participation
   Development Planning
   Development Construction
   Public Agency Activities
   Illicit Connection/Illicit Discharge Elimination Program

   These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water monitoring program. The

R0006828

Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP~~torm Water Management Plan~~, incorporating the additional provisions contained in this Order would meet the minimum requirements of federal regulations.

5. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); Source Characterization, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, , L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]

6. Retail gasoline outlets are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from retail gasoline outlets have high concentrations of hydrocarbons and heavy metals. [*Schueler and Shepp* (1992)]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The LA Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria under the MS4 program, as well in other U.S. States.

7. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant

(NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County Flood Control District within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles. Attachment B shows the map of the permitted area in Los Angeles County Flood Control District.

2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. ~~Consequently, the Regional Board recognizes that the Permittees will not be held responsible for such facilities and/or discharges.~~ The Regional Board will coordinate with these entities ~~facilities~~ to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

   About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and thence to Santa Monica Bay,

   About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and thence to Santa Monica Bay, and

   About 86 square miles of area in Orange County, which drain into Coyote Creek and thence into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to ~~control~~ reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the United States.

5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the ~~municipal separate storm sewer system~~ MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C Section 1251-1387). This section requires the ~~U.S. Environmental Protection Agency~~ (USEPA) to establish regulations setting forth NPDES requirements for storm water discharges in two phases.

   - The USEPA Phase I storm water regulations were directed at ~~municipal separate storm sewer systems~~ (MS4s) serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed Reg.* 47990).

   - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small ~~municipal~~ MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed Reg.* 68722).

2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contains certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.

4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act (ESA) and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.*, 11202 – 11217].

5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 Ppermittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that Ppermittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).

6. Section 402 (p) of the CWA~~lean Water Act~~ (33 U.S.C. Section 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

7. ~~Section 122.2 of t~~The CWA authorizes the USEPA to permit a state to serve as the ~~delegate its~~ NPDES permitting authority in lieu of the USEPA~~to states with an approved environmental regulatory program~~. The State of California has in-lieu authority for an NPDES program~~is a delegated State~~. The Porter-Cologne Water Quality Control Act ~~(California Water Code)~~ authorizes~~d~~ the ~~State Water Resources Control~~

~~Board~~ (State Board), through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State ~~and tributaries thereto~~. The State Board entered into a ~~Memorandum of Agreement~~ [MOA] with the USEPA, on ~~22~~ September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, ~~and~~ still meet~~implement~~ applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and require ~~changes to~~ amending the SQMP~~torm Water Quality Management Plan~~ after pollutants loads have been allocated and approved.

9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. Sections 1451-1465), amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.

10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule) 65 *Fed. Reg.* 31682 (40 C.F.R. § 131.38), for the protection of human health and aquatic life. These ~~apply~~ as ambient water quality criteria for ~~inland~~ surface waters, ~~and~~ enclosed bays, and estuaries. The State Board adopted the, *(~~Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California~~ (SIP) – 2000)* on March 2, 2000, for implementation of the California Toxics Rule (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy. ~~This Policy also establishes reporting protocols for the results on analytical determinations of chemical constituents and reporting levels (Minimum Level) in wastewater and storm water discharges.~~

11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives ~~for~~ which apply to ~~-~~all discharges to the coastal waters of California.

12. The State Board *In Re*: California Department of Transportation (State Board Order WQ 2001-08), determined that the discharge of storm water to Areas of Special Biological Significance (ASBS) ~~are~~ is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan~~, and amendments thereto, which are incorporated in this Order by reference,~~ designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.

14. The Regional Board on ~~January 26, 2001 and~~ September 19, 2001, adopted amendments to the ~~*Water Quality Control Plan, Los Angeles Region*~~Basin Plan, to incorporate TMDLs for trash ~~for~~ in the Los Angeles River (Resolution No. ~~01-006 amended by Resolution No.~~ 01-013) and Ballona Creek (Resolution No. 01-014). ~~The TMDLs for trash a~~After approval by the State Board, the Office of Administrative Law, and the U.S. EPA ~~and the Office of Administrative Law are~~ the TMDLs for trash will be effective and enforceable ~~under this Order for municipal storm water discharges.~~

~~14.~~15. The Regional Board on April 13, 1998, approved ~~best management practices~~ BMPs for sidewalk ~~wash~~rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same ~~R~~resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

~~15.~~16. The Regional Board on April 13, 1998, approved recommended ~~best management practices~~ BMPs for industrial/-commercial facilities (Resolution No. 98-08).

~~16.~~17. The Regional Board on April 22, 1999, approved a list of ~~best management practice~~BMPs for use in development planning and development construction (Resolution No. 99-03)

~~17.~~18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm

water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

- The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000,) which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for retail gasoline outlets.
- The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.

~~18.~~19. The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S. is not permissible. 40 CFR Part 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any waters of the U.S. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

~~19.~~20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

~~20.~~21. To promote a watershed management approach, the County of Los Angeles is divided into ~~five~~ six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA

Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment -A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

~~21.~~22. To facilitate compliance with federal regulation, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by ~~these~~ a statewide general permits by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcementing authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

~~22.~~23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, ~~"Maintaining High Quality Water"~~ which established an anti-degradation policy for the State and Regional Boards. This ~~P~~policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.

~~23.~~24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable ~~specifies standard~~ receiving water limitations language to be included in ~~all~~ municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th. Cir, 1999). The State Board OCC~~ffice of Chief Counsel~~ has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

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~~24.~~25. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance;~~,~~ ~~and provisions~~and provisions of CWC Section 13241. The Regional Board has ~~fully~~ considered the requirements of sections 13263 and 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements~~all relevant issues~~.

~~25.~~26. ~~California Water Code~~ CWC Section 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the Federal Clean Water Act and its amendments.

F. Implementation

~~1.Permittees established an Executive Advisory Committee (EAC) to facilitate permit compliance and enhance consistency in program implementation. The EAC is formally incorporated within this permit as a representative committee of the Permittees.~~

~~2.~~1. The California Environmental Quality Act (CEQA) (Cal Pub Resources Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions ~~that~~ to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria ~~may be established~~ administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.

~~3.~~2. On March 12, 2001, the United States Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District,* 243 F3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the~~at~~ general permit.

~~4.~~3. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to ~~control~~ reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

~~5.~~4. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and ~~No.~~ 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

~~6.~~5. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then structural and treatment control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

~~7.~~6. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

7. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the ~~*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California* SIP – 2000 (State Board Resolution No. 2000-15 as amended by Resolution No. 2000-30).~~ The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interferences. The SIP's MLs, therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic

priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

8. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP or requirement under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

9. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and~~or any of~~ its requirements are not intended to restrict or control local land use decision-making authority.

10. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain treatment control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of treatment control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

3. The Regional Board has conducted public workshops to discuss ~~the~~ drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the

submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.

4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are ~~C~~co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is ~~only~~ responsible only for a discharge for which it is the operator.

5. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit, pursuant to Section 402 of the ~~Federal Clean Water Act~~CWA, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.

6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal Pub. Resources Code Section 21100 *et seq.*), in accordance with ~~California Water Code~~ CWC ~~Section~~§ 13389.

7. Pursuant to ~~California Water Code Section~~ CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.

8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the ~~federal~~ NPDES program, and the CW~~California Water Code~~ for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CW~~California Water Code~~ and regulations adopted thereunder, and the provisions of the CW~~lean Water Act~~, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

~~Each~~The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges are:

1. covered by a separate individual or general NPDES permit for non-storm water discharges; or

2. fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:

   a) Category A - Natural flow:

      (1) Natural springs and rising ground water;

      (2) Flows from riparian habitats or wetlands;

      (3) Stream diversions, permitted by the State Board; and

      (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].

   b) Category B - Flows from emergency fire fighting activity.

   c) Category C - Flows incidental to urban activities~~, all of which are subject to conditions that shall be approved by the Regional Board Executive Officer~~:

      (1) Reclaimed and potable landscape irrigation runoff;

~~(2)Water line flushing of potable water distribution systems;~~

      (2) Potable drinking water supply and distribution system releases (~~once a Pollution Prevention Plan is adopted by the Southern California Chapter of the~~ consistent with American Water Works Association guidelines~~and approved by the Regional Board Executive Officer~~ for dechlorination/debromination and suspended solids reduction practices);

      ~~(2)~~(3) Drains for foundations, footings, and crawl spaces;

      ~~(3)~~(4) Air conditioning condensate;

      ~~(4)~~(5) Dechlorinated swimming pool discharges;

      ~~(5)~~(6) Dewatering of lakes and decorative fountains;

      ~~(6)~~(7) Non-commercial car washing by residents or by non-profit organizations; and

      ~~(7)~~(8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of

the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of anti-degradation policies and TMDLs.

Part 2. RECEIVING WATER LIMITATIONS

1. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.

3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of water quality objectives or water quality standards (collectively, water quality standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:

   a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of water quality standards. This report may be incorporated in the annual Storm Water Report and Assessment ~~update of the SQMP and its components~~ unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the Report.

   b) Submit any modifications to the report required by the Regional Board within 30 days of notification.

   c) Within 30 days following the approval of the report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.

4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

Part 3. STORM WATER QUALITY MANAGEMENT ~~PLAN~~ROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order.

2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the maximum extent practicable.

3. Each Permittee shall implement~~may develop a SQMP, incorporating the countywide SQMP, which identifies~~ additional controls~~provisions~~, where necessary, ~~intended~~ to reduce the discharges of pollutants in storm water to the maximum extent practicable.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution controls ~~benefits~~. When implemented, BMPs are intended to~~shall~~ result in the reduction of pollutants in storm water to the maximum extent practicable.

C. ~~Modification~~ Revision of the Storm Water Quality Management Plan~~rogram~~

The Permittees shall ~~modify~~revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments~~additional provisions~~. Such ~~provision~~amendments may include regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total ~~Daily~~ Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, The Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;~~.~~

2. ~~1.~~ Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;~~.~~

3. ~~2.~~ Provide personnel and fiscal resources ~~for compilation, evaluation and submittal of all reports required under this Order and~~ for the necessary updates of the SQMP and its components;

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4. ~~3.~~ Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;

~~4.~~5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;

~~5.~~6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;

~~6.~~7. Provide personnel and fiscal resources for the ~~preparation~~collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and

~~7.~~8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries, (see~~subject to provisions identified in~~ Findings B.2. and D.2.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;

3. Designate a technically knowledgeable representative to the appropriate WMC; and

4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and SQMP.

5. Prepare an annual summary of expenditures applied to the storm water management program. This summary of budget expenditures shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

   a) Program management

      ~~(1)~~• Administrative costs

      ~~(2)Capital costs~~

   b) Illicit connection/illicit discharge

   c) Development planning

   d) Development construction

- Construction inspection activities

e) Industrial/Commercial inspection/site visit activities

~~f)Construction inspection activities~~

~~g)~~f) Public Agency Activities

(1) Maintenance of structural BMPs and treatment control BMPs

(2) Municipal Street Sweeping

(3) Catch basin clean-up

(4) Trash collection

(5) Capital costs

~~h)~~g) Public Information and Participation

~~i)~~h) Monitoring Program

~~j)~~i) Miscellaneous Expenditures

6. Each Permittee, in addition to the budget summary, shall report any supplemental dedicated budgets~~, if any,~~ for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).

2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a) Facilitate cooperation and exchange of information among Permittees;

b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up~~.~~; and

g) Conduct joint WMC meetings four times per year and, as necessary.

~~**G.Executive Advisory Committee (EAC)**~~

~~1.The EAC shall be composed of one representative from the Malibu Creek WMA, two representatives from each of the other WMAs, one representative from the City of Los Angeles, and one representative from the Los Angeles County Flood Control District.~~

~~2.The EAC shall facilitate program compliance in each watershed and enhance consistency among Permittees.~~

~~3.The EAC shall conduct its meetings in compliance with the Cal. Gov. Code § 54950 et seq.~~

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges~~, to the maximum extent practicable~~, to the storm drain system, including, but not limited to:

   a) Prohibit illicit discharges and illicit connections and a require~~ment for~~ removal of illicit connections;

   b) Prohibit the discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;

   c) Prohibit the discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

   d) Prohibit the discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;

   e) Prohibit the discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

   f) Prohibit the discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;

   g) Prohibit the discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

   h) Prohibit washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4; ~~and~~

   i) Prohibit the discharge of concrete or concrete laden wash water from concrete trucks, pumps, tools, and equipment to the MS4.

   j) Prohibit ~~spills~~, dumping, or disposal of materials into the MS4, other than storm water, such as:

      (1) Litter, landscape debris and construction debris;

      (2) Any state or federally banned or unregistered pesticides, ~~fungicide or herbicide~~;

      (3) Food and food processing wastes; and

      (4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

~~k)~~a) Require persons within their jurisdiction c~~C~~omply with conditions in Permittees ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

~~l)~~b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;

~~m)~~c) Control ~~of~~ pollutants, ~~(~~including potential contribution~~)~~, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to source control, and treatment control, ~~and structural control~~ BMPs; ~~and,~~

~~n)~~d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potential~~ly~~ to discharge polluted storm water runoff into its MS4 ~~(including construction sites)~~.

~~o)~~e) Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s to the maximum extent practicable.

f) Require~~Ensure~~ that treatment control BMPs ~~are~~be properly ~~designed~~ operated and maintained to prevent the breeding of vectors.

~~p)~~3. Each Permittee shall, no later than~~On or before July 1, 2002~~ [9 months from permit effective date]~~, if necessary,~~ amend and adopt, (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.

~~2.The Principal Permittee shall, on or before July 1, 2002, amend the Los Angeles County Public Health Code to require inspections at restaurants that will address:~~

~~a)Oil and Grease residue to verify that it is not poured onto a parking lot, street or adjacent catch basin.~~

~~b)Dumpster areas to verify that the dumpster area is clean, dumpster lid closed, not filled with liquid or washed out.~~

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~~c)Parking lot, alley, sidewalk and street areas to verify that floormats, filters and garbage containers are not washed in those areas and that no washwater is poured in those areas.~~

~~d)Parking lot area to verify that it is cleaned by sweeping and not by hosing down and that the facility operator uses dry methods for spill cleanup.~~

~~3.~~4. Each Permittee shall submit no later than ~~July 31, 2002~~[10 months from permit effective date], a new or updated statement by ~~the~~ its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

A.1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific Best Management Practice (BMP) substitution upon petition by ~~the~~a Permittee(s), if the Permittee can document that:

~~1.~~a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

~~2.~~b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

~~3.~~c) The proposed alternative BMP or program will be implemented within a similar period of time.

2. Customized SQMP

Each Permittee shall have available a local SQMP, which:

a) Is customized and reflects the conditions in the area under its jurisdiction; and

b) Specifies activities being implemented under the appropriate elements described in the countywide SQMP.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements. ~~PIPP that incorporates the components of the five-year education plan and the provisions of this section.~~

~~Permittees shall work collaboratively to implement a comprehensive education/outreach program with the following objectives~~The objectives of the PIPP are as follows:

a) To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;

b) To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions;

c) To involve and engage all socio-economic groups and ethnic ~~groups~~communities in Los Angeles County to participate in mitigating the impacts of storm water pollution (such as African American, Latino, East Asian, South Asian, and Middle Eastern).

The Principal Permittee shall convene a panel to review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer for consideration no later than December 31, annually. The PIPP will become effective upon approval.~~The Principal Permittee shall submit the PIPP to the Regional Board Executive Officer for review and approval on or before December 31, 2001, and annually thereafter.~~

1. PIPP - Residential Program

~~a)~~The Principal Permittee shall implement the Public Education Program as outlined in the SQMP, including the continuation of the following activities:

~~Advertising~~
~~Media Relations~~
~~Public Service Announcements~~
~~"How-To" Instructional Material Distributed in a Targeted and Activity-Related Manner~~
~~Corporate, Community Association, Environmental Organization and Entertainment Industry Tie-Ins~~
~~1-888-CLEAN-LA and 888CleanLA.com~~
~~Events Targeted to Specific Activities and Population Sub-groups~~

~~b)~~a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than (2 years after the effective date of this Order)~~by October 25, 2003~~. S~~Legible s~~ignage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

~~c~~b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts within 30 days of the date this order becomes effective.

~~d~~c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year Public Education Program:~~implement the second Five-Year Education Plan as detailed in the SQMP.~~

(i) Advertising;
(ii) Media relations;
(iii) Public service announcements;
(iv) "How To" instructional material distributed in a targeted and activity-related manner;
(v) Corporate, community association, environmental organization and entertainment industry tie-ins;
(vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than (365 days from the effective date of this Order).

(3) The Principal Permittee shall implement an outreach program to educate on proper disposal of cigarette butts.

~~(2)~~(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.

~~(3)~~(5) The Principal Permittee shall organize Public Outreach Strategy meetings for ~~with all~~ Permittees on a quarterly basis, beginning (within 3 months of the effective date of this Order). The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other

interested parties in the outreach strategy to strengthen and coordinate educational efforts.

~~(4)~~(6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

~~(5)~~(7) The Principal Permittee, in cooperation with the Permittees, shall provide ~~all~~schools within each School Districts ~~within its jurisdiction~~ in the County with materials, including, but not limited to, videos, live presentations, ~~brochures,~~ and other ~~media~~ information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

(8) The Permittees shall provide the contact information for their appropriate storm water staff to the Principal Permittee no later than (60 days from the effective date of this Order)~~on November 25, 2001~~. Cooperative efforts with other agencies may also be used to accomplish this requirement.

(9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than (90 days from the effective date of this Order). It shall be implemented on approval.

(10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than (90 days from the effective date of this Order). The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

~~e)~~d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on~~target~~ the watershed-specific pollutants listed in Table 1 no later than (365 days from the effective date of this Order)~~on or before October 25, 2002~~. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program ~~businesses program described in the next section~~ (e.g. distribute education materials on appropriate BMPs for metal waste management ~~reduction~~ to

facilities that have been identified as a potential source, such as metal fabricatingers facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts. ~~Programs shall focus on the anthropogenic sources of each pollutant.~~

Table 1.	
Watershed	***Target Pollutants for Outreach***
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	~~Reserved~~Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate ~~environmental~~ managersment about storm water regulations. The program shall target retail gasoline outlets and restaurant chains. At a minimum, this program shall include:

(1) Conferring with corporate ~~environmental~~ management to explain storm water regulations;

(2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide ~~environmental~~ managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all retail gasoline outlet and restaurant chain corporations shall be conducted ~~occur once every 2 years, but~~ not less than twice during the permit term~~.~~, with the first outreach contact to begin no later than (365 days from effective date of this Order).

b) Business Assistance Program

~~(1)~~The Principal Permittee and Permittees ~~with the available resources, including but not limited to the City of Los Angeles,~~ may implement a Business Assistance Program to provide ~~confidential,~~ technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. ~~At a minimum, p~~Programs may include:

~~(i)~~(1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and

~~(ii)~~(2) Making ~~A~~available~~ility~~, distributing~~on~~, and discussing~~on~~ of applicable BMP and educational materials.

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C. Industrial/Commercial Facilities Program [Version A]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

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(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

3. Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. Automotive Service Facilities

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

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(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

6. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 6.

7. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

8. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

9. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

10. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

11. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

C. Industrial/Commercial Facilities Program [Version B]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

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3. Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities

a) The Permittees shall inspect

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products

facilities once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

6. Automotive Service Facilities

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

7. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 6.

8. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

9. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the

facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

10. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

11. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

C. Industrial/Commercial Educational Program [Version C]

Each Permittee shall implement an industrial/commercial site visit program. The purpose of such site visits will be solely educational and to provide industrial/commercial facilities with information regarding the Permittee's storm water program, and to provide advice when requested in understanding and complying with the Permittee's storm water regulations. To minimize cost, each Permittee is encouraged to coordinate its site visit program with existing fire, health, industrial wastes and/or other inspection type programs so that the Permittee need not institute new and separate site visit programs. The program shall contain the following components:

1. Identification of Sources

   a. The Principal Permittee in consultation with the Permittees shall maintain and update a database for listing industrial/commercial facilities by four digit SIC Industry Numbers. This database will serve as a reference resource for the public, business, industry, local government, the Regional Board, and other public agencies on storm water program participation. The initial accuracy of the database will be dependent on the accuracy of electronic and information sources used to establish the database, but the accuracy is expected to improve after Permittees begin to implement the industrial/commercial site visit program. No legal import is to be attributed to the database developed by the Permittees. The database format shall include at a minimum:

      i. Facility name;
      ii. Site address;
      iii. Watershed Management Area;
      iv. Applicable SIC code(s); and
      v. NPDES storm water permit coverage status, if applicable.

   b. Each Permittee shall update the information using the format developed by the Principal Permittee for industrial/commercial facilities within its jurisdiction and submit the information to the Principal Permittee. The list of facilities shall include, at a minimum:

      i. All industrial groups regulated under Phase I of the Federal storm water program (40 CFR 122.26; Phase I Facilities);

      ii. Motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, gas stations, and restaurants; and

      iii. Additional SIC industrial/commercial groups identified as priorities by each WMC pursuant to this Order.

   c. The Principal Permittee shall maintain and update the information submitted by each Permittee into a database of industrial/commercial facilities. This database shall include:

i. For each four-digit SIC Industry Number, primary activities that might impact runoff discharges (from national or commercial database sources); and

ii. For each four-digit SIC Industry Number, primary materials that might impact runoff discharges (from national or commercial database).

2. Source Control Measures

The Permittees, shall require the implementation of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site. The BMPs shall:

a. Address multiple pollutants;

b. Initially focus on pollutant source minimization, education, good housekeeping, and site design alternatives; and

c. Target source areas and activities with the highest potential to generate substantial pollutant loads.

The Principal Permittees shall distribute the BMP lists to the Permittees to be incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.

3. Educational Site Visits

a. Each Permittee shall implement an industrial/commercial educational site visit program according to the following schedule in Table 7:

Table 7
Schedule of Educational Site Visits

FACILITIES	SITE VISIT FREQUENCY (No. of Contacts / Time period)
i) Phase I*, [i]-[ix] and [xi] with waste discharge or pretreatment permit	1 / 24 months **
ii) Phase I, [i]-[ix] and [xi] with no waste discharge or pretreatment permit but with GIASP	1 / 24 months**
iii) Phase I, [i]- [ix] with no waste discharge or pretreatment permit, and no GIASP	1 / 24 months**
iv) Phase I [xi] with no GIASP	1 / 5 years***
v) Vehicle repair shops, vehicle body shops, vehicle parts and accessories facilities	1 / 24 months**
vi) Gas stations	1 / 24 months**
vii) Restaurants	1 / 24 months**
viii) Facilities selected by WMCs	1 / 36 months

* See Glossary of Terms for definition
** Once in 24 months with a minimum of two site visits during the five-year term of this Order
*** See exception in text below

i. Phase 1 facilities in categories [i] through [ix] and [xi] which have an industrial waste discharge permit or a pretreatment permit, once every twenty-four months;

ii. Phase 1 facilities in categories [i] through [ix] and [xi], which do not have an industrial waste discharge permit or a pretreatment permit but have obtained coverage under the GIASP, once every twenty-four months;

iii. Phase 1 facilities in categories [i] through [ix], which do not have an industrial waste discharge permit, a pretreatment permit or GIASP coverage, once every twenty-four months;

iv. Phase 1 facilities in category [xi] without an industrial waste discharge permit, a pretreatment permit, or GIASP coverage. In lieu of a site visit, contact by phone, mail-out of questionnaire and educational materials, or other similar method to inform the facilities of notice of intent (NOI) requirements and encourage good storm water quality control measures (non-responders to be identified in annual report), once in five years;

v. Vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC Industry Major Group 75); once every twenty-four months;

vi. Gasoline stations (SIC Industry Number 5541); once every twenty-four months;

vii. Restaurants (SIC Industry Number 5812), once every twenty-four months; and,

viii. Additional SIC industrial/commercial groups identified by the WMC for the watershed in which the Permittee is located, once in thirty-six months, with a maximum limit of 3,000 additional site visits per Permittee during the term of this Order.

b. During the educational site visit, the Permittee shall:

i. Consult with a representative of the facility to explain applicable storm water regulations;

ii. Distribute and discuss applicable BMP and educational materials, including information regarding the codes, regulations, ordinances, and permits applicable to the category of the facility. In the case of Phase I facilities, notify the facility of specific requirements under the GIASP including that such facilities must file an NOI with the State Water Resources Control Board and that SWPPP must be available on the site; and

iii. Follow-up with facilities, as deemed necessary and appropriate by the Permittee, to provide advice in complying with the Permittee's storm water ordinances, prohibitions, and other legal instruments.

c. Each Permittee shall submit to the Principal Permittee, on a quarterly basis, the lists of visited facilities identified by category. The Principal Permittee shall compile the submitted lists and submit them to the Executive Officer on a quarterly basis.

4. Alternative Programs

A Permittee may petition the Executive Officer to substitute the industrial/commercial educational program with an alternative industrial/commercial educational program that will achieve greater or substantially similar educational goals and which will be implemented within a similar period of time.

D. Development Planning Program

1. The Permittees shall implement a development-planning program that will require all planning priority development and redevelopment projects to:

   a) Minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CW~~Cal Water Code~~ § 13369, CWA § 319, CWA § 402(p)~~Section~~CWA § 404 ~~of the CWA,~~, CZARA § 6217(g), ESA § 7, and local government ordinances~~, and other legal authorities~~;

   b) Maximize the percentage of permeable surfaces to allow ~~more~~ percolation of storm water into the ground;

   c) Minimize the quantity of storm water directed to impermeable surfaces and the MS4;

   d) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices;

   e) Ensure that treatment control BMPs are properly designed and maintained in a manner that does not promote the breeding of vectors; and

   ~~e)~~f) Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

2. Peak Flow Control

   The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in natural drainage systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. ~~The Permittees shall develop and implement numerical criteria on or before October 31, 2002, to control the post-development peak storm runoff discharge rates in natural drainage systems to maintain or reduce pre-development peak discharge rates to prevent down-stream erosion, and to protect stream habitat.~~ Natural drainage systems ~~include~~ are located in the following areas:

   a) Malibu Creek

   b) Topanga Canyon Creek

   c) Upper Los Angeles River

   d) Upper San Gabriel River

   e) Santa Clara River

f) ~~Named and unnamed coastal drainages~~ Los Angeles County Coastal ~~S~~streams (see Basin Plan Table 2-1)

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section I).

Each Permittee shall no later than (540 days from the permit effective date) implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the peak flow control criteria with a Hydromodification Control Plan, on approval by the Regional Board, in the following circumstances:

(1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

(2) Watershed wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

3. Standard Urban Storm Water Mitigation Plans

a) Each Permittee shall require that a single-family hillside home developments:

(1) Conserve natural areas

(2) Protect slopes and channels

(3) Provide storm drain system stenciling and signage

(4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability

(5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability

b) Each Permittee shall require that a Standard Urban Storm Water Mitigation Plan as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments ~~with immediate effect~~:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet redevelopment thresholds

Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than (120 days from permit effective date) for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.

c) ~~The~~Each Permittees shall require the implementation of SUSMP provisions no later than (180 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA~~environmentally sensitive area~~, where, the development will:

(1) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and

~~(1)~~(2) create 2,500 square feet or more of impervious surface area, ~~or~~

~~(2)alter the area of imperviousness of the site to ten or more percent of the naturally occurring condition, and~~

~~(3)discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat~~

4. Numerical Design Criteria

The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below ~~the following design criteria~~ to mitigate (infiltrate, filter or treat) storm water runoff:

a) Volumetric ~~Structural or~~ Treatment Control BMP

(1) the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality*

Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998), or

(2) the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

(3) the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

(4) the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event, ~~and/or~~

b) Flow Based ~~Structural or~~ Treatment Control BMP

(1) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity, or

(2) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County, or

(3) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

5. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of planning priority projects to design and implement post-construction treatment ~~and structural~~ controls to mitigate storm water pollution:

a) Single-family hillside residential developments of one acre or more of surface area

b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units ~~one acre~~ or more.

c) A 100,000 square feet or more impervious surface area industrial/ commercial development

d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]

e) Retail gasoline outlets [5,000 square feet or more and with projected Average Daily Traffic (ADT) of 100 or more vehicles]

f) Restaurants (SIC 5812) [5,000 square feet or more of surface area]

g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

h) Projects located in, adjacent to or discharging directly to an ESA ~~environmentally sensitive areas~~ that meet threshold conditions identified above in 3.c.

i) Redevelopment projects in subject categories that meet redevelopment thresholds

6. Not later than March 9, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial category to projects that disturb one acre or more of surface area. ~~and greater to conform to USEPA Phase II storm water regulations.~~

7. Site Specific Mitigation

Each Permittee shall no later than (180 days from permit effective date) require the implementation of a site-specific plan to mitigate post-development storm water for new developments and redevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

~~(1)~~a) Vehicle or equipment fueling areas~~;~~

~~(2)~~b) Vehicle or equipment maintenance areas, including washing and repair

~~(3)~~c) Commercial or industrial waste handling or storage

~~(4)~~d) Outdoor handling or storage of hazardous materials~~;~~

~~(5)~~e) Outdoor manufacturing areas

~~(6)~~f) Outdoor food handling or processing

~~(7)~~g) Outdoor animal care, confinement, or slaughter

~~(8)~~h) Outdoor horticulture activities

8. Redevelopment Projects

~~a)~~The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all planning priority projects that undergo significant redevelopment in their respective categories.

a) Significant redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square

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feet or more of impervious surface area on an already developed site.

Where -redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the change must be mitigated, and not the entire development.

b) Redevelopment does not include activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.

c) Existing Single Family Structures are exempt from the redevelopment requirements.

9. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for structural and treatment control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

a) The developers signed statement accepting responsibility for maintenance until the responsibility is legally transferred, and either

b) A signed statement from the public entity assuming responsibility for structural or treatment control BMP maintenance and that it meets all local agency design standards, or

c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year, or

d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the structural and treatment control BMPs; or

e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction structural or treatment control BMPs

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10. Regional Storm Water Mitigation Program

~~2.~~A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements ~~for new development~~. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will ~~result in~~

a) result in equivalent or improved storm water quality;

b) protect stream habitat;

c) promote cooperative problem solving by diverse interests;

d) be fiscally sustainable and has secure funding; and~~.~~

e) be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

11. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where the following situations occur:

a) A waiver for impracticability is granted

b) Legislative funds become available

c) Off-site mitigation is required because of loss of environmental habitat

d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation ~~for new development~~

12. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect,~~modify planning~~ procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents ~~to consider potential storm water quality impacts and provide for appropriate mitigation, with immediate effect~~. The procedures~~CEQA guidelines~~ shall require consideration of the following:

a) Potential Impact of project construction on storm water runoff

b) Potential Impact of projects post-construction activity on storm water runoff.

c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit

e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies

f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm

g) Potential for significant increases in erosion of the project site or surrounding areas

13. General Plan Update

a) Each Permittee shall amend, revise or update its General Plans to include watershed and storm water quality and quantity management considerations and policies when the following General Plans elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, (iv) Open Space.

b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 et seq.

14. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the requirements of the development planning on an annual basis beginning no later than (six months from the effective date of this Order)~~March 31, 2002~~, and more frequently if necessary. For Permittees with a population of 250,000 or more, training shall be completed no later than (one year from the effective date of this Order).

15. Developer Technical Guidance and Information

a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.

b) The Principal Permittee in partnership with Permittees shall issue no later than (ten months from the effective date of this Order)~~March 31, 2003~~, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

(1) ~~Specifications for t~~treatment control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency~~;~~;

(2) Peak Flow Control ~~C~~criteria ~~for~~to control ~~of~~ peak discharge rates, velocities and duration~~;~~;

(3) ~~E~~expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;

(4) ~~M~~maintenance considerations; and

(5) ~~C~~cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

a) ~~Sediments shall not be discharged to the MS4 or receiving waters.~~ Sediments generated on the project site shall be retained using adequate treatment control or structural ~~drainage~~ controls;

b) ~~No c~~Construction-related materials, wastes, spills, or residues shall be retained at the ~~discharged from the~~ project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;

c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes;

e) ~~Discourage grading during the wet season. Proper justification for the need to grade during the wet season shall be provided to the Permittee. All erosion susceptible slopes shall be covered, netted,~~

~~planted, or protected in any way that prevents sediment discharge from the site.~~

2. ~~In addition, f~~For construction sites one acre and greater, each Permittee shall ~~require~~ compl~~y~~iance with all conditions in section E.1. above and shall:

a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects~~, that meets one or more of the following criteria~~:

~~(1)Will result in soil disturbance of one acre or more in size;~~

~~(2)Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area; or~~

~~(3)Is located in a hillside area.~~

The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

"As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

The landowner or the landowner's agent shall sign a statement to the effect:

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

b) ~~Shall i~~Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.

c) ~~Shall r~~Require, commencing March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

3. ~~In addition, f~~For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1 and E.2.and shall:

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP~~State General Construction Activity Storm Water Permit~~ and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP

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is at least as inclusive in controls and BMPs as the State SWPPP~~The prepared SWPPP may satisfy the requirement under E.1. (in lieu of Local SWPPP)~~.

b) ~~Each Permittee shall r~~Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

c) ~~Each Permittee shall u~~Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of ~~A~~a database or GIS system is encouraged, but not required~~, to be used to satisfy this requirement~~.

4. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than (six months from the effective date of this Order)~~March 31, 2002~~, and annually thereafter. For Permittees with a population of 250,000 or more, initial training shall be completed no later than (one year from the effective date of this Order). A list of trained employees shall be maintained by each Permittee.

F. Public Agency Activities Program

~~1.~~Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

Sewage Systems ~~Operations~~Maintenance, Overflow, and Spill Prevention
Public Construction Activities Management
Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
Landscape and Recreational Facilities Management
Storm Drain Operation and Management
Streets and Roads Maintenance
Parking Facilities Management
Public Industrial Activities Management
Emergency Procedures
Treatment~~Dry Weather Diversions~~ Feasibility Study

~~Each Permittee shall conduct an assessment of measures that can be implemented to reduce and/or prevent trash from entering the MS4 system. The Assessment and a schedule for implementation shall be submitted to the Regional Board Executive Officer for review by July 1, 2003.~~

~~3.~~1. Sewage System ~~Operations~~ Maintenance, Overflow, and Spill Prevention

a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdictions ~~which~~, which shall consist at a minimum of the following:

(1) Investigation of any complaints received;

~~b)~~(2) Upon notification, ~~i~~immediate response to overflows for~~by~~ containment; and

~~c)~~(3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

b) In addition to 3.a.1, 3.~~b~~a.2, and 3.~~c~~a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the~~each~~ Permittee shall also implement the following requirements ~~(until such time that the proposed Capacity, Management, Operation and Maintenance Regulations (CMOM) are promulgated by the USEPA. After which, the CMOM regulations shall be enforceable under this Order until such time they are added into an individual NPDES permit)~~:

~~d)~~(1) Procedures~~A program~~ to prevent sewage spills or leaks from sewage facilities from entering the MS4; and

e)(2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

4.2. Public Construction Activities Management

a) Each Permittee shall implement the Development Planning Program requirements (Permit Section D) at public construction projects.

b) Each Permittee shall implement the Development Construction Program requirements (Permit Section E) at Permittee owned construction sites.

a)Each Permittee shall implement a program to control runoff from construction activity at all construction sites. To accomplish this, the Permittees shall revise their Development Construction Program in the SQMP no later than March 31, 2002. The revisions shall specify a schedule for implementation by each Permittee, and must contain the following minimum elements, including performance measures, schedules for implementation, and shall include the following categories of construction:

(1)Less than one acre;

(2)Between one and five acres; and

(3)Five or more acres.

b)Each Permittee shall comply with requirements in section E. and with the following conditions, at all public construction sites:

(1)Design and construction of public facilities shall be consistent with the requirements and dates specified for private development in Part 4.D.;

(2)Prepare and retain site-specific SWPPPs for municipal construction sites;

(3)Implement construction and post-construction storm water controls as required of private construction projects, including numerical mitigation criteria for post-construction BMPs;

(4)Implement a program to ensure that SWPPPs and BMPs implemented are effective;

(5)Inspect public construction sites and implement changes as necessary to maintain or replace ineffective BMPs in order to protect water quality; and

(1)c) Each Permittee shall obtain coverage under the GCASPState of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites 5

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acres or greater (or part of a larger area of development~~, etc...~~) except that a municipality under 100,000 in population need not obtain coverage under a separate permit until March 10, 2003.

d) Each Permittee, ~~N~~no later than March 9, 2003, ~~each Permittee~~ shall obtain coverage under a statewide general construction storm water permit ~~the State of California General Construction Activities Storm Water Discharge Permit coverage~~ for public construction sites for projects~~sites~~ between one ~~acre~~and five acres ~~or greater~~.

3. ~~5.~~ Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Each Permittee, consistent with the SQMP, shall implement pollution prevention plans for public vehicle maintenance facilities, ~~and~~ material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:

(1) Good housekeeping practices;

(2) Material storage control;

(3) Vehicle leaks and spill control; and

(4) Illicit discharge control.

c) Each Permittee shall require:

(1) For existing facilities, that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.

(2) For new facilities or during redevelopment of existing sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.

This provision does not apply to fire fighting vehicles.

4. ~~6.~~ Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;

b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ).

~~b)~~c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

~~c)~~d) Ensure that no banned or unregistered pesticides~~, herbicides, fungicides, or rodenticides~~ are stored or applied;

~~d)~~e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

~~e)~~f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;

~~f)~~g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

~~g)~~h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

~~h)~~i) Regularly inspect storage areas.

~~7.~~5. Storm Drain Operation and Management

Each Permittee shall:

a) Ddesignate catch basin inlets within its jurisdiction as one of the following:

Priority A – catch basins that are designated as consistently generating the highest volumes ~~and~~ of trash and/or litter.

Priority B - catch basins that are designated as consistently generating moderate volumes ~~and~~ of trash and/or litter

Priority C – catch basins that are designated as generating low volumes of trash and/or litter.

b) Clean catch basins according to the following schedule:

Priority A –Aat least once during the dry season and once per month during the wet season.

Priority B – At least 2 times per year and once during the wet season. Between the effective date of this Order and July 1, 2003, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 40% full during the wet season. From July 1, 2003 to the date this Order is renewed, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 25% full during the wet season.

Priority C – as necessary but at least once per year.

c) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, ~~the Permittee shall,~~ include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event~~, include provisions that provide for the proper management of trash and litter generated from the event~~. At a minimum, the Permittee shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain.

d) Place trash receptacles at all transit stops within its jurisdiction and maintain them.

~~d)~~e) ~~For each Permittee subject to a trash TMDL, t~~The Permittees shall~~may~~ implement a program which achieves the waste load allocations ~~maximizes trash removal~~ in conformance with a TMDL schedule of implementation by using an effective combination of BMPs which may include a combination of street sweeping, catch basin clean outs, installation of treatment devices, ~~and/or implementation of any~~ or other BMPs ~~that achieve waste load allocations~~).

~~e)~~f) Each Permittee shall~~:~~ inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.

~~(1)Keep a record of catch basins cleaned;~~

~~(2)Record the quantity of catch basin waste collected [The data shall be reported in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g., compacted volume based on a standardized compaction rate, dry weight, etc.). The Permittees may select the unit, but all Permittees shall use the same unit of measure.];~~

~~(3)Inspect the legibility of the catch basin stencil or label nearest the inlet. Illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.; and~~

~~(4)Submit a record (preferably but not required, as a GIS layer) of all catch basins in a municipality and identify which are city-owned/county-owned, and which to note priority for more frequent cleaning.~~

~~f)~~g) Each Permittee shall implement BMPs for Storm Drain Maintenance that ~~shall~~ include:

(1) A program to visually monitor Permittee-owned open channel storm drains and other drainage structures for

debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

(2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;

(3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

(4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and

~~(5)Record the quantity of open channel waste collected by stream or channel segment in tons from Permittee-owned open channels or other drainage structures [The data shall be reported in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g., compacted volume based on a standardized compaction rate, dry weight, etc.). The Permittees may select the unit, but all Permittees shall use the same unit of measure.]; and~~

~~(6)~~(5) Proper disposal of material removed.

~~8.~~6. Streets and Roads Maintenance

a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes ~~and~~ of trash and/or litter.

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes ~~and~~ of trash and/or litter.

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter.

b) Each Permittee shall perform street sweeping ~~cleaning~~ according to the following schedule:

Priority A – These streets and/or street segments shall be swept at least two times per month.

Priority B - ~~Between the effective date of this Order and July 1, 2003, e~~ Each Permittee shall ensure that each streets and/or street segments is swept~~cleaned~~ at least once per month.

Priority C – These streets and/or street segments shall be swept~~cleaned~~ as necessary but in no case less than once per year.

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c) Each Permittee shall require that:

(1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain.

~~d)~~(2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent ~~pollutant~~ discharges to the MS4; and

~~e)~~(3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged ~~in~~to storm drains, open ditches, streets, or catch ~~basins leading to the storm drain system~~.

~~f)Each Permittee shall implement a program which maximizes trash removal by using an effective combination of street sweeping, catch basin clean outs, installation of treatment devices, and/or implementation of any other BMPs that achieve TMDL waste load allocations.~~

~~g)~~d) Each Permittee shall, no later than (six months from effective date of this Order), train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

(2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more training shall be completed no later than (one year from the effective date of this Order.)

~~9.~~7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

~~10.~~8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a~~n~~ discharge of storm water associated with industrial activity ~~covered under USEPA Phase I storm water regulations~~, obtain separate coverage under the GIASP~~State of California General Industrial Activities Storm Water Discharge Permit no later than November 25, 2001,~~ except that a municipality under 100,000 in (1990 Census) population need not file the

Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

~~11.~~9. Emergency Procedures

Each Permittee shall ~~continue to~~ repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

~~12.~~10. Treatment Feasibility Study ~~Dry Weather Diversions~~

a)~~Each~~ The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the ~~prioritize drains for~~ possible diversion of dry weather ~~flows~~discharges or the use of alternative treatment control BMPs to treat flows from ~~areas within~~ their jurisdiction ~~that flow to areas where the public~~ which may ~~be~~ impacted ~~(for~~ public health and safety and/or the environmental ~~reasons)~~. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of ~~possible~~ drains for potential diversion or treatment ~~no later than March 31, 2002~~ and submit a the ~~listing of~~ priority listing ~~diversions~~ to the Regional Board Executive Officer, no later than July 1,2002. ~~The Permittees shall immediately begin a feasibility study and discussions with the appropriate sewer agency for diversion of selected dry weather flows to the sanitary sewer for treatment, subject to approvals of the Regional Board and the appropriate sewer agency.~~

~~The Permittees shall investigate and determine the location of potential dry weather urban runoff treatment devices for strategic placements in areas of the watersheds where most appropriate. This information shall be submitted to the Regional Board Executive Officer no later than March 31, 2002.~~

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

b) Tracking: All Permittees shall, no later than [365 days from the effective date of this Order] develop and maintain a ~~baseline map~~ listing of all permitted connections ~~of~~ to their storm drain system.~~,~~ ~~showing all storm drain connections permitted by the Permittee, at a scale and in a format specified by the Lead Permittee. On an annual basis,~~ aAll Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to~~, and in a format specified by,~~ the Principal Permittee. No later than ~~October 25, 2002,~~[365 days from the effective date of this Order] the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.~~,~~ ~~and making recommendations for corrective action.~~

c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000, training shall be completed no later than ~~March 31, 2002.~~ [six months from the effective date of this Order]. For Permittees with a population of 250,000 or more, training shall be completed no later than ~~October 25, 2002.~~[365 days from the effective date of this Order]. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

~~d) Documentation and Reporting: Document and report all illicit connections, illicit discharges, and hazardous substances that enter the storm drain, within times specified in subsections 2 and 3 below.~~

2. Illicit Connections

a) Screening for Illicit Connections

(1) ~~Baseline~~Field Screening: All Permittees shall ~~continue to~~field screen the storm drain system for illicit connections ~~during scheduled infrastructure maintenance. On an annual basis,~~ in accordance with the following schedule:

(i) Open channels: [365 days from the effective date of this Order];

~~a)~~(ii) Underground pipes in priority areas: [three years from the effective date of this Order]; and

(iii) Underground pipes with a diameter of 36 inches or greater: [five years from the effective date of this Order].

Permittees shall report, to the ~~Lead~~ Principal Permittee, on the location and length of open channels or ~~closed storm drains~~underground pipes that have been screened vis a vis the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

~~b)~~(2) ~~Priority Screening: In addition to the baseline screening that will occur during regularly scheduled maintenance, Permittees shall design and implement a plan on or before October 31, 2002, subject to Regional Board Executive Officer approval, for proactive storm drain screening of priority areas that are, or are suspected to be a source of non-storm water discharges.~~Permit Screening: [five years from the effective date of this Order], Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

~~c)~~b) Response to Illicit Connections

(1) Investigation: Upon discovery~~through either baseline or priority screening,~~ or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

~~d)~~(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as ~~needed. For those cases of illicit connections that require more than 180 days to eliminate due to lengthy court proceedings, the Regional Board Executive Officer may grant time extensions on a case by case basis.~~needed.

3. Illicit Discharges

a) Abatement and Cleanup:~~ Respond, within 72 hours~~Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

b) Investigation: ~~As soon as practicable, during~~Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup ~~activities,~~activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" -means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"**Areas of Special Biological Significance (ASBS)**" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539.

~~**"BAT/BCT Criteria"** means treatment-based standards for reducing the discharge of pollutants, as defined in 40 CFR subchapter N, for specific categories of industrial facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards. Effluent limitations have been defined in 40 CFR for the reduction of toxic pollutants using Best Available Technology Economically Achievable (BAT) and for the reduction of conventional pollutants using Best Conventional Pollutant Control Technology (BCT).~~

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" ~~are~~means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, ~~multi-apartment buildings,~~ car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" ~~shall mean~~means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" ~~shall mean~~means the Director of a municipality~~Public Works of the County~~ and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification ~~means~~ the "discharge of a pollutant."

"~~Directly~~ **Discharging Directly**" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

"Discharge of a Pollutant" means: Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, Aany addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United

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States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. ~~This term does not include an addition of pollutants by any "indirect Discharger."~~

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

~~**"Effluent limitation"** means any restriction imposed by the Regional Board on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.~~

"Environmentally Sensitive Areas" means an area "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments" (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game's~~,~~ Significant Natural Areas Program; an area listed in the ~~Regional Board~~ Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; or an area identified by ~~a~~the Permittees as environmentally sensitive~~ for water quality purposes[1]. See Attachment B for details of each listing.~~

~~**"Executive Advisory Committee"** means the committee composed of representatives of the Los Angeles County Flood Control District, the City of Los Angeles, and the five six Watershed Management Areas.~~

"Full Capture Device" means any device or system that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow resulting from a one-year, one-hour, storm.

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State ~~Water Resources Control~~ Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State ~~Water Resources Control~~ Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" ~~shall~~ means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

~~[1] Regional Board is currently working with the City of Rancho Palos Verdes to recognize their identified local conservation areas~~

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in either the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to: 1. Pre-inspection documentation research.; 2. Request for entry; 3. Interview of facility personnel; 4. Facility walk-through. 5. Visual observation of the condition of facility premises; 6. Examination and copying of records as required; 7. Sample collection (if necessary or required); 7. Exit conference (to discuss preliminary evaluation); and, 8. Report preparation, and if appropriate, recommendations for coming into compliance.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census). as ~~The complete~~ defined~~ition is contained~~ in 40 CFR §~~Section~~ 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population estimate of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for~~if~~ a~~the~~ project that~~is~~ disturbs one or more acres of land. ~~not subject to the Statewide Construction Activities General Permit.~~

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. ~~It is the maximum extent possible taking into account equitable consideration and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility.~~ CWA's §~~Section~~ 402(p)(3)(B)(iii) ~~of the CWA~~ requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Specifically, municipalities must choose effective BMPs, and reject applicable BMPs only where other effective BMPs will serve the same purpose. See the legal memorandum (Feb 11, 1993) from State Board OCC to DWQ.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §~~sections~~ 307, 402, 318, and 405 ~~of CWA~~. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used personally, for businesses or for commerce with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

~~**"Permit"** means an authorization, license, or equivalent control document issued by USEPA or an "approve State" to implement the requirements of 40 CFR Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (§ 122.28). Permit does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit."~~

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

i. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

ii. A 100,000 or more square feet of impervious surface area industrial/ commercial development

iii. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

iv. Retail gasoline outlets

v. Restaurants (SIC 5812)

vi. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

vii. Redevelopment projects in subject categories that meet redevelopment thresholds

viii. Additionally, for all projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and

ix. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

(1) Vehicle or equipment fueling areas;

(2) Vehicle or equipment maintenance areas, including washing and repair;

(3) Commercial or industrial waste handling or storage;

(4) Outdoor handling or storage of hazardous materials;

(5) Outdoor manufacturing areas;

(6) Outdoor food handling or processing;

(7) Outdoor animal care, confinement, or slaughter; or

(8) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §Section 502(6) of the federal Clean Water Act (33.U.S.C.§1362(6)), and/or incorporated by reference into California Water Code §13373. Examples of pollutants include, but are not limited to the following:

- Commercial and industrial waste (such as fuels, solvents, detergents, plastic pellets, hazardous substances, fertilizers, pesticides, slag, ash, and sludge);
- Metals such as cadmium, lead, zinc, copper, silver, nickel, chromium, and non-metals such as phosphorus and arsenic;
- Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease)
- Excessive eroded soils, sediment, and particulate materials in amounts which may adversely affect the beneficial use of the receiving waters, flora or fauna of the State;
- Animal wastes (such as discharge from confinement facilities, kennels, pens, recreational facilities, stables, and show facilities);
- Substances having characteristics such as pH less than 6 or greater than 9, or unusual coloration or turbidity, or excessive levels of fecal coliform, or fecal streptococcus, or enterococcus;

The term "pollutant" shall not include uncontaminated storm water, potable water or reclaimed water generated by a lawfully permitted water treatment facility.

The term "pollutant" also shall not include any substance identified in this definition, if through compliance with the best management practices available, the discharge of such substance has been eliminated to the maximum extent practicable. In an enforcement action, the burden shall be on the person who is the subject of such action to establish the elimination of the discharge to the maximum extent practicable through compliance with the best management practices available.

"Potable Water Distribution Systems" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

"Priority Pollutants" are those constituents referred to in 40 CFR 401.15 and listed in the USEPA NPDES Application Form 2C, pp. V-3 through V-9.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQAalifornia Environmental Quality Act (Pub. Resources Code §Section 21065).

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region ~~within the permit area~~ that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; ~~structural development including an increase in gross floor area and/or exterior construction or remodeling~~; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to ~~with~~ structural or impervious surfaces. ~~Where redevelopment results in an increase of more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where redevelopment results in an increase in less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the addition must be mitigated, and not the entire development.~~

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA ~~Environmental Protection Agency~~ or the authorized representative of the Regional Administrator.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of ~~many~~ base flow ~~components~~ either contaminated with pollutants or uncontaminated, and nuisance flows.

"Sidew~~-~~Walk Rinsing" means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

"Significant Ecological Area (SEA)" means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.[2]
Areas are designated as SEAs, if they possess one or more of the following criteria:

[2] The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.[3]

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" ~~shall mean~~means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" ~~shall mean~~means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" ~~shall mean~~means storm water runoff, snow melt runoff, and surface runoff and drainage.

[3] These criteria from the 1976 study have been modified in the *Update Study 2000.*

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" ~~shall mean~~means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation" meanis a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" ~~are~~means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handlesmaterials, and provides services similar to Federal Phase I facilities;
ii. Performs fleet vehicle on ten or more vehicles per day including repair, maintenance, washing, and fueling;
iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

"Water Column Toxicity" means a 70 percent survival rate for a single test or an average of 90 percent survival for three consecutive tests.

"Water Quality Standards and Water Quality Objectives" means water quality criteria ~~applicable to the Permittee include those~~ contained in the ~~Los Angeles Regional Water Quality Control Plan (~~Basin Plan~~)~~, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

"Waters of the State" means any surface water or groundwater, including saline waters, within boundaries of the state.

"Waters of the United States" or "Waters of the U.S." means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate "wetlands";
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
d. All impoundments of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
f. The territorial sea; and
g. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which

also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA~~lean Water Act~~, the final authority regarding CWA~~lean Water Act~~ jurisdiction remains with US EPA.

"Wet Season" means the calendar period beginning October 1 through April 15.

~~**"Whole Effluent Toxicity"** means the aggregate toxic effect of an effluent measured directly by a toxicity test.~~

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. ~~The~~ Each Permittees shall comply with all provisions and requirements of this permit.

2. Should ~~the~~ a Permittees discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.

3. ~~The~~Each Permittees shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes the attached Monitoring and Reporting Program, and SUSMP~~tandard Urban Storm Water Mitigation Plan~~(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

~~1.~~Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. Such review may be requested upon petition by a Permittee(s) or a member of the public within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. §~~Section~~ 552 (as amended) and the Public Records Act (Cali~~fornia~~ Government Code Section 6250 *et seq.*).

2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. ~~The Principal~~ Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

~~The~~ Each Permittees shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC Section 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;

2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;

3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,

4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the Clean Water Act and the California Water Code.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC Section 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment ~~and~~ (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee ~~under penalty of perjury~~ and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the Water Code and Title 23 of the California Code of Regulations for the issuance of waste discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

   a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;

   b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

   c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,

   d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   a) Violation of any term or condition contained in this Order;

   b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,

   c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

3. This Order may be modified, revoked and reissued, or terminated for cause.

4. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

5. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR Part 122.63, if processed as a minor modification. Minor modifications may only:

   a) Correct typographical errors, or

   b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid,

the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)][1]

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][2]

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the

[1] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

[2] This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

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exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;

3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)][3]

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b) The permitted facility was being properly operated by the time of the upset;

   c) The Permittee submitted notice of the upset as required; and,

   d) The Permittee complied with any remedial measures required.

2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

[3] *Supra*. See footnote number 2.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The Clean Water Act provides the following:

   a) Criminal Penalties for:

      (1) Negligent Violations:

      The CWA provides that any person who negligently violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day ~~of~~for each violation, or by imprisonment for not more than 1 year, or both.

      (2) Knowing Violations:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

      (3) Knowing Endangerment:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

      (4) False Statement:

      The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See section 309(c)(4) of the Clean Water Act.)

   b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

2. The CWCalifornia Water Code provides that any person who violates a waste discharge requirement provision of the CWCalifornia Water Code is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation or combination violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

~~**R.Modifications to this Order**~~

~~This Order may be modified, revoked, or reissued, prior to the expiration date as follows:~~

~~1.To address changed conditions identified in the required technical reports or other sources deemed significant by the Regional Board;~~

~~2.To incorporate applicable requirements or statewide water quality control plans adopted by the State Board, or amendments to the Basin Plan;~~

~~3.To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable; or,~~

~~4.Any amendments under the Clean Water Act.~~

~~S.~~R. **Rescission**

Regional Board Order No. 96-054 is hereby rescinded.

~~T.~~S. **Expiration**

This Order expires on ~~[October 25, 2006]~~ November 29, 2006. The Principal Permittee must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Plan~~r~~ogram in accordance with Title 23, California Code of Regulation, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on ~~October 25,~~November 29, 2001.

_____

Dennis A. Dickerson
Executive Officer

ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural
Agoura Hills
*Calabasas
Los Angeles County Flood Control
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban
Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates

*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles (City of)
Los Angeles County Flood Control

Los Angeles (County of)
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
*Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena

Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park

Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
*Long Beach[1]
Los Angeles County Flood Control
Los Angeles (County of)
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

*Santa Clarita
Los Angeles County Flood Control
Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

[1] *The City of Long Beach is covered under order No. 99-060*

ATTACHMENT B
Critical Sources Categories Prioritization

High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

Lower Priority Categories

(12) Electric/Gas/Sanitary

(13) Air Transportation

(14) Rubbers/Miscellaneous Plastics

(15) Local/Suburban Transit

(16) Railroad Transportation

(17) Oil & Gas Extraction

(18) Lumber/Wood Products

(19) Machinery Manufacturing

(20) Transportation Equipment

(21) Stone, Clay, Glass, Concrete

(22) Leather/Leather Products

(23) Miscellaneous Manufacturing

(24) Food and kindred Products

(25) Petroleum Refining

(26) Mining of Nonmetallic Minerals

(27) Printing and Publishing

Definitions

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with industrial activities falling under SIC codes 5013, 5014, 5541, 5511, provided that these facilities have not outside activities or materials that may be exposed to storm water.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection include, but are not limited to:

1. Pre-inspection documentation research;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through;
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);
8. Exit conference (to discuss preliminary evaluation); and
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such a "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

ATTACHMENT B
Critical Sources Categories[1]

Tier 1 Categories

Municipal Landfills (SIC 4953)

Hazardous Waste Treatment, Disposal and Recovery Facilities[2]

Facilities Subject to SARA Title III (also known as EPCRA)[2]

Restaurants[3]

Wholesale trade (scrap, auto dismantling) (SIC 50)

Automotive service facilities[3]

Fabricated metal products (SIC 34)

Motor freight (SIC 42)

Chemical/allied products (SIC 28)

Automotive Dealers/Gas Stations (SIC 55)

Primary Metals Products (SIC 33)

Tier 2 Categories

Electric/Gas/Sanitary (SIC 49)

Air Transportation (SIC 45)

Rubbers/Miscellaneous Plastics (SIC 30)

Local/Suburban Transit (SIC 41)

Railroad Transportation (SIC 40)

Oil & Gas Extraction (SIC 13)

Lumber/Wood Products (SIC 24)

Machinery Manufacturing (SIC 35)

Transportation Equipment (SIC 37)

Stone, Clay, Glass, Concrete (SIC 32)

Leather/Leather Products (SIC 31)

Miscellaneous Manufacturing (SIC 39)

Food and kindred Products (SIC 20)

Mining of Nonmetallic Minerals (SIC 14)

Printing and Publishing (SIC 27)

Electric/Electronic (SIC 36)

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[1] Italicized categories belong to Phase 1 facilities
[2] Various categories subject to these requirements
[3] See Definition in Part 5. of the permit

Paper and Allied Products (SIC 26)

Furniture and Fixtures (SIC 25)

Laundries *(SIC 72)*

Instruments (SIC 38)

Textile Mills Products (SIC 22)

Apparel (SIC 23)

Monitoring and Reporting

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM - CI 6948

FOR

MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF LONG BEACH

(NPDES PERMIT NO. CAS004001)

I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a unified Annual Storm Water Report (unified Annual Report) documenting the progress of Permittee implementation of the SQMP and the requirements of this Order. The unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the unified Annual Report. The unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first unified Annual Report, to be submitted on October 15, 2002, shall include the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.

2. Proposed changes to the SQMP, as recommended by the WMCs.

3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment will be based upon the specific record-keeping information requirement in each major section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:

   a) Summary of common activities conducted by all Permittees;

   b) County-wide BMP implementation;

   c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;

   d) Permittee level of effort;

   e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and

recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the monitoring program. When exceedances of applicable water quality standards have been identified, a discussion of how Permittees will comply with the requirements in Part 2 of this Order (Receiving Water Limitations) shall be included.

4. A Receiving Water Limitations (RWL) Compliance Report shall be attached to the unified Annual Report every alternate year, beginning in 2003. The RWL Compliance Report shall include the following:

   a) A plan to comply with the RWL (Order 01-XXX, Part 2);

   b) Changes to the SQMP to eliminate water quality exceedances;

   c) Enhanced monitoring to demonstrate compliance; and

   d) Results of implementation.

   If all water quality exceedances have been abated, a RWL Compliance Report is not required.

B. Individual Annual Reports

Each individual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the past annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-5), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

1. Status of implementation of the monitoring program.

2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program. All data shall be compared to applicable water quality standards in the Ocean Plan, the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22).

3. An analysis of the findings of each monitoring program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.

5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.

6. An assessment of compliance with applicable water quality standards for each component of the monitoring program. The lowest applicable standard from the Basin Plan, the Ocean Plan, the CTR, or Title 22 shall be used as a comparison. When data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of how Permittees plan to comply with the requirements of Part 2 of this Order (RWL) shall be included.

7. Recommendations for improvements to the SQMP and to the monitoring program to address water quality exceedances and potential pollutant sources.

8. For each monitoring component, maps of all monitoring station locations and descriptions of each location.

9. All monitoring reports shall be submitted in both electronic and paper formats.

D. The Principal Permittee shall, not later than December 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the monitoring program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the ROWD.

E. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true,

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accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

(Signature)_____(Title)_____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to EPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall mail the original of each annual report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to: 1) assessing compliance with this Order; 2) measuring and improving the effectiveness of the SQMPs; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality. Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives: 1) estimate the mass emissions from the MS4; 2) assess trends in the mass emissions over time; and 3) determine if the MS4 is contributing to exceedances of water quality objectives by comparing results to objectives in the

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Basin Plan, the Ocean Plan, the CTR, Title 22, and with emissions from other dischargers.

1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River[1]. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed. Sampling at all stations shall begin no later than (the effective date of this Order), except for sampling in the Santa Clara River, which will begin no later than (the following wet season).

2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall. Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[2], unless the Regional Board Executive Officer approves an alternate protocol.

5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern

[1] Regional Board staff will work with the Principal Permittee to determine an appropriate location for the Santa Clara River station.

[2] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

(including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing. Specifically, *Ceriodaphnia dubia* (water flea) survival and *Strongylocentrotus purpuratus* (sea urchin) fertilization shall be used.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic to either test species. If a sample is substantially toxic to both species, a TIE shall be performed for both species. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, *Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[3]

3. Toxicity Reduction Evaluations (TRE)

   a) If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed. TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:

      (1) The potential sources of pollutant(s) causing toxicity;

      (2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;

      (3) Recommended BMPs to reduce the pollutant(s) causing toxicity;

      (4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and

[3] SCCRWP

(5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

b) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

c) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

d) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (ie. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

e) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per WMA will be monitored, based on the schedule described below:

a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary, subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.

b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a description and explanation of each proposed station location and

a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

c) Monitoring shall begin at the following tributaries:

(1) Aliso Creek
(2) Bull Creek
(3) Compton Creek
(4) Rio Hondo Channel
(5) Burbank West
(6) Verdigo Wash

2. Tributary monitoring shall begin (no later than the effective date of this Order).

3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[4], unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;

b) Indicator bacteria;

c) All priority pollutants (Attachment U-1) for the first storm of the year;

d) All constituents for which the water body is impaired downstream of the monitoring station[5];

e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year. These constituents shall be listed in each Monitoring Report.

f) Flow (flow may be estimated using EPA methods[6] at sites where flow measurement devices are not in place).

[4] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

[5] The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

[6] NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas[7], and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

   a) The eighteen established shoreline water quality stations listed in Attachment U-3 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project (SMBRP) and approval from the Regional Board Executive Officer;

   b) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat)[8]
Fecal coliform[9]	CFU or MPN/100 ml	6/week (Mon-Sat)[5]
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat)[5]

   c) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;

   d) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).

   e) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;

   f) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas[10].

[7] California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765

[8] Samples will be collected on Sundays preceding Monday holidays

[9] *Escherichia Coli (E. Coli)* may be substituted for Fecal Coliform if chromogenic substrate test kits are used

[10] Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

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g) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the SMBRP regional program for the Santa Monica Bay.

E. Trash Monitoring

Permittees shall conduct trash monitoring to assess likely sources and to identify areas impaired for trash. The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to the CWC §13267 Request for Trash Monitoring, issued by the Regional Board on [date letter issued]. All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA §303(d) list for impairment for trash no later than October 15, 2003.

1. Either of the following formats for monitoring plans may be used:

a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing litter removal practices that the cities implement will remain in place, so that monitoring will evaluate how much trash is washed into the system under current practices. A structural, full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water

content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.

3. Following the first two years of data collection, Permittees shall calculate trash loading as a running three-year average (estimated total load discharged from 2003-2006, divided by three).

4. All trash collected shall be disposed of in compliance with all applicable regulations.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and should complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertibrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit cycle. Sediment samples shall be taken at each station by means of a $0.1m^2$ ($1.1 ft^2$) modified Van Veen sediment grab sampler.

2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.

3. All samples shall be analyzed for the following:
   a) Sediment Chemistry (priority pollutants)
   b) Totai Organic Carbon (TOC)
   c) Grain size

d) Sediment Toxicity

(1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.

(2) Phase I TIEs of interstitial water, using Ceriodaphnia dubia and Strongylocentrotus purpuratus (sea urchin) fertilization, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.

e) Benthic Macroinvertibrates

(1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.

(2) The Principal Permittee shall identify all organisms to lowest possible taxon.

(3) The Principal Permittee shall determine the Total Biomass of:

(i) Mollusks
(ii) Echinoderms
(iii) Annelids/polychaetes
(iv) Crustaceans
(v) All other macroinvertebrates

(4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index[11].

4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation on the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient

[11] Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

Monitoring Program (SWAMP) being developed the State Board to complete this requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.

2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.

3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.

4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Boar Executive Officer upon request.

5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal

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Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.

6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)[12]. The following results and information shall be included in the annual Monitoring Report:

   a) All physical, chemical and biological data collected in the assessment;

   b) Photographs and GPS locations of all stations;

   c) Documentation of quality assurance and control procedures;

   d) Analysis that shall include calculation of the metrics used in the CSBP;

   e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;

   f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and

   g) Copies of all QA/AC documents from laboratories.

[12] California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than 180 days from the date this Order is adopted. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.

3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[13], unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS

b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.

c) Pathogen Indicators (Coliform)

d) PAHs

e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place)

[13] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.[14] The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed. The study shall begin no later than (180 days from the effective date this Order).

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

1. Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.

2. Evaluate the requirements, feasibility and cost of maintenance for each BMP.

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

[14] Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

2. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

   The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

3. Monitoring and Records [40 CFR 122.21(j)(3)]

   Records of monitoring information shall include:

   a) The date, exact place, and time of sampling or measurements;

   b) The individual(s) who performed the sampling or measurements;

   c) The date(s) analyses were performed;

   d) The individual(s) who performed the analyses;

   e) The analytical techniques or methods used; and,

   f) The results of such analyses.

4. Monitoring and Records [40 CFR 122.21(j)(4)]

   All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

   The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by both.

6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California - 2000* (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Attachment U-2. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Appendix U-1 shall be used for all analyses, and the ML for these parameters shall be lower than or

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equal to the lowest applicable water quality criteria from the Basin Plan and/or the Ocean Plan.

8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

   a) An actual numerical value for sample results greater than or equal to the ML;

   b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

   c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]

    If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.

11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]

    Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.

12. If no flow occurred during the reporting period, the Monitoring Report shall so state.

13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or

b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date:

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ATTACHMENT U-1
LIST OF CONSTITUENTS IN MONITORING PROGRAM
AND ASSOCIATED TEST METHODS AND METHOD DETECTION LIMITS (MDLs)[1]

CONSTITUENTS	USEPA METHOD	MDLs
CONVENTIONAL POLLUTANTS		**mg/L**
Oil and Grease	1664	5
Total Phenols	420.1	0.1
Cyanide		**0.005**
pH	150.1	0 - 14
Temperature		None
Dissolved Oxygen		Sensitivity to 5 mg/L
BACTERIA		
Total Coliform	9221B	<20mpn/100ml
Fecal Coliform	9221B	<20mpn/100ml
Enterococcus	9221B	<20mpn/100ml
GENERAL		**mg/L**
Dissolved Phosphorus	300	0.05
Total Phosphorus	300	0.05
Turbidity	180.1	0.1NTU
Total Suspended Solids	160.2	2
Total Dissolved Solids	160.1	2
Volatile Suspended Solids	160.4	2
Total Organic Carbon	415.1	1
Total Petroleum Hydrocarbon	1664	5
Biochemical Oxygen Demand	405.1	2
Chemical Oxygen Demand	410.4	20-900
Total Ammonia-Nitrogen	350.2	0.1
Total Kjeldahl Nitrogen	351.2	0.1
Nitrate-Nitrite	4110	0.1
Alkalinity	310.1	2
Specific Conductance	120.1	1umho/cm
Total Hardness	130.2	2
MBAS	425.1	<0.5
Chloride	4110	2
Fluoride	4110	0.1
Sulfate	4110	2
Methyl tertiary butyl ether (MTBE)		1

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[1] Does not include analytical methods or MLs for CTR priority pollutants that have multiple acceptable analytical methods, which are listed in Attachment U-2 (Appendix 4 of SIP). These pollutants are in bold and labeled with "SIP".

METALS		µg/L
Aluminum	202.1	100
Antimony	**SIP**	**SIP**
Arsenic	**SIP**	**SIP**
Beryllium	**SIP**	**SIP**
Cadmium	**SIP**	**SIP**
Chromium	**SIP**	**SIP**
Copper	**SIP**	**SIP**
Hex. Chromium	**SIP**	**SIP**
Iron	236.2	100
Lead	**SIP**	**SIP**
Manganese	243.2	30
Mercury	**SIP**	**SIP**
Nickel	**SIP**	**SIP**
Selenium	**SIP**	**SIP**
Silver	**SIP**	**SIP**
Thallium	**SIP**	**SIP**
Zinc	**SIP**	**SIP**
SEMIVOLATILE ORGANIC COMPOUNDS		µg/L
Acids	**8250**	
2-Chlorophenol	8250	<2
2, 4-Dichlorophenol	**SIP**	**SIP**
2,4-dimethylphenol		
2, 4-Dinitrophenol	8250	<3
4,6-dinitro-o-cresol		
2-Nitrophenol	8250	<3
4-Nitrophenol	8250	<3
4-Chloro-3-methylphenol		
Pentachlorophenol	**SIP**	**SIP**
Phenol	8250	<1
P-chloro-m-cresol		
2,4,6-Trichlorophenol	8250	<1
BASE/NEUTRAL	**8250**	µg/L
Acenapthene	8250	<0.5
Acenapthylene	**SIP**	**SIP**
Anthracene	8250	2.0
Benzidine	8250	<3
Benzo(a)anthracene	8250	<1
Benzo(a)pyrene	8250	<1
Benzo(b)flouranthene	8250	<1
Benzo(k)flouranthene	8250	<1
Bis(2-chloroethoxy)methane	8250	<1
Bis(2-chlorisopropyl)ether	8250	<1
Bis(2-chloroethyl)ether	8250	<1

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Bis(2-ethylhexl)phtalate	8250	<3
4-Bromophenyl phenyl ether	8250	<1
Butyl benzyl phthalate	8250	<3
2-Chloronapthalene	8250	<1
4-Chlorophenyl phenyl ether	8250	<1
Chrysene	8250	<1
Dibenz(a,h)anthracene	**SIP**	**SIP**
1,3-Dichlorobenzene	8250	<0.5
1,4-Dichlorobenzene	8250	<0.5
1,2-Dichlorobenzene	8250	<0.5
3,3-Dichlorobenzidine	8250	<3
Diethylphthalate	8250	<0.5
Dimethylphthalate	8250	<0.5
Di-n-butylphthalate	8250	<3
2,4-Dinitrotoluene	8250	<0.5
2,6-Dinitrotoluene	8250	<0.5
1,2-Diphenylhydrazine	**SIP**	**SIP**
Di-n-octylphtalate	8250	<3
Fluoranthene	**SIP**	**SIP**
Fluorene	**SIP**	**SIP**
Hexachlorobenzene	8250	<0.5
Hexachlorobutadiene	8250	<1
Hexochlorocyclopentadiene	8250	<3
Hexochloroethane	8250	<1
Indeno(1,2,3-cd)pyrene	**SIP**	**SIP**
Isophorone	8250	<0.5
Napthalene	**SIP**	**SIP**
Nitrobenzene	8250	<0.5
N-Nitrosodimethylamine	8250	<3
N-Nitrosodiphenylamine	**SIP**	**SIP**
N-Nitroso-di-N-propylamine	8250	<1
Phenanthrene	**SIP**	**SIP**
Pyrene	**SIP**	**SIP**
1,2,4-Trichlorobenzene	8250	<0.5
CHLORINATED PESTICIDES	**608**	**µg/L**
Aldrin	**608**	**0.005**
alpha-BHC	608	0.05
beta-BHC	608	0.05
delta-BHC	608	0.05
gamma-BHC (lindane)	608	0.05
alpha-chlordane	608	0.05
gamma-chlordane	608	0.05
4,4'-DDD	**608**	**0.05**
4,4'-DDE	**608**	**0.05**
4,4'-DDT	**608**	**0.01**
Dieldron	**608**	**0.01**
Endosulfan I	608	<0.1

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Endosulfan II	608	<0.1
Endosulfan sulfate	**608**	**0.05**
Endrin	**608**	**0.01**
Endrin aldehyde	**608**	**0.01**
Heptachlor	**608**	**0.01**
Heptachlor Epoxide	**608**	**0.01**
Methoxychlor	608	<0.5
Toxaphene	**608**	**0.5**
Polychlorinated Biphenyls	**608**	**µg/L**
Aroclor-1016	608	0.5
Aroclor-1221	608	0.5
Aroclor-1232	608	0.5
Aroclor-1242	608	0.5
Aroclor-1248	608	0.5
Aroclor-1254	608	0.5
Aroclor-1260	608	0.5
CARBAMATE & UREA PESTICIDES		**µg/L**
Carbofuran	531.1	<5
Diuron		1
Thiobencarb	507	<0.1
ORGANOPHOSPHATE PESTICIDES		**µg/L**
Chlorpyrifos		0.05
Diazinon		0.01
Prometryn	507	2
Atrazine	507	2
Simazine	507	<2
Cyanazine	507	2
Molinate	507	<0.01
Malathion		1
HERBICIDES		**µg/L**
Benzaton	515.1	<2
Glyphosate	547	5
2,4-D	515.1	<0.02
2,4,5-TP-SILVEX	515.1	<0.2

ATTACHMENT U-2

APPENDIX 4

SWRCB Minimum Levels in ppb (µg/L)

The Minimum Levels (MLs) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of this Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the SWRCB and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides & PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Bromomethane	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
1,2 Benzanthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
3,4 Benzofluoranthene		10	10	
4 Chloro-3-methylphenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene(3,4 Benzopyrene)		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000

* The normal method-specific factor for these substances is 1, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d - PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
a-Hexachloro-cyclohexane	0.01
Aldrin	0.005
b-Endosulfan	0.01
b-Hexachloro-cyclohexane	0.005
Chlordane	0.1
d-Hexachloro-cyclohexane	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Lindane(g-Hexachloro-cyclohexane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

GC - Gas Chromatography
GCMS - Gas Chromatography/Mass Spectrometry
HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
LC - High Pressure Liquid Chromatography
FAA - Flame Atomic Absorption
GFAA - Graphite Furnace Atomic Absorption
HYDRIDE - Gaseous Hydride Atomic Absorption
CVAA - Cold Vapor Atomic Absorption
ICP - Inductively Coupled Plasma
ICPMS - Inductively Coupled Plasma/Mass Spectrometry
SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
DCP - Direct Current Plasma
COLOR - Colorimetric

ATTACHMENT U-3
SHORELINE MONITORING STATIONS

Station	Location[1]	Latitude	Longitude
S1	Surfrider Beach, Malibu, 50 yds E. of breech	34.03500	118.67833
S2	Topanga Point, Malibu, seaward of lifeguard station	34.03833	118.58083
S3	Pulga storm drain, Pacific Palisades, 50 yds E. of drain	34.03361	118.53417
S4	Santa Monica Canyon storm drain, Pacific Palisades, 50 yds E. of drain	34.02639	118.51861
S5	Santa Monica Pier, Santa Monica, 50 yds S. of pier	34.00833	118.49667
S6	Pico-Kenter storm drain, Santa Monica, 50 yds S. of drain	34.00583	118.49250
S7	Ashland storm drain, Santa Monica, 50 yds S. of drain	33.99639	118.48472
S8	Windward storm drain, Los Angeles, 50 yds S. of drain	33.98778	118.47750
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083	118.45611
S11	Culver Blvd., extended, Playa Del Rey, N side of Culver storm drain	33.95639	118.45167
S12	Imperial Hwy. Storm drain, Playa Del Rey, 50 yds S. of drain	33.93028	118.43722
S13	El Porto, Manhattan Beach, 40th St. extended	33.90389	118.42250
S14	Manhattan Beach Pier, Manhattan Beach, 50 yds S. of pier	33.88360	118.41278
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S. of pier	33.86111	118.40278
S16	Redondo Pier, Redondo Beach, 50 yds S. of pier	33.83833	118.39111
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, 50 yds S. of drain	33.81889	118.39111
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	33.80500	118.39467

[1] Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999.

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Attachment U-4
Total Maximum Daily Loads Scheduled for Implementation in Los Angeles County Watershed Within 10 Years

Waterbody	*TMDL*
Malibu	Coliform, Nutrients
Malibu Creek Lakes and Tributaries	Metals
Ballona Creek	Trash, Coliform, Historic Pesticides, Metals, TBT
Dominguez Channel/LA Harbor	Coliform, PAHs, Historic Pesticides, PCBs, DDT, Metals, Nutrients, Trash
Los Angeles River	Trash, Nutrients, Coliform, Chlorpyrifos, Metals
San Gabriel River	Nutrients, Coliform, Metals, Trash
San Gabriel Lakes	Coliform
Santa Monica Bay Beaches	Coliform, Metals, Chlordane, Historic PCBs and Pesticides
Santa Clara River	Historic Pesticides, Chloride, Coliform, Nitrogen, Eutrophication, Trash
Los Cerritos Channel	Metals, Ammonia, Coliform

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

This form summarizes the requirements in Order No. 01-XXX. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Plan (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with order 01-XXX; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED *Do not leave any of the sections blank.*
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

Reporting Year 200__- 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____
Title: _____
Address: _____
City: _____ Zip Code: _____
Phone: _____ Fax: _____

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary (Part 3.E.5)

1. Does your municipality have a storm water utility? Yes ☐ No ☐

If no, describe the funding source(s) used to implement the requirements of Order No. 01-XXX.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes ☐ No ☐
3. Complete Table 2, and report any supplemental dedicated budgets for the same categories on the lines below the table.
4. List any additional state/federally funded projects related to storm water.

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-XXX
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

F. Receiving Water Limitations (Part 2)

1. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes ☐ No ☐
2. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes ☐ No ☐
3. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:
   a) A description of the pollutants that are in exceedance and an analysis of possible sources;
   b) A plan to comply with the RWL (Order 01-XXX, Part 2);
   c) Changes to the SQMP to eliminate water quality exceedances;
   d) Enhanced monitoring to demonstrate compliance; and
   e) Results of implementation.

G. Storm Water Quality Management Plan (SQMP) Implementation (Part 3)

1. Have you developed a SQMP specific to your city that incorporates the countywide SQMP, and identifies additional provisions intended to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes ☐ No ☐
2. Describe the status of SQMP implementation.

3. List the BMPs that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

4. Watershed Management Committees (WMCs)
   a) Which WMC are you in?
   b) Who is your designated representative to the WMC?
   c) How many WMC meetings did you participate in last year?
   d) Describe specific improvements to your storm water management program as a result of WMC meetings.

e) Attach any comments or suggestions regarding your WMC.

5. Storm Water Ordinance

a) Have you adopted a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of Order 01-XXX? Yes ☐ No ☐
If not, describe the status of adopting such an ordinance.

b) If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes ☐ No ☐
If not, please attach a copy to this Report.

c) Were any amendments made to your storm water ordinance during the last fiscal year? Yes ☐ No ☐
If yes, submit a copy of amendments to the Regional Board.

6. Discharge Prohibitions

a) List any non-storm water discharges you feel should be further regulated:

b) List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

II. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message (Part 4.B.1.a.)

a) How many storm drain inlets does your agency own?

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by November 29, 2003.

2. Reporting Hotline

b) Has your agency established its own hotline for reporting and for general storm water management information? Yes ☐ No ☐

b) If so, what is the number?

c) Is this information listed in the government pages of the telephone book? Yes ☐ No ☐

d) If no, is your agency coordinated with the countywide hotline? Yes ☐ No ☐

e) How many calls were received in the last fiscal year?

f) Do you keep record of the number of calls received and how they were responded to? Yes ☐ No ☐

g) Describe the process used to respond to hotline calls.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes ☐ No ☐

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site (*Principal Permittee only)?* Yes ☐ No ☐

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. *(Principal Permittee only)*

b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes ☐ No ☐

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water management program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented *(Principal Permittee only).*

c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

d) Describe efforts your agency made to educate local schools on storm water pollution.

e) Did you, in cooperation with other Permittees, provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution *(Principal Permittee only)*? Yes ☐ No ☐

If not, explain why.

f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts *(Principal Permittee only).*

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

g) What is the behavioral change target that was developed based on sociological data and other studies *(Principal Permittee only)?*

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

4. Pollutant-Specific Outreach

a) Attach a description of each watershed-specific outreach programs that your agency developed *(Principal Permittee only).* All pollutants listed in Table 1 (Section B.1.d.) must be included.

b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes ☐ No ☐

c) Describe, or attach, the pollutant-specific material that was distributed.

d) Describe how your agency has made outreach materiai available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains *(Principal Permittee only)*.

b) How many corporate managers did your agency reach last year?

c) What is the total number of corporations to be reached through this program?

d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years? Yes ☐ No ☐

If not, describe measures that will be taken to fully implement this requirement.

e) Has your agency developed and/or implemented a Business Assistance Program? Yes ☐ No ☐

If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes ☐ No ☐

How many media outlets were contacted?

Which newspapers or radio stations ran them?

Who was the audience?

7. Did you supplement the County's media purchase by funding additional media buys? Yes ☐ No ☐
   Estimated dollar value/in-kind contribution:
   Type of media purchased:
   Frequency of the buys:
   Did another agency help with the purchase? Yes ☐ No ☐
8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes ☐ No ☐
   If so, describe the type of advertising.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes ☐ No ☐
   Describe the materials that were distributed:

   Who were the key partners?
   Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes ☐ No ☐
    How many events did you attend?
11. Does your agency have a website that provides storm water pollution prevention information? Yes ☐ No ☐
    If so, what is the address?
12. Has awareness increased in your community regarding storm water pollution? Yes ☐ No ☐
    Do you feel that behaviors have changed? Yes ☐ No ☐
    Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

B. Industrial/Commercial Facilities Program

Did you (individually or jointly) update the Database for Critical Sources Identification? Yes ☐ No ☐

Comments/Explanation/Conclusion:

Inspection and Site Visit Program

Provide the reporting data as suggested in the following tables.

Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

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Los Angeles County Municipal Storm Water Permit (Order 01-XXX)

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Initial Number of Facilities at the start of cycle proposed for site visit by categories (after the initial year, the updated number based on the new data)	Number of facilities site visited in the current reporting year	% Completed at the time of this report for this cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

Comments/Explanation/Conclusion:

BMPs Implementation

Provide the reporting data as suggested in the following table.

Number of facilities inspected/ site visited by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected/ site visited by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade

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Comments/Explanation/Conclusion:

Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number since permit adoption

Facilities by category	Number of enforcement actions by type (Warning letter)	Number of NOVs	Number of Referral	Number of Other

Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the

knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective ☐ Somewhat Effective ☐ Non-effective ☐

Comments/Explanation/Conclusion:

You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

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C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes ☐ No ☐
   Attach a copy of your CEQA checklist, and any other examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.
2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:
   a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes ☐ No ☐
   b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes ☐ No ☐
   c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes ☐ No ☐
   d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes ☐ No ☐

   Briefly describe each procedure and attach examples of how each was required in a priority development or redevelopment project.

3. Describe the status of the development or implementation of peak flow controls in natural drainage systems.

4. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

5. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?
   a) Residential

b) Commercial
c) Industrial
d) Automotive service facilities
e) Retail gasoline outlets
f) Restaurants
g) Parking lots
h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area
i) Total number of permits issued to priority projects

6. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

7. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?

8. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes ☐ No ☐

9. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes ☐ No ☐
If yes, attach a copy of your CEQA checklist.
If no, provide an explanation and an expected date of completion.

10. Did your agency update any of the following General Plan elements in the past year?
a) Land Use Yes ☐ No ☐
b) Housing Yes ☐ No ☐
c) Conservation Yes ☐ No ☐
d) Open Space Yes ☐ No ☐

If yes, please describe how watershed and storm water quality and quantity management considerations were included. Attach a copy of the amendment, if you have not already provided the Regional Board with a copy.

11. How many targeted staff were trained last year?
    How many targeted staff are trained annually?
    What percentage of total staff (listed on page 2) are trained annually? %
12. Has your agency developed and made available development planning guidelines? Yes ☐ No ☐
    If no, what is the expected date that guidelines will be developed and available to developers?
13. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?
   a) Will result in soil disturbance of one acre or greater Yes ☐ No ☐
   b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area Yes ☐ No ☐
   c) Is located in a hillside area Yes ☐ No ☐

   Attach one example of a local SWPPP

3. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

4. How many building/grading permits were issued to sites requiring Local SWPPPs last year?
5. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?
6. How many building/grading permits were issued to construction site less than one acre in size last year?
7. How many construction sites were inspected during the last wet season?

8. Complete the following table.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				

Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

9. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

10. Describe the system that your agency uses to track the issuance of grading permits.

E. Public Agency Activities (Part 4.F)

1. Trash Receptacles
   a) Did your agency place trash receptacles at all transit stops within its jurisdiction and maintain the receptacles? Yes ☐ No ☐
   b) How many trash receptacles within your jurisdiction are near transit stops or commercial areas?

2. Sewage System Maintenance, Overflow, and Spill Prevention (*only applicable to agencies that own and/or operate a sanitary sewer system*)
   a) Did your jurisdiction submit its Sewage System Response Plan to the Regional Board? Yes ☐ No ☐
   b) How many sanitary sewer overflows occurred within your jurisdiction?
      How many did your agency respond to?
   c) Did your agency investigate all complaints received? Yes ☐ No ☐
   d) How many complaints were received?
   e) Upon notification, did your agency immediately respond to overflows by containment? Yes ☐ No ☐
   f) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes ☐ No ☐
   g) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes ☐ No ☐
      If so, describe the program:

   h) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes ☐ No ☐
      If so, describe the program:

3. Public Construction Activities Management

a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? Yes ☐ No ☐

Give an explanation for any sites greater than 5 acres that were not covered:

b) What is the total number of active public construction sites?

How many were 5 acres or greater in size?

c) (In March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes ☐ No ☐

4. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

b) Have you submitted a list to the Regional Board that includes contact person, location and telephone number for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

If not, explain why:

c) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

1) Good housekeeping practices
2) Material storage control
3) Vehicle leaks and spill control
4) Illicit discharge control

d) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes ☐ No ☐

If not, what is the status of implementing this requirement?

e) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above? Yes ☐ No ☐

5. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes ☐ No ☐

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes ☐ No ☐

If so, list them:

d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?

e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

f) How often are storage areas for fertilizers and pesticides inspected?

What BMPs are commonly implemented in storage areas?

6. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes ☐ No ☐

How many of each designation exist in your jurisdiction?

Priority A:
Priority B:
Priority C:

b) How many times were all Priority A basins cleaned last year?

c) How many times were all Priority B basins cleaned last year?

d) How many times were all Priority C basins cleaned last year?

e) How much total waste was collected in tons from catch basin clean-outs last year?

f) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.

g) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:

1) Provide for the proper management of trash and litter generated from the event? Yes ☐ No ☐

2) Arrange for temporary screens to be placed on catch basins? Yes ☐ No ☐

3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes ☐ No ☐

h) Has your Agency conducted an assessment of measures that can be implemented to reduce and/or prevent trash from entering the MS4 system? Yes ☐ No ☐

If yes, has this assessment been submitted to the Regional Board? Yes ☐ No ☐

If no, what is the status of conducting this assessment?

i) Did your agency inspect the legibility of the catch basin stencil or labels? Yes ☐ No ☐

What percentage of stencils were legible?

j) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes ☐ No ☐

k) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes ☐ No ☐

Is the prioritization attached? Yes ☐ No ☐

l) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes ☐ No ☐

What changes have been made?

m) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes ☐ No ☐

n) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

o) How much total waste was collected (in tons) by stream or channel segment from Permittee-owned open channels or other drainage structures?

p) Where was the removed material disposed of?

7. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes ☐ No ☐

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes ☐ No ☐

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes ☐ No ☐

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

Priority A – These streets and/or street segments shall be swept at least two times per month? Yes ☐ No ☐

Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes ☐ No ☐

Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes ☐ No ☐

c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes ☐ No ☐

d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes ☐ No ☐

e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes ☐ No ☐

f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes ☐ No ☐

2) Identify and select appropriate BMPs? Yes ☐ No ☐

8. Parking Facilities Management

a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes ☐ No ☐

b) Were any Permittee-owned parking lots cleaned less than once a month? Yes ☐ No ☐

How many?

9. Public Industrial Activities Management

a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes ☐ No ☐

b) Does your agency serve a population of less than 100,000 people? Yes ☐ No ☐

10. Emergency Procedures

a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes ☐ No ☐

b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes ☐ No ☐

11. Feasibility Study

a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes ☐ No ☐

b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes ☐ No ☐

F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).
2. Attach a map of your storm drain system showing all permitted connections, and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

5. What is the total length of open channel that your agency owns and operates?

   What length was screened last year for illicit connections?
6. What is the total length of closed storm drain that your agency owns and operates?

What length was screened last year for illicit connections?

7. Describe the method used to screen your storm drains.

8. Attach a copy of your agency's plan for proactive storm drain screening of priority areas (Part 4.G.2.b). If a plan has not been developed, describe the status of development.

9. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# not identified
01/02							
02/03							
03/04							
04/05							
05/06							

10. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

a) Were all identified connections terminated within 180 days? Yes ☐ No ☐

b) If not, explain why.

11. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

12. What is the average response time after an illicit discharge is reported?
    a) Did any response times exceed 72 hours? Yes ☐ No ☐
    b) If yes, explain why.

13. Describe the your agency's spill response procedures.

14. What would you do differently to improve your agency's IC/ID Elimination Program?

15. Attach a list of all permitted connections to your storm sewer system.

III. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-XXX that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 3.

IV. Assessment of Program Effectiveness

F. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
3. A summary of the strengths and weaknesses of your agency's storm water management program;
4. A list of specific program highlights and accomplishments;
5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
6. Interagency coordination between cities to improve the storm water management program;
7. Future plans to improve your agency's storm water management program; and
8. Suggestions to improve the effectiveness of your program or the County model programs.

G. On a scale of 1 to 10, rate your municipality's level of compliance with Order No. 01-XXX.

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

Fact Sheet/Staff Report

FACT SHEET/STAFF REPORT

FOR THE

COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT (CAS004001)

TENTATIVE DRAFT
OCTOBER 11, 2001

Los Angeles Regional Water Quality Control Board

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2. MITIGATION OF STORM WATER IMPACTS FROM NEW DEVELOPMENT IN ENVIRONMENTALLY SENSITIVE AREAS - TECHNICAL REPORT
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Tentative Draft – FACT SHEET/STAFF REPORT

State of California
California Regional Water Quality Control Board Los Angeles Region
National Pollutant Discharge Elimination System (NPDES)
Permit No. CAS004001, CI 6948
Regional Board Order No. 01-XXX

I. PURPOSE

The purpose of this Fact Sheet/Staff Report is to give the Permittees and interested parties an overview of the proposed permit as well as to provide the technical basis for the permit requirements. Sections I through IV describe water quality problems from storm water and urban runoff, and permit conditions to address these problems. Sections V and VI discuss each major element of the Permittees' Storm Water Quality Management Plan (SQMP), and is meant to be used as a reference document during review of the permit.

II. INTRODUCTION - THE NEED TO REGULATE STORM WATER DISCHARGES

A. Impacts

The quality of storm water and urban runoff are fundamentally important to the health of the environment and the quality of life in Southern California. Polluted storm water runoff is a leading cause of water quality impairment in the Los Angeles Region. Storm water and urban runoff (during dry and wet weather) are often contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through the storm drain networks directly into the receiving waters of the Region. The water quality impacts and increased public health risks from Municipal Separate Storm Sewer System (MS4) discharges that affect receiving waters nationwide and Los Angeles County and its coastline are well documented.

The **National Urban Runoff Program** (NURP) Study (USEPA 1983) showed that MS4 discharges draining from residential, commercial, and light industrial areas contain significant loadings of total suspended solids. Although the NURP Study did not cover industrial sites, the study suggested that runoff from industrial sites may have significantly higher contaminant levels than runoff from other urban land use sites. Several studies tend to support this observation, for e.g., the City of Fresno, California, a NURP project site, industrial areas there had the poorest storm water quality of the four land-uses evaluated. The study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.

The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the Nation's waters from

contaminated storm water and urban runoff. The recent 1998 National Water Quality Inventory (305(b) Report)[1] showed that urban runoff/storm water discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report states that ocean shoreline impairment due to urban runoff/storm sewers increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff and storm water discharges are the leading source of pollution and the main factor in the degradation of surface water quality[2] in California's coastal waters, rivers and streams.

The Natural Resources Defense Council (NRDC) 1999 Report, **"Stormwater Strategies, Community Responses to Runoff Pollution"**[3] identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain activities, such as those from industrial sites, are large contributors of pollutant concentrations to the storm water system.

The report also identified several activities causing storm water pollution from urban areas, practices of homeowners, businesses, and government agencies.

More recent studies conducted by **United States Geological Survey** (USGS)[4] confirms the link between urbanization and water quality impairments in urban watersheds due to contaminated storm water runoff.

Furthermore, the water quality impacts of urbanization and urban storm water discharges have been summarized by several other recent USEPA reports.[5] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impairs the beneficial uses of receiving waters. Increases in population density and imperviousness result in changes to stream hydrology including:

a) increased peak discharges compared to predevelopment levels;

b) increased volume of storm water runoff with each storm compared to pre-development levels;

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[1] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress* - USEPA 841-S-00-001 - June 2000; *Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress* - USEPA 841-F-00-006 - June 2000

[2] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress*, Chapter 12 State and Territory Summaries, California., pp. 282-83: 1998.

[3] *Clean Water & Oceans: Water Pollution: In Depth Report Stormwater Strategies, Community Responses to Runoff Pollution.* Natural Resources Defense Council (NRDC), 1999.

[4] *Water Quality in the Puget Sound Basin, Washington and British Columbia, 1996-98,* Circular 1216 - USGS 2000; *Water Quality in the Long Island-New Jersey Coastal Drainages, New Jersey and New York, 1996-98,* Circular 1201 - USGS 2000

[5] *Storm Water Phase II Report to Congress* (USEPA 1995); Report to Congress on the Phase II Storm Water Regulations (USEPA1999); Coastal Zone Management Measures Guidance (USEPA 1992)

c) decreased travel time to reach receiving water; increased frequency and severity of floods;

d) reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

e) increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization, and

f) decreased infiltration and diminished groundwater recharge.

The LA County MS4 program conducts monitoring to:

1. quantify mass emissions for pollutants;
2. identify critical sources for pollutants of concern in storm water;
3. evaluate BMP effectiveness; and
4. evaluate receiving water impacts.

The monitoring indicates that instream concentrations of pathogen indicators (fecal coliform and streptococcus), heavy metals (such as Pb, Cu, Zn,) and pesticides (such as diazinon) exceed state and federal water quality criteria.[6] The mass emissions of pollutants to the ocean are significant from the urban WMAs such as the Los Angeles River WMA, Ballona Creek WMA, and Coyote Creek WMA, with the Los Angeles River WMA providing more than seventy percent of the loadings. Critical source data for facilities (such as auto-salvage yards, primary metal facilities, and automotive repair shops) show that total and dissolved heavy metals (Pb, Cu, Zn, and Cd), and total suspended solids (TSS) exceeded state and federal water quality criteria by as much as 2 orders of magnitude. The results are consistent with a limited term study conducted by the Regional Board to characterize storm water runoff in the Los Angeles region before the issuance of MS4 permits.[7] Storm water runoff data from predominant land uses in LA County showed similar patterns. Light-industrial, commercial and transportation land uses showed the highest range of exceedances. A pesticide (diazinon) was detected in higher concentrations from residential land use. The data for polycyclic aromatic hydrocarbons (PAHs), a known pollutant of concern in urban storm water runoff, is inconclusive but improved analytical methods may yield more definitive results next year. Receiving water impacts studies found that storm water discharges from urban watersheds exhibit toxicity that are attributable to heavy metals. Biosurveys of the benthic communities showed bioaccumulation of toxicants. Sediment analysis showed higher concentrations of pollutants, such as Pb and PAHs, in urban watersheds than in rural watersheds (2 to 4 times higher). In addition, toxicity of dry weather flows was

[6] *Los Angeles County 1998-1999 Storm water Monitoring Report*, Los Angeles County Department of Public Works (1999). Data summarizes results of storm water monitoring for the most recent year and the past five years.
[7] *Storm Water Runoff in Los Angeles and Ventura Counties, Final Report* (1988), California Regional Water Quality Control Board, Los Angeles, SCCWRP Contribution C292. This study found the highest mean concentrations of pollutants of concern such as heavy metals in the urban watershed rivers and that they contributed significant loads to the ocean.

observed with the cause of toxicity undetermined.[8] Other studies have found chemical concentration of pollutants that exceed state and federal water quality criteria in storm drains flowing to the ocean during dry weather,[9] and that there are adverse health impacts from swimming near them.[10]

B. Benefits of Permit Program Implementation

Implementation of the MS4 permit requirements will significantly reduce pollutants in urban storm water in a cost-effective manner. Implementation of Best Management Practices (BMPs) should also reduce pollutant discharges, and improve surface water quality. The expected benefits of implementing the provisions of the Los Angeles County MS4 NPDES permit include:

- **Enhanced Aesthetic Value**: Storm water affects the appearance and quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution will increase benefits as these water bodies recover and become more desirable.
- **Enhanced Opportunities for Boating**: reducing sediment and other pollutants, and increasing water clarity, which enhances the boating experience for users, offer additional benefits.
- **Enhanced Commercial Fishing**: Important because commercial fisheries are a significant part of the nation's economy, and 28% of the estuaries in the 305(b) Report were impacted by storm water/urban runoff.
- **Enhanced Recreational and Subsistence Fishing**: Pollutants in storm water can eliminate or decrease the numbers, or size, of sport fish and shell fish in receiving waters.
- **Reduced Flood Damage**: Storm water runoff controls may mitigate flood damage by addressing problems due to the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.
- **Reduced Illness from Consuming Contaminated Seafood**: Storm water controls may reduce the presence of pathogens in seafood caught by commercial or recreational anglers.
- **Reduced Illness from Swimming in Contaminated Water**: Epidemiological studies indicate that swimmers in water contaminated by storm water runoff are more likely to experience illness than those who swim farther away from a storm water outfall.
- **Enhanced Opportunities for Non-contact Recreation**: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.
- **Drinking Water Benefits**: Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for treatment, or render the water unusable for drinking.

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[8] *Toxicity of Dry Weather Flow from the Santa Monica Bay Watershed*, Bay, S. et al (1996), Bull. Southern California Acad. Sci. 5(1), pp. 33-45. The paper describes preliminary results on dry weather toxicity which have been confirmed by the MS4 monitoring program.

[9] *Chemical Contaminant Release into Santa Monica Bay, Final Report*, American Oceans Campaign , Santa Monica (1993)

[10] *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999), Epidemiology 10: 355-363). The study found higher risks of respiratory and gastrointestinal symptoms from swimmers.

- **Water Storage Benefits:** Storm water is a major source of impairment for reservoirs. The heavy load of solids deposited by storm water runoff can lead to rapid sedimentation of reservoirs and the loss of needed water storage capacity.[11]

III. STATUTORY AND REGULATORY HISTORY OF THE STORM WATER PROGRAM

Over the past 29 years, water pollution control efforts have focused primarily on certain process wastewater discharges from facilities such as factories and sewage treatment plants, with less emphasis on diffuse sources. The 1972 amendments to the Federal Clean Water Act (CWA) prohibit the discharge of any pollutant to waters from a point source, unless a NPDES permit authorizes the discharge. Because the focus on reducing pollutants was centered on industrial and sewage treatment discharges, the U.S. Congress amended the CWA in 1987, requiring the USEPA to create phased NPDES requirements for storm water discharges.

In response to the 1987 Amendments to the CWA, the USEPA developed Phase I of the NPDES Storm Water Program in 1990. Phase I requires NPDES permits for storm water discharges from: (i) "medium" and "large" MS4s generally serving, or located in incorporated places or counties with, populations of 100,000 or more people; and (ii) eleven categories of industrial activity (including construction activity that disturbs five acres or greater of land).

Phase II, adopted in December 2000 and scheduled to take effect in March 2003, requires operators of small MS4s and small construction sites (construction activity disturbing between 1 and 5 acres of land) in urban areas to control storm water runoff discharges. Phase II establishes a cost-effective approach for reducing environmental harm caused by storm water discharges from previously unregulated diffuse sources.

A. Basis for Permit Conditions

1. **Statutory basis for permit conditions.** The conditions established by this permit are based on Section 402(p)(3)(B) of the CWA which mandates that a permit for discharges from MS4s must: effectively prohibit the discharges of non-storm water to the MS4; and require controls to reduce pollutants in discharges from MS4 to the maximum extent practicable (MEP) including best management practices, control techniques, and system, design and engineering methods, and such other provisions determined to be appropriate. MS4s are not exempted from compliance with Water Quality Standards. Section 301(b)(1)(C) of the CWA requiring that NPDES permits include limitations, including those necessary to meet water quality standards, applies. The intent of the permit conditions is to meet the statutory mandate of the CWA.

   The permit requires the implementation of a comprehensive Storm Water Quality Management Program (SQMP) through a selection of Best Management Practices (BMPs) (40 CFR 122.44(k)) as the mechanism to

[11] *Report to Congress on Phase II Storm Water Regulations.* USEPA, Office of Water. EPA-833-R-99-001, Oct. 1999.

achieving the reduction of pollutants in storm water to the maximum extent practicable (MEP) (CWA. § 402(p)(3)(B)(iii)).

2. **Regulatory basis for permit conditions.** As a result of the statutory requirements of the CWA the USEPA promulgated the MS4 Permit application regulations, 40 CFR 122.26(d). These regulations described in detail the permit application requirements for MS4s operators. The information in the Report of Waste Discharge (ROWD) was utilized to develop the permit conditions and determine permittees status in relationship to these conditions.

3. **Discharge limitations.** No numeric effluent limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the USEPA has required a series of increasingly more effective BMPs[12], in the form of a comprehensive SQMP, performance standards, in lieu of numeric limitations.[13]

B. Public Review and Participation Process

Los Angeles County Flood Control District submitted the ROWD for on January 31, 2001. Since that time Regional Board staff has dedicated significant time and effort to providing the opportunities for public participation and comment. More than 30 meetings, 2 workshops, and numerous outreach efforts have been conducted to ensure that the public, the Permittees, and other interested parties had ample opportunity to participate in the development and comment on draft permit requirements and language prior to consideration by the Regional Board for adoption.

To invite public comment at the beginning of the renewal process, a preliminary draft, dated March 16, 2001, was issued to a working group of interested parties. This draft was used as a starting point for discussion. The workgroup had approximately 30 days to review it prior to the issuance of the first draft, on April 13, 2001. The first draft was sent to all Permittees, storm water consultants, environmental organizations, and other interested parties. It was also made available on the Regional Board Storm Water web page at www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html. More than 30 days were provided for the submittal of written comments. After considering comments submitted, Regional Board staff issued the second draft permit on June 29, 2001. Comments on the second draft (due by August 6, 2001) were considered and incorporated as appropriate in the tentative draft issued on October 11, 2001. Permittees and interested parties have an additional thirty days to submit written comments and a forty-five day period for review prior to Regional Board consideration. The tentative permit is scheduled for consideration on November 29, 200,a Regional Board meeting. A public notice was published in the Los Angeles Times on October 3, 2001, more than 45 days prior to the date of the Board meeting.

Furthermore, Regional Board staff conducted separate meetings to particular special provisions with Permittees and interested parties as necessary. In addition to these

[12] *Interpretative Policy Memorandum on Reapplication Requirements* of MS4s issued by USEPA (61 Fed. Reg. 41697)
[13] *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits* (61 Fed. Reg. 43761)

meetings, Regional Board staff held two workshops to review the permit and listen to comments, including one formal workshop with the Board members. Regional Board staff has also participated in the monthly Executive Advisory Committee meetings to answer questions and discuss permit issues. Staff has also been available for public outreach via telephone. The following table outlines some of the opportunities for permittee and public input provided by Regional Board staff.

Date	Public Involvement Activity
January 31, 2001	Application for permit renewal (ROWD)
February 27, 2001	Inspections Working Group Meeting
February 28, 2001	Illicit Connection/Discharge Working Group Meeting
March 1, 2001	Monitoring Working Group Meeting
March 12, 2001	Public Information and Participation Working Group Meeting
March 20, 2001	Inspections Working Group Meeting
March 20, 2001	Construction Working Group Meeting
March 22, 2001	Preliminary Draft Working Group Meeting
April 9, 2001	Monitoring Working Group Meeting
April 13, 2001	Issuance of First Draft
April 24, 2001	Public Workshop
April 24, 2001	Construction Meeting with Building Industry Association
April 27, 2001	Monitoring Working Group Meeting
May 9, 2001	Monitoring Working Group Meeting
May 16, 2001	First Draft Comments Due
May 24, 2001	Construction Meeting with BIA
June 4, 2001	Monitoring Working Group Meeting
June 14, 2001	Monitoring Station Identification Field Trip
June 25, 2001	Monitoring Working Group Meeting
June 29, 2001	Issuance of Second Draft
July 26, 2001	Formal Workshop with Regional Board
August 6, 2001	Second Draft Comments Due
August 8, 2001	Executive Advisory Committee Meeting
September 12, 2001	Executive Advisory Committee Meeting
September 19, 2001	Meeting with City of Rancho Palos Verdes
September 27, 2001	Meeting with County of Los Angeles Dept. of Public Works
September 27, 2001	Meeting with BIA and AGC
October 3	Meeting with County and City Departments of Health

Date	Public Involvement Activity
October 11, 2001	Issue Tentative Draft
November 9, 2001	Tentative Draft Comments Due
November 29, 2001	Proposed Permit Adoption at Board Meeting

IV. BACKGROUND - LOS ANGELES COUNTY MS4

A. Los Angeles County MS4 Permit History

In 1990, the Los Angeles Regional Board (Regional Board) adopted Order No. 90-079, the Los Angeles County MS4 Permit. That permit required the Los Angeles County Flood Control District, the County of Los Angeles and the incorporated cities in Los Angeles County to implement storm water pollution controls including amending ordinances, optimizing existing pollutant controls such as street sweeping, construction site controls, and others. The Regional Board required all Permittees to implement a minimum list of 13 BMPs for consistency across the County. The 1990 permit was issued on a system wide basis due to the highly interconnected storm drain system serving a population well in excess of 100,000 inhabitants. An NPDES permit is valid for a five-year period after the date is issued[14].

On July 15, 1996, the Regional Board adopted Order No. 96-054 that revised the 1990 permit. The 1996 LA County MS4 permit required model programs be developed and implemented by the Permittees for Public Information and Public Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges, Public Agency Activities, and Development Planning. These model programs were intended to be dynamic and expected to change with time, as more information on storm water impacts became available.

Following the adoption of Order 96-054, the City of Long Beach submitted a ROWD as an application for its own MS4 permit. The City of Long Beach Municipal Storm Water Permit (Order No. 99-060) was adopted on June 30, 1999. This Order superseded the countywide permit requirements for the City of Long Beach, and the City now operates under its separate waste discharge requirements.

On January 31, 2001, the Los Angeles County Department of Public Works submitted an application for renewal of their MS4 permit in the form of an ROWD for Los Angeles County and the incorporated cities, except for the City of Long Beach. This application started the process for reissuance of the permit, which enters into its third permit term now.

[14] 40 CFR §122.46 (a)

B. Los Angeles County Storm Drain System

The MS4 covered by this proposed permit for the County of Los Angeles and 83 incorporated cities drains the coastal slopes of the Transverse Mountain Ranges, and flows into the Santa Monica Bay and the Los Angeles/Long Beach Harbor. The storm drain structure consists of thousands of catch basins, thousands of miles of underground storm drains, as well as open channels, all owned and operated separately by Permittees. The length of the system, and the locations of all storm drain connections, are not known exactly, as a comprehensive map for the storm drain system does not exist. Rough estimates, based on information from large municipalities (population > 100,000), indicate that the length exceeds 4,300 miles, as shown below.

Permittee	Area (Square Miles)	Catch Basins	Storm Drain Length	Open Channel Length
LA County		73,000	2,650 miles	450 miles
City of LA	469	30,000	1,600 miles	31 miles
El Monte	10	316	11 miles	0.4 mile
Glendale	30.6	1,100	Unknown	Unknown
Inglewood	9	1,157	12 miles	Unknown
Pasadena	26	1,050	30	Unknown
Santa Monica	8.3	850	Unknown	Unknown
Torrance	20	2,000	20 miles	3 miles
TOTAL		**109,473**	**4,323**	**484.4**

C. Summary of Problems in the Los Angeles County Watersheds

Watersheds are geographic areas draining into a river system, ocean or other bodies of water through a single outlet. There are six Watershed Management Areas (WMAs) that represent the six major watersheds covered by the Los Angeles County MS4 NPDES permit. The following is a summary of some significant issues in each watershed.[15]

Dominguez Channel/Los Angeles-Long Beach Harbor Watershed

[15] *Watershed Management Initiative Chapter.* California Regional Water Quality Control Board – Los Angeles Region. Dec. 2000.

Permitted discharges

- 415 dischargers covered under an industrial storm water permit
- 69 dischargers covered under a construction storm water permit

Potential sources of pollution

- Historical deposits of DDT and PCBs in sediment
- Spills from ships and industrial facilities
- Leakages contaminating groundwater
- **Urban and storm water runoff**
- Impairments: metals, PCBs, PAHs, historic pesticides, coliform, trash, and nitrogen

Los Angeles River Watershed

Permitted discharges

- 1,327 dischargers covered under an industrial storm water permit
- 147 dischargers covered under a construction storm water permit

Potential sources of pollution

- Nitrogen and coliform contributions from septic systems
- Other nonpoint sources (horse stables, golf courses)
- Leakage of MTBE from underground storage tanks
- **Urban and storm water runoff**
- Impairments: nitrogen, trash, selenium, other metals, coliform, PCBs, historic pesticides, chlorpyrifos

San Gabriel River Watershed[16]

Permitted discharges

- 549 dischargers covered under an industrial storm water permit
- 175 dischargers covered under a construction storm water permit

Potential sources of pollution

- Excessive trash in recreational areas of upper watershed
- Nonpoint source loadings from nurseries and horse stables
- **Urban and storm water runoff**
- Impairments: nitrogen and effects, trash, metals, historic pesticides, coliform, chlorides, and PCBs

[16] *San Gabriel Watershed State of The Watershed* - RWQCB - LA Region - June 2000

Santa Monica Bay Watershed

- 147 dischargers covered under an industrial storm water permit
- 107 dischargers covered under a construction storm water permit

Potential sources of pollution

- Discharges from Ballona and Malibu Creeks contribute to impairments in the Santa Monica Bay and its beaches.
- Impairments: mercury, selenium, other metals, historical pesticides, PAHs, PCBs, nitrogen, coliform, trash, TBT, habitat alteration, exotic vegetation, and salts

Coastline

- **Acute health risk associated with swimming in runoff contaminated surfzone waters**
- Chronic risk associated with consuming seafood from areas impacted by DDT and PCB contamination
- Historic deposits of DDT and PCBs in sediment

Ballona Creek Watershed

- Trash loading from creek
- Sediment contamination by heavy metals form creek to Marina del Rey Harbor and offshore
- **Toxicity of both dry weather and storm water runoff in creek**
- High bacterial indicators at mouth of creek

Malibu Creek Watershed

- Excessive freshwater, nutrients, and coliform in lagoon; contribution from POTW and other sources
- **Urban runoff from upper watersheds**
- Septic tanks in lower watershed

Santa Clara River

Permitted discharges

- 4 POTWs
- 98 dischargers covered under an industrial storm water permit
- 190 dischargers covered under a construction storm water permit

Potential sources of pollution

- Agriculture
- Increasing loads of nitrogen and salts in supplies of ground water
- POTW discharges
- Increasing development and channelization that results in increased runoff volumes and velocities, erosion, and loss of habitat
- Septic tanks

- Impairments: chloride, nutrients (nitrogen), coliform, trash (in parts of watershed)

D. Enforcement Provision

During the renewal process for the existing permit (i.e. in 1995 and 1996), the permittees proposed and the Regional Board agreed to addition of a "Notice to Meet and Confer" provision (Part 2, section G of the existing permit). This was envisioned as an administrative review process for resolving permit disputes before the Regional Board would take formal enforcement action. It has been actually used only once (in 2000), when the Regional Board issued Notice to Meet and Confer letters to permittees in the Los Angeles River and Ballona Creek watersheds. The purpose of this process was to determine the effectiveness of municipalities' efforts to reduce trash in waters that are impaired by trash.

Subsequent to renewal of the existing permit, the State developed an enforcement policy (State Board Resolution 96-030) and guidance, which sets forth a progressive strategy that has the goal of ensuring consistent, predicable, and fair enforcement of regulations. This is now a well-established and widely implemented policy throughout the State, including in the Los Angeles Region. Therefore, with this policy of progressive enforcement in place the Notice to Meet and Confer provision is not needed; accordingly, the proposed permit does not contain this provision.

E. Total Maximum Daily Loads (TMDLs)

Part 3, Section C. of the proposed permit specifies that the Permittees shall amend the SQMPto comply with load allocations approved pursuant to adoption and approval of Total Maximum Daily Loads (TMDLs). The addition of this provision represents a significant difference from the existing permit, which does not contain a provision for implementation of TMDLs. In addition, the Special Provisions for the Permittees' Program for Public Agencies (Part 4, Sections F.7. and F.8.) specifies performance measures for watersheds subject to a trash TMDL.

TMDLs are one of the Regional Board's highest priorities. In view of the Region's highly urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions can't be forecast at this time, the Board's does envision that storm water permits will be an important mechanism for implementing load reductions. An early example of the relationship between TMDLs and storm water permits is the trash TMDL adopted for the Los Angeles River and Ballona Creek in September 13, 2001, which directs municipalities to monitor for baseline trash levels for 2-4 years, and then to start implementing trash prevention and/or control measures to reduce trash to zero by the year 2013. This proposed 5-year permit incorporates the monitoring requirements of the TMDL and, based on the results of the monitoring requirements, specified load reductions of 60% by 2006. Permits that

are adopted subsequent to this proposed MS4 permit are expected to incorporate the remaining load allocation reductions to achieve zero trash in the Los Angeles River and Ballona Creek by 2013.

Public review of the Regional Board's TMDLs, will occur during the TMDL adoption process (and there will not be an additional public process for TMDL implementation and Basin Plan amendment). Upon approval of a TMDL, the load allocations (specified in that TMDL) effective and enforceable under this permit. This TMDL requirement is consistent with TMDL provisions in the Long Beach and Ventura County MS4 permits.

F. Revision of the Permittees' Storm Water Quality Management Program

In general, MS4 permits such as the Los Angeles County MS4 Permit do not have numeric effluent limits for storm water discharges. Rather, the Regional Board relies on a BMP approach implemented by the Permittees to reduce the discharge of pollutants in storm water to the MEP. Therefore the development and implementation of the special provisions (i.e. the model programs) become of paramount importance.

The Special Provisions in the next section are - for the most part - based on the Permitees' existing model programs, which they've been implementing since at least 1999. The changes Regional Board staff has made provide to the current permit include greater specificity, and better measures to determine. Some of the Permittees are already meeting these performance measures. Many of the performance measures Regional Board staff is proposing will clarify the MEP compliance expectations, and set a consistent bar for all Permittees.

V. DISCUSSION OF SPECIAL PROVISIONS

A. Public Information and Participation Program (PIPP)

Legal Authority:

CWA § 402(p)(3)(B)(ii-iii), CWC section 13377, and NPDES regulations at 40 CFR 122.26(d)(2)(I)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include " A description of education activities, public

information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

To satisfy the Public Education and Outreach minimum control measure, the Permittees need to: (i) implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and (ii) determine the appropriate BMPs and measurable goals for this minimum control measure.

Background:

Implementation of a PIPP is a critical BMP and a necessary component of a storm water management program. The State Board Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The USEPA Phase II Fact Sheet 2.3 (Fact Sheet 2.3) finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[17]

Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and, therefore, should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program because it allows for:

- Broader public support since residents who participate in the development and decision making process are partially responsible for the program and, therefore, are more likely to take an active role in its implementation;
- Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of residents volunteers;
- A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
- A conduit to other programs as residents involved in the storm water program development process make important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, which is encouraged by the USEPA.

Discussion of New Requirements:

[17] *Storm Water Phase II Final Rule - Public Education and Outreach Minimum Control Measure.* USEPA Fact Sheet 2.3, January 2000.

Based on the background information, Los Angeles County should continue its comprehensive educational storm water and urban runoff outreach program, which is designed to measurably increase public knowledge and change behavior regarding storm water pollution. The first five-year public education plan was successful at studying segments of Los Angeles County residents to identify those who pose the greatest threat to storm water quality and those who represent the greatest opportunity to respond to a public education program, as well as providing a baseline measurement of residents' storm water-related practices and habits. This information was used to target the residents who are most likely to change their behaviors to improve storm water quality. Using various communication tactics and activities, the program successfully reached 83% of County residents with pollution prevention messages through the Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis (Five-Year Strategy).[18]

Although the Program has been successful at certain goals, it must be augmented to continue increasing public awareness of specific storm water issues. According to the USEPA, materials and activities should be relevant to local situations and issues, and incorporate a variety of strategies to ensure maximum coverage.[19] To help address local situations and sources of specific pollutants, section B.1.d. of the PIPP requires the development of watershed and pollutant-specific education programs.

A need also exists to target ethnic groups that may not be reached by or understand existing storm water educational materials. In an effort to reach these groups, section B.1.c.2. requires the development of a strategy to provide outreach and bilingual materials to target ethnic communities.

Also, the USEPA encourages partnerships and cooperation.[20] Quarterly meetings will provide the opportunity for Permittees to coordinate their outreach efforts and efficiently build on the County's existing program with local, watershed-specific efforts. Since the Program's inception, Permittees have been required to conduct educational activities within their own jurisdictions. The lack of guidance and coordination has led to duplicate efforts and confusion about developing appropriate programs that are consistent with, and enhance the Principal Permittee's regional education program. This requirement will ensure that all Permittees are coordinated for the most efficient and effective Program. It will also help identify Permittees with insufficient Programs.

It is generally more cost-effective to have numerous operators coordinate to use an existing program than all developing their own local programs. Therefore, Permittees should build on the regional program with additional information specific to local needs.

Furthermore, directing materials or outreach programs toward specific groups of commercial, industrial, and institutional entities likely to have significant storm

[18] Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis, Los Angeles County of Public Works, July 31, 2000.
[19] Phase II Fact Sheet 2.3
[20] *Id.*

water impacts is recommended.[21] Pursuant to Order 96-054, the Principal Permittee conducted educational site visits to Phase I industrial facilities, auto repair shops, retail gasoline outlets, and restaurants over the last 5 years. The next step in this targeted outreach program is education at the corporate level to facilitate employee compliance.[22] Therefore, the Principal Permittee is required to implement a corporate outreach program to educate corporate management at gas stations and restaurant chains about storm water regulations.[23] Also, a non-regulatory business assistance program would encourage small businesses that lack access to the expertise necessary to comply with storm water regulations and to implement pollution prevention measures. The business assistance program is not a requirement, however, its implementation is encouraged.

Program Performance Measures:

The current public information program does not include a protocol to measure the effectiveness of the different public education efforts. The draft permit includes requirements to measure the outcome of outreach efforts and demonstrate that they are effective at increasing knowledge and changing the behavior of the public in regards to storm water pollution. The proposed permit includes requirements for the Principal Permittee to develop a strategy for measuring the effectiveness of different educational programs and to develop a behavioral change target that will become a performance measure that must be reported on in Annual Reports.

To augment the effort to assess the public information and education programs, the following new requirement has been included in the draft:

> "The Principal Permittee shall convene a panel to annually review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer no later than December 31, 2001 annually."

In addition to the assessment requirements mentioned above, the Principal Permittee is also required to: (a) ensure that a minimum of 35 million impressions per year are made on the general public about storm water via print, local TV access, local radio, or other appropriate media; and (b) provide all School Districts within its jurisdiction with materials, including videos, live presentations, brochures, and other media necessary to educate a minimum of fifty percent of all school children (K-12) every 2 years on storm water pollution. These performance measure are justified based on their consistency with requirements in the City of Long Beach and Ventura County MS4 permits, and on the Principal Permittee's previous performance of PIPP requirements.

[21] Phase II Fact Sheet 2.3
[22] *Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis*, Los Angeles County Public Works, July 31, 2000. Part P.5.
[23] Permit, Part 4, section B.2.a.

According to the Principal Permittee's Year Four (1999-2000) Highlights, approximately 85 million impressions were made through advertising, media relations, customized coffee jackets, corporate partnerships, special events, and business outreach. Hits on the www.888CleanLA.com web site have been consistently increasing, indicating a growing public interest, as well as greater awareness. It can be anticipated that mass media coverage will become more efficient after the Five Year PIPP Program Assessment study is completed in the Fall of 2001. Also, increased media attention and public interest in current issues, such as trash TMDLs, is expected. Los Angeles County has committed to making a minimum of 35 million impressions per year.

Furthermore, the requirement is consistent with the number of impressions (3 - 3.5 per resident) required in the Long Beach MS4 Permit and the Ventura County MS4 Permit. The City of Long Beach is required to make a minimum of 1.5 million impressions per year. With a total population of approximately 426, 000 people, this amounts to 3.5 impressions per resident per year. Ventura County is required to achieve 3 impressions per resident per year. Los Angeles County's population is 9.5 million people.[24]

According to data provided by Los Angeles County, the School Environmental Education Program has been reaching approximately 50 percent of elementary and secondary schools in the County every 2 years. It is also expected that the required coordination among Permittees will increase the effectiveness and range of this Program.

B. Industrial/Commercial Facilities Program

Legal Authority:

The Phase I regulations require, in part, that the applicant (i) develop adequate legal authority, (ii) perform a source identification, and (iv) develop a management program to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system design and engineering methods, and such other provisions which are appropriate.[25] Specifically, with regards to industrial controls, the management plan shall include the following.

40 CFR 122.26(d)(2)(iv)(C), A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;
(2) Describe a monitoring program for storm water discharges associated with industrial facilities [...]

[24] 2000 U.S. Census Bureau
[25] 40 CFR 122.26(d)(2)

Background:

The municipality is ultimately responsible for discharges from the MS4. Because industrial awareness of the program may not be complete, there may be facilities within the MS4 area that should be permitted but are not (non-filers). In addition, the Phase I regulations that require industries to obtain permit coverage for storm water discharges is largely based on SIC Code. This has been shown to be incomplete in identifying industries that may be significant sources of storm water pollution (*by industries we also mean commercial businesses. The word "industries" is used in a broad sense*). Another concern is that the permitting authority may not have adequate resources to provide the necessary oversight of permitted facilities. Therefore, it is in the municipality's best interest to assess the specific situation and implement an industrial/commercial inspection/site visit and enforcement program to control the contribution of pollutants to the MS4 from all high risk sources.

In the preamble to the 1990 regulations, the USEPA clearly states the intended strategy for discharges of storm water associated with industrial activity:

"...Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system." The USEPA also notes in the preamble that *"... municipalities will be required to meet the terms of their permits related to industrial dischargers."*

Similarly, in the USEPA's Guidance Manual[1] (Chapter 3.0), it is specified that MS4 applicants must demonstrate that they possess adequate legal authority to:

- Control construction site and other industrial discharges to MS4s;
- Prohibit illicit discharges and control spills and dumping;
- Carry out inspection, surveillance, and monitoring procedures.[26]

The document goes on to explain that *"control"*, in this context means not only to require disclosure of information, but also to *limit, discourage, or terminate* a storm water discharge to the MS4. Further, to satisfy its permit conditions, a municipality may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities and construction sites *not* required to obtain permits.

In the same Guidance Manual[27] (Chapter 6.3.3), it is stated that the municipality is ultimately responsible for discharges from their MS4. Consequently, the MS4 applicant must describe how the municipality will help the USEPA and authorized NPDES States to:

[26] *Guidance Manual For the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* - USEPA -November 1992
[27] *Id.*

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans (SWPPPs) and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities discharging storm water to the municipal systems to ensure these facilities are in compliance with their NPDES storm water permit, if required.

Discussion:

Recognizing that the municipality is ultimately responsible for the quality of storm water discharges in the MS4, the municipalities must evaluate the industrial/commercial facilities and determine their compliance with the permit requirements, as well as their contribution to the MS4 and potential impacts to the receiving waters. The following areas must be addressed in order to implement a meaningful industrial/commercial inspection/site visit and enforcement program.

- **Source Identification**
  - Identification of industrial/commercial sites discharging to the MS4 (by SIC codes and narrative if needed)
  - Characterization of activities, materials used, and potential for contributing pollutants along with the type of pollutants

- **Pollution Prevention**
  - Key concepts are many times overlooked: Prevent, before it happens, and be Pro-active rather than Reactive. It is more difficult to treat after the pollutant is released or mixed with storm water. BMPs and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges from industrial and commercial facilities.

- **Threat to Water Quality Prioritization**
  - Identify impaired water bodies by pollutants and link with activities and industrial/commercial sites that may contribute those particular pollutants (or potentially contribute to) the water quality impairment

- **Through existing ordinance, order, or similar means, the ability to**
  - enter premises;
  - conduct inspections;
  - review and evaluate SWPPPs and monitoring results review;
  - require control methods (BMPs) implementation; and,
  - take appropriate enforcement actions, if necessary.

It may be necessary to update existing ordinances if they do not provide sufficient legal authority to implement the above mentioned components as required by the regulations.

Integration of NPDES Program for MS4 with NPDES Program for Industrial Activities

Recognizing the dual coverage envisioned by the USEPA regulations[28], and suggested partnership between local and State authorities, municipalities shall coordinate with State activities for the implementation of the General Industrial Activities Storm Water Permit (GIASP). The goal is to control industrial sources and other sources not specifically covered under Phase I storm water regulations but identified as significant contributors of pollutants by the municipalities through their identification and prioritization studies. The net result should be a better and improved coordinated program with greater impact on limiting and eliminating (as a final goal) the contribution of pollutants to the receiving water while maintaining and/or restore the capacity of the receiving water to sustain the beneficial uses without impairments.

The *Critical Source Selection and Monitoring Report*[29] identified seven highest ranked pollution potential activities to be, in order of ranking: (i) wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products, (vi) automotive dealers/gas stations, (vi) primary metals products. The report also outlined a complete study plan to be implemented by the Permittees during the permit term. It is significant to note that five out of seven categories of activities are subject to Phase I industrial storm water regulations. Although *automotive repair/parking* and automotive dealers/gas stations categories were not the focus of the Phase I storm water regulations, the study identified these commercial categories as significant potential pollutant contributors based on the criteria developed in the critical source criteria study.

Rank (pollution potential)[30]	Industrial Category	SIC Code	No. Facilities (estimated)
1	Wholesale trade (scrap, auto dismantling)	50	587
2	*Automotive repair/parking*	*75*	*6,067*
3	Fabricated metal products	34	3,283
4	Motor freight (including trucking)	42	872
5	Chemical and allied products	28	1,069
6	*Automotive Dealers/Gas Stations*	*55*	*2,744*
7	Primary Metals Products	33	703

It is also important to note that heavy metals are significant pollutants transported with storm water discharges and a cause of impairment to receiving waters in the Los Angeles Region. The above table identifies at least two industrial categories that have the highest potential to contribute those pollutants: fabricated metal products and primary metal products. During the previous permit term, the County conducted a Critical Source Study (1998-2000). The aim of the study was to monitor for two years the previously identified five

[28] Federal Register Vol. 55, No 222, pag. 48000; USEPA Storm Water Phase II Compliance Assistance Guide, 2000, pag. 4-32 and 5-11, where it clarifies the dual responsibility
[29] Critical Source Selection and Monitoring Report, Woodward-Clyde, 1997
[30] *Critical Source Selection and Monitoring Report (Table 1-3)* - Woodward-Clyde 1996

priority industrial and/or commercial critical source categories. The results of the study confirmed that the critical source industries are high risk. Storm water discharges exceeded water quality standards for almost all toxic pollutants in all categories.

Based on the dual coverage and partnership approach between the permitting authority and municipalities that the USEPA called for in the storm water regulations (see letters from Alexis Strauss, USEPA Water Division Director)[31,32], and in order to best use limited resources at the State and local level, Regional the draft permit requires the following improvements.

Recognizing that this permit represents a *third term* permit, and building upon the experience and tools developed under the previous permits, the Industrial/Commercial program has been elevated to an Inspection/Site visits implementation and enforcement program. The municipalities are required to (i) control the storm water discharges associated with industrial activities and other commercial facilities identified as significant contributors of pollutants, and (ii) assist the Regional Board in implementing the general permit for industrial activities. This approach is consistent with the nationwide approach used by the USEPA in issuing *second term* MS4 permits[33]. Also, this approach is consistent with other MS4 permits issued in California: San Diego, Santa Clara permits. The education and outreach should be continued under the auspices of the Public Education program.

The strategy as outlined in the draft permit builds on the State/municipalities partnership by focusing their limited resources on the following activities:

- The Permittees will take a lead role in inspecting restaurants, automotive service facilities, retail gasoline outlets, industrial facilities mandated specifically by the regulations, top five highest ranking industrial categories identified by the Permittees through their critical sources identification and monitoring studies and site visits at the remaining industrial categories identified through their critical sources identification study while
- The Regional Board will be the lead agency for inspections of facilities covered or in need of coverage under GIASP;
- The Permittees will assist Regional Board in its activities to fully enforce the GIASP through spot check inspections, referrals, data information research, joint inspections;
- The Regional Board and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen harmonization of activities;
- The Regional Board may based on available funding enter into agreement with Permittees to contract some of the inspection activities required by the GIASP to be done by the Permittees.

[31] Letter dated December 19, 2000, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Dennis Dickerson, Executive Officer, Regional Water Quality Control Board-Los Angeles Region.
[32] Letter dated April 30, 2001, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Honorable Stephen Horn, U.S. House of Representatives
[33] MS4 NPDES Permits issued to Palm Beach County, Broward County, Sarasota County, Florida, Tulsa, Oklahoma, Denver, Colorado.

C. Construction Sites Program

Legal Authority:

USEPA storm water regulations at 40 CFR 122.26(d)(2)(iv)(D) provide that a proposed management program must include "a description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system".

The draft permit provides consistency with the Long Beach MS$ permit and the Ventura County MS4 permit.

Background:

There are different environmental impacts of construction activity.

As stated in the *California Storm Water Best Management Practice Handbook for Construction Activity* (BMP Handbook), "Construction usually increases the amount of impervious area causing more of the rainfall to runoff, and increasing the speed at which runoff occurs. Unless properly managed, this increased runoff will erode natural and/or unprotected watercourses causing the watercourse to widen...Sedimentation can also contribute to accelerated filling of reservoirs, harbors, and drainage systems.[34]

Discussion:

The prevention of erosion is a key objective of the draft permit modifications to the construction program. The Permittees currently oversee construction sites within their respective jurisdiction. The oversight of smaller construction sites (those sites under five acres) is inconsistent among Permittees. Some Permittees have incorrectly assumed that responsibility begins only after a discharge of pollutants, sediments for example, has left the site. USEPA storm water regulations do not support such interpretations. Regional Board staff have clarified this in the draft to require that the municipalities better coordinate oversight of construction activity within their jurisdiction. The Permittees are ultimately responsible for what enters and exits the MS4 that they own and/or operate. It is in the best interest of the Permittees to control what enters their storm drain system.

Specific significant changes in the draft permit and justifications:

NEW REQUIREMENT: The draft permit requires that Permittees promote the use of effective erosion and sediment controls at construction sites regardless of size.

[34] *California Storm Water Best Management Practice Handbook for Construction Activity.* 1993.

NEW REQUIREMENT: Wet weather inspections are required of all construction sites one acre or greater. The Permittees need to conduct wet weather inspections to ensure compliance with local ordinances.

JUSTIFICATION: If all sites are inspected, this allows the Permittees to ascertain compliance and focus educational and enforcement efforts on those that most need it. Additionally, Regional Board staff can assist the Permittees in compliance oversight by conducting joint inspections.

D. Illicit Connections and Illicit Discharges Elimination Program

Legal Authority:

A proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer," per federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B). A Copermittee must include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system," per subsection (1) of the above regulation.

Background:

During dry weather, much of the discharge to storm drain systems consists of wastes and wastewater from non-storm water sources. A significant amount of such discharges may be from illicit discharges or connections, or both. Illicit discharges may occur either through direct connections, such as deliberate or mistaken piping, or through indirect connections, such as dumping, spillage, subsurface infiltration, and washdowns.

The objective of a municipality's illicit connection/illicit discharge (IC/ID) elimination program should be to detect illicit connections and illicit discharges to the storm drain system, and to promptly eliminate such discharges and connections. Municipalities typically employ the approaches listed below to achieve this objective:

JUSTIFICATION: The need for proper erosion and sediment controls is very apparent during, and immediately after, the rains that we experience in Southern California. The environmental effects of erosion are well documented. Erosion can be prevented or reduced with the proper planning and implementation of appropriate BMPs.

NEW REQUIREMENT: Requirements for source control and treatment control BMPs for controlling runoff at construction sites.

JUSTIFICATION: Erosion occurs when land is exposed and the sediments are mobilized. With adequately engineered and implemented structural or non-structural BMPs, the detrimental environmental effects can be eliminated or minimized. Currently, there are many manuals and guidance handbooks available to lead a developer. The municipalities, in general, are aware of these BMPs, and working with Regional Board staff facilitates the requirements being quickly implemented.

NEW REQUIREMENT: Each Permittee shall require the preparation, submittal, and implementation of a Local SWPPP prior to issuance of a grading permit for construction projects that meet one or more of the following criteria: will result in soil disturbance of one acre or more in size.

JUSTIFICATION: This is to ensure that a site that is being graded, but is less than the required size threshold for a General Construction Activities Storm Water Permit (GCASP) has oversight by the Permittee. Currently, there are inconsistent requirements for grading. USEPA Phase II storm water regulations require that sites one acre or more in size are subject to permitting.

NEW REQUIREMENT: The Permittees shall implement a process to review, approve, and enforce any erosion control plan submitted to the Permittee for implementation at construction sites, regardless of size and GCASP coverage of the sites. Local SWPPPs shall be required for projects of one acre or more in size.

JUSTIFICATION: The Permittees need to enforce local storm water ordinances at construction sites to prevent erosion. The should not wait for a discharge to react with an enforcement action.

REQUIREMENT: For sites that require a construction storm water permit, Permittees are required to ensure that a Notice of Intent (NOI) has been filed with the State Board prior to issuing a grading permit. This requirement also applies to land transfers between developers on common plans of sale or development.

JUSTIFICATION: This is currently a requirement in Board Order No. 96-054, but not all Permittees have consistently implemented this provision. Regional Board staff inspect construction sites covered by a GCASP. Some Permittees have issued a grading permit where a GCASP was not obtained. State/municipal coordination will ensure that all construction sites have obtained the required permits.

1. Permitting connections to the municipal storm drain.

2. Mapping the storm drain system, locations of catch basins, outfalls, permitted connections, and the names and locations of all waters of the U.S. that receive discharges from the outfalls.

3. Adopting a storm water/ urban runoff ordinance to prohibit unauthorized non-storm water discharges into the MS4, and implementing appropriate enforcement procedures and actions.

4. Implementing a program to detect and eliminate non-storm water discharges to the MS4, including illegal dumping.

5. Educating public employees, businesses, and the general public about the dangers associated with illegal discharges and improper disposal.

6. Establishing a public reporting hotline or other mechanism to report illicit discharges and illegal dumping.

7. Establishing measurable goals to evaluate successful program implementation.

Discussion:

Existing IC/ID Elimination Program

The Regional Board approved a model IC/ID elimination program for the Permittees' SQMP on March 23, 1999. However, only vague performance standards are specified in this model program.

By July 1999, all Permittees reported that they implemented an IC/ID elimination program. For the most part, however, this was a passive program, and relied upon IC/ID detection during regularly scheduled maintenance. Most Permittees cannot estimate the extent of their storm drain they have screened during regularly scheduled maintenance.

Results of the Permittees' efforts to eliminate illicit connections are summarized in Tables 1 through 5. Their estimates of fiscal resources required to implement these activities for 1999/00 range widely, with two cities – Culver City and Hermosa Beach – estimating budgets of $4.2 million and $2.8 million, respectively. At the other end, four cities estimated $0 expenditures, namely La Habra Heights, Lawndale, Maywood (which does not operate a storm drain system), and West Covina. Based on the Permittees' estimates of expenditures, the Permittees budgeted an average of $113,900 in 1999/00. Removing the anomalous estimates for Culver City and Hermosa Beach, the high ranges up to $564,809, as estimated by the City of Los Angeles, and averaged $32,500. These activities, as summarized in the tables, do not appear to bear a relationship with IC/ID expenditures by each Permittee.

Illicit Connections: As designed in the model program, Permittees with storm drain systems under their management rely upon field screening, during regularly scheduled maintenance of the storm drain system, to locate illicit

connections. However, most Permittees cannot estimate the length of the storm drain system that was field-screened; nor did the Regional Board require reporting such information.

For the 1999/00 annual reporting period, very few Permittees reported illicit connections. The attached tables show that the numbers of illicit connections varied widely among Permittees, with about half reporting no illicit connections, and with the County reporting 877 suspected illicit connections. Part of the reason for this range is that the County is responsible for maintaining over half[35] of the storm drain system. Also, several Permittees believe that few – if any – illicit connections have been identified in many cities because: (a) many cities are primarily residential, and illicit connections are unlikely to occur from residential land use; and (b) cities in the County of Los Angeles are relatively new vis a vis their eastern counterparts, and adequate controls were in place at the time storm drain connections were installed.

Table 1: Illicit Connections 1999/00
County, Ballona Creek, and Urban Santa Monica Bay
Watershed Management Areas

Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
County of Los Angeles	877	124	0	336	417[36]
Beverly Hills	0				
Culver City	None				
El Segundo	0	0	0	0	0
Hermosa Beach	None				
Manhattan Beach	0				
Palos Verdes Estates	0	1	3	3	0
Rancho Palos Verdes	None				
Redondo Beach	0				
Rolling Hills	0	0	0	0	
Rolling Hills Estates	0				
Santa Monica	70	10	50	10	0
West Hollywood	None				
Total	947	135	53	349	417

[35] The exact length of storm drain systems operated by most cities is unknown.
[36] The County of Los Angeles reported under the "Other" category of illicit connections that 126 connections were already permitted but not properly identified and those 291 illicit connections are still under investigation.

Table 2: Illicit Connections 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges	Removed	Other
Carson	8	0	0	0	0
Hawthorne	None				
Inglewood	3				3[37]
Lawndale	None				
Lomita	1	0	1	0	0
Torrance	0				
Total	12	0	1	0	3

Table 3: Illicit Connections 1999/00 Malibu Creek and Rural Santa Monica Bay Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Agoura Hills	0	0	0	0	
Calabasas	2				2
Malibu	15	0	7	0	
Total	17	0	7	0	2

[37] The City of Inglewood reports that 3 illicit connections are to be eliminated.

Table 4: Illicit Connections 1999/00 Los Angeles River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Alhambra	0	0	0	0	0
Arcadia	0	0	0	0	0
Bell	0	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0
Burbank	4		3	1	
Commerce	14	8	6	0	0
Compton	8	6	2	0	0
Cudahy	0	N/A	N/A	N/A	N/A
El Monte	None				
Glendale					
Hidden Hills	0	N/A	N/A	N/A	N/A
Huntington Park	2			2	
La Canada Flintridge	0				
Los Angeles	29	7	8	11	3
Lynwood	0	0	0	0	0
Maywood	0	0			
Monrovia	0	N/A	N/A	N/A	N/A
Montebello	21	0	11	1	9
Monterey Park	2	0	0	2	0
Paramount	0				
Pasadena	None				
Rosemead	0				
San Fernando	None				
San Marino	0	N/A			
Sierra Madre	None				
Signal Hills	None				
South El Monte	None				
South Gate	2	0	1	1	
South Pasadena					
Temple City					
Vernon	1	0	0	0	1
Total	83	21	31	18	13

Table 5: Illicit Connections 1999/00 San Gabriel River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharged Terminated	Removed	Other
Artesia	0				
Azusa	0				
Baldwin Park	None				
Bellflower	0	0	0	0	0
Bradbury	0				
Cerritos	0	0	0	0	0
Claremont	0				
Covina	0				
Diamond Bar	0				
Duarte	3	0	1	0	2
Glendora	4	0	1	0	3
Hawaiian Garden	0				
City of Industry	None				
Irwindale	9	0	9	0	0
La Habra Heights	0				
La Mirada	1	1			
La Puente	0				
La Verne	0				
Lakewood	11	5	6	0	0
Norwalk	6	0	6	0	N/A
Pico Rivera	0				
Pomona	12	10	2	0	0
San Gabriel	2	0	0	2	0
Santa Fe Spring	0	N/A	N/A	N/A	N/A
Walnut	0				
West Covina	0				
Whittier	8	3	5	2	0
Total	56	19	30	4	5

Illicit Discharges: As designed in the model program, Permittees eliminate illicit discharges by preventing spills and, for those that do occur, by responding promptly. To prevent spills, Permittees enacted ordinances prohibiting non-storm water runoff, and are following spill prevention guidance. To respond to discharges, Permittees implement containment and cleanup procedures, coordinate with other agencies, investigate the cause of the discharge and – when the source and responsible party is know – take enforcement action. Additionally, employee training is provided on all of the above.

As with illicit connections, the numbers of illicit discharges varies widely for the annual reporting period 1999/00. The County reported a total of 788 suspected illicit discharges. Among the Cities, results at the high end include 1,876 in the City of Los Angeles, 700 in the City of Beverly Hills, and 450 in Santa Monica. At the other end of the range, many cities reported no incidents of suspected illicit

discharges. Based on information provided to date, staff cannot account for this wide range. Audits of the Permittees' programs should help clarify this.

Table 6: Illicit Discharges 1999/00
County of Los Angeles, and Ballona Creek and Urban Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
County of Los Angeles	788	95	15	2	411	265
Beverly Hills	700	70[38]	35[2]	35[2]	525	35[2]
Culver City	25	0	0	0	25	0
El Segundo	10	7	1	0	2	0
Hermosa Beach	10	2	0	0	8	0
Manhattan Beach	1	0	0	0	1	0
Palos Verdes Estates	6	2	1	0	3	0
Rancho Palos Verdes	6	0	0	0	6	0
Redondo Beach	31	3	0	0	25	3
Rolling Hills	0	N/A	N/A	N/A	N/A	N/A
Rolling Hills Estates	1				1	
Santa Monica	450	5	22	5	398	20
West Hollywood	9	1	0	0	8	0
Total	2037	185	74	42	1413	323

Table 7: Illicit Discharges 1999/00
Malibu Creek and Rural Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Agoura Hills	11	1	0	0	10	0
Calabasas	12	1			10	
Malibu	15	7	0	0	7	8
Total	38	9	0	0	27	8

[38] Documented as percentage.

Table 8: Illicit Discharges 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas						
Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Carson	24	12	0	0	0	24
Hawthorne	10	0	1	0	9	0
Inglewood	3				3	
Lawndale	2	1	0	0	1	0
Lomita	14	0	0	0	14	0
Torrance	0					
Total	53	13	1	0	27	24

Table 9: Illicit Discharges 1999/00 Los Angeles River Watershed Management Areas						
Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Alhambra	0	0	0	0	0	0
Arcadia	11	1	0	0	10	0
Bell	0	N/A	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0	0
Burbank	47	2	1	0	43	1
Commerce	21	4	8	0	9	0
Compton	17	9	5	0	3	0
Cudahy	0	N/A	N/A	N/A	N/A	N/A
El Monte	50	0	0	0	48	2
Glendale	?	?	?	?	?	?
Hidden Hills	0	N/A	N/A	N/A	N/A	
Huntington Park	2				2	
La Canada Flintridge	75	15	0	0	60	0
Los Angeles	1896	227	2	5	700	962
Lynwood	0	0	0	0	0	0
Maywood	1		1			
Monrovia	0	N/A	N/A	N/A	N/A	
Montebello	13	12	11	0	0	1
Monterey Park	19	0	0	0	18	1
Paramount	0					
Pasadena	39	1	0	0	37	1
Rosemead	0					
San Fernando	12	1	0	0	11	0

San Marino	0	N/A				
Sierra Madre	3	0	0	0	3	0
Signal Hills	13	3	0	0	10	0
South El Monte	15	0	0	0	15	0
South Gate	28	3	1	0	22	2
South Pasadena						
Temple City						
Vernon	10	0	0	0	9	0
Total	2271	278	29	5	1000	970

Table 10: Illicit Discharges 1999/00
San Gabriel River Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Artesia	10	4	0	0	4	2
Azusa	1				1	
Baldwin Park	27	5	0	0	20	2
Bellflower	8	8	0	0	0	0
Bradbury	0					
Cerritos	8	0	0	0	8	0
Claremont	4	1	0	0	3	
Covina	32	5	4	0	18	5
Diamond Bar	1					1
Duarte	3	3	0	0	0	3
Glendora	14	13	0	0	12	0
Hawaiian Garden	0					
City of Industry	None					
Irwindale	23	0	0	0	20	3
La Habra Heights	1			1		
La Mirada	16		3		13	
La Puente	1				1	
La Verne	1				1	
Lakewood	17	0	2	0	9	6
Norwalk	6	0	0	0	6	0
Pico Rivera	12	6	0	0	6	0
Pomona	78	18	8	10	16	26
San Gabriel	4	0	0	0	3	1
Santa Fe Spring	12	3	0	0	0	9
Walnut	2			1	1	0
West Covina	48	6	0	0	7	35
Whittier	32	12	18	15	17	3
Total	361	84	35	27	166	96

Reporting: As designed in the model program, Permittees have implemented procedures to receive reports of illicit discharge and disposal incidents, and to promptly respond and report such incidents. Most rely upon the countywide hotline system, which is maintained by the County. For hazardous substances, Permittees implement additional reporting procedures.

Proposed IC/ID Elimination Program

The Special Provisions Section of the proposed permit requires the Permittees to revise their IC/ID Elimination Program in the SQMP to meet the following proposed requirements in the draft permit:

- General requirements, among which include a development (if necessary) and updating of a list of permitted connections to the storm drain system, a tracking system for illicit connections and discharges, and compilation, coordination of this information by the Principal Permittee, as well as identification of priority areas for proactive screening.

- Illicit connection requirements: Proactive screening of the storm drain system over a 5-year period, including:

  - Filed screening of open channels and underground pipes (with a diameter of 36 inches or greater);[39] and

  - Permit screening, to ensure that all connections are effectively implementing the prohibition on non-storm water discharges.

  - Requirements to investigate and terminate illicit connections, including response times.

- Illicit discharge requirements, specifying response times for abatement and cleanup (within one business day), and investigation (as soon as practicable).

As Permittees have pointed out, and as staff acknowledges, residential land uses are less likely to have illicit connections. However, staff remains concerned that adequate controls have been in place at all times for proper connections to the storm drain system. Staff's concern is based upon the wide range of illicit connections reported by Permittees with no apparent relation to land use, the poor water quality of dry weather flows in inland receiving waters, and also incidents of illicit connections reported separately to the Regional Board.

[39] As set forth on page 3-3 and in Appendix I of the Permittees' model program, screening tools for the proactive program will include dye tests, smoke tests, and TV inspections.

E. Public Agency Activities Program

Legal Authority:

USEPA storm water regulations 40 CFR 122.26(d)(2)(iv)(A)(1;3,4,5,and 6). Each Permittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities.

Background:

Many Permittees provide services that ultimately result in the enhancement of the lives of the residents. Some of these services include but are not limited to: sewage system operations; public construction activities; vehicle maintenance; material storage; street and road maintenance; landscaping; recreational facility management; parking facility management; public industrial activities; and many other activities.

Specific significant changes in the draft permit and justifications:

NEW REQUIREMENT: In sewage system operations, the proposed change is that each Permittee will be required to implement a response plan in case of an overflow of the sewage system to the storm drain system.

JUSTIFICATION: The response plan will have different requirements dependent upon whether the Permittee owns or operates the sewer system.

NEW REQUIREMENT: In public construction activity management, the proposed changes include generally, that the requirements in the construction section of the draft permit also apply to the Permittees public construction sites.

JUSTIFICATION: This is proposed to reduce the possibility of a public construction site from becoming a source of pollutants. A public construction site should be a model of what to do efficiently and effectively (preceding a discharge).

NEW REQUIREMENT: Each Permittee with a construction site that meets the size requirements for a GCASP shall obtain a permit from the State for the construction activity. Currently the size threshold is 5 acres but will change to 1 acre on March 10, 2003. However, a municipality of less than 100,000 people need not apply for the state permit for a construction activity until March 10, 2003.

JUSTIFICATION: This change is consistent with USEPA Phase II storm water regulations, and will assist in the tracking of construction sites operated by Permittees.

NEW REQUIREMENT: Each Permittee will be required to ensure that public facilities are designed and constructed using construction and post-construction BMPs consistent with the Standard Urban Storm Water Mitigation Plans (SUSMPs) required under the Construction Planning section of the draft permit.

JUSTIFICATION: This requirement ensures consistency with the planning, design, and construction requirements for public projects.

NEW REQUIREMENT: For Permittee owned or operated vehicle maintenance, material storage areas, and corporation yards the Permittees will implement site specific SWPPPs to minimize pollutant discharges in storm water discharges. Vehicle and equipment wash areas will be required to be self contained or covered, equipped with a clarifier, or other pretreatment device, and or properly connected to the sanitary sewer. This requirement will take effect when a new facility is constructed or when an existing site is remodeled or reconstructed.

JUSTIFICATION: This provision ensures that the planning of public projects is treated the same as that of private projects.

NEW REQUIREMENT: For storm drain operation and maintenance the changes proposed are the inspection and clean out of catch basin inlets during the wet season and the classification of priority catch basins.

JUSTIFICATION: This provision ensures consistency with the Ventura County MS4 Permit.

NEW REQUIREMENT: For storm drain maintenance each Permittee must visually monitor their open channels for debris and identify and prioritize areas of illicit discharge for regular inspection and at least annually remove trash and debris from the channels. Permittees will review existing maintenance activities. After clean out, the material will be properly disposed of.

NEW REQUIREMENT: For street and road maintenance each Permittee will conduct street sweeping on curbed public streets in their permitted area at a monthly average, not less than four times per month, in areas generating high volumes of trash, and at a monthly average not less than two times per month in areas generating moderate volumes of trash on traffic collector streets and residential areas (except that for any Permittee within an area subject to a trash TMDL, the Permittee may implement a program which maximizes trash removal by using an effective combination of street sweeping, catch basin clean outs, installation of treatment devices, and/or implementation of any other BMPs that achieve waste load allocations).

F. New Development And Significant Redevelopment Program

Impacts from New Development:

Treatment control BMP requirements on new development and redevelopment offer the most cost effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection

indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[40]

USEPA storm water regulations at 40 CFR 122.26 require that pollutants in storm water be reduced to MEP. The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis.[41] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that storm water BMPs be designed to manage both flows and water quality for best performance. [42] It is equally important that treatment BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[43] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of funds. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or making improvements to reduce runoff from the site.

Review of Design Standards:

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound.[44] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for eighty-five percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inches depending on the imperviousness of the watershed area and the mean rainfall.[45]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall

[40] *The Economics of Watershed Protection*, T. Schueler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provides positive economic benefits.
[41] *Storm Water Phase II Final Rule* – Pre-Federal Register Version, p 87 (USEPA 1999). See USEPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.
[42] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)
[43] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. USEPA-821-R-99-012, USEPA.. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.
[44] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).
[45] *Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force,* November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee.

event equal to or less than a predetermined size; (iii) Percent reduction in runoff based on a rainfall event of standard size.[46] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO; Orlando, FL; Portland, OR; and Austin, TX.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency, and a peak discharge rate not to exceed 0.2 cubic feet per second.[47] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to remove 80 to 90 percent of the annual TSS load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[48]

Some States have established numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to 1 inch, and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[49] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982, including BMPs sized for 80 percent reduction (95 percent for impaired waters) in annual TSS loads derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[50] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development, which add 10,000 square feet of impervious surface or more for residential development, and 5,000 square feet of impervious surface or more for other types of development[51]. Other mitigation criteria options include the 90th percentile 24-hour rainfall event (used by the State of Maryland) and the six month 24 hour rainfall event (used by the State of Washington).

On a national level, the USEPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs, and will likely build from the experience of effective state and local programs to establish national criteria.[52]

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[46] *Sizing and Design Criteria for Storm water Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans*, August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.

[47] *City of Seattle Municipal Code, Chapter 22.802.015* – Storm water, drainage and erosion control requirements.

[48] *Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver*, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.

[49] *Maryland Storm Water Design Manual* - (Maryland Department of the Environment 2000).

[50] *Florida Development Manual: A Guide to Sound Land and Water Management* (Florida Department of Environmental Protection 19xx). The manual describes structural and non-structural construction and post construction BMPs design criteria.

[51] *Storm Water Management in Washington State Volumes 1 – 5.* Public Review Draft (Washington Department of Ecology 1999). The volumes 1,3 and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes will be adopted as statewide standards in early 2000 after completion of public hearings according to the agency.

[52] *Storm Water Phase II Final Rule* – 64 Fed. Reg. 68759. See USEPA's discussion on construction and post-construction BMP requirements for Phase II.

The USEPA, based on the NURP, supports the first half-inch of rainfall as generating first flush runoff.[53] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The USEPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

Background:

On April 22, 1999, the Regional Board approved a List of BMPs for MS4 Permittees to select from and required implementation of the most effective BMPs in their Development Planning and Development Construction programs.[54]

The Final SUSMP was issued on March 8, 2000. It established new development and significant redevelopment conditions for all projects in the following categories:

10 or more home subdivision;
100,000+ square-foot commercial development;
automotive repair facilities;
retail gasoline outlets;
restaurants;
parking lots more than 5,000 square feet or more than 25 parking spaces
hillside located single-family dwelling,
construction projects adjacent to, in, or discharging directly to environmentally sensitive areas

The SUSMP included numerical design criteria for structural and treatment control BMPs. These criteria are:

Mitigate (infiltrate or treat) storm water runoff from either:

a) the 85th percentile 24-hour runoff event, determined as the maximized capture storm water volume for the area from the formula recommended by the WEF and ASCE study[55];

b) the annual runoff volume, based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in the BMP Handbook[56];

[53] *A Watershed Approach to Urban Runoff: Handbook for Decisionmakers*, Terene Institute and USEPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.
[54] (Board Resolution No. 99-03).

[55] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. (1998).
[56] *California Storm water Best Management Practices Handbook – Industrial/ Commercial.* (1993)

c) the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system; or

d) the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event; and/or

e) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

f) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

g) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

The State Board issued a precedential decision[57] on the matter in Order WQ 2000-11, largely sustaining the SUSMP as approved by the Regional Board. The State Board amended the SUSMP to limit its application to discretionary projects as defined by CEQA, eliminated the category for projects in environmentally sensitive areas, and set aside the requirement for retail gasoline outlets to treat storm water until a threshold is developed in the future. In addition the State Board articulated its support for regional solutions and the mitigation banking.

The draft permit amends the SUSMP requirements to clarify implementation, make it consistent with recent Regional Board actions, and where appropriate correct procedural and other deficiencies identified by the State Board in its SUSMP ruling. The proposed changes include:

- SUSMPs for hillside developments that are 1 acre or more. Hillside residential homes below the threshold would be required to incorporate BMPs to facilitate drainage and pollutant removal but would not be subject to the numerical mitigation criteria. Currently, all hillside developments regardless of size are subject to the numerical mitigation criteria. This change normalizes post-construction controls for home developments irrespective of location.

- Numerical design criteria retail gasoline stations, where they meet thresholds such as: (i) projected average daily traffic of 100 cars or more; and (ii) 5,000 square feet or more of surface area.

[57] *State Water Board Order WQ 2000-11*: SUSMP; Memorandum from Chief Counsel to Regional Board Executive Officers, (December 26, 2000) discusses statewide policy implications of the decision.

- Clarify that the 100,000 square feet commercial development includes heavy industrial development. The category is designated 'industrial/commercial'.

- Lower the industrial/commercial category threshold from 100,000 square feet to 1-acre (43,560 square feet) beginning March 9, 2003, to be consistent with the USEPA Phase 2 storm water regulations for small construction projects.

- SUSMP requirements apply to all developments, both ministerial and discretionary. As presently implemented the SUSMP requirements apply to only discretionary projects as defined under CEQA.

- SUSMP requirements apply to projects situated in, adjacent to, or discharging directly to environmentally sensitive areas where the development (a) creates 2,500 square feet or more of impervious area, and (b) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat.

- Redevelopment clarification.

The attached technical papers provide more detail.

VI. MONITORING PROGRAM

Background:

Using data collected from a monitoring program, storm water management efforts can be prioritized, helping limited resources be most effective in improving receiving water quality. For example, a monitoring program can provide data that can allow for specific receiving waters and watersheds to be targeted for urban runoff management and education efforts based on their need. Particular pollutants and their sources can also be identified and targeted using monitoring data. In addition, monitoring data can be useful in assessing the effectiveness of an urban runoff management program. Successful efforts that have resulted in receiving water quality improvements can be analyzed for use elsewhere, while areas that need follow-up efforts can also be identified. In general, a comprehensive monitoring program can supply a wealth of data that can be used in a wide range of applications for improving water quality.

Storm Water Monitoring History:

In the 1994-95 storm season, the Los Angeles County Department of Public Works began monitoring storm water quality in Los Angeles County. The first two years of monitoring were conducted pursuant to the 1990 permit. Over the past five years, the Los Angeles County storm water monitoring program consisted of four main components: mass emission monitoring, land use monitoring, critical source monitoring, and a Santa Monica Bay receiving water study. The results of each objective are summarized below.

- **Mass Emission Monitoring**

Mass emissions were monitored for four major watersheds: Ballona Creek, Malibu Creek, Los Angeles River, and San Gabriel River. The County also monitored mass emissions from Coyote Creek, although it was not a requirement of Order 96-045. The mass emission monitoring identified the Los Angeles River as consistently contributing the most zinc, copper, and suspended solids[58]. Sixteen chemical constituents of concern were identified from the comparison of mass emission annual concentrations to the objectives of the Ocean Plan, Basin Plan, and the CTR (several other constituents of concern were identified through research)[1]. The mass emission monitoring was also successful at identifying toxic levels of zinc and copper from Ballona Creek discharge, toxicity in the Los Angeles and San Gabriel Rivers, and the extent of severity of bacterial indicators in both dry and wet weather.

- **Land Use Monitoring**

  The County selected eight land use types to be monitored to identify sources of pollutants in storm water monitoring. These land uses include retail/commercial, vacant, high-density single family residential, transportation, light industrial, education, multifamily residential, and mixed residential. The land use monitoring identified light industrial, transportation, and retail/commercial land uses as producing the highest median concentrations for total and dissolved zinc[1]. Light industrial and transportation displayed the highest median concentrations for total and dissolved copper, and light industrial produced the highest concentrations of suspended solids. The majority of the Land Use monitoring requirement was completed, however, Event Mean Concentrations (EMCs) for several constituents (many due to the lowering of method detection limits) were not achieved. Pesticide, nutrient, and PAHs are among the constituents that do not have EMCs for most land uses.

- **Critical Source Monitoring**

  Five critical sources, including industrial and commercial facilities, were monitored to evaluate the effectiveness of voluntary good housekeeping and preventative BMPs. The critical sources included in the study were motor freight, auto dealers, chemical manufacturing, machinery manufacturing, and rubber/plastics. The critical source monitoring program identified fabricated metal businesses as producing the highest median concentrations for zinc, copper, and suspended solids[59]. The inability to require or control the implementation of BMPs made this study somewhat ineffective at evaluating BMP effectiveness. In most cases, there was no significant difference in pollutant levels from critical sources with and without BMPs. However, levels of total and dissolved copper at the fabricated metal industry were significantly reduced with the implementation of BMPs[1].

- **Receiving Water Study**

  A three-year study was conducted to assess the impacts of urban storm water runoff, specifically ecosystem health, on the receiving waters of the Santa Monica Bay. The study examined plume characteristics, water column and seafloor biology.

[58] Los Angeles County 1994-2000 Integrated Receiving Water impacts Report, Los Angeles County Department of Public Works

[59] Integrated Report

Ballona and Malibu Creek were compared to evaluate the effects of different watershed types. The study discerned the presence of well-developed plumes containing toxic materials, identified zinc and copper as contaminants in Ballona Creek, and concluded that sediments offshore of Ballona Creek generally had higher concentrations of urban contaminants. These findings demonstrate the need for further studies and for the identification of sources of toxic pollutants.

Proposed Storm Water Monitoring Program:

The objectives of this program include, but are not limited to: 1) assessing compliance with the MS4 permit; 2) measuring and improving the effectiveness of the SQMP; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality.

Mass Emissions Monitoring

Seven mass emissions stations will be monitored. Monitoring at the five existing stations will continue, and new stations were required in Dominguez Channel, and the Santa Clara River.

The Dominguez Channel watershed contains the highest percentage of impervious area. Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters.[60] Also, the Dominguez Channel Watershed is a highly industrialized area and the storm water runoff needs to be characterized to determine its contribution of pollutants in the San Pedro Bay.

A new mass emission station in the Santa Clara watershed is also required. The purpose of this station is to characterize mass emissions from Los Angeles County and to monitor the impacts from new development. Therefore, the station should be located as close to the Ventura County line as practicable. The Santa Clara is currently the most natural and least impacted watershed in the County. However, it is rapidly urbanizing and contains a significant amount of proposed development. Several factors, including the natural state of the river and the lack of accessibility, have made it difficult to select a location for a sampling station.

Method Detection Limits

The Minimum Levels (MLs) listed in Appendix 4 of the State Board Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed bays, and Estuaries of California, 2000 (SIP) represent the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.[61] These MLs must be incorporated into all water quality monitoring programs to detect priority toxic pollutants. The MLs are the only established criteria that take into consideration recent improvements in chemical analytical methods. If they are not used in the storm water program, concentrations of concern of priority toxic pollutants may not be detected, which has occurred throughout

[60] 64 Fed. Reg. 68725
[61] SIP

the history of the Los Angeles County storm water monitoring program. Detection and control of toxic pollutants in surface waters is necessary to achieve the CWA's goals and objectives.[62] Numeric criteria for toxic pollutants is necessary to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health.[63] Also, using MLs will provide quantifiable data that is necessary to better assess water quality and to develop Waste Load Allocations and Load Allocations for TMDLs. Furthermore, non-detects cannot be used to accurately determine mass loadings. The criteria established in the CTR are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.[64] Section 402(p)(3)(B)(iii) gives USEPA and states the authority to incorporate appropriate water quality-based effluent limitations in NPDES permits for discharges from MS4s.[65]

TSS Monitoring

Every storm greater than .25 inch shall be sampled and analyzed for TSS. The purpose of this requirement is to consider the high variability of storm water discharges and determine more accurate average mass emission values. The high variability of storm water makes it unlikely to characterize a storm season based on a few mass emission samples. Studies show that the median event mean concentration for storm water programs that do not sample every storm is consistently biased low, relative to the annual flow-weighted mean[66]. To adequately characterize a storm and capture central tendencies, many storms would need to be sampled. However, this is cost-prohibitive. Therefore, the correlation between TSS and trace metals should be used. Studies have indicated that runoff contaminants tend to be highly correlated with suspended solids in large rivers and creeks throughout southern California[67]. TSS measurements are one-tenth the cost of trace metal analyses. However, TSS concentrations accounted for up to 95% of the variability in some trace metal concentrations in a study of the Santa Ana River (urbanized watershed in Orange County) conducted by the Southern California Coastal Water Research Project (SCCWRP)[2].

Water Column Toxicity Monitoring

Storm water samples were found to be toxic in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay, demonstrating the need for this toxicity monitoring requirement.

Toxicity testing is used to assess the impact of storm water pollutants on the overall quality of aquatic systems[68]. It can be a very useful tool for storm water managers. The Center for Watershed Protection rated toxicity testing as a "very useful" indicator for assessing municipal storm water programs. Toxicity testing can also be used to evaluate the effectiveness of storm water BMPs and other storm water pollution reduction measures[69]. Managers can use the results of toxicity testing to identify areas

[62] 65 Fed. Reg. 31683
[63] *Id.*
[64] 65 Fed. Reg. 31682
[65] 65 Fed. Reg. 31703
[66] Temporal variability patterns of stormwater concentrations in urban stormwater runoff. Leisl L. Tiefenthaler, Kenneth C. Schiff, and Molly Leecaster, Southern California Coastal Water Research Project (SCCWRP) annual Report 2000.
[67] SCCWRP. 1992. Surface runoff to the Southern California Bight.
[68] Center for Watershed Protection, Environmental Indicators to Assess Stormwater Control Programs and Practices (1996).
[69] Ibid.

of high concern and to establish priority locations for BMPs. Furthermore, Toxicity Identification Evaluations (TIEs) can be used to identify specific pollutants and their sources so that management actions can be more specifically prioritized.

Previous toxicity testing was only conducted using the *Stronglyocentrotus purpuratus* (sea urchin) fertilization test, a marine species. Toxicity testing using multiple species is needed to provide a more complete assessment of the causes of toxicity in storm water[70]. The identification of zinc and copper as contaminants of concern in previous studies in the County were based primarily on studies with the sea urchin. Reliance on single species tests may not provide an accurate assessment of toxicity[71]. Because different species vary in their sensitivity to contaminants, tests with multiple species are needed to determine if other contaminants are present at toxic concentrations[72]. Specifically, an organism that is sensitive to pesticides, which have been found to be important factors in the toxicity of storm water from other watersheds, should be used[73]. USEPA recommends the use of the *Ceriodaphnia dubia* (water flea) reproduction and survival test for the measurement of receiving water toxicity. The water flea is one of the most sensitive aquatic species to diazinon, whereas the sea urchin fertilization test is insensitive to organophosphorus pesticides[74]. By contrast, sea urchin sperm are approximately 10 times more sensitive to trace metals than are water fleas.

Furthermore, the toxicity component of the Monitoring Program should include toxicity identification procedures so that potential constituents of concern can be confirmed and others can be discounted. TIEs are needed to prioritize management actions.

Two wet weather and two dry weather samples will be analyzed for toxicity from each mass emission station every year. When a sample is substantially toxic to either test species, a Phase I TIE will begin immediately. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, Ceriodaphnia TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[75] If enough toxicity is not present at the beginning of a TIE, it cannot be successfully completed. The City of Long Beach Storm Water Monitoring Program is being modified to include similar TIE procedures.

Based on the results from the Long Beach Monitoring Report, the Regional Board determined that using consecutive hits of toxicity in storm water as a trigger for a TIE does not yield adequate results. For example, every single storm event sampled at the Long Beach mass emission stations was toxic to some extent to at least one of the three species tested, but only one TIE was conducted on one species.[76] Also, due to the high variability of storm water, there is no guarantee that substantial toxicity will be present after the two consecutive hits. To increase the chances of a successful TIE and to better identify all causes of toxicity in storm water, TIEs should begin immediately when substantial toxicity is detected in a sample.

[70] Bay, Jones, Schiff. Study of the Impact of Stormwater Discharge on Santa Monica Bay (1999).
[71] Center for Watershed Protection
[72] Bay, et al.
[73] Bay, et al.
[74] Kinnetic Laboratories, inc., City of Long Beach Storm Water Monitoring Report (2000-2001).
[75] SCCWRP
[76] City of Long Beach Storm Water Monitoring Report, 2000-2001. Kinnetic Labs, Inc. and SCCWRP

Furthermore, after a toxic pollutant is identified, Toxicity Reduction Evaluations (TRE) will be conducted. The purpose of this requirement is to evaluate the extent and causes of toxicity in inland and coastal receiving waters, and to eliminate or reduce the sources of toxicity in storm water. TRE development and implementation is directly tied to the SQMP, to ensure that management actions are taken when problems are identified. The Principal Permittee expressed concern to Regional Board staff that the TRE requirement could potentially be too involved and costly to be completed with the available funds and resources during the course of the Order. To address this concern, the Regional Board clarified the TRE language. It was decided that a third party should be involved in the source analysis and BMP recommendations, and that each Permittee shall be responsible for the implementation of BMPs in their areas of jurisdiction that are causing or contributing to toxicity. The Principal Permittee is responsible for retaining a neutral third party to evaluate possible sources of toxicity and recommend appropriate BMPs, based on available information. Regional Board staff agreed with the Principal Permittee's proposed funding limit for TRE development, to ensure that the majority of the monitoring budget is not used.

Overall, the toxicity monitoring program will assess the impact of storm water on the overall quality of aquatic systems and implement measures to ensure that those impacts are eliminated or reduced. Chemical monitoring does not necessarily reveal the impacts of storm water on aquatic life or beneficial uses of water bodies. Therefore, toxicity monitoring is a necessary component of a storm water monitoring program.

Tributary/Source Identification Monitoring

Based on the results of previous storm water quality monitoring and toxicity testing, there is a need to monitor subwatersheds to determine pollutant sources and prioritize management actions. Exceedances of various pollutants, including toxic levels of zinc and copper in the Ballona Watershed, have been occurring at the mass emission stations for many years, but there has not yet been an effort to monitor tributaries to determine where the pollutants are actually coming from.[77] Regional Board staff worked with Los Angeles County staff, and other interested stakeholders, to design a tributary monitoring program.

Shoreline Monitoring

The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline monitoring requirement be incorporated in this Order. Regional Board staff and the County of Los Angeles determined that the shoreline monitoring is an appropriate requirement for the storm water monitoring program, per the conditions listed in Section D of the draft Monitoring Program.

[77] Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report, July 31, 2000. LA County DPW, SCCWRP, Woodward Clyde.

Trash Monitoring

Trash is a pollutant that impacts storm water runoff, and a monitoring program should be developed. The language in the draft reflects the monitoring language in the trash TMDL for the Los Angeles River watershed[78]. The same trash monitoring program will be required through a CWC § 13267 Request for Trash Monitoring, related to the TMDL. The Regional Board does not intend to require two separate monitoring programs through the MS4 permit and the TMDL.

Regional Monitoring

Regional Monitoring efforts address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Los Angeles County is a major discharger in this region and should participate in regional programs. Also, participation in Regional Monitoring, such as the SCCWRP Bight-wide study in 2003, can accomplish several goals of the Monitoring Program.

Estuary Sampling

The main goal of the estuary sampling is to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. Previous studies indicate that contaminated sediments can be linked to suspended solids in storm water[79]. Form this information, a map of each estuary that depicts the impacted areas will be produced. Such a map will be used to direct future monitoring efforts. Once the impacted areas are identified, regular monitoring can be conducted to determine trends and accumulation of sediment from storm water. The specific sampling requirements are consistent with the Hyperion Waste Water Treatment Plant NPDES permit. This sampling program is also consistent with the objectives of the SCCWRP Bight-wide 2003 study. The results will be incorporated into a larger study of the entire coast of Southern California, from Santa Barbara to the boarder of Mexico. This will provide a comparison of the storm water impacts from Los Angeles County to other larger MS4s, as well as individual dischargers.

Bioassessment

Bioassessment data can be an important indicator of stream health and storm water impacts. It can detect impacts that chemical and physical monitoring cannot. In the Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, EPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of storm water problems. Therefore, this Regional Board and other Regional Boards commonly require bioassessment monitoring in storm water and point source NPDES permits.

However, the fact that a biological index does not yet exist for this region is an issue that Regional Board staff took into consideration for this requirement. Without a biological index, including reference conditions and knowledge of background variability, data cannot be fully analyzed to accurately indicate stream health or impacts. However, it can be used to determine trends in the biological community, and it is necessary for

[78] Trash Total Maximum Daily Loads for the Los Angeles River Watershed, June 18, 2001, Regional Board
[79] Los Angeles County 1994-2000 integrated Receiving Water Impacts Report, Los Angeles County Department of Public Works, Contaminated Sediments and Total Suspended Solids (Section 4.2.4)

index development. Also, bioassessment data can be analyzed in the future, after an index is developed.

Considering the importance of bioassessment and the need for an index, the Principal Permittee is required to develop a bioassessment program as part of a regional effort (Southern California Stormwater Research/Monitoring Program) and to coordinate with the Surface Water Ambient Monitoring Program (SWAMP), organized by the Regional Board. This is to ensure that the most useful data is collected for the purposes of detecting biological trends in receiving waters and for developing a biological index.

New Development Impact Study in the Santa Clara Watershed

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. For much of its length, it is a high quality natural resource[80]. There is also a great amount of current and future development in the watershed. Therefore, it is important to monitor this watershed to detect water quality impacts from new development and implement measures to prevent degradation from occurring. To accomplish this, a special study is appropriate.

The special study will consist of monitoring tributaries in the Santa Clara watershed to accomplish two goals. The first is to determine impacts from new development. The second is to assess the effectiveness of SUSMPs by comparing storm water quality between subwatersheds with and without post-construction storm water BMPs. Two tributary stations will be selected and monitored for this study. One will be chosen that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation. The second station will be representative of a subwatershed in which the majority of development has/will include SUSMP implementation.

Due to the similarities in sites to be monitored, it may be appropriate to combine this study with the Peak Discharge Impact Study.

The City of Santa Clarita will cooperate with the County to conduct the New Development Impact Study (as well as the Peak Discharge Study, if they are combined). The City has proposed to contribute a maximum of $100,000 over the course of the New Development Impact Study. The City also has 2 field staff that may be available for sampling and other field measurements during normal working hours. The City is also interested in participating in site selection and study design.

Peak Discharge Impact Study

The Development Planning section (Part 4.C.2) of the draft permit requires that the Principal Permittee determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization. The purpose of the Peak Discharge Impact Study is to help meet that requirement. The Ventura County MS4 permit contains a similar requirement. The Ventura County Flood Control District has designed a study that can be extended to a watershed in Los Angeles County.

BMP Effectiveness Study

[80] Watershed Management Initiative Chapter, January 2000. California Regional Water Quality Control Board, Los Angeles Region

The BMP Effectiveness Study is an integral part of the storm water monitoring program. It is necessary to document the effectiveness of treatment control BMPs so that the storm water management agency can make informed decisions on the use of BMPs.

ATTACHMENTS TO FACT SHEET

RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

Technical Report

June 2001

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Introduction

On March 8, 2000, the California Regional Water Quality Control Board, Los Angeles Region (LA Regional Board) issued requirements for new development and significant redevelopment consolidated in a Standard Urban Storm Water Mitigation Plan (SUSMP). The SUSMP included requirements for retail gasoline outlets (RGOs), commonly referred to as "gas stations", among several other development categories. Several municipalities, the Building Industry of Southern California (BIA), and the Western States Petroleum Association (WSPA) appealed the action of the LA Regional Board to the State Water Resources Control Board (State Board) for review. The State Board issued its decision *In Re City of Bellflower et al.* (SUSMP Decision) in large part upholding the action of the LA Regional Board.

In its Order, the State Board set aside the numerical mitigation requirement for RGOs explaining that the decision did not preclude future inclusion of numerical mitigation standards for RGOs with proper justification.

On February 21, 2001, the California Regional Water Quality Control Board, San Diego Region (SD Regional Board) issued an MS4 permit for San Diego County and Cities which includes requirements for new development and significant redevelopment. The MS4 permit requires Permittees to develop a model SUSMP no later than February 21, 2002, that will establish new development controls for project categories including RGOs. The SD Regional Board did not propose a threshold for RGOs to apply numerical design standards, giving the MS4 permittees the first option to develop the threshold criterion for RGOs and the justification. On March 22, WSPA filed an appeal of the SD Regional Board action for review before the State Board contending that RGOs were being improperly subject to numerical design standards in the MS4 permit for San Diego County and cities.

R0007042

Urbanization and Storm Water Quality

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are entrained in storm water and urban runoff. These pollutants such as heavy metals and petroleum hydrocarbons result from the activities of dense human populations. The overall impact is an increase in storm water runoff volumes and pollutant loading in storm water discharged to receiving water-bodies.[1]

Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff.[2] In addition to impervious areas increase, urban development brings with it proportionately high levels of car emissions, car maintenance waste, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters.

Most organic compounds found in storm water are associated with various human-related activities, especially automobile use, or are associated with plastics.[3] Heavy metals found in storm water also mostly originate from automobile use activities, including gasoline combustion, brake lining, fluids, undercoatings, and tire wear.[4]

More recently, studies reveal a connection between urban development and contamination of local waterbodies. Studies found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion including fossil fuels combustion), in the reservoirs of urbanized watersheds.[5] Studies also established a clear

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[1] U.S. EPA (1992). *Environmental Impacts of Storm Water Discharges: A National Profile.* EPA 841-R-92-001. Office of Water. Washington, DC.

[2] U.S. EPA (1997). *Urbanization and Streams: Studies of Hydrological Impacts.* EPA 841-R-97-009. Office of Water. Washington, DC.

[3] Field, Richard, James P. Heaney and Robert Pitt. (2000). *Innovative Urban Wet-Weather Flow Management Systems.* Technomic Publishing Co., Inc. Lancaster.

[4] See, Durum, W.H. (1974), *Occurrence of some trace metals in surface waters and groundwaters.* In Proceeding of the Sixteenth Water Quality Conference. Am. Water Works Assoc., et al. Univ. of Illinois Bull. 71(108). Urbana, IL.; Koeppe, D.E. (1977). Comp. Vol. IV: *Soil-water-air-plant studies.* In: Environmental Contamination by Lead and Other Heavy Metals. G.L Rolfe and K.A. Peinbold, eds. Institute for Environmental Studies. Univ. of Illinois. Urbana-Champaign, IL. July.; Rubin, A.J., ed. (1976). *Aqueous-Environmental Chemistry of Metals.* Ann Arbor Science Publishers. Ann Arbor, MI; Shaheen, D.G. (1975). *Contributions of Urban Roadway Usage to Water Pollution.* 600/2-75-004. U.S. Environmental Protection Agency. Washington, DC.; Solomon, R.L. and D.F.S. Natusch. (1977). Vol. III: *Distribution and characterization of urban dists.* In: Environmental Contamination by Lead and Other heavy Metals. G.L. Rolfe and K.G. Reinbold, eds. Institute for Environmental Studies. Univ. Of Illinois. Urbana-Champaign, IL.; and Wilber, W.G. and J.V. Hunter. (1980). *The Influence of Urbanization on the Transport of Heavy Metals in New Jersey Streams.* Water Resources Research Institute. Rutgers University. New Brunswick, NJ.

[5] USGS (1998). *Research reveals link between development and contamination in urban watersheds.* USGS news release. USGS National Water-Quality Assessment Program.

relationship between the adverse impact of urbanization and impairment of aquatic communities in receiving waterbodies.[6]

Federal Storm Water Regulations

Federal regulations require that MS4 permittees implement a program to control storm water pollution from new developments during and post-construction. Because there is no express national standard for the control of storm water pollutants from new developments, the permitting authority must defer to statements of policy and intent made by the U.S.EPA.

The U.S.EPA under Phase I regulations did not fully describe the expectations for MS4 Permittees in controlling post construction storm water discharges from new development and significant redevelopment except that "a comprehensive master plan" was required [55 *Fed Reg.* 48054]. For a better understanding of the regulatory expectation, we look to the Final Rule for Phase II storm water regulations. Therein, the U.S.EPA notes that "prior planning and designing for the minimization of pollutants in storm water is the most cost-effective approach to storm water quality management" [64 *Fed Reg.* 68759], and identifies four essential elements to control storm water from new development and redevelopment. These are, (i) to develop and implement strategies that include a combination of structural and non-structural BMPs; (ii) adopt an ordinance to address post construction runoff; (iii) ensure long term operation and maintenance of the BMPs; and (iv) ensure that controls are in place that will *minimize* water quality impacts. [Emphasis added] EPA goes on to say:

> "The requirements .....[are] consistent with the permit application requirements for large MS4s for post-construction controls for new development and redevelopment."

The permitting authority in order to comply with federal regulations must thus require the implementation of an MS4 program that will achieve all four enumerated objectives for new development and redevelopment. In order for the program to be enforceable, the program for new development and significant redevelopment must include objective criteria such as water quality design standards for treatment-control BMPs, for significant categories of development such as RGOs.

Further, the Federal Court of Appeals has unequivocally stated that Congress intended for "the Administrator or a State to design [substantive] controls" for storm water discharges from MS4s but did not mandate a particular approach [*NRDC v. USEPA*, 966 F.2d 1292 (9th Cir. 1992)]. The court held that it is appropriate to defer to U.S.EPA [and the State] where the agency supplied a "reasoned explanation".

Also, the USEPA is currently in the process of developing effluent guidelines for the construction and development industry, which will include controls for new development and significant redevelopment.[7]

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[6] USGS (2000). *Water Quality in the Long Island-New Jersey Coastal Drainages, New York and New Jersey, 1996-98.* USGS Circular 1201.

[7] See, Fact Sheet: Effluent Guidelines for the Construction and Development Industry, USEPA, 1999, 3 pp.

Retail Gasoline Outlets

RGOs can range in size from about 3,000 square feet to more than 200,000 square feet. The median size of new RGOs in Los Angeles County is about 13,000 square feet.[8] There are about 2,133 RGOs in Los Angeles County servicing a population of 9.5 million, and nearly six million registered motor vehicles.[9] In San Diego County there are about 700 RGOs serving a population of 2.8 million, and nearly 2 million registered vehicles.

RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, and ancillary services such as tire air inflation and radiator fillup. The vehicular traffic patterns at RGOs are similar to those on parking lots and on highways. Researchers have identified RGOs as toxic pollutant hotspots.[10]

Storm Water Quality

RGOs are a well identified source of urban storm water pollutants that impair receiving waters. WSPA has acknowledged that storm water discharges from even "normally operated and maintained" RGOs are no worse than discharges from commercial parking lots and diffuse urban runoff.[11] The reason that "normally operated and maintained" RGOs do not demonstrate any improvement in storm water discharge quality is because existing BMPs do not address pollutants generated by motor-vehicle traffic.[12] Heavy metals, significant concentrations of which occur in storm water discharges from RGOs, have been demonstrated to be the main cause of toxicity in Santa Monica Bay during wet weather.[13] Oil and grease in the storm water discharges from RGOs are also of concern.[14]

In a study conducted in Maryland, RGOs were identified to generate significantly higher concentrations of hydrocarbon and heavy metals than parking lots, convenience store lots, and streets.[15] A study conducted in Sacramento County, California, identified heavy metals such

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[8] Data Base Summary Report, New Gas Station Permits issued between Jan 1, 1999 and Dec 31, 2000, City of Los Angeles, Department of Building and Safety (2001)

[9] California Energy Commission, Fuels Office, 1999.

[10] Schueler, T. and D. Shepp (1992). *The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD.* Metropolitan Washington Council of Governments.

[11] See, Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States Petroleum Association and American Petroleum Institute (1994) at p 13. The study concludes that pollutant concentrations in storm water discharges from RGOs are similar to concentrations from commercial parking lots and diffuse urban runoff. See also June 7 State Board Hearing Transcript at p 231; comment by WSPA witness, that "concentrations of metals, hydrocarbons, and solids were no higher than.... roads and parking lots".

[12] See June 8 State Board Hearing Transcript at p 136, Regional Board staff testimony that current BMPs at RGOs do not address pollution associated with vehicular traffic.

[13] See "Study of the Impact of Storm Water Discharge on Santa Monica Bay – Executive Summary", Los Angeles County Department of Public Works (1999), which identifies Zn and Cu as principal pollutants that cause storm water toxicity.

[14] Rouge River National Wet Weather Demonstration Project, MI, - Evaluation of On-line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), 36 pp.

[15] *Hydrocarbon Hotspots in the Urban Landscape, Shueler T., and Shepp, D., (1995), pp. 259-264, National Conference on Urban Runoff Management: Enhancing Urban Watershed Management at the Local, County and State Levels, Chicago, IL,* Report No. EPA/625/R-95/003. A survey of oil and grit separators in suburban Maryland indicated that RGOs and convenience stores had much higher levels of hydrocarbons and metals both in the water column and the sediments.

as lead, copper, and zinc, as significant in storm water from RGOs.[16] Volatile organic compounds (VOCs) such as benzene, toluene, ethylbenzene, and xylene are rarely detected in storm water because of their volatility. In contrast, gasoline and other solvents, because of their physical and chemical characteristics, may present a significant risk for groundwater contamination, if underground and aboveground storage tanks leak.

The sources of storm water pollutants at RGO are from tail-pipe exhaust particles, fluid losses, drips, spills, and mechanical, brakepad and tire wear products, which build up on impervious surfaces at RGOs.[17] The pollutants of most concern in storm water are heavy metals such as Pb, Cu, and Zn and petroleum hydrocarbons such as PAHs.[18] The concentration and loads of these pollutants in storm water runoff from RGOs depends on the surface deposition and removal rates, and permanent storage. The permanent storage on surfaces is a function of surface area texture and condition and is literally trapped in the texture or cracks of the surface area. Pollutants are deposited any where vehicles travel, park, or are serviced, including RGOs.[19]

Review of New Development Design Standards

WSPA represents petroleum industry members in the States of Arizona, Hawaii, Nevada, Oregon, in addition to California. WSPA in its Petitions before the State Board has contended that new development standards that include numerical design standards for BMPs are impracticable and unnecessary at RGOs, and so we focussed the review on development standards that new RGOs are subject to in Western U.S. States. We are aware that new RGO developments in other States such as Maryland, Virginia, Florida, Alabama, Tennessee, Georgia, Oklahoma and Texas, are also subject to numerical mitigation requirements for storm water pollutants, but we did not review their programs for this technical report.

In Washington, RGOs in the western region that create impervious surfaces of 5,000 square feet or more are required to mitigate the 6 month 24 hour storm (about 1.2 inches of rainfall). In addition to the standard treatment menu based on a water quality design storm, RGOs that are expected to generate ADT of 100 vehicles or more per 1,000 square feet of gross building area are required separately to treat to remove oil.[20] The City of Portland in Oregon under its MS4 program requires RGOs to mitigate storm water runoff from impervious areas equal to or greater than 500 square feet using any one of three different design

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[16] *Action Plan Demonstration Project (APDP) - Demonstration of Gasoline Fueling Station Best Management Practices, County of Sacramento, (1994)*, pp. 30 Submitted to US EPA Region IX, San Francisco Estuary Project.. This study funded by the USEPA and conducted by Sacramento County identified heavy metals such as lead, copper, and zinc in significant concentrations in storm water runoff from RGOs. Volatile Organic Compounds (VOCs) from fueling areas were rarely detected because of their volatility. Data on Polycyclic Aromatic Hydrocarbons (PAHs) was inconclusive because analytical detection limits used were higher than regulatory action levels.

[17] Shaheen, D.G. (1975). *Contributions of Urban Roadway Usage to Water Pollution*. 600/2-75-004. U.S. Environmental Protection Agency. Washington, DC.

[18] Field, Richard, James P. Heaney and Robert Pitt. (2000). *Innovative Urban Wet-Weather Flow Management Systems*. Technomic Publishing Co., Inc. Lancaster.

[19] County of Sacramento, (1994). *Action Plan Demonstration Project (APDP) - Demonstration of Gasoline Fueling Station Best Management Practices*. Submitted to US EPA Region IX, San Francisco Estuary Project.

[20] Such sites are considered "high use sites" because they typically generate high concentrations of oil from traffic turnover. See Stormwater Management Manual for Western Washington, Vol. V, Runoff Treatment BMPs, (2000), Washington Department of Ecology, p 145.

approaches.[21] One of the choices is the 24-hour rainfall event standard (0.83 inch of rainfall). In addition, RGOs that are expected to generate 100 vehicles or more ADT per 1000 square feet of gross building area are subject to separate treatment controls for oil using a water quality design standard of a two year 24 hour storm.[22] In both Washington and Oregon, storm water treatment is required in addition to the source control BMPs identified by WSPA for implementation at its facilities in California.[23]

Treatment Control BMPs

The U.S. EPA funded a demonstration project to evaluate the effectiveness of on-line media filter media to treat pollutants from storm discharges at RGOs.[24] Four on-line media filter systems were tested and the study concluded that the treatment systems had sufficient ability to remove pollutants without risk of flooding, were easy to operate and maintain, and reasonable in capital cost.

We also reviewed storm water quality data results evaluating the pollutant removal effectiveness of a proprietary on-line filter media device located at a large RGO in Washington.[25] The device was installed underground and thus occupied no surface area. The treatment device was effective in removing between 50 and 90 percent of pollutants of concern in storm water discharges from RGOs. We note with interest that in perusing the treatment devices installation list of this proprietary manufacturer between 1997 and 2001 in the Western U.S., California had not a single installation at an RGO but Oregon and Washington had a combined total of 13 RGO sites where the treatment devices were installed. Considering that RGOs in the State of Washington and Oregon have ADT that is much less than in California, the aberration can only be explained by the lack of rigorous storm water regulatory controls in California to control the discharge of pollutants in storm water discharges from RGOs.[26]

Our review indicates that effective treatment devices for RGOs include on-line media filter systems with a combination of media placed in series to remove the pollutants of concern. Sand filters are another option. There may be other treatment control BMPs that may be equally if not more effective.[27]

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[21] Stormwater Management Manual, City of Portland, OR, (2000), p 1-11.

[22] Ibid. at page 9-47. Sites that meet the threshold are considered "higher risk categories".

[23] Cf. BMP Guide for Retail Gasoline Outlets, CA Storm Water Quality Task Force, and WSPA (1997); Storm Water Manual for Western Washington Vol. IV and V, Washington Dept. Ecology (2000).

[24] See, Rouge River National Wet Weather Demonstration Project, MI, - Evaluation of On-line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), 36 pp.

[25] See, Stormwater Sampling – StormFilter Performance Results: Burwell-Straley's Union 76 Station, Bremerton, WA (2000). 7 pp.

[26] Report, Database Summary List of Treatment Devices installed between 1997 and 2001, Provided by StormFilter, OR.

[27] For a list of potential treatment options see, Storm Water Manual for Western Washington Vol. V, - Runoff Treatment BMPs, Washington Dept. Ecology (2000).

Economic Considerations

A review of costs of storm water treatment controls for RGOs indicates that the cost of storm water treatment is reasonable.[28] In addition, a demonstration project sponsored by the USEPA to evaluate the effectiveness and costs of on-line media filters placed the first year capital cost between $250 and $900 and an operations and maintenance cost of $240 annually.[29]

Justification

The State Board in its SUSMP Decision temporarily excluded RGOs from the numerical mitigation standard until Regional Boards provided proper justification and established appropriate thresholds. Issues to be considered included presumptions that RGOs were, (i) already heavily regulated; (ii) limited in their ability to construct infiltration BMPs; (iii) generally small in size; and (iv) storm water treatment may not be feasible or safe.

Over-regulation:[30] Under State law, the State Board and Regional Boards are the primary authorities for implementation of the federal Clean Water Act, and for matters related to water quality within the State.[31] There is no basis in federal or State statute that permits the State Board or Regional Boards to abdicate their water quality authority because discharges from facilities that impact water quality are already regulated for other purposes. Attainment and maintenance of receiving water objectives and the protection of beneficial uses are the paramount considerations.

Limitations of space or ability: Our review indicates that RGOs appear not to be limited by space or ability to treat storm water. The surface area of RGO developments is generally greater than 5000 square feet. The fabricated storm water treatment systems we reviewed generally do not exceed 128 square feet in surface area when installed and do not impede traffic flow because they are situated sub-surface. While opportunities for infiltration practices may be limited, it is but one type of option for mitigation of pollutants in storm water. The SUSMP does not mandate infiltration BMPs. Other treatment options exist such as fabricated treatment control BMPs to remove storm water runoff pollutants using physical, biological, or chemical processes. Also treatment control BMPs can be installed sub-surface without interfering with surface use. RGOs situated in other Western U.S. States, which have lower impervious surface area and higher water quality treatment volume criteria thresholds already implement storm water treatment controls at new facilities.

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[28] See "Cost and Benefits of Storm Water BMPs", Preliminary Data Summary of Urban Storm Water Best Management Practices, USEPA, (1999) Report No. EPA-821-R-99-0012, pp. 6-1 – 6-44.

[29] Rouge River National Wet Weather Demonstration Project, MI, - Evaluation of On-line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), at p 15-18.

[30] The Regional Board's review of regulations that affect RGOs identified, (i) business license for business operation, (ii) Fire Department for tank/ piping integrity and gasoline storage; (iii) County Public Works for underground storage of hazardous chemicals; (iv) Air Quality Management District for VOC emissions; (v) Sanitation District for any sanitary sewer discharges; (vi) County Weights and Measures for sale of gasoline; (vi) Department of Toxics Substance Control for waste motor oil disposal; (vii) County Health for food and beverage sale; and (viii) Regional Board for regulation of leaking tanks to protect groundwater.

[31] Cal. Wat. Code § 13160 states that, "the State Board is designated as the state water pollution control authority for all purposes.... in federal act." Cal. Pub. Res. Code § 30412 states that, "other State agencies shall not modify, adopt conditions, or take any action in conflict with any determination by the State Board in matters relating to water quality".

Feasibility of storm water treatment: Our review of implementation of storm water treatment control requirements in other Western U.S. States indicates that storm water treatment at RGOs is both feasible and safe. In California, sub-surface fabricated treatment systems have been commonly used at RGOs to separate waste-oil before discharge to the sanitary sewer system. Safety or feasibility has not been an issue when sanitation districts required RGOs to install treatment systems in order to obtain connection permits to the sanitary sewer system. As previously mentioned storm water treatment controls are installed as a matter of practice by RGOs in other Western U.S. States. There is no reason to suppose that storm water treatment in California introduces new and different safety and feasibility considerations, as when compared to wastewater treatment systems which RGOs have readily installed in California and storm water treatment systems installed in other Western U.S. States.

Suggested criteria

Storm water pollution at RGOs is primarily a function of the number of motor vehicles that are refueled or serviced. Ancillary services such as auto repair may additionally contribute significant pollutant loads. A WSPA study concluded that the storm water runoff quality from well-maintained RGOs is comparable in pollutant concentrations to runoff from commercial parking lots.[32]

The State Board recommended that the Regional Boards undertake further consideration of a threshold relative to size of RGOs for application of the numerical design standard for storm water. Our analysis indicated the following criteria for thresholds may be appropriate.

Land area: 5,000 square feet or more of impervious area. RGOs in Portland, Oregon and Western Washington that meet this land area threshold are currently subject to storm water treatment requirements based on the water quality design storm.[33]

Projected Average Daily Traffic (ADT): 100 or more vehicles fueled per day. The projection for the number of vehicle trips a RGO can expect may be estimated using information published by the Institute of Transportation Engineers. The vehicular traffic at an RGO is a good determinant for the quantity of storm water pollutants generated at the site. RGOs in Oregon and Washington are subject to two tiers of threshold for treatment of storm water, the first based on the impervious area threshold, and an additional tier storm water treatment requirement for sites that expect 100 vehicles or more ADT per 1,000 square feet of gross building area. [34]

Projected volume of gasoline sale: 25,000 gallons or more of gasoline sale per month. [35] The projected volume of gasoline sales is directly correlated with vehicular trips. 25,000 gallons of gasoline sale per month is equivalent to an average daily traffic of about 100 vehicles.[36]

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[32] See 'Results of a Retail Gasoline Outlet and Commercial Parking Lot Storm Water Runoff Study (1994)', Western States Petroleum Association, and American Petroleum Institute, 49 p. Commercial parking lots 5,000 square feet or more are presently subject to the SUSMP numerical mitigation standard.

[33] WSPA represents companies that explore, produce, refine, transport and market petroleum in six western states including Oregon, Washington, and California. See www.wspa.org

[34] See, Storm Water Management Manual (August 2000), City of Portland, Oregon, (p 9-10) additional thresholds for fuel dispensing facilities. Also, Storm Water Management Manual for Western Washington, Vol. V, Runoff Treatment BMPs, Washington Department of Ecology, p 9-10, additional requirement thresholds for high-use sites.

[35] The average volume of gasoline sales at a RGO in California is approximately 100,000 gallons per month. Gasoline stations with outputs of 200,000 or more gallons a month are considered high output facilities by the industry.

Although other criteria such as the number of fueling dispensers ("nozzles"-4 or more) and the number of dispenser meters (12 or more assuming one meter per octane grade), were considered for thresholds, the relationship of such criteria to predict the potential for pollutant generation at RGOs is less direct.

It is recommended that numerical mitigation standards be made applicable, if the RGO development meets the following thresholds, (i) creates 5,000 square feet or more of impervious surface; and (ii) has a projected trip generation of 100 or more motor vehicles ADT.

Conclusion

RGOs have been well documented in the scientific literature as significant sources of storm water pollutants. These pollutants such as heavy metals and PAHs have been know to cause the impairment of beneficial uses in receiving waters. As a source of pollutants, storm water from RGOs is similar to runoff from driveways, roads, highways and parking lots.

In order to reduce the discharge of pollutants in storm water to the MS4, it is technically appropriate to require that new RGOs and significantly redeveloped RGOs be subject to the SUSMP numerical mitigation criteria. RGOs in other Western U.S. States already comply with higher numerical mitigation standards than those established by the LA Regional Board and the SD Regional Board. The treatment of storm water for RGOs is technically feasible, safe, and of reasonable cost.

[36] A typical "full" tank gas refueling is around 8 gallons delivered at a pump. Many RGOs use this benchmark for discount offerings or other type of incentives associated with refueling. 100 cars x 8 gallons per car x 30 days = 24,000 gallons of gasoline per month.

Table 1. Characterization of Pollutant Concentrations in the OGS Water Column: Effect of Land-Use Condition (Mean Values)[37]

Sampled Parameter	All-Day Parking (N = 8)	Convenience Commercial (N = 6)	Gas Stations (N = 7)	Streets (N = 6)	Townhouse/ Garden Apartments (N = 6)
OP (mg/L)	0.23	0.16	0.11	ND	0.11
TP (mg/L)	0.30	0.50	0.53	0.06	0.19
NH3-N (mg/L)	0.20	1.58	0.11	0.19	0.20
TKN (mg/L)	1.18	4.94	2.5	0.84	1.00
OX-N (mg/L)	0.65	0.01	0.21	0.92	0.17
TOC (mg/L)	20.60	26.80	**95.51**	9.91	15.75
Hydrocarbons (mg/L)	15.40	10.93	21.97	2.86	2.38
TSS (mg/L)	4.74	5.70	--	9.60	7.07
ECd (µg/L)	6.45	7.92[a]	**15.29**[a]	ND	ND
SCd (µg/L)	3.40[a]	ND	6.34[a]	ND	10.34[a]
ECr (µg/L)	5.37	13.85	**17.63**[a]	5.52[a]	ND
SCr (µg/L)	ND	ND	6.40[a]	ND	4.79[a]
ECu (µg/L)	11.61	22.11	**112.63**	9.50[a]	3.62
SCu (µg/L)	8.22[a]	ND	25.64	ND	2.40
EPb (µg/L)	13.42	28.87	**162.38**	8.23	ND
SPb (µg/L)	8.10[a]	ND	26.90[a]	ND	ND
EZn (µg/L)	190.00	201.00	**554.00**	92.00	NA
SZn (µg/L)	106.70	43.70	471.00	69.00	59.00

[a]Mean is for all indicated parameter was actually detected.

ND = not detected; NA = not applicable.

OP = ortho phosphate phosphorus
TP = total phosphorus
NH3-N = ammonia nitrogen
TKN = total Kjeldahl nitrogen
OX-N = oxidized nitrogen
TOC = total organic carbon
Hydrocarbons = total hydrocarbons
TSS = total suspended solids
ECd = extractable cadmium
SCd = soluble cadmium
ECr = extractable chromium
SCr = soluble chromium
ECu = extractable copper
SCu = soluble copper
EPb = extractable lead
SPb = soluble lead
EZn = extractable zinc
SZn = soluble zinc

[37] *Hydrocarbon Hotspots in the Urban Landscape, Shueler T., and Shepp, D., (1995), pp. 259-264*, National Conference on Urban Runoff Management: Enhancing Urban Watershed Management at the Local, County and State Levels, Chicago, IL, Report No. EPA/625/R-95/003.

Table 2. Data Comparison – RGO Studies

Constituent (ug/l)	Study 1[38]	Study 2[39]	Study 3[40]	Effluent Criteria[41,42] (ug/l)	
Aluminum	**829**	ND	ND	750	--
Cadmium	0.7	ND	**15.29**	15.9	4.3
Chromium	4.2	ND	**17.63**	--	16[43]
Copper	**25.2**	**200**	**112.63**	63.6	13
Lead	33.4	ND	**162.38**	81.6	65
Nickel	4.7	ND	ND	1417	470
Zinc	**379**	**200 to 600#**	**554**	117	120
Oil & Grease (mg/l)	4.6	1 to **34**	**95.5**[44]	15	--
TSS (mg/l)	59	10 to ?	ND	100	--

= range; ND = No Data;

[38] *Demonstration of Gasoline Fueling Station Best Management Practices* - Uribe & Associates, Larry Walker Associates - Final Report - October 1994

[39] *Retail Gasoline Outlet Storm Water Runoff Study* - Western States Petroleum Association (WSPA), Draft Report, prepared by Hart-Crowser 1993

[40] *Hydrocarbon Hotspots in the Urban Landscape* - Schueler T. and Shepp D., Metropolitan Washington Council of Governments - Washington DC in Seminar Publication National Conference on Urban Runoff Management: Enhancing Urban Watershed Management at the Local, County, and State Levels - Chicago 1993 [EPA/625/R-95/003]

[41] *Parameter Benchmark Values* - Final Reissuance of National Pollutant Discharge Elimination System Storm Water Multi-Sector General Permit for Industrial Activities; Notice - Federal Register/ Vol. 65, No 210/ October 30, 2000. 64767

[42] *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule* - 40 CFR Part 131 Federal Register/ Vol. 65, No 97/ May 18, 2000 pag. 31682 et. Seq.

[43] Chromium (VI)

[44] TOC

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STORM WATER MITIGATION REQUIREMENTS FOR PRIORITY PLANNING PROJECTS FOR THE PROTECTION OF WATER QUALITY

Technical Report

October 2001

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Problem Statement

The municipalities covered by the Los Angeles County Municipal Separate Storm Sewer (MS4) permit and the Building Industry Association of Southern California (BIA-SC) argue that the implementation of the development planning provisions required by the MS4 permit should be limited to the definition of "discretionary projects", as understood in the California Environmental Quality Act (CEQA). Such an interpretation limits the application of storm water management programs and is not supported by the federal Clean Water Act (CWA), U.S. EPA storm water regulations, the California Water Code (CWC), or the California Public Resources Code (Cal. Pub. Res. Code).

Introduction

On July 15, 1996, the California Water Quality Control Board, Los Angeles Region (LA Regional Board) issued a revised MS4 permit (Order No. 96-054) for the County of Los Angeles and all incorporated cities. The permit contains provisions for the regulation of discharges from development planning and construction. The development planning section requires Permittees to develop a checklist for determining priority and exempt projects[1]. In the Order, priority projects are described as development and redevelopment projects requiring discretionary approval which may have a potential significant effect on storm water quality.[2] Although the permit refers to the term "discretionary" projects in a few places, the term was not defined in the permit, and there is no evidence of a "meeting of minds" or discussion about its meaning when the permit was adopted.[3]

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[1] Permit, Part 2, III.A.1.a.

[2] *Ibid.*

[3] Regional Board Comment on Proposed SUSMP Order, September 26, 2000

Under CEQA, a "discretionary project" is one which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular project, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.[4] This limitation was never contemplated in the Order and was never adopted by the LA Regional Board.[5] However, the use of the term "discretionary" resulted in unintentional and inappropriate limitations on the development planning requirements in this Order as understood by Permittees and interpreted by the State Board. Controversy regarding this issue arose during the development of Standard Urban Storm Water Mitigation Plans (SUSMPs), pursuant to the development planning provisions in the permit.[6]

The SUSMPs are plans that designate best management practices (BMPs) that must be used for specified categories of development projects. After LA County submitted the SUSMPs, the LA Regional Board made several revisions and issued the revised SUSMPs on March 8, 2000. The State Board received petitions for review of the SUSMP action from a coalition of municipalities and the BIA-SC. The Petitioners contended that the SUSMPs should only apply to projects that are considered "discretionary" within the meaning of CEQA. They argued that the inclusion of non-discretionary, or ministerial, projects is inconsistent with the terms of the permit.[7]

The State Board issued Order (WQ 2000-11) deciding the petition. The SUSMP decision included the State Board's determinations on the petitioners' issues and made certain revisions to the SUSMPs. Although the State Board realized that the limitation of SUSMPs to discretionary projects might not be sufficiently broad for an effective storm water control program, it found that it was inappropriate to include non-discretionary projects in the SUSMPs at that time because of a procedural defect.[8] The State Board upheld the 'CEQA discretionary' limitation only because the term was undefined in the permit and its intended meaning was unclear in the SUSMP...not because it was sufficiently protective of water quality standards.[9] The State Board authorized the LA Regional Board to consider expanding the new development planning controls beyond the CEQA definition when the LA County MS4 permit is reissued. On its part, the LA Regional Board has always held that the limiting interpretation of the term "discretionary" opened an "unintended loophole" in the development planning requirements.[10]

Presently, the LA Regional Board has removed all references to the term "discretionary" from the proposed permit. The proposed permit requires the application of new development requirements to all planning priority development and redevelopment projects, regardless of whether they are considered ministerial or

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[4] SUSMP Post-Hearing Brief, July 7, 2000

[5] Regional Board Comment on Proposed SUSMP Order, September 26, 2000

[6] Permit, Part 2, III.A.1.c.

[7] SB Order WQ 2000-11

[8] *Ibid.*

[9] The State Board's SUSMP decision states, "the provisions of the permit appear to link the development requirements for SUSMPs to developments that receive discretionary approval by local governments, as defined in CEQA."

[10] Regional Board Comment on Proposed Order, September 26, 2000

discretionary under CEQA. This approach is consistent with the development planning provisions in the Ventura County permit, issued on July 27, 2000. The LA County MS4 permittees contend that existing CEQA procedures must be used to implement the development planning provisions, and that reviewing all projects is inconsistent with their current procedures and is not feasible. However, local governments have several options for implementing the proposed requirements. These options are described later in this report in the section, "Options for Municipalities".

Urbanization and Storm Water Quality

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are entrained in storm water and urban runoff. These pollutants such as heavy metals and petroleum hydrocarbons result from the activities of dense human populations. The overall impact is an increase in storm water runoff volumes and pollutant loading in storm water discharged to receiving water-bodies.[11]

Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff.[12] In addition to impervious areas increase, urban development brings with it proportionately high levels of car emissions, car maintenance waste, pet waste, litter, pesticides, and household hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters.

Most organic compounds found in storm water are associated with various human-related activities, especially automobile use, or are associated with plastics.[13] Heavy metals found in storm water also mostly originate from automobile use activities, including gasoline combustion, brake lining, fluids, undercoatings, and tire wear.[14]

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[11] U.S. EPA (1992). *Environmental Impacts of Storm Water Discharges: A National Profile*. EPA 841-R-92-001. Office of Water. Washington, DC.

[12] U.S. EPA (1997). *Urbanization and Streams: Studies of Hydrological Impacts*. EPA 841-R-97-009. Office of Water. Washington, DC.

[13] Field, Richard, James P. Heaney and Robert Pitt. (2000). *Innovative Urban Wet-Weather Flow Management Systems*. Technomic Publishing Co., Inc. Lancaster.

[14] See, Durum, W.H. (1974), *Occurrence of some trace metals in surface waters and groundwaters*. In Proceeding of the Sixteenth Water Quality Conference. Am. Water Works Assoc., et al. Univ. of Illinois Bull. 71(108). Urbana, IL.; Koeppe, D.E. (1977). Comp. Vol. IV: *Soil-water-air-plant studies*. In: Environmental Contamination by Lead and Other Heavy Metals. G.L Rolfe and K.A. Peinbold, eds. Institute for Environmental Studies. Univ. of Illinois. Urbana-Champaign, IL. July.; Rubin, A.J., ed. (1976). *Aqueous-Environmental Chemistry of Metals*. Ann Arbor Science Publishers. Ann Arbor, MI; Shaheen, D.G. (1975). *Contributions of Urban Roadway Usage to Water Pollution*. 600/2-75-004. U.S. Environmental Protection Agency. Washington, DC.; Solomon, R.L. and D.F.S. Natusch. (1977). Vol. III: *Distribution and characterization of urban dists*. In: Environmental Contamination by Lead and Other heavy Metals. G.L. Rolfe and K.G. Reinbold, eds. Institute for Environmental Studies. Univ. Of Illinois. Urbana-Champaign, IL.; and Wilber, W.G. and J.V. Hunter. (1980). *The Influence of Urbanization on the Transport of Heavy Metals in New Jersey Streams*. Water Resources Research Institute. Rutgers University. New Brunswick, NJ.

More recently, studies reveal a connection between urban development and contamination of local waterbodies. Studies found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion including fossil fuels combustion), in the reservoirs of urbanized watersheds.[15] Studies also established a clear relationship between the adverse impact of urbanization and impairment of aquatic communities in receiving waterbodies.[16]

Federal Storm Water Regulations

Federal regulations require at a minimum that MS4 permittees develop, implement, and enforce storm water management programs designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.[17] The regulations state that storm water management programs must include certain minimum control measures to meet the compliance standard of reducing pollutants to the "MEP". These minimum control measures include the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb one or more acres of land, including projects less than one acre that are part of a larger common plan of development.[18] MS4 programs must include requirements to address storm water during and after construction. Because there is no express national standard for the control of storm water pollutants from new developments, the permitting authority must defer to statements of policy and intent made by the U.S.EPA.

The U.S.EPA under Phase I regulations did not fully describe the expectations for MS4 Permittees in controlling post construction storm water discharges from new development and significant redevelopment except that "a comprehensive master plan" was required [55 *Fed Reg.* 48054]. For a better understanding of the regulatory expectation, we look to the Final Rule for Phase II storm water regulations. Therein, the U.S.EPA notes that "prior planning and designing for the minimization of pollutants in storm water is the most cost-effective approach to storm water quality management" [64 *Fed Reg.* 68759]. It goes on to state, "If potential adverse water quality impacts are considered from the beginning stages of a project, new development and redevelopment provides more opportunities for water quality protection". The Final Rule identifies four essential elements to control storm water from new development and redevelopment. These are, (i) to develop and implement strategies that include a combination of structural and non-structural BMPs; (ii) adopt an ordinance to address post construction runoff; (iii) ensure long term operation and maintenance of the BMPs; and (iv) ensure that controls are in place that will *minimize* water quality impacts. [Emphasis added] EPA goes on to say:

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[15] USGS (1998). *Research reveals link between development and contamination in urban watersheds.* USGS news release. USGS National Water-Quality Assessment Program.

[16] USGS (2000). *Water Quality in the Long Island-New Jersey Coastal Drainages, New York and New Jersey, 1996-98.* USGS Circular 1201.

[17] 40 CFR Part 122.23(a)

[18] *Ibid.*

"The requirements .....[are] consistent with the permit application requirements for large MS4s for post-construction controls for new development and redevelopment."

The permitting authority in order to comply with federal regulations must thus require the implementation of an MS4 program that will achieve all four enumerated objectives for new development and redevelopment. To aid in the implementation of an adequate program, EPA recommends that MS4 operators adopt a planning process that identifies the municipality's program goals, implementation strategies, operation and maintenance policies and procedures, and enforcement procedures.[19] EPA also encourages MS4 operators to assess existing ordinances, policies, and programs while developing a post-construction storm water management program.[20]

Further, the U.S. Court of Appeals has unequivocally stated that Congress intended for "the Administrator or a State to design [substantive] controls" for storm water discharges from MS4s but did not mandate a particular approach [*NRDC v. U.S.EPA*, 966 F.2d 1292 (9th Cir. 1992)]. The court held that it is appropriate to defer to U.S.EPA [and the State] where the agency supplied a "reasoned explanation".

It should also be noted that the U.S.EPA is currently in the process of developing effluent guidelines for the construction and development industry, which will include controls for new development and significant redevelopment.[21]

Scope of California Environmental Quality Act

The California Environmental Quality Act, (Cal. Pub. Res. Code § 21000 *et seq.*) was enacted in 1970 as a system of checks and balances for land-use development and management decisions in California. CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible, and applies to projects that involve the exercise of discretionary powers by a public agency, which will result in a direct or reasonably foreseeable indirect physical change in the environment.[22]

"Discretionary project" means a project which requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.[23] A project is called "ministerial" if the law requires an agency to act on it a set way without allowing the agency to use its own judgment. Ministerial projects involve no special discretion or judgment in reaching a decision and are not subject to CEQA. Each public agency should, in its implementing regulations or

[19] 40 CFR Part122.23(b)(5)(iii)

[20] *Ibid.*

[21] See, Fact Sheet: Effluent Guidelines for the Construction and Development Industry, U.S.EPA, 1999, 3 pp.

[22] CEQA Guidelines Section 15060

[23] CEQA Guidelines Section 15357

ordinance, provide a list of its projects and actions, which are deemed ministerial under the applicable laws and ordinances.[24] Projects that possess both ministerial and discretionary attributes are treated as discretionary.[25]

Whether an agency has discretionary or ministerial control over a project depends on the authority granted by the law providing the controls over the activity[26] (the law or ordinance authorizing the particular permit). CEQA is intended to be used in conjunction with discretionary powers granted to public agencies by other laws, it does not grant an agency new powers independent of the powers granted by other laws.[27] Because ordinances vary, similar projects may be subject to discretionary controls in one city or county and only ministerial controls in another. [28]

No presumptions regarding decision-making discretion exist in CEQA, "unless the public entity retains *no* discretion whatsoever in approving an application for a permit".[29] Therefore, no project or type of project is assumed to be ministerial unless related local ordinances limit public officials' review to determining whether (a) the zoning allows the structure to be built in the requested location, (b) the structure would meet the strength requirements of the Uniform Building Code, and (c) the applicant has paid his fee.[30]

Furthermore, CEQA includes many exemptions. Even if a public agency has discretionary control over a project, that project may still be exempt from CEQA. A project is exempt from CEQA if it meets one of the following conditions:[31]

1. The project is exempt by statute;
2. The project is exempt pursuant to a categorical exemption;
3. It can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment;
4. The project will be rejected or disapproved by a public agency (each agency should include a list of such projects in its implementation procedures).

Statutory exemptions are created by the Legislature. CEQA Guidelines §15282 summarizes existing statutory exemptions, but there is no exhaustive list. Some of these projects and activities are listed in the statute itself and some are included in many different sections of the Cal. Pub. Res. Code, while others are not even codified.[32] A few notable statutory exemptions include:

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[24] CEQA Guidelines Section 15268

[25] CEQA Guidelines Section 15268

[26] CEQA Guidelines Section 15002

[27] CEQA Guidelines Section 15040

[28] See discussion on p 10.

[29] Guide to CEQA, Part IV

[30] CEQA Guidelines Section 15369

[31] CEQA Guidelines Section 15061

[32] Guide to CEQA Part IV

1. Ministerial projects;
2. Any residential development project, including any subdivision, that is undertaken consistent with an existing plan for which an EIR has been certified after January 1, 1980;
3. Any development project consisting of the construction, conversion, or use of residential housing for agricultural employees;
4. Any development project consisting of the construction, conversion, or use of residential housing of not more than 100 units in an urbanized area that is affordable to lower income households;
5. The construction of housing or neighborhood facilities in an urbanized area pursuant to certain provisions.[33]

Categorical exemptions are classes of projects which the Secretary of Resources Agency has determined not to have a significant effect on the environment and which are exempt from CEQA. If an agency determines that a project is subject to a categorical exemption, then no further environmental evaluation is required.[34] There are 32 classes of categorical exemptions, which are described in the CEQA Guidelines. A few examples are listed below.

1. Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alterations of existing structures. This includes additions to existing structures that will not result in an increase of more then 50 percent of the floor area, or 2,500 square feet, or 10,000 square feet if the project meets certain conditions.[35]
2. Class 2 consists of replacement or reconstruction of existing structures where the new structure will be located on the same site and will have substantially the same purpose and capacity as the structure replaced.[36]
3. Class 11 consists of construction, or placement of minor structures accessory to existing commercial, industrial, or institutional facilities, including but not limited to small parking lots.[37]
4. Class 32 consists of projects characterized as in-fill development up to five acres that are consistent with all applicable zoning regulations, occur within city limits, and are substantially surrounded by urban uses.[38]

In cases where CEQA applies, a public agency must then determine whether the project may have a significant effect on the environment. In making this determination, an agency must use careful judgement based to the extent possible on scientific and factual data.[39] If an agency determines that a significant effect on the environment may occur, an Environmental Impact Report (EIR) must be prepared. The EIR records the

[33] CEQA Guidelines Section 15282

[34] *Ibid.*

[35] CEQA Guidelines Section 15301

[36] CEQA Guidelines Section 15302

[37] CEQA Guidelines Section 15311

[38] CEQA Guidelines Section 15332

[39] CEQA Guidelines Section 15064

scope of the applicant's proposal and analyzes all its known environmental effects. The CEQA Guidelines define "a significant effect on the environment" as a substantial adverse change in the physical conditions, which exist in the area, affected by the proposed project.[40]

CEQA encourages each public agency to develop and publish thresholds of significance that the agency uses in determining the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect.[41] Thresholds of significance for use as part of an agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and supported by substantial evidence.[42]

The CEQA Guidelines state that a public agency should not approve a project as proposed if there are feasible alternatives or mitigation measures available that would substantially lessen any significant effects that the project would have on the environment[43]. However, the Guidelines go on to say that "in determining whether and how a project should be approved, a public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian".[44] CEQA gives public agencies the flexibility to approve a project that will cause one or more significant effects on the environment, if they determine that other competing public objectives outweigh protection of the environment, or if there is no feasible way to lessen or avoid the significant effect.

"Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.[45]

Each public agency shall adopt objectives, criteria, and specific procedures consistent with CEQA and the CEQA Guidelines for administering its responsibilities under CEQA.[46] Agencies have flexibility in adopting procedures to implement CEQA. An agency may adopt a complete set of procedures in one document, or it may adopt specific procedures and tailor them to the specific operations of the agency. "Local agencies must integrate the CEQA review process into the other planning and environmental review procedures they are legally or otherwise obligated to conduct."[47]

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[40] CEQA Guidelines Section 15382

[41] CEQA Guidelines Section 15064.7

[42] *Ibid.*

[43] CEQA Guidelines Section 15021

[44] *Ibid.*

[45] CEQA Guidelines Section 15364

[46] CEQA Guidelines Section 15022

[47] Guide to CEQA, Chapter II, 1999

Review of Applicability of CEQA to MS4 Permit Objectives

As described in the sections above, many fundamental differences exist between the scope and intent of CEQA and the intent of state and federal storm water regulations.

The first fundamental difference lies in the main objectives of each regulation. The purpose of CEQA is to avoid or minimize environmental damage where feasible. Prior to requiring mitigation or changes to a project, an agency must determine whether a significant effect on the environment may result from a particular project. The CEQA Guidelines define a "significant effect" as a substantial adverse change in the physical conditions, which exist in the area affected by the proposed project. The goal of controlling pollutants and other impacts from storm water runoff is not specifically mentioned in the CEQA Guidelines.

On the other hand, the purpose of the MS4 permit is to effectively prohibit non-storm water discharges to the MS4 and to require the implementation of controls to reduce the discharge of pollutants in storm water to the MEP and to meet water quality standards.[48] The ultimate goal of the CWA is to restore and maintain the physical, chemical, and biological integrity of the Nation's waters. Wherever attainable, water quality control should provide for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water (i.e., fishable, swimmable). The criteria used to measure these goals are often chemical and biological in nature. Also, under the CWA, compliance with and effectiveness of MS4 permits are unequivocally based on meeting chemical and biological standards. In fact, exceedances of chemical water quality criteria and/or impacts to aquatic life and many other beneficial uses would not constitute a substantial change in the physical conditions under which exist in a project area. Under CEQA, causing or contributing to pollutants discharged in storm water would not meet the definition of "significant effect. It is a fair inference that CEQA was never intended to remedy impacts to surface water quality, but only that impacts be considered in public-decision making. For example, Cal. Pub. Res. Code § 21001 states that the policy of the State is to:

> "Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criteria in public decisions."

Justification that Review Must Not be Limited to "Discretionary" Projects

Another major discrepancy under CEQA is the project categories covered. Clearly the projects subject to CEQA and the CEQA review process do not encompass all development categories covered by the LA County MS4 permit. There is no question under U.S.EPA storm water regulations that minimum development planning control measures must be implemented for all projects one acre or greater in size. The CWA makes no distinction between projects that may be considered ministerial or discretionary under the local government project planning approval process.

[48] Clean Water Act, Section 402(p)

Consequently, there is no justifiable reason to limit storm water management requirements to "discretionary" projects when mitigating storm water impacts. The difference between a ministerial and a discretionary project varies between agencies, and it is based on their own specific ordinances that may not be related to the protection of water quality in any way. As discussed in the introduction, the LA Regional board never intended for the term "discretionary" to be defined as it is under CEQA. The examples described below are evidence that limiting the requirements in the permit to "discretionary" projects would allow many projects to escape storm water mitigation requirements, which are necessary to comply with federal regulations. Cities classify projects as discretionary based on other ordinances that are totally unrelated to water quality.

For example, the City of Santa Monica classifies proposals for restaurants as ministerial projects, so long as they do not serve alcohol. Therefore, all new restaurants not serving alcohol, which includes the majority of fast food chains, are only required to comply with zoning requirements and pay permit fees to begin construction. When the LA Regional Board issued the Final SUSMP, on March 8, 2000, restaurants were one of the categories that were made subject to development and significant redevelopment conditions in order to reduce pollutants in storm water runoff to the MEP. If a proposed restaurant in the City of Santa Monica plans to serve alcohol, it is considered "discretionary". The City can choose to deny these proposals, or approve them with conditions, such as storm water mitigation conditions. Whether or not a restaurant serves alcohol has no affect on the type or amount of pollutants generated at the site that may come in contact with storm water. The City's basis for classifying a proposed restaurant as discretionary or ministerial is clearly not related to the protection of water quality. A limiting interpretation based on alcohol sale would lead to noncompliance with the CWA and federal storm water regulations.[49]

As another example, a retail gasoline outlet (RGO) that is proposed to be located in a commercial zone is considered ministerial.[50] Whereas an RGO proposed in a non-commercial zone requires discretionary approvals. RGOs have been determined to be a significant category subject to storm water mitigation requirements. They are a well-identified source of urban storm water pollutants that impair receiving waters.[51] Yet under CEQA, municipalities may treat RGOs differently because of local government zoning criteria. Regardless of existing zoning practices, RGOs generate significant concentrations of hydrocarbons and heavy metals. This fact is further evidence that the municipal distinction between ministerial and discretionary is not related to water quality.

Municipal zoning plays a very significant role under CEQA as to the extent of environmental review that a development project undergoes. For example, if a commercial project, regardless of its size, is proposed for an area that is already zoned for commercial use, it does not require discretionary approval. Thus, if SUSMP requirements were only applied to the discretionary approval process as determined by CEQA, the result would be that large commercial developments that meet or exceed the thresholds in the SUSMP would not be required to implement storm water mitigation

[49] City of Santa Monica CEQA review procedures

[50] *Ibid.*

[51] RGO Technical Report, Radulescu *et al.* (June 2000)

measures because they were built in zones considered conforming use. For example, just between January 1, 2000 and December 31, 2000, the City of Los Angeles issued building permits to 133 commercial developments greater than 100,000 square feet that would be considered ministerial under this criterion.[52]

Similarly, the numerous statutory and categorical exemptions provided under CEQA clearly are not consistent with the statutory standard of reducing pollutants in storm water to the MEP. Many of the exemptions appear to have the intention of providing a decent home to Californians without considering possible impacts to water quality from storm water runoff. For example, all development projects consisting of the construction, conversion, or use of residential housing of not more than 100 units in an urbanized area that is affordable to lower income households are exempt by statute. Storm water monitoring and studies have documented that urban areas contribute significant pollutants to storm water, such as metals, hydrocarbons, and pesticides, irrespective of the affordability of the homes. The affordability of housing does not affect the generation of these pollutants from urban residential developments.

Furthermore, the Class 2 categorical exemption also allows for the replacement or reconstruction of existing structures where the new structure will be located on the same site and will have substantially the same purpose and capacity as the structure replaced. This exemption would negate the inclusion of many "redevelopment" projects in the development planning provisions of the permit. For the purposes of water quality protection, storm water mitigation requirements must be applied to all planning priority projects that undergo significant redevelopment in their respective categories.[53] As defined in the permit, significant redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site, or an increase of more than fifty percent of impervious surfaces of a previously existing development.[54] The U.S.EPA affirms this requirement in its Phase II Final Rule, where it states that considering potential adverse water quality impacts from redevelopment projects provides more opportunities for water quality protection.[55]

Options for Municipalities

The municipalities argue that their development planning programs and review procedures cannot be modified to include the review of ministerial projects. This statement is incorrect. The following options exist for municipalities to include all planning priority development and redevelopment projects in their environmental review processes.

The first option is for cities to make all planning priority project categories discretionary beyond statewide categories by adopting local ordinance provisions that

[52] City of Los Angeles, Department of Building and Safety, New Commercial Building Permits Issued Between 1/1/2000 and 12/31/2000.

[53] Permit, Part 4.D.8

[54] *Ibid.*

[55] 64 Fed. Reg. 68759

create decision-making discretion. CEQA gives an agency a blanket authority to conduct environmental reviews of projects when other laws allow them any type of decision-making powers. "CEQA is intended to be used in conjunction with discretionary powers granted to public agencies by other laws, it does not grant an agency new powers independent of the powers granted by other laws." Certainly, the MS4 permit can be viewed as one of these "other laws", which requires cities to modify their local ordinances to protect water quality and implement control measures consistent with federal storm water regulations. The SUSMP requires that cities amend their codes and promulgate ordinances to give legal effect to the SUSMP requirements.[56] These requirements then become the part of each local ordinance that gives the city discretionary powers over priority development projects, deeming them "discretionary projects".

The second option is for municipalities to administratively establish standards and objective criteria for storm water mitigation for ministerial projects and for planning priority development categories that are otherwise exempt from CEQA review. The City of Los Angeles currently uses this process and, in a letter dated July 25, 2001, did not oppose the LA Regional Board staff recommendation to retain the requirement to include all projects in the development planning program.[57] The County of Los Angeles utilizes a similar administrative process to ensure that priority-planning projects considered ministerial incorporate SUSMP requirements.[58] In the City of Santa Monica, all projects undergo urban runoff procedures regardless of whether they are discretionary or ministerial.[59]

Conclusion

There is no technical or legal basis to limit the application of new development and redevelopment requirements to projects defined for environmental review by the limitations of CEQA. Restricting the application of storm water mitigation requirements to CEQA discretionary projects is not consistent with federal storm water regulations for the protection of water quality. The determinative consideration for the application of development planning provisions should be whether a particular category of development has been determined to cause or contribute to significant pollution of storm water. A procedural classification defined by CEQA should not matter, let alone be determinative.

[56] Final SUSMP, March 8, 2000

[57] See City of Los Angeles Policy memo from Chief Legislative Analyst to City Council Environmental Committee Chair (July 25, 2001), p 4, which supports the extension of new development planning requirements to administrative projects.

[58] LA County Department of Public Works (DPW),' Announcement, NPDES-*Development Planning for Storm Water Management*,' where review of new development requirements is shared among Land Development Division, Building and Safety Division, and Environmental Programs Division. http://ladpw.org/wmd/ust/npdes_susmp1.pdf

[59] The City of Santa Monica Ordinance (Municipal Code Chapter 7.10.01) requires all new development or redevelopment projects to implement the appropriate storm water mitigation measures.

MITIGATION OF STORM WATER IMPACTS FROM NEW DEVELOPMENT IN ENVIRONMENTALLY SENSITIVE AREAS

Technical Report

October 2001

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INTRODUCTION

The California Regional Water Quality Control Board, Los Angeles Region (LA Regional Board) issued the final version of the Standard Urban Storm Water Mitigation Plan (SUSMP) for the County of Los Angeles and Cities in Los Angeles County on March 8, 2000. As adopted, the SUSMP included locations within or directly discharging to an environmentally sensitive area (EnvSA) as a development category to be subject to SUSMP requirements. The Building Industry Association, Western States Petroleum Association, and 32 cities filed an amended petition to the State Water Resources Control Board (State Board) to appeal certain aspects of the SUSMP. On October 5, 2000, the State Board issued its decision, *In Re: Bellflower et al.* ("SUSMP Decision").[1]

Although the SUSMP decision upheld much of the Regional Board's action, it removed EnvSAs as a development category from the SUSMP. The State Board surmised that EnvSAs were not a developmental category, but rather a locational designation. Further, the State Board expressed some concern that no threshold size had been specified that would trigger SUSMP requirements[2], and that development in EnvSAs may already be extensively regulated. Although the LA Regional Board had proposed a threshold for development within, adjacent to or directly discharging to an EnvSA in its response, the State Board determined that adequate opportunity for discussion of the threshold by interested parties had not been provided.[3] In setting aside the EnvSAs, the State Board explained the types of evidence and findings that

[1] SWRCB, 2000. State Board Order No. WQ 2000-11: In the matter of the petitions of the Cities of Bellflower, et al., the City of Arcadia, and Western States Petroleum Association,

[2] *Ibid.* at page 24.

[3] SWRCB, 2000. State Board Order No. WQ 2000-11: In the matter of the petitions of the Cities of Bellflower, et al., the City of Arcadia, and Western States Petroleum Association, page 25.

Regional Boards must make for future inclusion of the category.[4] The action to set aside EnvSAs was not to be interpreted as precedent setting.

The LA Regional Board intends to insure consistency among the requirements of the different municipal storm water permits it adopts. On July 27, 2000, the LA Regional Board adopted a renewed municipal storm water permit for Ventura County (Ventura County MS4 Permit) (Board Order No. 00-108). The Ventura County MS4 Permit included the Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan (SQUIMP), which is analogous to the SUSMP for Los Angeles County. The Ventura County MS4 Permit requires that that new development controls be implemented for several development categories, including projects sited within, adjacent to or directly discharging to an EnvSA. Like the SUSMP, the SQUIMP requires a suite of water quality-related best management practices (BMPs) intended to minimize impacts from development.

Following issuance of the SUSMP decision, the Ventura County Co-permittees requested to have the language of the Ventura Permit and SQUIMP revised to conform to the changes made to the Los Angeles County SUSMP. In response, the LA Regional Board Executive Officer issued a letter, which changed portions of the Ventura County MS4 Permit language. However these changes did not modify the Ventura County MS4 Permit with respect to the EnvSA language or SQUIMP requirements. Three Ventura County MS4 Permittees petitioned the State Board against the actions of the LA Regional Board Executive Officer in making these changes to the Ventura County MS4 Permit. The State Board and LA Regional Board have held the appeals in abeyance pending the resolution of related issues during the renewal of the LA County MS4 Permit. Until these appeals are resolved, the Ventura County MS4 Permit remains in effect as adopted, including the requirements for projects in EnvSAs.

The California Regional Water Quality Control Board, San Diego Region (SD Regional Board) adopted a Municipal Storm Water Permit for San Diego County and Cities (SD County MS4 Permit) on February 28, 2001. The SD County MS4 Permit designated EnvSAs as a development category to be subject to SUSMPs, and included threshold development size and/or alteration criteria that will trigger the requirements. The threshold criteria were either the creation of 2,500 square feet of impervious surface or increasing the imperviousness of a proposed project site by ten percent above its natural condition.[5]

URBAN STORM WATER RUNOFF AND WATER QUALITY IMPACTS

Urban storm water contains pollutants that degrade water quality and adversely impact aquatic habitat. Pollutants found in storm water include suspended solids, heavy metals and a broad suite of organic compounds including pesticides, nutrients, petroleum compounds, pathogen indicators and other by-products of urban activities.[6] [7] Urban storm water has also been shown to alter water quality parameters such as pH, oxygen demand, specific

[4] See Memorandum from Craig Wilson, Chief Counsel, State Board to Regional Board Executive Officers dated Dec. 26, 2000.

[5] California Regional Water Quality Control Board, San Diego Region, San Diego County Municipal Storm Water Permit, Order No. 2001-01, 52 pp.

[6] Makepeace, D.K., Smith, D.W. and Stanley, S.J., 1995. Urban stormwater quality: summary of contaminant data. *Critical Reviews in Environmental Science and Technology*, 25(2): 93-139.

[7] Ayers, M.A., Kennen, J.G. and Stackelberg, P.E., 2000. Water quality in the Long Island-New Jersey coastal drainages, New York and New Jersey, 1996-98. U.S. Geological Survey Circular 1201.

conductance, temperature and turbidity.[8] Finally, urbanization modifies the hydrologic properties of a site, generally leading to increased volumes of runoff from a given amount of precipitation, and a more rapidly developing runoff peak.[9]

These pollutants and hydromodifications can directly result in negative impacts to biota and degrade ecosystems. Metals, organic compounds and other pollutants can have acute and/or chronic toxic effects to aquatic flora and fauna[10], and flow modifications can directly degrade the physical conditions of a habitat through erosion and deposition of sediments.[11] [12] A growing body of research links urban storm water runoff to water quality impairments and habitat degradation.[13] [14] Rivers and tributary streams, lakes, wetlands, estuaries and near shore ocean waters are susceptible to storm water impacts.

Adjacent habitats may be indirectly impacted by the degradation of aquatic areas. Fauna in riparian habitats may be negatively impacted by water quality degradation through reduced aquatic food sources, alteration of reproductive environments and habitat alteration that fosters proliferation of non-native species.

FEDERAL STORM WATER REGULATIONS

Federal storm water regulations require MS4 permittees to control storm water pollution from new developments during and after construction. U.S.EPA guidance advocates preventative measures including development design, implementation and maintenance of structural and non-structural best management practices (BMPs), and adoption of post-construction runoff ordinances.[15]

In February 2001, the U.S.EPA issued a Memorandum of Agreement (MOA) between the U.S.EPA, U.S. Fish and Wildlife Service (USFW) and the National Marine Fisheries Service (NMFS). The MOA is designed to enhance coordination of protection of endangered and threatened species pursuant to the Endangered Species Act (ESA) and the Clean Water Act (CWA). EPA believes that a coordinated national approach will insure greater protection for listed species, enhance regulatory predictability, and increase the efficiency of ESA

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[8] Schueler, Tom, 1994. The importance of imperviousness. *Watershed Protection Techniques*, 1(3) 7 pages.

[9] Booth, D. and Jackson, C.R., 1997. Urbanization of aquatic systems: degradation thresholds, stormwater detention, and the limits of mitigation. *Journal of the American Water Resources Association*, 33(5):1077-1090.

[10] Field, R. and Pitt, R.E., 1990. Urban storm-induced discharge impacts: US Environmental Protection Agency research program review; *Water Science and Technology*, 22(10/11):1-7.

[11] Sovern, D.T. and P.M. Washington, 1996. Effects of urban growth on stream habitat. In Roesner, L., ed. Effects of watershed development and management on aquatic ecosystems. ASCE Conference, August 4-9, 1996, Snowbird, Utah.

[12] May, Christopher W.; Horner, Richard R.; Karr, James R.; Mar, Brian W.; Welch, Eugene B., 1997. Effects of urbanization on small streams in the Puget Sound Lowland ecoregion, *Watershed Protection Techniques* 2(4): 483-494.

[13] Bay, S., Greenstein, D., Jirik, A. and A. Zellers, 1996. Toxicity of Stormwater from Ballona and Malibu Creeks, Southern California Coastal Water Research Project, Annual Report 1996, p. 96-104.

[14] U.S. General Accounting Office, 2001. Water Quality: Better data and Evaluation of Urban Runoff Programs Needed to Assess Effectiveness, USGAO, June 2001.

[15] For a discussion see, Radulescu, D., Swamikannu, X. and P. Hammer, 2001. Retail gasoline outlets: New development design standards for mitigation of storm water impacts, Technical Report, June 2001, California Regional Water Quality Control Board, Los Angeles Region.

consultations.[16]

Under the CWA, the Regional Board is responsible for "restoring and maintaining the chemical, physical and biological integrity of the Nation's waters". Clearly, the MOA contemplates cooperation and coordination of the Regional Board's regulatory programs to enhance the relationship between the CWA and the ESA.

In issuing MS4 Permits, the Regional Boards are expected to ensure that all federal requirements are met. New developments that occur in EnvSAs should be required to incorporate into development design and long-term maintenance planning, storm water pollution prevention methods and appropriate BMPs.

ENVIRONMENTALLY SENSITIVE AREAS

California Public Resources Code defines EnvSAs as follows:

> "Environmentally sensitive area means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and Development."[17]

In the proposed LA County MS4 Permit these include:

(i) Significant Ecological Areas (SEAs), designated by the County of Los Angeles;
(ii) Significant Natural Areas (SNAs) designated by the California Department of Fish and Game (CDFG);
(iii) Rare, Threatened, or Endangered Species (RARE) beneficial use areas listed in the Regional Board Basin Plan, designated by the LA Regional Board; and

For the Ventura County MS4 Permit, the SEA category is substituted with the following because the Ventura County Planning Agency has not performed an equivalent designation,

(iv) Other Areas identified by the Permittees as environmentally sensitive for water quality purposes.

EnvSAs in the LA County MS4 Permit have been designated through a public process by their designating agencies. SEAs provide a habitat for rare, endangered, or threatened plant and animal species; biotic communities, vegetative associations, and species that are either one of a kind, or are restricted in distribution. These habitats often serve as concentrated breeding, feeding, or resting, or migrating grounds, and is limited in availability. They contain biotic resources that are of scientific interest. Some of these areas are important as game species habitat or fisheries; provide for the preservation of examples of relatively undisturbed natural biotic communities; and areas that are special for other reasons.[18] SNAs are areas that may

[16] USEPA, 2001. Fact Sheet: Memorandum of Agreement between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service regarding enhanced coordination under the Clean Water Act and Endangered Species Act. EPA-823-F-01-003.

[17] See, Cal. Pub Res. Code 30107.5

[18] Los Angeles County Department of Regional Planning, 2000. Los Angeles County Significant Ecological Area update study 2000, Background Report. Prepared for Los Angeles County by PCR Services, Frank Hovore & Associates, and FORMA Systems.

support extremely rare species or habitats, support associations or concentrations of rare species or habitats, or exhibit the best examples of rare species and habitats in California.[19] The RARE beneficial use designation is assigned to "uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state of federal law as rare, threatened, or endangered.

Since most of the selection criteria for EnvSAs involve rare, endangered or threatened species and associated habitat, any negative impact to such areas acquires a higher degree of severity. In these areas, recovery from impacts is inhibited by inherently smaller populations, restricted habitat boundaries, habitat fragmentation, and boundary effects. So, for a given negative stimulus, EnvSAs will experience a potentially greater and less reversible negative response than areas with more abundant and less sensitive species or biotic assemblages. Due to this sensitivity these areas are more easily degraded, therefore they merit a higher standard of protection.

RELATED ENVIRONMENTAL PROTECTION

Selected areas in California already merit a higher standard of protection from development impacts because of location. The California Ocean Plan prohibits the discharge of "waste" to Areas of Special Biological Significance (ASBS), and requires discharges to be located far enough away to allow maintenance of natural water quality conditions in ASBS.[20] The State Board recently issued a decision regarding storm water discharges where it determined that discharges to ASBS are prohibited.[21]

In the late 1980s the Sierra Club brought a petition against the County of Los Angeles alleging a failure to conduct an environmental review of a proposed project in a protected habitat area prior to granting project approval, as specified by the Malibu Local Coastal Plan (LCP). The trial court ruling in this case resulted in the creation of an environmental review board (ERB) to regulate development in sensitive environmental resource areas.[22] The function of the ERB is to advise decision-makers of the County of Los Angeles to insure that development within sensitive environmental resource areas is consistent with the environmental protection policies of the Malibu LCP. The ERB evaluates proposed projects, makes recommendations, and suggests mitigation measures or conditions to minimize adverse environmental impacts[23]. Projects found not to be consistent with the Malibu LCP could presumably be denied a permit.

Relevant policies in the Malibu LCP include:

Policy 86:

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[19] Significant Natural Areas website: http://www.dfg.ca.gov/whdab/html/moresna.html.

[20] SWRCB, 1997. California Ocean Plan: water quality control plan – ocean waters of California. California Environmental Protection Agency, Sacramento, California.

[21] SWRCB, 2001. In the matter of the Petition of California Department of Transportation (Cease and Desist Order No. 00-87 for Crystal Cove), issued by California Regional Water Quality Control Board, Santa Ana Region. SWRCB file A-1350.

[22] Sierra Club, et al., F.P. Angel, Counsel,Vs. County of Los Angeles and Board of Supervisors, C. Moore, Counsel, September 26, 1991, Ronald M. Sohigian, Judge.

[23] Los Angeles County Board of Supervisors, 1986. Malibu Local Coastal Program Land Use Plan.

"A drainage control system, including on-site retention or detention where appropriate, shall be incorporated into the site design of new developments to minimize the effects of runoff and erosion. Runoff control systems shall be designed to prevent any increase in site runoff over pre-existing peak flows. Impacts on downstream sensitive riparian habitats must be mitigated."

Policy 96:

"Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste shall not be discharged into or alongside coastal streams or wetlands."

The California Coastal Act contains provisions for an increased level of protection for resources defined as Environmentally Sensitive Habitat Areas (ESHAs). Cal. Pub. Res. Code § 30240.a states that:

"Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas."

On September 28, 2000, the California Coastal Commission (CCC) sent a letter to the State Board supporting the LA Regional Board's action in extending SUSMP requirements to EnvSAs.[24] Recently in commenting on a draft of the LA County MS4 permit, the CCC reiterated its support for inclusion of EnvSAs.[25] The CCC explained that the inclusion of EnvSAs is an important action that would greatly assist the State's efforts to protect the ecological integrity of land and coastal environments.

THRESHOLDS/EXEMPTIONS

The State Board in the SUSMP decision explained that Regional Boards might extend new development requirements to EnvSAs in the future if thresholds are established after full public discussion.

From a review of exemption criteria for developments in the literature, we note that CEQA uses the criterion of 2,500 square feet of impervious surface area for projects in EnvSAs as the threshold below which there is no environmental review. CEQA categorically exempts from environmental review: single-family residences or second dwelling unit in a residential zone; up to three single-family residences in an urbanized area; a duplex or similar structure in a residential area; apartments or similar structures designed for not more than six dwelling units in an urbanized area; stores, motels, offices or similar structures not using significant amounts of hazardous materials, and not exceeding 2,500 square feet in floor area.[26] The CEQA categorical exemption for up to four commercial buildings not exceeding 10,000 square feet of floor area, and not using significant amounts of hazardous materials, applies only if the

[24] California Coastal Commission, 2000. Letter dated September 28, 2000, to Craig Wilson, Chief Counsel, SWRCB, from Jaime Kooser, Deputy Director, Energy, Ocean Resources, and Water Quality.

[25] See Comment Letter from Jamie Kooser, Deputy Director, California Coastal Commission to Dennis Dickerson, Executive Officer, LA Regional Board dated July25, 2001.

[26] Title 14. California Code of Regulations, Chapter 3. Guidelines for Implementation of the California Environmental Quality Act; Article 19. Categorical Exemptions.

surrounding area is not environmentally sensitive. Commercial facilities less than 10,000 square feet and surrounded by an area that is environmentally sensitive therefore are not exempt from CEQA requirements. The CCC exempts single family residences (subject to conditions for access, water supply, etc.) from requirements for a coastal development permit. [27] The SD Regional Board excludes the applicability of new development requirements for development in EnvSAs where the change in impervious surface area is less than ten percent from the natural condition.[28] States such as Maryland, Washington, Florida, and Virginia use a threshold of 4,000 square feet or 5,000 square feet of disturbed land area for new development requirements to apply, but do not have a separate threshold for projects in EnvSAs although they require a stricter performance standard.

Although, we were unable to find an express basis in the legislative record for the CEQA threshold of 2,500 square feet of impervious area, it is reasonable to assume that the threshold derives from the typical impervious surface footprint of a single-family residential home (less than 2,500 square feet). Similarly, the typical single family lot size (less than 5,000 square feet) may be the basis of the threshold for the application of new development controls in other States. The SD Regional Board's alternative criteria of ten percent change from the natural condition appears to be based on scientific studies in the Mid-West and Pacific-Northwest which demonstrated that a more than ten percent change in impervious cover of watershed resulted in visible change to the ecological health of streams. Highly urbanized watersheds such as those in Los Angeles County usually have more than 50 percent impervious cover.

From our review of the scientific and regulatory literature, it is clear that environmental law and policy on development controls have been often framed to avoid imposing regulatory obligations on the individual homebuilder and/ or homeowner. A threshold for development in EnvSAs based on a similar objective appears to be reasonable.

DESIGN STANDARDS

The SUSMP requires the implementation of a suite of BMPs for developments, to mitigate adverse environmental impacts due to storm water and urban runoff. The suggested BMPs are designed to reduce the pollutant load in runoff and impacts from increased runoff volume and flow rates. Examples of BMPs include design elements such as clustering development, preserving existing vegetated areas, covering exposed pollutant sources and minimizing impervious surfaces, and treatment devices including detention or retention basins, oil/water separators, and filter systems.

The SUSMP does not prescribe specific BMPs, but does provide flow-based and volume-based criteria for runoff treatment. The choice of BMP or combination of BMPs is left to local control as long as the Maximum Extent Practicable (MEP) standard is met.

[27] California Public Resources Code, 30610.1. (a) Prior to certification of the applicable local coastal program, no coastal development permit shall be required for the construction of a single-family residence on any vacant lot meeting the criteria set forth in subdivision (c) and located in a specified area designated by the commission pursuant to subdivision (b).

[28] SD County MS4 Permit (Board Order No. 2001-01) at p. 16

ECONOMIC CONSIDERATION

BMPs required as part of the implementation of the SUSMP and SQUIMP will have economic impacts. Some BMPs would be implemented in most developments even if they were not explicitly required by regulation, including protection of slopes and channels and covered and contained trash and material storage areas. Other BMPs will be implemented only because they are required, and therefore potentially have a greater economic impact.

Economic impact will be case-specific and will depend on many factors. Studies about storm water BMP cost show that the size, type of development, existing environment, geology, and climate can affect the choice of BMP and its cost.[29] For example, an infiltration basin may be appropriate if the substrate is permeable, and groundwater contamination is not likely, whereas a biofiltration system that releases to the surface may be appropriate is the substrate is impermeable, or if sensitive groundwater resources are close to the surface. However, by imposing water quality requirements on the development at the design stage, cost savings can be maximized.

Clustered housing may save money on infrastructure, while minimizing the addition of impervious surface. Cost savings from alternative residential development designs have been estimated to be from 39–63% over conventional designs.[30] Commercial developments may demand certain parking space requirements, but water quality requirements can be met by pervious pavement, vegetative treatment swales, or water quality basins. Construction costs for storm water treatment BMPs for a five-acre commercial development have been estimated to range from $5,000 to $60,000 depending on the selected BMP. If water quality requirements are factored into the initial planning and design phase, total cost can be minimized and water quality benefits maximized.

JUSTIFICATION

The State Board excluded developments sited within, adjacent to, or directly discharging to EnvSAs from SUSMP requirements primarily because, it may have been mis-categorized as developmental rather than "locational", the absence of a threshold, the lack of adequate consideration by interested parties, and concerns of extensive regulation.

The LA Regional Board at this time, after nearly 12 months of public review for comment on three drafts, has provided ample opportunity for all interested parties to comment on the proposed criteria and its basis. By the nature of the designation of EnvSAs as a category to provide enhanced protection for, the basis is locational and identified as such under the Cal. Pub. Res. Code. § 30107.5. We propose a threshold of 2,500 square feet of impervious surface area or more as a threshold to trigger SUSMP requirements for projects in EnvSAs. On the issue of extensive regulation, we submit that most of the existing regulations regarding EnvSAs, are intended to exclude development entirely or limit allowed activities within the area but seldom for water quality protection. For developments that will be allowed, it is the responsibility of the State Board and Regional Boards to require effective mitigation of impacts from storm water and urban runoff and ensure at the same time that their actions do not harm

[29] Center for Watershed Protection, 1998. Cost and Benefits of Storm Water BMPs, Final Report 9/14/98, Prepared for Parsons Engineering Science, EPA Contract 68-C6-0001.

[30] *Ibid.*

the natural resources of California.

We recommend a threshold of 2,500 square feet or more to trigger the SUSMP requirements for developments in EnvSAs. Developments that create less than 2,500 square feet of impervious area will not require a SUSMP, developments that create 2,500 square feet of impervious surface or more will require a SUSMP. Staff also proposes that the redevelopment (i.e. creation, addition, and replacement) of single-family structures (including those in EnvSAs) be excluded from SUSMP requirements.[31] Permittees may consider the threshold of altering the imperviousness cover to ten or more percent over the natural condition as an alternative approach when they submit a watershed or a regional plan for consideration by the Regional Board as a substitute for site-by-site SUSMP requirements.

CONCLUSION

EnvSAs are inherently sensitive habitats containing unique, rare, threatened or endangered species and/or assemblages of species. Their unique and sensitive nature merits a higher standard of environmental protection than more common areas with common and abundant species. Storm water and urban runoff are known to contain a wide range of pollutants and have demonstrated toxicity to plants and animals. Therefore it is necessary to mitigate impacts from storm water and urban runoff to the MEP for developments within or directly discharging to EnvSAs. Applying SUSMP requirements to these developments is feasible and can be accomplished by a range of BMPs that can be tailored to the size and type of a particular development. The recommended threshold of 2,500 square feet of impervious area for application of SUSMP requirements in EnvSAs is reasonable and consistent with current principles of environmental law and policy. The most effective and economic way to accomplish the mitigation of storm water pollution from new development is to identify and implement water quality control techniques at the planning and design stage rather than require post-construction retrofits.

[31] State of Maryland exempts existing single family structures from new development/ re-development standards, Storm Water Design Manual 2000 at p 1.13

Response to Comments

California Regional Water Quality Control Board, Los Angeles Region
Los Angeles County Municipal Storm Water Discharge Permit
Summary of Comments and Regional Board Staff Response
Second Draft [June 29, 2001]

Commentors	Comment	Staff Response
Burke Williams and Sorenson (BWS), [R Tahir, Baldwin Park, Carson, Claremont, Compton, Duarte, Lakewood, Montebello, San Gabriel, San Marino, Whittier (RT)], Coalition for Practical Regulation (CPR), Executive Advisory Committee (EAC)	1. Unfunded Mandate Support clean water but the permit requirements cost money to implement. It constitutes an unfunded mandate.	Compliance with the Clean Water Act (CWA) is not predicated on the availability of funding. The requirements of the LA County MS4 permit are the same as that which would be expected under the CWA. There are no additional requirements that would constitute a supplementary requirement imposed separately and solely under the authority of the California Water Code (CWC). Thus the permit provisions are not subject to the California Constitutional bar on unfunded mandates. Proven successful financing programs nationwide include storm water utility fees and sewer fees. For more information on financing information please see, http://stormwaterfinance.urbancenter.iupui.edu/
Natural Resources Defense Council (NRDC), Santa Monica Bay Keeper (SMBK)	2. Completeness of Permit Application Permittees have not submitted necessary information to the Regional Board for permit issuance. Such information is important for the successful development and implementation of programs. The Regional Board cannot lawfully issue the permit if the necessary information has not been submitted	The first term LA County MS4 permit was issued in 1990 prior to the promulgation of USEPA Phase I storm water regulations. Some of the application requirements under 40 CFR 122.26 may not have been strictly met at that time. Prior to the permit being reissued in 1996, Regional Board staff reviewed the reapplication and determined that it was consistent with USEPA's Reapplication Policy (61 *Fed. Reg.* 41697) which was in draft form then. This Policy essentially states that the MS4 reapplication for reissuance for a subsequent five-year permit term should contain certain basic information, information for proposed changes, and proposed improvements to the storm water management program and monitoring program. Regional Board staff concur that information necessary for the successful development and implementation of programs should be obtained. However, such information can be developed during the permit term as well, without holding up permit reissuance (See, In Re: City of Irving, Texas, NPDES Appeal No. 00-18, at 23 (EAB, July 16, 2001). Regional Board staff opine that the draft permit incorporates necessary provisions to obtain any information that is lacking for the implementation of a successful program.

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Commentors	Comment	Staff Response
Diamond Bar (DB), RT, [Arcadia, Culver City, Hawthorne, (AR)], Charles Abbott and Assoc. (CAA), Rutan and Tucker (R&T), CPR, Richards Watson and Gershon (RWG), BWS, Building Industry Assoc and Construction Industry Coalition on Water Quality (BIA)	3. Enforcement Retain the Notice to Meet and Confer provision that requires the Regional Board Executive Officer to meet with a Permittee prior to initiating a formal enforcement action.	The Regional Board is required to adhere to the State Board Enforcement Policy (Resolution No. 96-030) which established a progressive enforcement approach to ensure consistent, predictable, and fair enforcement of regulations. The Policy does not have a 'Notice to Meet and Confer' provision. The first level of enforcement is the issuance of a Notice of Violation (NOV). The NOV provides the Permittee the opportunity to demonstrate compliance, before the enforcement action is escalated to a penalty phase. The Regional Board Executive Officer has always been open to meeting with Permittees and interested parties to discuss permit issues irrespective of any other provision in the permit.
Heal the Bay (HtB), NRDC, SMBK	4. Comparison with the Ventura County and City of Long Beach MS4 Permits The draft permit appears weaker in several permit provisions than either the City of Long Beach MS4 permit or the Ventura County MS4 permit. These permits should set the baseline and no section of the proposed permit for LA County should be weaker The specific areas are. (i) TDML Language; (ii) Criteria for applying SUSMPs to ESAs; (iii) Single Family Hillside Homes; (iv) monitoring reduction for non-detected pollutants; (v) toxicity testing requirements.	Corrected where true. The TMDL language has been revised to be identical to that in the Ventura County and LB MS4 permits. In the case of SUSMP criteria for ESAs, Regional Board staff has proposed thresholds to be responsive to the State Board decision in Order No. WQ 2000-11. In that decision, the State Board set forth types of evidence and criteria necessary for inclusion of ESAs in subsequent permits, including thresholds (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). The Ventura County MS4 permit precedes the State Board decision, as does the LB MS4 permit. A petition by several Ventura County MS4 Permittees on the ESA matter is being held in abeyance by the State Board, pending Regional Board consideration of the issue during reissuance of the LA County MS4 permit. For a complete discussion of the ESA matter see, Fact Sheet/ Staff Report – Attachment, Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'. The draft permit incorporates narrative SUSMP requirements for single family hillside homes and applies the numerical mitigation standard to single family hillside developments of one or

Commentors	Comment	Staff Response
		more acres of surface area. It is correct that the State Board decision in Order No. WQ 2000-11 approved the hillside category without a threshold and that neither the Ventura County MS4 permit nor LB Ms4 permit contain one. However, Regional Board staff is persuaded that there is no technical basis to support different post-construction requirements for hillside development as compared to developments on flat land. The primary differences occur during construction and not post construction. Hillsides are more susceptible to erosion and sediment loss from exposed land than is flatland. This difference in potential risk is addressed through BMPs under the Development Construction provision. The proposed threshold will normalize the numerical mitigation standard for hillside development with general housing development. The monitoring reduction for non-detected parameters has been revised to be similar to that in the Ventura County MS4 permit. The toxicity-testing requirement has been revised to be similar to that in the LB MS4 permit.
Burbank (Brb), Calabasas (Cal). DB, AR, RT. R&T, RWG. BWS. BIA	5. Receiving Water Limits Language The statutory requirement for municipal storm water discharges is to reduce the discharge of pollutants to the maximum extent practicable (MEP standard). [CWA § 402(p)(3)(B)(iii)] The proposed language in the draft requires also that storm water discharges achieve water quality standards, thus nullifying the MEP standard Which criteria will the Board use when determining compliance? CWC § 13263(a) requires the Regional Board to consider reasonableness and economics when prescribing waste discharge requirements. As written it invites third party lawsuits because Permittees will be out of compliance as soon as the permit is adopted. The language in the current permit, 'timely	The draft permit incorporates the RWL adopted by the State Board in its precedential decision in State Board Order No. WQ 99-05. The State Board Office of Chief Counsel has clarified that the U.S. Appellate Court decision in *Defenders of Wildlife v. Browner* 191 F.3d 1159 (9th Cir., 1999), did not contradict the RWL and that the State Board Order stands (Memorandum dated October 14, 1999, from Senior Counsel Elizabeth Jennings to Executive Director, Walt Petit). Also, the USEPA in prior comments to the State Board on the RWL in MS4 permits cites NPDES regulations at 40 CFR 122.44(d)(1)(i) as requiring effluent limitations where discharges, 'will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.....' and that the CWA § 301(b)(1)(C)does not provide the "not in violation" exception to compliance with water quality standards when exceedences occur (Letter of March 17, 1998 from Alexis Strauss, Water Division Director, USEPA Region IX, to Walt Petit, Executive Director, State Board). The State Board's interpretation of RWL can best be inferred from the Caltrans MS4 permit it issued in 2000 (Board Order No. DWQ), which includes language very similar to the RWL in this draft permit. The RWL provision in the draft permit requires Permittees to implement programs to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP). For those pollutants in storm water discharges that cause or contribute to the exceedences of water quality standards, Permittees will be required to implement additional controls to eliminate these exceedences. So long as Permittees continue to implement more and better controls to eliminate the exceedences, a citizen lawsuit brought under CWA (33 U.S.C. §1365) is unlikely

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Commentors	Comment	Staff Response
	and complete implementation of model programs....shall satisfy the requirements of this section' should be reinstated in the draft. Further, the language is inconsistent with State Board Order No. 99-05, which states that Permittees will not be in violation of water quality standards so long as they follow an implementation schedule. State Board Order No. 98-01 excised the 'cause or contribute' text from the compliance language. The U.S. Appellate Court decision in *Defenders of Wildlife v. Browner* 191 F.3d 1159 (9th Cir., 1999) defeats the interpretation in State Board Order No 99-05. There is no justification for Permittees to have not upgraded the Storm Water Quality Management Plan to address water quality exceedences, especially in a third permit term. Water quality objectives in Table B of the California Ocean Plan apply to all discharges to the Ocean including non-point source and storm water.	to go forward. The Regional Board retains its discretionary authority to bring an enforcement action for exceedences of a water quality standard (*Sierra Club v. Whitman*, Case No. 00-16895, 9th Cir. (2001))
HtB	5 a. Numeric Effluent Limits The absence of numeric effluent limits for storm water in the permit may be reasons for the extensive impairment of receiving waters from municipal storm water discharges. The ambiguous MEP standard and the iterative approach to augmenting BMPs when water quality objectives	The draft permit incorporates SWMP requirements that serve as effluent limitations consistent with the State Board precedential decisions in Order No. WQ 91-03; Order No. WQ 91-04; and Order No. WQ. No numerical effluent limitations are included at this time. However, the draft permit contains language that makes any numerical allocation or effluent limitations for pollutants in MS4 discharges that are approved through the TDML process, immediately implementable and enforceable under this permit. In addition the RWL authorizes the Regional Board to make a determination, based on receiving water monitoring data, that water quality standards are being exceeded and then require Permittees to submit an implementation plan to eliminate exceedences.

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Commentors	Comment	Staff Response
	are exceeded are not enough based on the experience with implementation during the two past terms of the permit.	
EAC, NRDC, CPR, RT	6. Recognition of the EAC Eliminate the requirement that EAC Meetings be subject to the Brown Act (Cal. Gov. Code § 54950 *et seq*) because the EAC is not a political decision making body Eliminate any formal recognition of the EAC because such recognition would also require that other interested parties and coalitions be recognized similarly.	Reference to the EAC has now been deleted in the draft permit. Agree that the EAC is not a political decision making body but rather an informal executive group of permittee representatives. It would not be proper to recognize the EAC in the permit when it is does not subscribe to government rules for open meetings.
AR, RT, EAC, CPR	7. Open-ended Authority for Modification The draft permit grants the Regional Board Executive Officer unfettered authority to make modifications to certain requirements without public comment.	Incorrect. Modifications to the permit are governed by the 'Standard Provision: Reopener and Modifications' 40 CFR 122.41(f), which ensures that non-minor modifications to the permit are undertaken after public comment. Any party aggrieved by the action or inaction of the Regional Board Executive Officer may petition the full Regional Board for review (CWC). Similarly, any authority that the Regional Board delegates to the Regional Board Executive Officer under this permit, is reversible at the discretion of the Regional Board on petition (See State Board Order No. WQ 2000-11).
Covina (COV), LA County Fire, LA County (LAC), LA City (LA), [City of Los Angeles Department of Water and Power, California Water Service Company, Central Basin Water	8. Non-Storm Water Discharges Authorize potable water releases, which are intermittent and generally of short duration, conditionally as is the current practice. Authorize wash-down of trauma scene wastes to the storm drain system.	The draft permit now includes potable water releases from drinking water distribution systems under authorized non-storm water discharges provided the release is done in accordance with American Water Works Association guidelines for dechlorination/ debromination and suspended solids removal. The discharge of trauma waste wash-down to the MS4 is not authorized. The Medical Waste Management Act requires that trauma scene waste be transported to a permitted medical waste transfer station or treatment facility (Cal. Health and Safety Code § 117600 *et seq*). This Act preempts the Regional Board from authorizing the discharge of trauma scene waste to the MS4. Several municipalities already implement trauma waste management programs, which avoid

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Association, Southern California Water Company, South Montebello Irrigation District (Water)]		discharge to the storm drain system.
HtB, NRDC	9. Public Information and Participation Program The education program should be expanded to include measures and assessment of behavioral changes resulting from educational outreach.	The draft permit now includes provisions to evaluate change in behavior resulting from implementation of the public education program to determine effectiveness and help focus or redirect resources.
Brb, DB, AR, RT. R&T, RWG, BWS, LAC, LA, CPR. EAC	10. Industrial/ Commercial Inspections The municipality should not be held responsible for the compliance of industrial/ commercial facilities with storm water regulations The site-education program alone should be sufficient The municipality may carry out drive-by observations and report problem facilities to the Regional Board for follow-up. The industrial inspection program must require that municipalities inspect industrial facilities to verify compliance with local storm water ordinances. Municipalities must compel the implementation of additional controls at facilities when they are needed to assure compliance with local ordinances	The MS4 Permittee has a responsibility to make sure that industrial sites comply with local government storm water and urban runoff ordinances. The Regional Board has the responsibility to make sure that facilities 'discharging storm water associated with industrial activity' comply with the state's GIASP. USEPA storm water regulations require the MS4 permittee to obtain legal authority to monitor and controls pollutant discharges to the MS4 from industrial sites (40 CFR 122.26(d)(2)(iv)(C)) The legal authority includes the ability to carry out inspection, surveillance and monitoring procedures (Guidance Manual for the Preparation of Part 2 of the NPDES Applications for Discharges from Municipal Separate Storm Sewer Systems (USEPA1992)). Further, USEPA guidance states that MS4 Permittees shall, (i) identify priority industries discharging to the MS4; (ii) review and evaluate SWPPPs; (iii) require that industrial sites implement BMPs to reduce the discharge of pollutants in storm water; (iv) inspect and monitor compliance at industrial facilities discharging storm water. The USEPA clearly contemplates a dual and a cooperative oversight of facilities 'discharging storm water associated with industrial activity', between the permitting authority and the MS4 permittee (55 *Fed. Reg.* 222, 48000; and Storm Water Phase II Compliance Assistance Guide (USEPA 2000), p 4-32 and 5-11). Further, LA County has conducted a prioritization of critical industrial/ commercial facilities that discharge storm water (Critical Source Selection and Monitoring Report, (LACDPW 1996). It has also conducted monitoring to document that the highest risk sites are indeed significant sources of storm water pollution, and that the implementation of source control BMPs (voluntary good housekeeping measures) at high risk critical source sites are not enough to

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		reduce the discharge of pollutants in storm water (Los Angeles County 1999-2000 Storm Water Monitoring Report (LACDPW 2000)). Given the information that is known, educational site visits and drive-by observations by themselves will not be enough to meet the statutory standard of MEP. At a minimum a MS4 Permittee must implement an inspection program for high-risk industrial/ commercial facilities to verify implementation of controls to reduce the discharge of pollutants. A review of USEPA issued MS4 permits nationwide indicates that an inspection program is incorporated as a basic requirement (Palm Beach County, FL; Tulsa, OK; Denver, CO). Similarly, Regional Board issued MS4 permits in California include an inspection expectation (San Diego County; Santa Clara County; Alameda County; Sacramento County)
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, Upper LA Water Master	11. Development Planning SUSMP provisions seek to regulate local land-use authority and local government decision making. CEQA preempts such development planning provisions.	Incorrect. The draft permit recognizes that MS4 Permittees are obligated to consider potential storm water impacts when making planning decisions and approving development projects or building permits. The SUSMP provisions are not intended to restrict or control local land-use decision-making, only that the potential discharge of storm water pollutants be mitigated. On the other hand MS4 Permittees have to demonstrate that their programs for development planning meet the MEP standard. Failure to use the full authority granted to them on land-use planning matters under State law does not meet the MEP standard. CEQA is a procedural statute enacted to ensure that public agencies consider environmental impacts in development decisions they make. For water quality purposes, CWA and CWC are controlling, not CEQA. For a complete discussion of the CEQA matter see, Fact Sheet/ Staff Report – Attachment, Technical Report. Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality
Brb, Htb, SMBK, DB. AR, RT, R&T, RWG, BWS, CPR, EAC, LA, Cal	11a Peak Flow Control There appears to be no authority in the CWA for the permitting authority to regulate flow. Develop consensus language on peak flow control. Provide the flexibility to conduct an assessment under the monitoring program and consider alternate solution to avoid accelerated downstream erosion and protect stream habitat.	Clearly the CWA authorizes the control of activities, discharges, and pollutants when beneficial uses are adversely impacted (*Jefferson County: PUD No. 1 v. Washington Dept. of Ecology*, 511 U.S. 700 (1994)). USEPA Phase II storm water regulations state that for post-development, "[the] consideration of the increased flow rate, velocity, and energy of storm water discharges must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards, and to prevent the degradation of receiving streams" 64 *Fed. Reg.* 68761). Several studies have demonstrated a definite nexus between pollutant discharges and increased flow from increases in impervious surface area (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*; Schueler, T. and R. Claytor, *Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York; Leopold, L. B., 1973, River channel change with time: an example, Geological Society of America Bulletin*, v. 84. p. 1845-1860; Hammer, T. R., 1972. *Stream channel enlargement due to urbanization: Water Resources Research*, v. 8. p. 1530-1540: Booth, D. B., 1991. *Urbanization and the natural drainage system--impacts, solutions and prognoses: The Northwest Environmental*

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		Journal, v. 7, p. 93-118; Klein, R. D., 1979, *Urbanization and stream quality impairment: Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., 1997, *Effects of urbanization on small streams in the Puget Sound Lowland ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic geometry, stream equilibrium and urbanization*; Rhodes, Dallas P. and Williams, Garnet P. *Adjustments to the fluvial system.* 333-350. 1979; Dubuque, Iowa, Kendall/Hunt. *Tenth Annual Geomorphology Symposia Series*; and Schueler, Tom, 1994. *The importance of imperviousness. Watershed Protection Techniques*, 1(3). The Peak Flow Control provision in response to comments has been amended to include a time period for development of criteria after the completion of a Peak Discharge Impact Study. It has been clarified that the criteria apply to natural drainage systems, a term which is defined. In addition, the flexibility to develop a watershed strategy to control peak flow rather than through the use of site-by-site criteria is included.
Western States Petroleum Association (WSPA), Brb. Htb. SMBK, DB, AR. RT. R&T, RWG. BWS. CPR, EAC. BIA	<u>11.b SUSMP Applicability</u> The draft permit extends numerical design criteria for all projects, (not just discretionary), to projects in ESAs, and to retail gasoline outlets. The State Board in its 'SUSMP' decision rejected these categories. Retain applicability of the numerical design criteria to just CEQA discretionary approvals. Revise the residential development category to projects with 100,000 square feet or more of directly connected impervious area (that is not low or moderate-income housing). Object to the change in thresholds for numerical mitigation criteria to apply from 10,000 square feet single-family hillside developments to one acre and ten or more of housing developments to 1 acre. The 1-acre threshold, which is obtained from USEPA Phase II	Incorrect. The State Board decision in Order No. WQ 2000-11 was precedential in upholding the requirement for new development and significant redevelopment to mitigate post-construction storm water based on a numerical design criteria for treatment control BMPs. The decision also set forth types of evidence and criteria necessary for extension of SUSMP requirements in future MS4 permits to all projects (not just discretionary), the application of the numerical mitigation criteria to retail gasoline outlets, and inclusion of ESAs, (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). For a complete discussion of the evidence for extension of the SUSMP requirements to these categories, see, Fact Sheet/ Staff Report – Attachment, (i) Technical Report: Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality; (ii) Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'; and (iii) Technical Report: Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts. The State Board SUSMP decision upheld the application of SUSMP requirements to 10 or more unit home developments (about one acre) and not 100,000 square feet residential development (about 2.5 acres). To be consistent with USEPA Phase II storm water regulations the draft permit lowers the threshold for industrial/ commercial development from 100,000 square feet of impervious surface area to one acre of surface area (43,560 sq. ft) beginning 2003. This provision ensures that the SUSMP thresholds for industrial/ commercial development and residential development converge in 2003.

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	regulations, does not apply to Permittees because they are in Phase 1. The City supports the extension of SUSMP requirements to all projects (including those receiving administrative review). Support the extension of numerical mitigation criteria to retail gasoline outlets and developments in environmentally sensitive areas.	The basis of the threshold for hillside residential developments has been previously discussed (See, Response in 'Comparison with the LA County and City of Long Beach MS4 Permits'). The 10,000 square feet threshold was a staff proposal considered in the first draft but has no precedent in the LB MS4 and Ventura County MS4 permits. The LA County MS4 Permittees are subject to USEPA Phase I storm water regulations for MS4 discharges. Additionally, Phase I storm water regulation included regulatory requirements for construction projects 5 acres or greater and facilities discharging storm water associated with industrial activity. USEPA Phase II requirements cover small MS4s and small construction projects (1-5 acres). The 1 acre threshold for construction projects is obtained from USEPA Phase II storm water regulations. It is incorrect to state that the one-acre is an inappropriate threshold for SUSMP requirements because LA County MS4 Permittees are in Phase I.
California Coastal Commission (CCC), Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA	11c. ESAs There is no reason to include ESAs under SUSMP requirements since they are heavily regulated by other agencies and are subject to many other environmental regulations. Support the extension of numerical mitigation criteria to ESAs. There is no justification to condition the applicability of SUSMP requirements to projects in ESAs, such as '2,500 square feet of impervious surface area' and 'likely to affect sensitive biological species or habitat'.	Regional Board staff has proposed thresholds for ESAs to be responsive to the State Board decision in Order No. WQ 2000-11. In that decision, the State Board set forth types of evidence and criteria necessary for inclusion of ESAs in subsequent permits, including thresholds (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). For a complete discussion of the ESA matter see, Fact Sheet/ Staff Report - Attachment, Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA, WSPA	11d. Definition of Redevelopment The State Board's SUSMP decision did not include the word. "replacement", in the definition of redevelopment.	Correct. The addition of the word 'replacement' constitutes a clarification. The State Board's SUSMP decision did not clarify this issue. The USEPA describes Redevelopment as "alterations to a property that change the footprint of a site or a building...." (Storm Water Phase II Compliance Assistance Guide, (USEPA 2000) p 4-34. USEPA's description encompasses replacement of an existing impervious surface in addition to creation and addition of impervious cover. The intent of the Regional Board in adopting SUSMP requirements was expressly to ensure that when highly developed communities, such as those in Los Angeles County, replace themselves through generations, the opportunity to mitigate the adverse impacts

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		of storm water pollution from urbanization is not lost (See Meeting Transcript, comment by Dennis Dickerson, Regional Board Executive Officer, at Regional Board Meeting on January 26, 2000). The redevelopment provision in the draft permit specifically excludes routine maintenance activity and single-family structures in response to comments submitted by Permittees.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC	11e. CEQA Guidelines Update The requirement is redundant because LA County already has similar guidelines. Compliance expectation is unclear because both construction and post-construction activities are included.	LA County MS4 Permittees include 85 entities and not all of them use LA County's CEQA guidelines. CEQA is a procedural statute enacted to ensure that public agencies consider environmental impacts in development decisions they make. The guidelines are intended to ensure that local government officials consider both the adverse environmental impacts of development during construction and post-construction during decision-making. The CEQA guideline provision is intended for LA County MS4 Permittees to demonstrate that they meet the MEP statutory standard under their development review and building approval powers.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC	11f. General Plan Update The Regional Board does not have a right to review or approve proposed updates or amendments to General Plans. State law requires that storm water quality be addressed only in the conservation element.	Under State Law, General Plan amendments and update are the privilege of the local government elected officials. The Regional Board has the right to provide comment on updates and amendments (Govt. Code § 65350 *et seq.*) and is requiring adequate notice to comment. The opportunity to make policy that promotes the consideration of adverse impacts of storm water discharges from new development and redevelopment exists in several other General Plan elements (not just Conservation). Failure to use the full authority granted to MS4 Permittees under State law to express policy direction through updates or amendments to the General Plan does not meet the MEP standard. Further, this provision is very similar to that in the current LA County MS4 permit but without the notification requirement.
BIA	12. Development Construction Adoption of the draft permit will effectively nullify coverage of construction projects under the GCASP (State Board Order No. 99-05-DWQ).	Incorrect. The GCASP regulates directly construction projects subject to USEPA Phase I storm water regulations. The LA County MS4 permit regulates directly municipal Permittees (not land developers or owners) and requires MS4 Permittees to implement a program to control storm water discharges associated with new development and redevelopment. Nullification of coverage under the GCASP for a construction project occurs only when the Regional Board adopts a separate general or individual permit for construction projects within the Regional Board jurisdiction and not when it adopts an MS4 permit.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA	12a. Construction Site Inspections The municipality should not be held responsible for the compliance of construction sites also regulated under the statewide construction storm water permit.	The MS4 Permittee has a responsibility to implement an inspection program to make sure that construction sites irrespective of size comply with local government storm water and urban runoff ordinances (40 CFR 122.26(d)(2)(iv)(D)). The draft permit requires construction sites one acre or greater to demonstrate compliance through the implementation of a local SWPPP approved by the municipality. The Regional Board has the responsibility to make sure that construction sites five acres or greater comply with the state's GCASP. The local SWPPP may substitute for the State SWPPP if the local SWPPP is at least as stringent, but the compliance

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		obligation is dual and not mutually exclusive. The USEPA clearly contemplates a dual and a cooperative oversight of construction projects subject to state permitting between the permitting authority and the MS4 Permittee. (See comment on Industrial/commercial inspections)
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BIA	12b. Small Construction Projects The municipality should not be required to obtain state permit coverage for construction projects between 1 and five acres beginning 2003 because the requirement does not currently exist. The State has not completed its rule making.	Incorrect. USEPA Phase II regulations are final (64 *Fed. Reg.* 68722). The regulations require the state permitting authority to implement a permitting scheme to cover small construction projects (1-5 acres). The draft permit consistent with the regulations requires coverage for small construction projects beginning 2003.
Brb, DB, AR, RT, R&T, RWG, BWS, CPR, EAC	13. Illicit Discharge/ Illicit Connection Elimination Make the requirement to map illicit connections and incidents of illicit discharges for priority action an optional task. Illicit discharges are best identified by drive-by ("off-site") inspections. The requirement to map is too costly because it would require a GIS.	The provision has been modified to require the listing of all illicit connections and illicit discharges (in lieu of mapping). MS4 Permittees are required to conduct field screening of open channels and underground pipes according to a schedule. This change makes the program consistent with the LB MS4 Permit.
Cal	14. Standard Provision Delete the standard provision, 'Bypass' because it may result in an automatic violation during heavy storms if treatment control BMPs are installed	The USEPA requires that this Standard Provision be included in MS4 permits because it has been deemed applicable. The purpose of the provision is to provide clarification as to under what circumstances a " Bypass" can occur without it being a violation of the MS4 permit. A treatment control BMP that is designed for water quality purposes and to bypass non-water quality events would not be considered to violate this provision when a "Bypass" occurs under design conditions.
NRDC, R&T, Cal	15. Definition of Pollutant The definition of the term pollutant includes language that inverts the burden of proof to demonstrate that a discharge of pollutant did not occur. Delete phrases in the definition that do not comport with the definition in the CWA	Extraneous phrases have been deleted and the definition is now referenced to the CWA
LAC, HtB	16. Monitoring	The draft permit has been amended to require tributary monitoring to determine if water quality

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	Require use of State Board 'Policy for Implementation of Inland Waters and Bays and Estuary Plan Minimum Levels (MLs) for toxic pollutant parameters. Require tributary monitoring to verify land-use model. Require annual sediment toxicity testing and benthic community analysis in estuaries.	standards are being exceeded in inland surface waters. The existing steady state land-use model will require significant data collection and modification to improve its predictive ability on tributary loads. Regional Board staff consider that the effort would not be worthwhile because the Regional Board intends to rely on the predictive ability of a dynamic model currently being developed in partnership with the Southern California Coastal Research Project in order to establish TMDLs. The draft permit has been revised to ensure that monitoring protocols achieve Minimum Levels (MLs). This change is to ensure that the most current analytical methods are used to measure pollutants in storm water. Sediment testing, bioassesssment and benthic analysis in estuaries are best conducted as part of a regional study. The draft permit requires LA County to participate in the next Southern California Bight-wide Study in partnership with SCCWRP to generate this information.

List of Commentors on June 29, 2001 Draft.

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City of Carson (CAR)	City of Cerritos (CER)	City of Claremont (CLA)	City of Compton (COP)
City of Covina (COV)	City of Culver City (CUV)	City of Diamond Bar (DIB)	City of Duarte (DUA)
City of Hawthorne (HAW)	City of Industry (IND)	City of Irwindale (IRW)	City of La Mirada (LAM)
City of Lakewood (LAK)	City of Los Angeles (LAC)	County of Los Angeles (LACO)	City of Monrovia (MON)
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City of San Gabriel (SGA)	City of San Marino (SNM)	City of Santa Clarita (SNCL)	City of Santa Fe Springs (SFS)
City of South Pasadena (SPA)	City of Temple City (TPL)	City of Vernon (VRN)	City of Whittier (WHT)

Coalition for Practical Regulation (CPR)
Rutan and Tucker (RT)
Richards Watson and Gershon (RWG)
Charles Abbott and Assoc (CAA)
Executive Advisory Committee (EAC)
Burke, Williams & Sorensen, LLP (BWS)
California Coastal Commission (CCC)
State of California Department of Health Services
County Sanitation Districts of Los Angeles County
Upper Los Angeles River Area Watermaster
Water Replenishment District (WRD)
City of Los Angeles Department of Water and Power
California Water Service Company
Central Basin Water Association
Southern California Water Company
South Montebello Irrigation District
Building Industry Association (BIA)
Western States Petroleum Association (WSPA)
So. Ca. Building Industry Assoc (BIA)
Construction Industry Coalition on Water Quality (CICWQ)
Bull Shot System, Inc. (BULSYS)
National Association of Industrial and Office Properties (NAIOP)
Heal the Bay (HTB)
Natural Resources Defense Council
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Amended Public Notices

and

Change of Venue Notice

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

320 W. 4TH Street, Suite 200
Los Angeles, California 90013
Tel. No.: (213) 576-6600; Fax No.: (213) 576-6660

Public Notice No. 01-066

NPDES No. CAS004001

NOTICE OF PUBLIC HEARING

CONSIDERATION OF A STORM WATER MANAGEMENT/URBAN RUNOFF PERMIT

FOR

THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN,

EXCEPT FOR THE CITY OF LONG BEACH

The Los Angeles Regional Water Quality Control Board will conduct a public hearing to consider the adoption of a municipal storm water permit for Los Angeles County (the renewal of an existing five-year permit). Regional Board staff will provide background and a brief overview of the proposed draft permit. The public will have the opportunity to testify regarding the proposed permit.

NOTE CHANGE IN HEARING LOCATION:

DATE: Thursday, November 29, 2001
TIME: 9:00am (However, this item will not be heard before 1:30pm)
PLACE: Metropolitan Water District, Board Meeting Room
700 North Alameda Street (Next to Union Station)
Los Angeles, CA

AVAILABILITY OF DOCUMENTS

You may contact Weindy Abarquez, at (213) 576-6802, to request a copy of the tentative draft permit and staff report. After October 15, you may also download the tentative draft permit and other related documents from the Regional Board Storm Water web page at: www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html.

BACKGROUND

On January 31, 2001, the Los Angeles County Department of Public works submitted an application for renewal of the five-year Municipal Storm Water Management/Urban Runoff Discharges Requirements for the County of Los Angeles, and the incorporated cities, except for the City of Long Beach (Board Order No. 96-045). Regional Board staff conducted a public workshop on April 24 and a formal workshop with the Regional Board on July 26 to give background on the permit and allow for public comment. Regional Board staff have considered comments in the issuance of each of the three draft permits.

Under the requirements of the permit, the County will implement the Storm Water Quality Management Plan which includes the following provisions: (a) Program Management; (b) Public Information and Participation Program; (c) Programs for industrial/commercial facilities; (d) Public Agency Activities; (e) Programs to eliminate illicit connections and discharges; (f) Programs for development planning; and (g) Programs for construction sites. These programs collectively are expected to reduce pollutants in storm water discharges to the Maximum Extent Practicable.

In addition the County will conduct a storm water monitoring program to assess permit compliance, assess the chemical, physical and biological impacts on receiving waters from storm water runoff, characterize storm water discharges, and identify sources of water quality exceedances and toxic pollutants.

HEARING PROCEDURE

The hearing will start at 9:00 am. However, this item will not be heard before 1:30pm. Regional board staff will present an overview of the proposed permit. Interested persons are invited to attend and to testify in front of the Regional Board. For the accuracy of the record, comments should also be submitted in writing. The Regional Board may ask questions of staff and persons who testify prior to making a decision on the adoption of the proposed permit.

Date: November 1, 2001

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

320 W. 4TH Street, Suite 200
Los Angeles, California 90013
Tel. No.: (213) 576-6600; Fax No.: (213) 576-6660

Public Notice No. 01-067

NPDES No. CAS004001

NOTICE OF PUBLIC HEARING
AND
CHANGE OF LOCATION AND TIME

CONSIDERATION OF A STORM WATER MANAGEMENT/URBAN RUNOFF PERMIT
FOR
THE COUNTY OF LOS ANGELES AND THE INCORPORATED CITIES THEREIN,
EXCEPT FOR THE CITY OF LONG BEACH

The Los Angeles Regional Water Quality Control Board will conduct a public hearing to consider the adoption of a municipal storm water permit for Los Angeles County (the renewal of an existing five-year permit).

NOTE CHANGE IN HEARING LOCATION AND TIME:

DATE: Thursday, November 29, 2001
TIME: 9:00am (However, this item will not be heard before 10:00am)
PLACE: Metropolitan Water District, Board Meeting Room
700 North Alameda Street (Next to Union Station), Los Angeles, CA

AVAILABILITY OF DOCUMENTS

You may contact Weindy Abarquez, at (213) 576-6802, to request a copy of the tentative draft permit and staff report. You may also download the tentative draft permit and other related documents from the Regional Board Storm Water web page at:
www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html.
The public will have an opportunity to provide oral testimony before the Regional Board on November 29, 2001. Written comments should either be hand delivered or mailed to our office with sufficient time to be received no later than the close of business on November 13, 2001. In order to consider and include the conclusions of the SWRCB in the San Diego MS4 Permit Petition scheduled to be issued on November 15, 2001, Regional Board will issue a response to comments no later than November 20, 2001.

Any comments received after November 13, 2001, will be provided to the Regional Board members ex agenda, and may not receive full consideration. Following the consideration of written comments and oral testimony, the Board may take action to adopt tentative Order No. 01-XXX during a public meeting on November 29, 2001. At its discretion, however, the Board may direct further investigation.

HEARING PROCEDURE

The hearing will start at 9:00 am. However, this item will not be heard before 10:00am. Regional board staff will present an overview of the proposed permit. Interested persons are invited to attend and to testify in front of the Regional Board. For the accuracy of the record, comments should also be submitted in writing. The Regional Board may ask questions of staff and persons who testify prior to making a decision on the adoption of the proposed permit.
Date: November 6, 2001

Winston H. Hickox
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties
Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

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Gray Davis
Governor

TO: Interested Parties (see attached distribution list), including: Permittees–County of Los Angeles Municipal Storm Water Permit; Resource and Regulatory Agencies; Water Districts; Environmental Organizations; Consultants; Other Local Agencies; and Other Interested Parties

FROM: Xavier Swamikannu, D. Env.,
Acting Storm Water Section Chief

DATE: November 6, 2001

SUBJECT: CHANGE OF LOCATION OF THE PUBLIC HEARING FOR THE TENTATIVE DRAFT COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT

The Regional Water Quality Control Board (Regional Board) will conduct a public hearing to consider adoption of the attached tentative permit during a public meeting on:

NOTE CHANGE IN HEARING LOCATION:

DATE: **Thursday, November 29, 2001**
TIME: **9:00am (However, this item will not be heard before 10:00am)**
PLACE: **Metropolitan Water District, Board Meeting Room**
700 North Alameda Street (Next to Union Station)
Los Angeles, CA

An agenda and public comment protocol for this Board Meeting will be posted on our web site by November 19, 2001, at: www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html

The public will have an opportunity to provide oral testimony before the Regional Board on November 29, 2001. Written comments should either be hand delivered or mailed to our office with sufficient time to be received no later than the close of business on November 13, 2001. In order to consider and include the conclusions of the SWRCB in the San Diego MS4 Permit Petition scheduled to be issued on November 15, 2001, Regional Board will issue a response to comments no later than November 20, 2001.

Any comments received after November 13, 2001, will be provided to the Regional Board members ex agenda, and may not receive full consideration. Following the consideration of written comments and oral testimony, the Board may take action to adopt tentative Order No. 01-XXX during a public meeting on November 29, 2001. At its discretion, however, the Board may direct further investigation.

Please call Dr. Xavier Swamikannu at (213) 576-6654 should you have any questions. Thank you for your interest in and comments on this proposed regulatory action for the County of Los Angeles and the Cities of Los Angeles County.

R0007099

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. **Existing Permit**

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. **Nature of Discharges and Sources of Pollutant**

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.

2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine

operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (iii) audit of MS4 Permittee programs; and (iiiiv) clarifying enforcement responsibilities between the State and local governments.

5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight*, Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001)].

6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are

lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York; Leopold, L. B., 1973, *River channel change with time: an example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., 1972, *Stream channel enlargement due to urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., 1991, *Urbanization and the natural drainage system--impacts, solutions and prognoses*: The Northwest Environmental Journal, v. 7, p. 93-118; Klein, R. D., 1979, *Urbanization and stream quality impairment*: Water Resources Bulletin, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., 1997, *Effects of urbanization on small streams in the Puget Sound Lowland ecoregion*: Watershed Protection Techniques, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic geometry, stream equilibrium and urbanization*; Rhodes, Dallas P. and Williams, Garnet P. *Adjustments to the fluvial system.* 333-350. 1979; Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and Schueler, Tom, 1994. *The importance of imperviousness.* Watershed Protection Techniques, 1(3).)

8. The County of Los Angeles has identified as the seven highest –priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County

R0007104

Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board).

9. The discharge of washwaters and contaminated storm water from businesses is an environmental threat and also can adversely impact public health and safety. A review of industrial waste/ pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).

10. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, , L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]

11. Retail gasoline outlets are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from retail gasoline outlets have high concentrations of hydrocarbons and heavy metals. [*Schueler and Shepp* (1992): *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Landuse*, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp-42-52]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital

R0007105

cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The LA Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria, as well in other U.S. States.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) adequate legal authority, (ii) fiscal resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) monitoring and reporting program.

2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

   Public Information and Participation
   Development Planning
   Development Construction
   Public Agency Activities
   Illicit Connection/Illicit Discharge Elimination Program

   These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water monitoring program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating

the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.

~~7.~~5. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County Flood Control District within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing*, Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles. ~~Attachment B shows the map of the permitted area in Los Angeles County Flood Control District.~~

2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

   About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

   About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U~~nited~~ S~~tates~~ subject to the Permittees' jurisdiction.

5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C Section 1251-1387). This section requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.

   - The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed Reg.* 47990).

   - The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed Reg.* 68722).

2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contains certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.

4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act (ESA) and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].

5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).

6. Section 402 (p) of the CWA (33 U.S.C. Section 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on

September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and require amending the SQMP after pollutants loads have been allocated and approved.

9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. Sections 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.

10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule) 65 *Fed. Reg.* 31682 (40 C.F.R. § 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000,* on March 2, 2000, for implementation of the California Toxics Rule (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.

11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.

12. The State Board *In Re*: California Department of Transportation (State Board Order WQ 2001-08), determined that the discharge of storm water to Areas of Special Biological Significance (ASBS) is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

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13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.

14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA, the TMDLs for trash will be effective and enforceable.

15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).

17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)

18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

    - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water-quality design criteria for retail gasoline outlets.

    - The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.

~~19. The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S.~~

~~is not permissible.~~ 40 CFR Part 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

~~19.~~20. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

~~20.~~21. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA
Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

~~21.~~22. To facilitate compliance with federal regulations, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI)

with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

~~22.~~The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.

24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th. Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

25. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC Section 13241. The Regional Board has considered the requirements of sections 13263 and 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.

26. CWC Section 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the Federal Clean Water Act and its amendments.

27. On March 12, 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

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F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal Pub Resources Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.

~~3.~~2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

~~4.~~3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

~~5.~~4. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then structural and treatment control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

~~6.~~5. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater

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understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

~~7.~~6. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interferences. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

~~8.~~7. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP ~~or requirement~~ under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

~~9.~~8. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable from new development and redevelopment activities. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its requirements are not intended to restrict or control local land use decision-making authority.

~~10.~~9. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain treatment control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of treatment control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

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2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.

4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.

5. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit, pursuant to Section 402 of the CWA, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.

6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal Pub. Resources Code Section 21100 *et seq.*), in accordance with CWC § 13389.

7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.

8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk,

Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges ~~are~~:

1. Are covered by a separate individual or general NPDES permit for non-storm water discharges; or

2. Ffall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:

   a) Category A - Natural flow:

      (1) Natural springs and rising ground water;

      (2) Flows from riparian habitats or wetlands;

      (3) Stream diversions, permitted by the State Board; and

      (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].

   b) Category B - Flows from emergency fire fighting activity.

   c) Category C - Flows incidental to urban activities:

      (1) Reclaimed and potable landscape irrigation runoff;

      (2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination/~~debromination~~ and suspended solids reduction practices);

      (3) Drains for foundations, footings, and crawl spaces;

      (4) Air conditioning condensate;

      (5) Dechlorinated/debrominated swimming pool discharges;

      (6) Dewatering of lakes and decorative fountains;

      (7) Non-commercial car washing by residents or by non-profit organizations; and

      (8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of anti-degradation policies and TMDLs.

Part 2. RECEIVING WATER LIMITATIONS

1. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.

3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of water quality objectives or water quality standards (collectively, water quality standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:

   a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report (as described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program)~~report~~ to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of water quality standards. This RWL Compliance Report~~report~~ may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The RWL Compliance Report~~report~~ shall include an implementation schedule. The Regional Board may require modifications to the RWL Compliance Report.

   b) Submit any modifications to the RWL Compliance Report~~report~~ required by the Regional Board within 30 days of notification.

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c) Within 30 days following the approval of the RWL Compliance Report~~report~~, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.

d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.

4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented immediately following (the permit effective date), unless a later date has been specified for a particular provision in this Order.

2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the maximum extent practicable.

3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the maximum extent practicable.

4. Permittees that modify the countywide SQMP (i.e., need additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than (6 months from the permit effective date). The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and shall specify activities being implemented under the appropriate elements described in the countywide SQMP.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution controls. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the maximum extent practicable.

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C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with. ~~Such amendments may include~~ regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, ~~t~~The Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;

2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;

3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;

4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;

5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;

6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;

7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and

8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings B.2. and D.2.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;

3. Designate a technically knowledgeable representative to the appropriate WMC; and

4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SQMP.

5. Prepare an annual summary of expenditures applied to the storm water management program. This summary of budget expenditures shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

   a) Program management
      - Administrative costs

   b) Program Implementation

      Where information is available, provide an estimated percent breakdown of expenditures for the categories below:

      ~~β)~~• Illicit connection/illicit discharge
      ~~χ)~~• Development planning
      ~~δ)~~• Development construction
      - Construction inspection activities
      ~~ε)~~• Industrial/Commercial inspection/site visit activities
      ~~φ)~~• Public Agency Activities
         ~~(1)~~• Maintenance of structural BMPs and treatment control BMPs
         ~~(2)~~• Municipal Street Sweeping
         ~~(3)~~• Catch basin clean-up
         ~~(4)~~• Trash collection
         ~~(5)~~• Capital costs

   ~~g)~~c) Public Information and Participation

   ~~h)~~d) Monitoring Program

   ~~i)~~e) Miscellaneous Expenditures

6. Each Permittee, in addition to the budget summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).

2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a) Facilitate cooperation and exchange of information among Permittees;

b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and

g) Meet~~Conduct joint WMC meetings~~ four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges~~,~~ to the storm drain system, including, but not limited to:

   a) ~~Prohibit i~~Illicit discharges and illicit connections and require removal of illicit connections;

   b) ~~Prohibit t~~The discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;

   c) ~~Prohibit t~~The discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

   d) ~~Prohibit t~~The discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;

   e) ~~Prohibit t~~The discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

   f) ~~Prohibit t~~The discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;

   g) ~~Prohibit t~~The discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

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h) ~~Prohibit w~~Washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;

i) ~~Prohibit t~~The discharge of concrete or cement~~concrete~~ laden wash water from concrete trucks, pumps, tools, and equipment to the MS4;~~.~~

j) ~~Prohibit, d~~Dumping, or disposal of materials into the MS4, other than storm water, such as:

(1) Litter, landscape debris and construction debris;

(2) Any state or federally banned or unregistered pesticides;

(3) Food and food processing wastes; and

(4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

a) Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;

c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to source control, and treatment control, BMPs;

d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4.

e) Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s to the maximum extent practicable.

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f) Require that treatment control BMPs be properly operated and maintained to prevent the breeding of vectors.

3. Each Permittee shall, no later than [9 months from permit effective date] amend and adopt, (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.

4. Each Permittee shall submit no later than [10 months from permit effective date], a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific ~~Best Management Practice (~~BMP~~)~~ substitution upon petition by a Permittee(s), if the Permittee can document that:

a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

c) The proposed alternative BMP or program will be implemented within a similar period of time.

~~2.Customized SQMP~~

~~Each Permittee shall have available a local SQMP, which:~~

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~~a)Is customized and reflects the conditions in the area under its jurisdiction; and~~

~~b)Specifies activities being implemented under the appropriate elements described in the countywide SQMP.~~

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

a) To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;

b) To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions;

c) To involve and engage ~~all~~ socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution ~~(such as African American, Latino, East Asian, South Asian, and Middle Eastern)~~.

T~~T~~he Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the campaign, and shall provide comments and advice during the process of preparing a request for Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals, and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year. ~~a panel to review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer for consideration no later than December 31, annually. The PIPP will become effective upon approval.~~

PIPP - Residential Program **R0007125**

~~a)~~d) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water

bodies, and channels no later than (2 years after the effective date of this Order). Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

~~b)~~e) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts within 30 days of the date this order becomes effective. Permittees are responsible for providing current, updated information to the Principal Permittee.

~~c)~~f) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year Public Education Program:

(i) Advertising;

(ii) Media relations;

(iii) Public service announcements;

(iv) "How To" instructional material distributed in a targeted and activity-related manner;

(v) Corporate, community association, environmental organization and entertainment industry tie-ins;

(vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than (365 days from the effective date of this Order).

(3) The Principal Permittee shall enhance the existing outreach efforts to residents and businesses related to the proper disposal of cigarette buttsimplement an outreach program to educate on proper disposal of cigarette butts.

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(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.

(5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning (within 3 months of the effective date of this Order). The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.

(6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

(7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

(8) ~~The~~ Permittees shall provide the contact information for their appropriate ~~storm water~~ staff responsible for storm water public education activities to the Principal Permittee no later than (60 days from the effective date of this Order), and changes to contact information no later than 30 days after a change occurs. ~~Cooperative efforts with other agencies may also be used to accomplish this requirement.~~

(9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than (90 days from the effective date of this Order). It shall be implemented on approval.

(10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than (90 days from the effective date of this Order). The strategy shall be developed based on sociological data and studies (such as the County

Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

~~d)~~g) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than (365 days from the effective date of this Order). Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts.

Table 1.	
Watershed	***Target Pollutants for Outreach***
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

~~3.~~2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target retail gasoline outlets and restaurant chains. At a minimum, this program shall include:

(1) Conferring with corporate management to explain storm water regulations;

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(2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all retail gasoline outlet and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than (365 days from effective date of this Order).

b) Business Assistance Program

(1) The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

(2) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and

(3) Making available, distributing, and discussing of applicable BMP and educational materials.

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C. Industrial/Commercial Facilities Program [VERSION B]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc:) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

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(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. **Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

3. **Restaurants**

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall

inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. **Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities**

a) The Permittees shall inspect

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products

facilities once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

6. **Automotive Service Facilities**

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The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

7. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

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(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 7.

8. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

9. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

10. Interagency Coordination **R0007135**

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals

of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

11. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

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C. Industrial/Commercial Facilities Program [VERSION A]

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. **Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)**

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

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3. **Restaurants**

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. **Retail Gasoline Outlets**

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

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(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. **Automotive Service Facilities**

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

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(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

6. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits.

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e., first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 6.

7. **BMPs Implementation**

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

8. **Complaint Response**

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

9. **Interagency Coordination**

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

10. **Regional Board Inspected Facilities**

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

11. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

C. Industrial/Commercial Educational Program [VERSION C]

Each Permittee shall implement an industrial/commercial site visit program. The purpose of such site visits will be solely educational and to provide industrial/commercial facilities with information regarding the Permittee's storm water program, and to provide advice when requested in understanding and complying with the Permittee's storm water regulations. To minimize cost, each Permittee is encouraged to coordinate its site visit program with existing fire, health, industrial wastes and/or other inspection type programs so that the Permittee need not institute new and separate site visit programs. The program shall contain the following components:

1. Identification of Sources

   a. The Principal Permittee in consultation with the Permittees shall maintain and update a database for listing industrial/commercial facilities by four digit SIC Industry Numbers. This database will serve as a reference resource for the public, business, industry, local government, the Regional Board, and other public agencies on storm water program participation. The initial accuracy of the database will be dependent on the accuracy of electronic and information sources used to establish the database, but the accuracy is expected to improve after Permittees begin to implement the industrial/commercial site visit program. No legal import is to be attributed to the database developed by the Permittees. The database format shall include at a minimum:

      i. Facility name;
      ii. Site address;
      iii. Watershed Management Area;
      iv. Applicable SIC code(s); and
      v. NPDES storm water permit coverage status, if applicable.

   b. Each Permittee shall collect information based on the format developed by the Principal Permittee to identify industrial/commercial facilities within its jurisdiction and submit to the Principal Permittee not later than one month after the Principal Permittee provides the database format to the Permittees or for "iii" below not later than one year after designation of groups by the WMC. The list of facilities shall include, at a minimum:

      i. All industrial groups regulated under Phase I of the Federal storm water program (40 CFR 122.26; Phase I Facilities);

      ii. Motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, gas stations, and restaurants; and

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iii. Additional SIC industrial/commercial groups identified as priorities by each WMC pursuant to this Order.

c. The Principal Permittee shall maintain and update the information submitted by each Permittee into a database of industrial/commercial facilities. This database shall include:

i. For each four-digit SIC Industry Number, primary activities that might impact runoff discharges (from national or commercial database sources); and

ii. For each four-digit SIC Industry Number, primary materials that might impact runoff discharges (from national or commercial database).

2. Source Control Measures

The Permittees, shall require the implementation of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site. The BMPs shall:

a. Address multiple pollutants;

b. Initially focus on pollutant source minimization, education, good housekeeping, and site design alternatives; and

c. Target source areas and activities with the highest potential to generate substantial pollutant loads.

The Principal Permittees shall distribute the BMP lists to the Permittees to be incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.

3. Educational Site Visits

a. Each Permittee shall implement an industrial/commercial educational site visit program according to the following schedule in Table 7:

Table 7
Schedule of Educational Site Visits

FACILITIES	SITE VISIT FREQUENCY (No. of Contacts / Time period)
i) Phase I*, [i]-[ix] and [xi] with waste discharge or pretreatment permit	1 / 24 months **
ii) Phase I, [i]-[ix] and [xi] with no waste discharge or pretreatment permit but with GIASP	1 / 24 months**
iii) Phase I, [i]- [ix] with no waste discharge or pretreatment permit, and no GIASP	1 / 24 months**
iv) Phase I [xi] with no GIASP	1 / 5 years***

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v) Vehicle repair shops, vehicle body shops, vehicle parts and accessories facilities	1 / 24 months**
vi) Gas stations	1 / 24 months* *
vii) Restaurants	1 / 24 months* *
viii) Facilities selected by WMCs	1 / 36 months

* See Glossary of Terms for definition
** Once in 24 months with a minimum of two site visits during the five-year term of this Order
*** See exception in text below

i. Phase 1 facilities in categories [i] through [ix] and [xi] which have an industrial waste discharge permit or a pretreatment permit, once every twenty-four months;

ii. Phase 1 facilities in categories [i] through [ix] and [xi], which do not have an industrial waste discharge permit or a pretreatment permit but have obtained coverage under the GIASP, once every twenty-four months;

iii. Phase 1 facilities in categories [i] through [ix], which do not have an industrial waste discharge permit, a pretreatment permit or GIASP coverage, once every twenty-four months;

iv. Phase 1 facilities in category [xi] without an industrial waste discharge permit, a pretreatment permit, or GIASP coverage. In lieu of a site visit, contact by phone, mail-out of questionnaire and educational materials, or other similar method to inform the facilities of notice of intent (NOI) requirements and encourage good storm water quality control measures (non-responders to be identified in annual report), once in five years;

v. Vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC Industry Major Group 75); once every twenty-four months;

vi. Gasoline stations (SIC Industry Number 5541); once every twenty-four months;

vii. Restaurants (SIC Industry Number 5812), once every twenty-four months; and,

viii. Additional SIC industrial/commercial groups identified by the WMC for the watershed in which the Permittee is located, once in thirty-six months, with a maximum limit of 3,000 additional site visits per Permittee during the term of this Order.

b. During the educational site visit, the Permittee shall:

i. Consult with a representative of the facility to explain applicable storm water regulations;

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ii. Distribute and discuss applicable BMP and educational materials, including information regarding the codes, regulations, ordinances, and permits applicable to the category of the facility. In the case of Phase I facilities, notify the facility of specific requirements under the GIASP including that such facilities must file an NOI with the State Water Resources Control Board and that SWPPP must be available on the site; and

iii. Follow-up with facilities, as deemed necessary and appropriate by the Permittee, to provide advice in complying with the Permittee's storm water ordinances, prohibitions, and other legal instruments.

c. Each Permittee shall submit to the Principal Permittee, on a quarterly basis, the lists of visited facilities identified by category. The Principal Permittee shall compile the submitted lists and submit them to the Executive Officer on a quarterly basis.

4. Alternative Programs

A Permittee may petition the Executive Officer to substitute the industrial/commercial educational program with an alternative industrial/commercial educational program that will achieve greater or substantially similar educational goals and which will be implemented within a similar period of time.

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C. Industrial/Commercial Facilities Control Program [VERSION A/C]

Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of reducing pollutants in storm water runoff. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include nonstructural, structural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities. At a minimum, the Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Track Critical Sources

a) Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution. Critical sources to be tracked are summarized below, and also specified in Attachment B:

(1) Commercial Facilities

- restaurants;
- automotive service facilities; and
- gas stations and automotive dealers.

(2) US EPA Phase 1 Facilities (Tier 1 and 2)

(3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]

- municipal landfills;
- hazardous waste treatment, disposal, and recovery facilities; and
- facilities subject to SARA Title III (also known as EPCRA).

b) Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:

- name of facility and name of owner/operator;
- address;
- coverage under the GIASP or other individual or general NPDES permits; and
- a narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

The Regional Board encourages Permittees to add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by

facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Regional Board recommends use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system; however, this is not required.

c) Each Permittee shall update its inventory of critical sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits).

2. Inspect Critical Sources

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified in the following subsections.

a) Commercial Facilities

(1) Restaurants

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than 30 months from the effective date of this Order, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;

- removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.

(2) Automotive Service Facilities

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than 30 months from the effective date of this Order, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;
- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

(3) Retail Gasoline Outlets and Automotive Dealers

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than 30 months from the effective date of this Order, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

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Level of Inspection: Each Permittee shall confirm that BMPs are effectively implemented at each RGO and automotive dealer within its jurisdiction, in compliance with the SQMP, Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs. At each RGOs and automotive dealer, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries before October 1st of each year;
- posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

b) Phase 1 Facilities: Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. For the remaining Phase 1 facilities that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

Frequency of Inspection

Facilities in Tier 1 Categories: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than 30 months from the effective date of this Order, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Facilities in Tier 2 Categories: Twice during the 5-year term of the permit, provided that the first inspection occurs no later than 30 months from the effective date of this Order. Permittees need not perform additional inspections at those facilities determined to

have no risk of exposure of industrial activity to storm water. For those facilities that do have exposure of industrial activities to storm water, a Permittee may reduce the frequency of additional compliance inspections to once every 5 years, provided that the Permittee inspects at least 20% of the facilities in Tier 2 each year.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Other Federally-mandated Facilities

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than 30 months from the effective date of this Order, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

3. Ensure Compliance of Critical Sources

a) **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SQMP or Regional Board Resolution 98-08 is infeasible at any site, that Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve water quality objectives, Permittees may require additional site-specific controls, such as treatment.

b) **Environmentally Sensitive Areas and Impaired Waters:** For critical sources that are in environmentally sensitive areas or that are tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls to reduce pollutants in storm water runoff that are causing the exceedences of water quality objectives.

c) **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable time period as specified below.

(1) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within 4 weeks from the date of the initial inspection.

(2) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, that Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.

(3) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.

d) Interagency Coordination

(1) **Referral of Violations of the SQMP, Regional Board Resolution 98-08, and Municipal Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections,
- Two warning letters or notices of violation.

(2) **Referral of Violations of the GIASP, including Requirements to File a Notice of Intent:** For those facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

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- Name of the facility;
- Operator of the facility;
- Owner of the faciltiy;
- Industrial activity being conducted at the facility that is subject to the GIASP; and
- Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

Permittees shall, at a minimum, make such referrals on a quarterly basis.

(3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances, and to oversee corrective action.

(4) **Support of Regional Board Enforcement Actions:** As directed by the Executive Officer, Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

(5) **Participation in a Task Force:** The Permittees, Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

D. Development Planning Program

1. The Permittees shall implement a development-planning program that will require all Pplanning Ppriority development and Rredevelopment projects to:

   a) Minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

   b) Maximize the percentage of perviouspermeable surfaces to allow percolation of storm water into the ground;

   c) Minimize the quantity of storm water directed to imperviousimpermeable surfaces and the MS4;

   d) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices;

   e) Ensure that treatment control BMPs are pProperly designed and maintained treatment control BMPs in a manner that does not promote the breeding of vectors; and

   f) Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

2. Peak Flow Control

   The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in natural drainage systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural drainage systems are located in the following areas:

   a) Malibu Creek

   b) Topanga Canyon Creek

   c) Upper Los Angeles River

   d) Upper San Gabriel River

   e) Santa Clara River

   f) Los Angeles County Coastal streams (see Basin Plan Table 2-1)

   The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I).

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Each Permittee shall no later than (3 years~~540 days~~ from the permit effective date) implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

(1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

(2) A ~~W~~watershed~~-~~-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

3. Standard Urban Storm Water Mitigation Plans (SUSMPs)

a) Each Permittee shall amend codes and ordinances not later than [6 months from permit effective date] to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than [7 months from permit effective date].

~~a)~~b) Each Permittee shall require that a single-family hillside home~~ development~~:

(1) Conserve natural areas

(2) Protect slopes and channels

(3) Provide storm drain system stenciling and signage

(4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability

(5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability

~~b)~~c) Each Permittee shall require that a SUSMP~~Standard Urban Storm Water Mitigation Plan~~ as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

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(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet Rredevelopment thresholds

~~c~~d) Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than (120 days from permit effective date) for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.

~~d~~e) Each Permittee shall require the implementation of SUSMP provisions no later than (7 months ~~180 days~~ from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA, where~~,~~ the development will:

(1) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and

(2) create 2,500 square feet or more of impervious surface area.

4. Numerical Design Criteria

The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below -to mitigate (infiltrate, filter or treat) storm water runoff:

a) Volumetric Treatment Control BMP

(1) the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

(2) the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

(3) the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

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(4) the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

b) Flow Based Treatment Control BMP

(1) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity, or

(2) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County, or

(3) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

5. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of Pplanning Ppriority Pprojects to design and implement post-construction treatment controls to mitigate storm water pollution:

a) Single-family hillside residential developments of one acre or more of surface area.

b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units -or more.

c) A 100,000 square feet or more impervious surface area industrial/ commercial development.

d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area].

e) Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate.

f) Restaurants (SIC 5812) [5,000 square feet or more of surface area].

g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces.

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h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 3.c.

i) Redevelopment projects in subject categories that meet Rredevelopment thresholds.

6. Not later than March 9, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial category to projects that disturb one acre or more of surface area.

7. Site Specific Mitigation

Each Permittee shall no later than (180 days from permit effective date) require the implementation of a site-specific plan to mitigate post-development storm water for new development and Rredevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

a) Vehicle or equipment fueling areas

b) Vehicle or equipment maintenance areas, including washing and repair

c) Commercial or industrial waste handling or storage

d) Outdoor handling or storage of hazardous materials

e) Outdoor manufacturing areas

f) Outdoor food handling or processing

g) Outdoor animal care, confinement, or slaughter

h) Outdoor horticulture activities

8. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all planning priority projects that undergo significant Rredevelopment in their respective categories.

a) Significant Rredevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

Where Rredevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Rredevelopment results

in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the change must be mitigated, and not the entire development.

b) Redevelopment does not include activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency Rredevelopment activity required to protect public health and safety.

c) Existing Single Family Structures are exempt from the Rredevelopment requirements.

9. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for structural and treatment control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

a) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred, and either

b) A signed statement from the public entity assuming responsibility for structural or treatment control BMP maintenance and that it meets all local agency design standards, or

c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year, or

d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the structural and treatment control BMPs; or

e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction structural or treatment control BMPs

10. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements . Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will:

a) result in equivalent or improved storm water quality;

b) protect stream habitat;

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c) promote cooperative problem-solving by diverse interests;

d) be fiscally sustainable and has secure funding; and

e) be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

11. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

a) A waiver for impracticability is granted

b) Legislative funds become available

c) Off-site mitigation is required because of loss of environmental habitat

d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation

12. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

a) Potential Impact of project construction on storm water runoff

b) Potential Impact of projects post-construction activity on storm water runoff.

c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit

e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies

f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm

g) Potential for significant increases in erosion of the project site or surrounding areas

13. General Plan Update

a) Each Permittee shall amend, revise or update its General Plans to include watershed and storm water quality and quantity management considerations and policies when the following General Plans elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, (iv) Open Space.

b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 et seq.

14. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the ~~requirements of the~~ development planning requirements on an annual basis beginning no later than (six months from the effective date of this Order), and more frequently if necessary. For Permittees with a population of 250,000 or more (2000 Census), training shall be completed no later than (one year from the effective date of this Order).

15. Developer Technical Guidance and Information

a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.

b) The Principal Permittee in partnership with Permittees shall issue no later than (two years~~ten months~~ from the effective date of this Order), a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

(1) treatment control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;

(2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;

(3) expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;

(4) maintenance considerations; and

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(5) cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

   a) Sediments generated on the project site shall be retained using adequate treatment control or structural controls;

   b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;

   c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

   d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.

2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:

   a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.

   The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

   "As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

   The landowner or the landowner's agent shall sign a statement to the effect:

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"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.

c) Require, commencing March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local

SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2.and shall:

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

4. GCASP Violation Referrals

a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:

A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections within 3 months, and
- Two warning letters or notices of violation.

b) Referral of Violations of GCASP Filing Requirements:

For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:

- Project location,
- Developer,
- Estimated project size, and
- Records of communication with the developer regarding filing requirements.

4.5. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than (six months from the effective date of this Order), and annually thereafter. For Permittees with a

population of 250,000 or more, initial training shall be completed no later than (one year from the effective date of this Order). Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
- Public Construction Activities Management
- Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
- Landscape and Recreational Facilities Management
- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Parking Facilities Management
- Public Industrial Activities Management
- Emergency Procedures
- Treatment Feasibility Study

1. Sewage System Maintenance, Overflow, and Spill Prevention

a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:

(1) Investigation of any complaints received;

(2) Upon notification, immediate response to overflows for containment; and

(3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:

(1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and

(2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

2. Public Construction Activities Management

a) Each Permittee shall implement the Development Planning Program requirements (Permit Section D) at public construction projects.

b) Each Permittee shall implement the Development Construction Program requirements (Permit Section E) at Permittee owned construction sites.

c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population need not obtain coverage under a separate permit until March 10, 2003.

d) Each Permittee, no later than March 9, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Each Permittee, consistent with the SQMP, shall implement pollution prevention plans for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:

(1) Good housekeeping practices;

(2) Material storage control;

(3) Vehicle leaks and spill control; and

(4) Illicit discharge control.

c) Each Permittee shall implement~~require~~ the following measures to prevent the discharge of pollutants to the MS4:

(1) For existing facilities, that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall be:~~that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.~~

(i) Self-contained; or

(ii) Equipped with a clarifier; or

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(iii) Equipped with an alternative pre-treatment device; or

(iv) Plumbed to the sanitary sewer.

(2) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency. ~~sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.~~

~~This provision does not apply to fire fighting vehicles.~~

4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;

b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ).

c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

d) Ensure that no banned or unregistered pesticides are stored or applied;

e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;

g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

i) Regularly inspect storage areas.

5. Storm Drain Operation and Management

~~Each Permittee shall:~~

a) Each Permittee shall ~~D~~designate catch basin inlets within its jurisdiction as one of the following:

Priority A: ~~—c~~Catch basins that are designated as consistently generating the highest volumes of trash and/or debris~~litter~~.

Priority B: ~~—c~~Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.~~litter~~

Priority C: ~~—c~~Catch basins that are designated as generating low volumes of trash and/or debris~~litter~~.

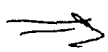
b) Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:

(1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;

(2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;

(3) Record keeping of catch basins cleaned; and

(4) Recording of the overall quantity of catch basin waste collected.



~~b)~~c) Permittees not subject to a trash TMDL shall:

(1) C~~c~~lean catch basins according to the following schedule:

Priority A: A minimum of three times during the wet season and once during the dry season every year. ~~—At least once during the dry season and once per month during the wet season.~~

Priority B: A minimum of once during the wet season and once during the dry season every year. ~~—At least 2 times per year and once during the wet season. Between the effective date of this Order and July 1, 2003, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 40% full during the wet~~

~~season. From July 1, 2003 to the date this Order is renewed, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 25% full during the wet season.~~

Priority C: A minimum of once per year. ~~as necessary but at least once per year.~~

In addition to the schedule above, between (permit effective date) and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

~~c)~~(2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event ~~Permittee~~ shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.

~~d)~~(3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than (6 months from the permit effective date), and at all other transit stops within its jurisdiction no later than (1 year from the permit effective date). ~~and maintain them.~~ All trash receptacles shall be maintained as necessary.

~~e)The Permittees shall implement a program which achieves the waste load allocations in conformance with a TMDL schedule of implementation by using an effective combination of BMPs which may include a combination of street sweeping, catch basin clean outs, installation of treatment devices, or other BMPs.~~

~~f)~~d) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.

~~g)~~e) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

(1) A program to visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

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(2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;

(3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

(4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and

(5) Proper disposal of material removed.

6. Streets and Roads Maintenance

a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A: —Sstreets and/or street segments that are designated as consistently generating the highest volumes- of trash and/or debrislitter.

Priority B: —sStreets and/or street segments that are designated as consistently generating moderate volumes -of trash and/or debrislitter.

Priority C: —sStreets and/or street segments that are designated as generating low volumes of trash and/or debrislitter.

b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:

Priority A: —These streets and/or street segments shall be swept at least two times per month.

Priority B: —Each Permittee shall ensure that each street and/or street segments is swept at least once per month.

Priority C: —These streets and/or street segments shall be swept as necessary but in no case less than once per year.

c) Each Permittee shall require that:

(1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain.

(2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and

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(3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.

d) Each Permittee shall, no later than (six months from effective date of this Order), train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

(2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more training shall be completed no later than (one year from the effective date of this Order.)

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity , obtain separate coverage under the GIASP except that a municipality under 100,000 in (1990 Census) population need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

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The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the -possible diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows from their jurisdiction- which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of -drains for potential diversion or treatment -and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 20032.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

   a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

   b) Tracking: All Permittees shall, no later than [365 days from the effective date of this Order] develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than [365 days from the effective date of this Order] the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.

   c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000, training shall be completed no later than [six months from the effective date of this Order]. For Permittees with a population of 250,000 or more, training shall be completed no later than [365 days from the effective date of this Order]. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

2. Illicit Connections

a) Screening for Illicit Connections

(1) Field Screening: All Permittees shall field sScreen the storm drain system for illicit connections in accordance with the following schedule:

(i) Open channels: [365 days from the effective date of this Order];

(ii) Underground pipes in priority areas: [three years from the effective date of this Order]; and

(iii) Underground pipes with a diameter of 36 inches or greater: [five years from the effective date of this Order].

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been sScreened vis a vis the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

(2) Permit Screening: [five years from the effective date of this Order], Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

(1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

3. Illicit Discharges

a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

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~~b~~)Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"**Areas of Special Biological Significance (ASBS)**" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

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"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility~~, nor does it include~~; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

"Discharging Directly" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

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"Discharge of a Pollutant" means: Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

"Environmentally Sensitive Areas (ESAs)" means an area "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments" (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game's Significant Natural Areas Program; an area listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; or an area identified by a Permittee as environmentally sensitive.

~~**"Full Capture Device"** means any device or system that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow resulting from a one-year, one-hour, storm.~~

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are

identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. ~~1.~~ Pre-inspection documentation research.;
2. ~~2.~~ Request for entry;
3. ~~3.~~ Interview of facility personnel;
4. ~~4.~~ Facility walk-through.
5. ~~5.~~ Visual observation of the condition of facility premises;
6. ~~6.~~ Examination and copying of records as required;
7. ~~7.~~ Sample collection (if necessary or required);
8. ~~7.~~ Exit conference (to discuss preliminary evaluation); and,
9. ~~8.~~ Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR § 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population estimate of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA's § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State

determines appropriate for the control of such pollutants. Specifically, municipalities must choose effective BMPs, and reject applicable BMPs only where other effective BMPs will serve the same purpose. See the legal memorandum (Feb 11, 1993) from State Board Office of Chief Counsel (OCC) to the Division of Water Quality (DWQ).

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, ~~personally, for businesses or for commerce~~ with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los

Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

~~(1)~~1. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

~~(2)~~2. A 100,000 or more square feet of impervious surface area industrial/ commercial development

~~(3)~~3. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

~~(4)~~4. Retail gasoline outlets

~~(5)~~5. Restaurants (SIC 5812)

~~(6)~~6. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

~~(7)~~7. Redevelopment projects in subject categories that meet R~~r~~edevelopment thresholds

8. ~~Additionally, for all p~~Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and

~~(8)~~9. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

~~(9)~~a) Vehicle or equipment fueling areas;

~~(10)~~b) Vehicle or equipment maintenance areas, including washing and repair;

~~(11)~~c) Commercial or industrial waste handling or storage;

~~(12)~~d) Outdoor handling or storage of hazardous materials;

~~(13)~~e) Outdoor manufacturing areas;

~~(14)~~f) Outdoor food handling or processing;

~~(15)~~g) Outdoor animal care, confinement, or slaughter; or

~~(16)~~h) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems Releases" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, ~~well development,~~ distribution line testing~~pump testing~~, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, ~~and wells~~and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; ; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and

grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

"Screening" means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

"Sidewalk Rinsing" means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

"Significant Ecological Area (SEA)" means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.[1]
Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.

[1] The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.[2]

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

[2] These criteria from the 1976 study have been modified in the *Update Study 2000.*

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"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation (TIE)" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation (TRE)" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;
ii. Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;
iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

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~~**"Water Column Toxicity"** means a 70 percent survival rate for a single test or an average of 90 percent survival for three consecutive tests.~~

"Water Quality Standards and Water Quality Objectives" means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, Title 22 of the California Water Code, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

"Waters of the State" means any surface water or groundwater, including saline waters, within boundaries of the state.

"Waters of the United States" or "Waters of the U.S." means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate "wetlands";
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
a. All impoundments of waters otherwise defined as waters of the United States under this definition;
b. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
c. The territorial sea; and
d. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with US EPA.

"Wet Season" means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.

2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.

3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal Government Code Section 6250 *et seq.*).

2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

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3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC Section 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;
2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;
3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,
4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the Clean Water Act and the California Water Code.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC Section 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural

requirements of the Water Code and Title 23 of the California Code of Regulations for the issuance of waste discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;

b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,

d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

a) Violation of any term or condition contained in this Order;

b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,

c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

~~3.This Order may be modified, revoked and reissued, or terminated for cause.~~

~~4.~~3. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

~~5.~~4. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR Part 122.63, if processed as a minor modification. Minor modifications may only:

a) Correct typographical errors, or

b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)] R0007188

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)][3]

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][4]

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;

3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

[3] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

[4] This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)][5]

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b) The permitted facility was being properly operated by the time of the upset;

   c) The Permittee submitted notice of the upset as required; and,

   d) The Permittee complied with any remedial measures required.

2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be

[5] *Supra*. See footnote number 2.

applied for each kind of violation. The Clean Water Act provides the following:

a) Criminal Penalties for:

(1) Negligent Violations:

The CWA provides that any person who negligently violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

(2) Knowing Violations:

The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(3) Knowing Endangerment:

The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

(4) False Statement:

The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See section 309(c)(4) of the Clean Water Act.)

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 13~~November 29~~, 2006. The ~~Principal~~ Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with Title 23, California Code of Regulations, ~~not later than 180 days in advance of such date~~ as application for reissuance of waste discharge requirements no later than June 13, 2006.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on November 29, 2001.

Dennis A. Dickerson
Executive Officer

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ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural
Agoura Hills
*Calabasas
Los Angeles County Flood Control
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban
Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates

*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles (City of)
Los Angeles County Flood Control

Los Angeles (County of)
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
*Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena

Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park

Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
*Long Beach[1]
Los Angeles County Flood Control
Los Angeles (County of)
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

*Santa Clarita
Los Angeles County Flood Control
Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

[1] *The City of Long Beach is covered under order No. 99-060*

ATTACHMENT B
Critical Sources Categories[1]

Tier 1 Categories

Municipal Landfills (SIC 4953)

Hazardous Waste Treatment, Disposal and Recovery Facilities[2]

Facilities Subject to SARA Title III (also known as EPCRA)[2]

Restaurants[3]

Wholesale trade (scrap, auto dismantling) (SIC 50)

Automotive service facilities[3]

Fabricated metal products (SIC 34)

Motor freight (SIC 42)

Chemical/allied products (SIC 28)

Automotive Dealers/Gas Stations (SIC 55)

Primary Metals Products (SIC 33)

Tier 2 Categories

Electric/Gas/Sanitary (SIC 49)

Air Transportation (SIC 45)

Rubbers/Miscellaneous Plastics (SIC 30)

Local/Suburban Transit (SIC 41)

Railroad Transportation (SIC 40)

Oil & Gas Extraction (SIC 13)

Lumber/Wood Products (SIC 24)

Machinery Manufacturing (SIC 35)

Transportation Equipment (SIC 37)

Stone, Clay, Glass, Concrete (SIC 32)

Leather/Leather Products (SIC 31)

Miscellaneous Manufacturing (SIC 39)

Food and kindred Products (SIC 20)

Mining of Nonmetallic Minerals (SIC 14)

Printing and Publishing (SIC 27)

Electric/Electronic (SIC 36)

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[1] Italicized categories belong to Phase 1 facilities
[2] Various categories subject to these requirements
[3] See Definition in Part 5. of the permit

Paper and Allied Products (SIC 26)

Furniture and Fixtures (SIC 25)

Laundries *(SIC 72)*

Instruments (SIC 38)

Textile Mills Products (SIC 22)

Apparel (SIC 23)

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM - CI 6948

FOR

MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES, EXCEPT THE CITY OF LONG BEACH

(NPDES PERMIT NO. CAS004001)

I. Program Reporting Requirements

The Principal Permittee shall submit, no later than October 15 of each year beginning in the year 2002, a unified Annual Storm Water Report (~~u~~Unified Annual Report) documenting the progress of Permittees' implementation of the SQMP and the requirements of this Order. The ~~u~~Unified Annual Report shall contain a section covering common activities conducted collectively by the Permittees, and an integrated summary of the Monitoring Program results. Each Permittee shall submit an individual Annual Report to the Principal Permittee, by the date determined by the Principal Permittee, to be included in the ~~u~~Unified Annual Report. The ~~u~~Unified Annual Reports shall cover each fiscal year from July 1 through June 30. The first ~~u~~Unified Annual Report, to be submitted on October 15, 2002, shall include the period from July 1, 2001 through June 30, 2002. Specific requirements that must be addressed in the Annual Reports are listed below.

A. Unified Annual Report

The Principal Permittee shall include the following in the ~~u~~Unified Annual Report:

1. A compilation of Permittee Individual Annual Reports.

2. Proposed changes to the SQMP, as recommended by the WMCs.

3. An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment shall be comprised of a compilation of watershedwide assessments conducted by each WMC. ~~This a~~Assessments ~~will~~shall be based upon the specific record-keeping information requirement in each ~~major~~ section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:

   a) Summary of common activities conducted by all Permittees;

   b) Watershed Management Area~~County-wide~~ BMP implementation;

   c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;

   d) Permittee level of effort, as indicated in their individual Annual Report self evaluations (Attachment U-4, section VI); and

e) Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the ~~m~~Monitoring ~~p~~Program. ~~When exceedances of applicable water quality standards have been identified, a discussion of how Permittees will comply with the requirements in Part 2 of this Order (Receiving Water Limitations) shall be included.~~

4. Pursuant to Part 2 of this Order, after a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, a~~A~~ Receiving Water Limitations (RWL) Compliance Report shall be attached to the subsequent unified Annual Report. A status RWL Compliance Report shall be submitted every alternate year following the submittal of the first Report~~, beginning in 2003~~. The RWL Compliance Report shall include the following:

   a) A plan to comply with the RWL (~~Order 01-XXX,~~ Part 2 of this Order);

   b) Changes to the SQMP to eliminate water quality exceedances;

   c) Enhanced monitoring to demonstrate compliance; and

   d) Results of implementation.

   If all water quality exceedances have been abated, a RWL Compliance Report is not required.

B. Individual Annual Reports

Each iIndividual Annual Report shall document and describe all activities conducted by a Permittee to meet all requirements of this Order, during the completed~~past~~ annual reporting period. Individual Annual Reports shall use the attached form (Attachment U-~~4~~5), or create another reporting format that includes all items on the attached form. Each Permittee shall complete the form in its entirety, except for those requirements applicable only to the Principal Permittee, as indicated on the form. Status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in this Order and in the SQMP shall be included for each program area.

C. Monitoring Program Management

The Principal Permittee shall submit a Storm Water Monitoring Report (Monitoring Report) on August 15, 2002, and annually on August 15, thereafter. The Monitoring Report to be submitted on August 15, 2002 shall include the results of monitoring from July 1, 2001 through June 30, 2002. Each Monitoring Report shall include:

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1. Status of implementation of the monitoring program.

2. Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program. ~~All data shall be compared to applicable water quality standards in the Ocean Plan, the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22).~~

3. An analysis of the findings of each monitoring program component. The analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures for identifying and addressing the sources. The analysis shall also include an evaluation of the effectiveness of existing control measures.

4. Identification and analysis of any long-term trends in storm water or receiving water quality.

5. An estimation of total pollutant loads due to storm water/urban runoff for each mass emission station.

6. A comparison to the~~An assessment of compliance with~~ applicable water quality standards for each component of the monitoring program. The lowest applicable standard from the Basin Plan, the Ocean Plan, ~~the~~ CTR, or Title 22 of the CWC shall be used for~~as a~~ comparison. Constituents that exceed applicable water quality standards shall be highlighted. When data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of possible pollutant sources shall be included in the Monitoring Report and a RWL Compliance Report (Section I.A.4) shall be submitted with the subsequent Unified Annual Report.~~how Permittees plan to comply with the requirements of Part 2 of this Order (RWL) shall be included.~~

~~7. Recommendations for improvements to the SQMP and to the monitoring program to address water quality exceedances and potential pollutant sources.~~

~~8.~~7. For each monitoring component, maps of all monitoring station locations and descriptions of each location.

~~9.~~8. All monitoring reports shall be submitted in both electronic and paper formats.

D. The Principal Permittee shall, not later than December 15, 2005, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the monitoring program, and other pertinent studies available, and feasible environmental indicators. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring requirements. This report will be an integral part of the ROWD.

E. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to US EPA regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

(Signature)_____(Title)_____";

Permittee submittals to the Principal Permittee shall also be signed and certified pursuant to EPA regulations 40 CFR 122.41 (k).

The Principal Permittee shall mail the original of each annual report to:

INFORMATION TECHNOLOGY
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD - LOS ANGELES REGION
320 W. 4TH STREET, SUITE 200
LOS ANGELES, CA 90013

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

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II. Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to: 1) assessing compliance with this Order; 2) measuring and improving the effectiveness of the SQMPs; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality. Ultimately, the results of the monitoring requirements outlined below should be used to refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County.

The Principal Permittee and Permittees shall implement the Monitoring Program as follows:

CORE MONITORING

A. Mass Emissions

The Principal Permittee shall monitor mass emissions to accomplish the following objectives: 1) estimate the mass emissions from the MS4; 2) assess trends in the mass emissions over time; and 3) determine if the MS4 is contributing to exceedances of water quality standards~~objectives~~ by comparing results to applicable standards ~~objectives~~ in the Basin Plan, the Ocean Plan, the CTR, Title 22, and with emissions from other dischargers.

1. The Principal Permittee shall monitor mass emissions from the following seven mass emission stations: Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and the Santa Clara River[1]. The Principal Permittee shall monitor the first storm event and a minimum of 2 additional storm events for each season. A minimum of two dry weather samples per year at each mass emission station shall also be analyzed. Sampling at all stations shall begin no later than (the effective date of this Order), except for sampling in the Santa Clara River, which will begin no later than (the following wet season).

2. All storms events, in addition to those required above, that result in at least 0.25 inches of rainfall shall be sampled and analyzed for TSS. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of mass emissions (pollutant correlation with TSS). This requirement does not apply to manual sampling stations.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 96-054. Grab samples shall be taken for pathogen indicators and oil and grease. The samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall. Samples taken at mass emission stations during the first storm event of the wet season shall be analyzed for all constituents listed in Attachment U-1.

[1] Regional Board staff will work with the Principal Permittee to determine an appropriate location for the Santa Clara River station.

4. Manual samples shall be collected from mass emission stations where it is not feasible to install an automatic sampler (Santa Clara River). Manual samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[2], unless the Regional Board Executive Officer approves an alternate protocol.

5. Samples from mass emission stations shall be analyzed for all constituents listed in Attachment U-1. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment U-1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

6. The Principal Permittee shall perform an annual analysis, to be included in the Monitoring Report, of the correlation between pollutants of concern (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.

B. Water Column Toxicity Monitoring

The Principal Permittee shall analyze mass emission samples for toxicity to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SQMP to implement practices that eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, *Ceriodaphnia dubia* (water flea) 7-da, survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to≤ 6% sample.

2. Toxicity Identification Evaluations (TIE)

The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic (≥1 Toxic Unit) to either test species.[3] If a sample is substantially toxic to both species, a TIE shall be performed for both species. ~~Substantial toxicity means the amount of toxicity~~

[2] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

[3] Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. Ceriodaphnia TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

~~necessary to successfully conduct a Phase I TIE. For example, *Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.~~[4] The Phase I TIE shall include the following treatments and corresponding blanks:

a) Baseline toxicity;

b) Particle removal by centrifugation;

c) Solid phase extraction of the centrifuged sample using C18 media;

d) Complexation of metals using ethylenediaminetetraacetic acid (EDTA) addition to the raw sample;

e) Neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and

f) Inhibition of organo-phosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. Toxicity Reduction Evaluations (TRE)

a) When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant.~~If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed.~~ TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:

(1) The potential sources of pollutant(s) causing toxicity;

(2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;

(3) Recommended BMPs to reduce the pollutant(s) causing toxicity;

(4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and

(5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

~~[4] SCGRWP~~

b) Since the Phase I TIEs may only identify a broad category of toxicants (e.g., nonpolar organics), additional TIE analyses may be required in order to identify or confirm the identity of the pollutants causing toxicity before the TRE can be completed.

~~b)~~c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

~~c)~~d) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

~~d)~~e) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (ie. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

~~e)~~f) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

C. Tributary Monitoring

The Principal Permittee shall monitor tributaries to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per year~~WMA~~ will be monitored, based on the schedule described below:

   a) Monitoring station locations will be rotated so that a minimum total of six tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Principal Permittee may move that monitoring station to another tributary, subject to the approval of the Regional Board Executive Officer. When an applicable water quality standard is exceeded in three out of four sampling events in a given monitoring year, the Permittees shall initiate a focused effort to identify sources of pollutants within that subwatershed.

   b) Tributary monitoring shall begin in the Los Angeles River WMA, and shall be rotated to locations in other watersheds as monitoring

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at each station is complete, as approved by the Regional Board Executive Officer. The Principal Permittee shall include a description and explanation of each proposed station location and a summary of the prior year's results of the tributary monitoring program in the annual Monitoring Report.

c) Monitoring shall begin at the following tributaries:

(1) Aliso Creek
(2) Bull Creek
(3) Arroyo Seco Channel~~Compton Creek~~
(4) Rio Hondo Channel
(5) Burbank West
(6) Verdugo Wash

2. Tributary monitoring shall begin in October 2002~~(no later than the effective date of this Order)~~.

3. The Principal Permittee shall monitor the first storm event and at least 3 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[5], unless the Regional Board Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstem. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, and total suspended solids;

b) Indicator bacteria;

c) All priority pollutants (Attachment U-1) for the first storm of the year;

d) All constituents for which the water body is impaired downstream of the monitoring station[6];

e) All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year. These constituents shall be listed in each Monitoring Report.

f) Flow (flow may be estimated using EPA methods[7] at sites where flow measurement devices are not in place).

[5] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

[6] The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303d98.pdf#reg4

D. Shoreline Monitoring

The City of Los Angeles shall monitor shoreline stations to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff. This component shall be integrated and coordinated with similar monitoring programs in the region.

1. The City of Los Angeles shall monitor eighteen water quality sampling stations along the shoreline of the Pacific Ocean within the Santa Monica Bay to determine compliance with the California's bathing water standards for public beaches and ocean water-contact sport areas[8], and the related impacts of discharges from storm drains and piers. The shoreline monitoring program shall be implemented as follows:

   a) The eighteen established shoreline water quality stations listed in Attachment U-~~2~~3 shall be monitored. Station locations may be modified based on recommendations from the Santa Monica Bay Restoration Project (SMBRP) and approval from the Regional Board Executive Officer;

   b) Three indicator groups shall be tested for using either membrane filtration, multiple tube fermentation, or chromogenic substrate test kits. Monitoring shall include the following types and frequencies of sampling:

Parameter	Units	Sample Frequency
Total coliforms	CFU or MPN/100 ml	6/week (Mon-Sat)[9]
Fecal coliform[10]	CFU or MPN/100 ml	6/week (Mon-Sat)[5]
Enterococcus	CFU or MPN/100 ml	6/week (Mon-Sat)[5]

   c) Shoreline monitoring shall occur during daylight hours. Samples may be omitted in the event of hazardous weather;

   d) Shoreline monitoring frequencies at certain stations may be modified based on the use of the adjacent beaches and their proximity to storm drains, as recommended by the SMBRP's Technical Advisory Committee and the Los Angeles County Department of Health Services (LA County DHS).

   e) Data collected shall be transmitted daily to the LA County DHS. The City of Los Angeles will annually assess the data and submit it to the Principal Permittee for inclusion in the Monitoring Report;

   f) When exceedances of public health standards for bacteria occur, the LA County DHS shall take the appropriate action, as described

[7] NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992
[8] California Department of Health Services, Health and Safety Code §115880 (Assembly Bill 411, Statutes of 1997, Chapter 765
[9] Samples will be collected on Sundays preceding Monday holidays
[10] *Escherichia Coli (E. Coli)* may be substituted for Fecal Coliform if chromogenic substrate test kits are used

in the Regulations for Public Beaches and Ocean Water-Contact Sports Areas[11].

g) The City of Los Angeles will continue to conduct all monitoring, testing, and data transferring actions as part of the SMBRP regional program for the Santa Monica Bay.

E. Trash Monitoring

To assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash, the Principal Permittee shall conduct visual observations of trash and take a minimum of one photograph at each mass emission station after the first storm event and 3 additional storm events per year.

The Principal Permittee and Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Permit Attachment A) shall ~~conduct trash monitoring to assess likely sources and to identify areas impaired for trash. The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall~~ develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002. The monitoring program and schedule shall be consistent with and pursuant to ~~the~~ CWC §13267 "Request for Trash Monitoring", issued by the Regional Board on [date letter issued]. ~~All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA §303(d) list for impairment for trash no later than October 15, 2003.~~

1. For the first two years of monitoring, ~~E~~either of the following formats for monitoring plans may be used:

a) For each watershed, the group of Permittees in that watershed will capture and quantify trash from an area no less than 10% of the total land area over which they have jurisdiction. The monitoring areas shall represent 10% of every land use the group of Permittees has jurisdiction over. If storm drain configuration versus land use make the representation of 10% of a land use infeasible, the Permittees can choose areas that represent their land uses as accurately as possible, as long as the extent of the surface being monitored represents 10%. This monitoring shall use full capture devices. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

b) For each watershed, the group of Permittees in that watershed will sample a minimum of ten representative sites for each land use monitored. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing littler removal practices that the cities implement will remain in place, so that monitoring will evaluate how much

[11] Regulations for Public Beaches and Ocean Water-Contact Sports Areas, Title 17 CCR Group 10, developed in response to Health and Safety Code §115880

trash is washed into the system under current practices. A structural, full capture device shall be installed downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions. During wet weather, all sampling devices will be emptied within 72 hours of every rain event of 0.25 inch or greater. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

2. Permittees shall report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g. compacted volume based on a standardized compaction rate, or dry weight). Permittees may select the unit, but all Permittees must use the same unit of measure.

3. Following the first two years of data collection, Permittees shall conduct compliance monitoring, which involves calculateing trash loading as a running three-year average (estimated total load discharged from 2003-2006, divided by three).

4. All trash collected shall be disposed of in compliance with all applicable regulations.

REGIONAL MONITORING

The Principal Permittee shall participate on regional monitoring committees to help establish on-going regional programs that address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Regional Monitoring participation shall include, but not necessarily be limited to, the efforts described below.

F. Estuary Sampling

The Southern California Coastal Waters Research Project (SCCWRP), in conjunction with the USEPA, the State Board, three Regional Boards, and participating dischargers, has organized an effort to implement a regional monitoring program for the southern California bight. Previous studies (in 1994 and 1998) included microbiology, water quality, sediment chemistry, sediment toxicity testing, benthic infauna, demersal fish, and bioaccumulation. A similar bight-wide monitoring effort is planned to be conducted in 2003. The Principal Permittee shall participate on the Steering Committee for this bight-wide monitoring project, and should complete the estuary sampling requirement described below in parallel with this effort.

In addition to participation in the Bight-wide study, the goal of this requirement is to sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertibrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. A map of each estuary which depicts the impacted areas shall be produced. The maps shall provide the

information necessary to conduct effective sediment monitoring to determine trends and accumulation, as a future permit requirement.

1. The Principal Permittee shall sample a maximum of 25 sites in each estuary/mouth (Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, and Dominguez Channel) once during the permit cycle. Sediment samples shall be taken at each station by means of a $0.1m^2$ ($1.1 ft^2$) modified Van Veen sediment grab sampler.

2. The Principal Permittee shall also sample a total of 25 sites outside of the direct outfalls to assess cumulative effects.

3. All samples shall be analyzed for the following:
   a) Sediment Chemistry (priority pollutants)
   b) Total Organic Carbon (TOC)
   c) Grain size
   d) Sediment Toxicity
      (1) Amphipod survival bioassays shall be conducted on each sediment sample. Toxicity shall be indicated by an amphipod survival rate of 70% or less in a single test.
      (2) Phase I TIEs of interstitial water, using the amphipod test species~~Ceriodaphnia dubia and Strongylocentrotus purpuratus (sea urchin) fertilization~~, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay.
   e) Benthic Macroinvertibrates
      (1) All sediment samples shall be passed through a 1.0mm (0.039 in) screen to retrieve the benthic organisms. Benthic epifauna and infauna shall be analyzed to determine the structure of the benthic community.
      (2) The Principal Permittee shall identify all organisms to lowest possible taxon.
      (3) The Principal Permittee shall determine the Total Biomass of:
         (i) Mollusks
         (ii) Echinoderms
         (iii) Annelids/polychaetes
         (iv) Crustaceans
         (v) All other macroinvertebrates
      (4) The Principal Permittee shall determine the community structure analysis, including wet weight of each taxonomic group (listed above), number of species, number of individuals per species, total numerical abundance, species abundance per grab, species richness, species

diversity, species evenness and dominance, similarity analysis, cluster analyses, or other appropriate multivariate statistical techniques approved by the Regional Board Executive Officer, and the Infaunal Index[12].

4. The Principal Permittee shall create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water. In the Integrated Monitoring Report, the Principal Permittee shall suggest appropriate locations for regular sediment monitoring, based on the results of this study.

G. Bioassessment

The Principal Permittee shall continue participation on the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Board to complete this requirement. The Regional Board anticipates that the SMC will organize an effort to evaluate the biological index approach for southern California and to design a research project for developing an Index of Biological Integrity (IBI) for this region. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of IBI development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI for southern California. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Principal Permittee shall coordinate with the SMC and SWAMP to identify the most appropriate locations for bioassessment stations within Los Angeles County.

2. Station selection shall be complete within one year from the date this Order is adopted, and sampling shall begin no later than October of 2003.

3. The Principal Permittee shall monitor a minimum of 20 bioassessment stations in October of each year, beginning in 2003. A minimum of three replicate samples shall be collected at each station during each sampling event.

4. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. The Principal Permittee may collect samples when properly trained in CSBP methods. The Principal Permittee shall develop Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program that describes all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. There must also be specific information about the bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment

[12] Benthic Response Index for Assessing Infaunal Communities on the Mainland Shelf of Southern California, the SCCWRP

project description and objectives; qualifications of all personnel; and the type of training each member has received. A copy of the SOPs shall be available to the Regional Board Executive Officer upon request.

5. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (i.e., an estuary or unwadable stream), California Department of Fish and Game and the Regional Board Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors by the field crews, the receiving laboratory, and the Principal Permittee. These forms shall be available to California Department of Fish and Game or the Regional Board Executive Officer upon request. Field inspections should be planned with random visits and should be performed by the Principal Permittee, if properly trained in CSBP methods, or an independent auditor. These visits should report on all aspects of the field procedure with corrective action occurring immediately.

6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Principal Permittee can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Regional Board. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)[13]. The following results and information shall be included in the annual Monitoring Report:

[13] California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

a) All physical, chemical and biological data collected in the assessment;

b) Photographs and GPS locations of all stations;

c) Documentation of quality assurance and control procedures;

d) Analysis that shall include calculation of the metrics used in the CSBP;

e) Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;

f) Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and

g) Copies of all QA/AC documents from laboratories.

SPECIAL STUDIES

H. New Development Impacts Study in the Santa Clara Watershed

The Principal Permittee, with support from the City of Santa Clarita, shall monitor tributaries in the Santa Clara watershed to determine impacts from new development and to compare storm water quality between subwatersheds with and without SUSMPs.

1. The Principal Permittee, in cooperation with the City of Santa Clarita, shall select one station that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation, and one station (SUSMP station) in a subwatershed in which the majority of the development has/will include SUSMP implementation. Other inputs to runoff, such as septic systems, in the two subwatersheds should be similar.

2. The Principal Permittee shall coordinate with the City of Santa Clarita and the Regional Board to develop a proposed study design, including a description of the drainage areas to be monitored and sampling locations, no later than 180 days from the date this Order is adopted. If appropriate, this study may be conducted in conjunction with the Peak Discharge Impact Study, described below.

3. The Principal Permittee shall monitor the first storm event and at least 2 additional storm events during each storm season. At least one dry weather event per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first 3 hours, or for the duration of the storm if it is less than 3 hours. Samples may be collected manually or automatically. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[14], unless the Regional Board Executive Officer approves alternate protocol. Constituents to be analyzed for each location shall include the following:

a) pH, dissolved oxygen, temperature, conductivity, chloride, nitrogen, and TSS

b) Metals: aluminum, arsenic, beryllium, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.

c) Pathogen Indicators (Coliform)

d) PAHs

e) Flow (flow may be estimated using EPA methods at sites where flow measurement devices are not in place)

5. The Principal Permittee shall submit an analysis of the data, including a description of each subwatershed, year-to-year changes compared to the amount of development that occurred in each, comparisons between stations, and an analysis of SUSMP effectiveness, with the fourth year Monitoring Report.

I. Peak Discharge Impact Study

The Principal Permittee shall conduct a study to evaluate peak flow control and to determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.[15] The Principal Permittee may partner with the Ventura County Flood Control District to expand the stream erosion study to the Santa Clara River watershed. The study shall begin no later than (180 days from the effective date this Order).

J. BMP Effectiveness Study

The Principal Permittee shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

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[14] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

[15] Permit, Part 4.D.2 (Development Planning Program) requires the development of numerical criteria for peak flow control in natural drainage systems.

1. Monitor the reduction of pollutants of concern in storm water (including, but not limited to: trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease) from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined.

2. Evaluate the requirements, feasibility and cost of maintenance for each BMP.

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Los Angeles County.

The Principal Permittee may participate in the SMBRP's, "Performance Evaluation of Structural BMPs for Storm Water Pollution Control in the Santa Monica Bay Watershed" study to meet this requirement. Participation includes collaboration and fund contribution to cover the scope of the proposed study.

K. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]

   Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

2. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

   The Principal Permittee and Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

3. Monitoring and Records [40 CFR 122.21(j)(3)]

   Records of monitoring information shall include:

   a) The date, exact place, and time of sampling or measurements;

   b) The individual(s) who performed the sampling or measurements;

   c) The date(s) analyses were performed;

   d) The individual(s) who performed the analyses;

   e) The analytical techniques or methods used; and,

   f) The results of such analyses.

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4. Monitoring and Records [40 CFR 122.21(j)(4)]

   All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

   The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

7. For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California - 2000* (SIP) shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into the Constituent List (Attachment U-1). ~~Appendix 4 of the SIP is included as Attachment U-2. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Appendix U-1 shall be used for all analyses, and the ML for these parameters shall be lower than or equal to the lowest applicable water quality criteria from the Basin Plan and/or the Ocean Plan.~~

8. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

   a) An actual numerical value for sample results greater than or equal to the ML;

   b) "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

   c) "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

9. For priority toxic pollutants, if the Principal Permittee or Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration

of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Principal Permittee must submit documentation from the laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(l)(4)(ii)]
    If the Principal Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the annual Monitoring Reports.

11. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]
    Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.

12. If no flow occurred during the reporting period, the Monitoring Report shall so state.

13. The Regional Board Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

    a) By petition of the Principal Permittee or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or

    b) As deemed necessary by the Regional Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Dennis A. Dickerson
Executive Officer
Date:

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ATTACHMENT U-1
LIST OF CONSTITUENTS FOR THE STORM WATER MONITORING PROGRAM AND ASSOCIATED MINIMUM LEVELS (MLs)[1]

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	**mg/L**
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005
pH	0 - 14
Temperature	None
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA	
Total coliform	<20mpn/100ml
Fecal coliform	<20mpn/100ml
Enterococcus (marine waters)	<20mpn/100ml
E. coli (fresh waters)	
GENERAL	**mg/L**
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1umho/cm
Total Hardness	2
MBAS	0.5
Chloride	2
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1

[1] For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. MDLs must be lower than or equal to the ML value. If a particular ML is not attainable in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

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METALS	µg/L
Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Copper	0.5
Hex. Chromium	5
Iron	100
Lead	0.5
Mercury	0.5
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMIVOLATILE ORGANIC COMPOUNDS	µg/L
Acids	
2-Chlorophenol	2
2, 4-Dichlorophenol	1
2,4-Dimethylphenol	2
2, 4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
4-Chloro-3-methylphenol	1
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10
BASE/NEUTRAL	µg/L
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexl) phthalate	5
4-Bromophenyl phenyl ether	5

Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1
2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)-anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	µg/L
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02

beta-Endosulfan	0.01
Endosulfan sulfate	0.05
Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
Polychlorinated Biphenyls	**µg/L**
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	**µg/L**
Chlorpyrifos	0.05
Diazinon	0.01
Prometryn	2
Atrazine	2
Simazine	2
Cyanazine	2
Malathion	1
HERBICIDES	**µg/L**
Glyphosate	5
2,4-D	0.02
2,4,5-TP-SILVEX	0.2

ATTACHMENT U-2
SHORELINE MONITORING STATIONS

Station	Location[1]	Latitude	Longitude
S1	Surfrider Beach, Malibu, 50 yds E. of breech	34.03500	118.67833
S2	Topanga Point, Malibu, seaward of lifeguard station	34.03833	118.58083
S3	Pulga storm drain, Pacific Palisades, 50 yds E. of drain	34.03361	118.53417
S4	Santa Monica Canyon storm drain, Pacific Palisades, 50 yds E. of drain	34.02639	118.51861
S5	Santa Monica Pier, Santa Monica, 50 yds S. of pier	34.00833	118.49667
S6	Pico-Kenter storm drain, Santa Monica, 50 yds S. of drain	34.00583	118.49250
S7	Ashland storm drain, Santa Monica, 50 yds S. of drain	33.99639	118.48472
S8	Windward storm drain, Los Angeles, 50 yds S. of drain	33.98778	118.47750
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083	118.45611
S11	Culver Blvd., extended, Playa Del Rey, N side of Culver storm drain	33.95639	118.45167
S12	Imperial Hwy. Storm drain, Playa Del Rey, 50 yds S. of drain	33.93028	118.43722
S13	El Porto, Manhattan Beach, 40th St. extended	33.90389	118.42250
S14	Manhattan Beach Pier, Manhattan Beach, 50 yds S. of pier	33.88360	118.41278
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S. of pier	33.86111	118.40278
S16	Redondo Pier, Redondo Beach, 50 yds S. of pier	33.83833	118.39111
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, 50 yds S. of drain	33.81889	118.39111
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	33.80500	118.39467

[1] Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999.

Attachment U-3
Total Maximum Daily Loads Scheduled for Implementation in Los Angeles County within 10 Years

Watershed	*TMDL*
Malibu	Coliform, Nutrients
Malibu Creek Lakes and Tributaries	Metals
Ballona Creek	Trash, Coliform, Historic Pesticides, Metals, TBT
Dominguez Channel/LA Harbor	Coliform, PAHs, Historic Pesticides, PCBs, DDT, Metals, Nutrients, Trash
Los Angeles River	Trash, Nutrients, Coliform, Chlorpyrifos, Metals
San Gabriel River	Nutrients, Coliform, Metals, Trash
San Gabriel Lakes	Coliform
Santa Monica Bay Beaches	Coliform, Metals, Chlordane, Historic PCBs and Pesticides
Santa Clara River	Historic Pesticides, Chloride, Coliform, Nitrogen, Eutrophication, Trash
Los Cerritos Channel	Metals, Ammonia, Coliform

Los Angeles County Municipal Storm Water Permit (Order 01-XXX)
Individual Annual Report Form

This form summarizes the requirements in Order No. 01-XXX. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-XXX; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED *Do not leave any of the sections blank.*
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5
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Reporting Year 200__- 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____
Title:
Address:
City: Zip Code:
Phone: Fax:

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes ☐ No ☐

If no, describe the funding source(s) used to implement the requirements of Order No. 01-XXX.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes ☐ No ☐
3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.
4. List any additional state/federally funded projects related to storm water.

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TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-XXX
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

II. Receiving Water Limitations (Part 2)

A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes ☐ No ☐

B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes ☐ No ☐

C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:

1. A description of the pollutants that are in exceedance and an analysis of possible sources;
2. A plan to comply with the RWL (Permit; Part 2);
3. Changes to the SQMP to eliminate water quality exceedances;
4. Enhanced monitoring to demonstrate compliance; and
5. Results of implementation.

III. SQMP Implementation (Part 3)

A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes ☐ No ☐

B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes ☐ No ☐

C. Describe the status of developing a local SQMP in the box below.

D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

E. Watershed Management Committees (WMCs)

1. Which WMC are you in?
2. Who is your designated representative to the WMC?
3. How many WMC meetings did you participate in last year?
4. Describe specific improvements to your storm water management program as a result of WMC meetings.
5. Attach any comments or suggestions regarding your WMC.

F. Storm Water Ordinance

1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-XXX? Yes ☐ No ☐
   If not, describe the status of adopting such an ordinance.
2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes ☐ No ☐
   If not, please attach a copy to this Report.

3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes ☐ No ☐
   If yes, attach a copy of amendments to this Report.

G. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

a) How many storm drain inlets does your agency own?

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by November 29, 2003.

2. Reporting Hotline

a) Has your agency established its own hotline for reporting and for general storm water management information? Yes ☐ No ☐

b) If so, what is the number?

c) Is this information listed in the government pages of the telephone book? Yes ☐ No ☐

d) If no, is your agency coordinated with the countywide hotline? Yes ☐ No ☐

e) Do you keep record of the number of calls received and how they were responded to? Yes ☐ No ☐

f) How many calls were received in the last fiscal year?

g) Describe the process used to respond to hotline calls.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes ☐ No ☐

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site *(Principal Permittee only)?* Yes ☐ No ☐

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. *(Principal Permittee only)*

b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes ☐ No ☐

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water education program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented *(Principal Permittee only)*.

c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

d) Describe efforts your agency made to educate local schools on storm water pollution.

e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution *(Principal Permittee only)*? Yes ☐ No ☐

If not, explain why.

f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts *(Principal Permittee only).*

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

g) What is the behavioral change target that was developed based on sociological data and other studies *(Principal Permittee only)?*

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

4. Pollutant-Specific Outreach

   a) Attach a description of each watershed-specific outreach program that your agency developed *(Principal Permittee only)*. All pollutants listed in Table 1 (Section B.1.d.) must be included.

   b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes ☐ No ☐

   c) Did your agency help distribute pollutant-specific materials in your city? Yes ☐ No ☐

   d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

   a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains *(Principal Permittee only)*.

   b) How many corporate managers did your agency *(Principal Permittee only)* reach last year?

   c) What is the total number of corporations to be reached through this program *(Principal Permittee only)*?

   d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years *(Principal Permittee only)*? Yes ☐ No ☐

   If not, describe measures that will be taken to fully implement this requirement.

e) Has your agency developed and/or implemented a Business Assistance Program? Yes ☐ No ☐

If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes ☐ No ☐

How many media outlets were contacted?

Which newspapers or radio stations ran them?

Who was the audience?

7. Did you supplement the County's media purchase by funding additional media buys? Yes ☐ No ☐

Estimated dollar value/in-kind contribution:

Type of media purchased:

Frequency of the buys:

Did another agency help with the purchase? Yes ☐ No ☐

8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes ☐ No ☐

If so, describe the type of advertising.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes ☐ No ☐

Describe the materials that were distributed:

Who were the key partners?
Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes ☐ No ☐
    How many events did you attend?

11. Does your agency have a website that provides storm water pollution prevention information? Yes ☐ No ☐
    If so, what is the address?

12. Has awareness increased in your community regarding storm water pollution? Yes ☐ No ☐
    Do you feel that behaviors have changed? Yes ☐ No ☐
    Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

B. Industrial/Commercial Facilities Program

1. Critical Source Identification Database

Did you (individually or jointly) update the Database for Critical Sources Identification? Yes ☐ No ☐

Comments/Explanation/Conclusion:

2. Inspection and Site Visit Program

Provide the reporting data as suggested in the following tables.

Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

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Initial Number of Facilities at the start of cycle proposed for site visit by categories (after the initial year, the updated number based on the new data)	Number of facilities site visited in the current reporting year	% Completed at the time of this report for this cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption

Comments/Explanation/Conclusion:

3. BMPs Implementation

Provide the reporting data as suggested in the following table.

Number of facilities inspected/ site visited by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected/ site visited by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade

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R0007237

Comments/Explanation/Conclusion:

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number since permit adoption

Facilities by category	Number of enforcement actions by type (Warning letter)	Number of NOVs	Number of Referral	Number of Other

5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the

knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective ☐ Somewhat Effective ☐ Non-effective ☐

Comments/Explanation/Conclusion:

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

B-415
R0007239

C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes ☐ No ☐
   Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:

   a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes ☐ No ☐

   b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes ☐ No ☐

   c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes ☐ No ☐

   d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes ☐ No ☐

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

4. Describe the status of the development or implementation of peak flow controls in natural drainage systems.

5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes ☐ No ☐

6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

   a) Residential

   b) Commercial

   c) Industrial

   d) Automotive service facilities

   e) Retail gasoline outlets

   f) Restaurants

   g) Parking lots

   h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area

   i) Total number of permits issued to priority projects

8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?

11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes ☐ No ☐

12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes ☐ No ☐

If no, provide an explanation and an expected date of completion.

13. Did your agency update any of the following General Plan elements in the past year?

a) Land Use Yes ☐ No ☐

b) Housing Yes ☐ No ☐

c) Conservation Yes ☐ No ☐

d) Open Space Yes ☐ No ☐

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

14. How many targeted staff were trained last year?

15. How many targeted staff are trained annually?

16. What percentage of total staff are trained annually? %

17. Has your agency developed and made available development planning guidelines? Yes ☐ No ☐

18. If no, what is the expected date that guidelines will be developed and available to developers?

19. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

   a) Will result in soil disturbance of one acre or greater — Yes ☐ No ☐

   b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area — Yes ☐ No ☐

   c) Is located in a hillside area — Yes ☐ No ☐

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

5. How many building/grading permits were issued to sites requiring Local SWPPPs last year?

6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?

7. How many building/grading permits were issued to construction site less than one acre in size last year?

8. How many construction sites were inspected during the last wet season?

9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				
Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

11. Describe the system that your agency uses to track the issuance of grading permits.

E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention (only applicable to agencies that own and/or operate a sanitary sewer system)

a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-XXX? Yes ☐ No ☐

b) How many sanitary sewer overflows occurred within your jurisdiction?

c) How many did your agency respond to?

d) Did your agency investigate all complaints received? Yes ☐ No ☐

e) How many complaints were received?

f) Upon notification, did your agency immediately respond to overflows by containment? Yes ☐ No ☐

g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes ☐ No ☐

h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes ☐ No ☐

If so, describe the program:

i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes ☐ No ☐

If so, describe the program:

2. Public Construction Activities Management

   a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? ☐ %

   b) Give an explanation for any sites greater than 5 acres that were not covered:

   c) What is the total number of active public construction sites?

   How many were 5 acres or greater in size?

   d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes ☐ No ☐

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

   a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

(1) Good housekeeping practices

(2) Material storage control

(3) Vehicle leaks and spill control

(4) Illicit discharge control

c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes ☐ No ☐

If not, what is the status of implementing this requirement?

d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above?

4. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes ☐ No ☐

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes ☐ No ☐

If so, list them:

d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?

e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

5. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes ☐ No ☐

b) How many of each designation exist in your jurisdiction?

Priority A:
Priority B:
Priority C:

c) Is your city subject to a trash TMDL? Yes ☐ No ☐

d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

e) How many times were all Priority A basins cleaned last year?

f) How many times were all Priority B basins cleaned last year?

g) How many times were all Priority C basins cleaned last year?

h) How much total waste was collected in tons from catch basin clean-outs last year?

i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.

j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes ☐ No ☐

k) How many new trash receptacles were installed last year?

l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:

(1) Provide for the proper management of trash and litter generated from the event? Yes ☐ No ☐

(2) Arrange for temporary screens to be placed on catch basins? Yes ☐ No ☐

(3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes ☐ No ☐

m) Did your agency inspect the legibility of the catch basin stencil or labels? Yes ☐ No ☐

What percentage of stencils were legible?

n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes ☐ No ☐

o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes ☐ No ☐
Is the prioritization attached? Yes ☐ No ☐

p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes ☐ No ☐
What changes have been made?

q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes ☐ No ☐

r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

s) Where is removed material disposed of?

6. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

(1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes ☐ No ☐

(2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes ☐ No ☐

(3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes ☐ No ☐

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

(1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes ☐ No ☐

(2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes ☐ No ☐

(3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes ☐ No ☐

c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes ☐ No ☐

d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes ☐ No ☐

e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes ☐ No ☐

f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes ☐ No ☐

(2) Identify and select appropriate BMPs? Yes ☐ No ☐

7. Parking Facilities Management

a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes ☐ No ☐

b) Were any Permittee-owned parking lots cleaned less than once a month? Yes ☐ No ☐

How many?

8. Public Industrial Activities Management

   a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes ☐ No ☐

   b) Does your agency serve a population of less than 100,000 people? Yes ☐ No ☐

9. Emergency Procedures

   a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes ☐ No ☐

   b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes ☐ No ☐

10. Feasibility Study

   a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes ☐ No ☐

   b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes ☐ No ☐

F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).

2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

5. What is the total length of open channel that your agency owns and operates?

6. What length was screened last year for illicit connections?

7. What is the total length of closed storm drain that your agency owns and operates?

8. What length was screened last year for illicit connections?

9. Describe the method used to screen your storm drains.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in *other* actions
01/02							
02/03							
03/04							
04/05							
05/06							

11. Explain any *other* actions that occurred in the last year.

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

    a) Were all identified connections terminated within 180 days? Yes ☐ No ☐

    b) If not, explain why.

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

14. What is the average response time after an illicit discharge is reported?

    a) Did any response times exceed 72 hours? Yes ☐ No ☐

    b) If yes, explain why.

15. Describe the your agency's spill response procedures.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

17. Attach a list of all permitted connections to your storm sewer system.

V. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-XXX that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 3.

VI. Assessment of Program Effectiveness

A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
3. A summary of the strengths and weaknesses of your agency's storm water management program;
4. A list of specific program highlights and accomplishments;
5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
6. Interagency coordination between cities to improve the storm water management program;
7. Future plans to improve your agency's storm water management program; and
8. Suggestions to improve the effectiveness of your program or the County model programs.

B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-XXX.

C. List any suggestions your agency has for improving program reporting and assessment.

VII. Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

Change Sheet

Draft (12/04/01)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

COUNTY OF LOS ANGELES
MUNICIPAL STORM WATER NPDES PERMIT
(NPDES PERMIT No. CAS004001)

DRAFT CHANGE SHEET

SUMMARY

This draft Change Sheet lists proposed changes to the Final Tentative - County of Los Angeles Municipal Storm Water NPDES Permit (October 11, 2001). In general, the proposed changes respond to commenters' suggestions on improving clarity, format, and implementability of the Permit. Additional changes may be proposed prior to the proposed permit adoption.

In the Change Sheet, cross-references to pages and sections are for the 'Clean Version' and the 'Strike-Out Version', of the tentative draft, dated October 11, 2001. New text added to a sentence is indicated by underline, and deleted text is indicated by strikethrough.

PROPOSED CHANGES

1. Table of Contents
   Changed the following items to be consistent with their corresponding sections:
   Findings A, Part 3, Part 3.C, Part 6.H, Part 6.I, Part 6.R, and Part 6.T

Findings

2. Finding B.4
   Strike-Out Version: Page 2
   Clean Version: Page 2
   Correct number sequence in second sentence. Sentence changed to read:
   "The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, ~~(iii)~~ (ii) audit of MS4 permit programs; and ~~(iv)~~ (iii) clarifying enforcement responsibilities between the State and local governments."

3. Finding B.5
   Strike-Out Version: Page 2
   Clean Version: Page 2
   Insert "]" at end of last sentence.

4. Finding B.7
   Strike-Out Version: Page 3
   Clean Version: Page 3
   Add the following references to the last sentence of Finding B.7:
   "(*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York; Leopold, L. B., 1973, River channel change with time: an example, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., 1972, Stream channel enlargement due to urbanization: Water Resources Research, v. 8, p. 1530-1540; Booth, D. B., 1991, Urbanization and the natural drainage system--impacts, solutions and prognoses: The Northwest Environmental Journal, v. 7, p. 93-118; Klein, R. D., 1979, Urbanization and stream quality impairment: Water Resources Bulletin, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., 1997, Effects of

urbanization on small streams in the Puget Sound Lowland ecoregion: Watershed Protection Techniques, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. Hydraulic geometry, stream equilibrium and urbanization; Rhodes, Dallas P. and Willlams, Garnet P. Adjustments to the fluvial system. 333-350. 1979; Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and Schueler, Tom, 1994. The importance of imperviousness. Watershed Protection Techniques, 1(3))."

5. Finding B.8
   Strike-Out Version: Page 3
   Clean Version: Page 3
   Add reference to Regional Board monitoring to the second sentence. Sentence changed to read:
   "Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works - July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board)."

6. Finding B.9
   Strike-Out Version: Page 4
   Clean Version: Page 3
   Insert the following sentence at the beginning of Finding B.9:
   "The discharge of washwaters and contaminated storm water from businesses has the potential to adversely impact public health and safety."

7. Finding C.4
   Strike-Out Version: Page 5
   Clean Version: Page 4
   Change the second sentence of finding to read:
   "The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order, would meet the minimum requirements of federal regulations."

8. Finding C.5
   Strike-Out Version: Page 5
   Clean Version: Page 4
   Move Finding C.5 to Finding B.10. No language change.

9. Finding C.6
   Strike-Out Version: Page 5
   Clean Version: Page 5
   Move Finding C.6 to Finding B.11. Insert addition to reference after the second sentence. Sentence changed to read:
   "Studies indicate that storm water discharges from retail gasoline outlets have high concentrations of hydrocarbons and heavy metals [Schueler and Shepp (1992): *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Landuse*, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp 42-52.]"

10. Finding D.1
    Strike-Out Version: Page 6
    Clean Version: Page 5
    Delete the last sentence of finding:

~~"Attachment B shows the map of the permitted area in Los Angeles County Flood Control District."~~

11. Finding D.4
    Strike-Out Version: Page 7
    Clean Version: Page 6
    Change finding to read:
    "This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the United States subject to the Permittees' jurisdiction."

12. Finding E.14
    Strike-Out Version: Page 10
    Clean Version: Page 9
    Insert comma in second sentence. Sentence changed to read:
    "After approval by the State Board, the Office of Administrative Law, and the USEPA, the TMDLs for trash will be effective and enforceable."

13. Finding E.19
    Strike-Out Version: Page 11
    Clean Version: Page 10
    Delete the first sentence. Finding changed to read:
    "~~The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S. is not permissible~~. 40 CFR Part 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the construction of a storm water/urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of the Order must occur prior to the discharge of storm water into a water of the U.S."

14. Finding F.2
    Strike-Out Version: Page 13
    Clean Version: Page 12
    Move Finding F.2 to Finding E.27. No language change.

Part 1. Discharge Prohibitions

15. Part 1.1 and 2
    Strike-Out Version: Page 17
    Clean Version: Page 15
    Move the word "are" to the beginning of section 1 as follows:
    "The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges ~~are~~:
    1. are covered by a separate individual or general NPDES permit for non-storm water discharges; or"

16. Part 1.2.c.2
    Strike-Out Version: Page 17
    Clean Version: Page 16
    Delete the word "debromination". Sentence changed to read:

"Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination/~~debromination~~ and suspended solids reduction practices);"

17. Part 1.2.c.5
    Strike-Out Version: Page 17
    Clean Version: Page 16
    Change section to read:
    "Dechlorinated/debrominated swimming pool discharges;"

Part 2. Receiving Water Limitations

18. Part 2.3
    Strike-Out Version: Page 18
    Clean Version: Page 17
    Change all references to the "report" to "Receiving Water Limitations (RWL) Compliance Report" and "RWL Compliance Report" and insert reference to the Program Reporting Requirements. Section changed to read:

    a) "Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a ~~report~~ Receiving Water Limitations (RWL) Compliance Report (as described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program) to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of water quality standards. This ~~report~~ RWL Compliance Report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The ~~report~~ RWL Compliance Report shall include an implementation schedule. The Regional Board may require modifications to the ~~Report~~ RWL Compliance Report.

    b) Submit any modifications to the ~~report~~ RWL Compliance Report required by the Regional Board within 30 days of notification.

    c) Within 30 days following the approval of the ~~report~~ RWL Compliance Report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required."

Part 3. SQMP Implementation

19. General Requirements, Part 3.A.1
    Strike-Out Version: Page 20
    Clean Version: Page 17
    Change sentence to read:
    "Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented immediately following [the permit effective date]."

20. General Requirements, Part 3.A.4
    Strike-Out Version: Page 20
    Clean Version: Page 18
    Below Part 3.A.3, insert the following section ("Customized SQMP" moved from Part 4.A.2) as Part 3.A.4:
    "Permittees that deviate from the countywide SQMP (i.e., need additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in

the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than [6 months from the permit effective date]. The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and shall specify activities being implemented under the appropriate elements described in the countywide SQMP."

21. Revision of the Storm Water Quality Management Program, Part 3.C
Strike-Out Version: Page 20
Clean Version: Page 18
Change section to read:
The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments. ~~Such amendments may include~~ so as to comply with regional, watershed-specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily loads (TMDLs) for impaired water bodies."

22. Designation and Responsibilities of the Principal Permittee, Part 3.D
Strike-Out Version: Page 20
Clean Version: Page 18
Change second sentence to read:
"As such, ~~T~~the Principal Permittee shall:"

23. Responsibilities of the Permittees, Part 3.E.4
Strike-Out Version: Page 21
Clean Version: Page 19
Insert the word "the" in section 4. Section changed to read:
"Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SQMP."

24. Watershed Management Committees (WMCs), Part 3.F.3.g
Strike-Out Version: Page 23
Clean Version: Page 20
Change section to read:
"~~Conduct joint WMC meetings~~ Meet four times per year and, as necessary."

25. Legal Authority, Part 3.G.1
Strike-Out Version: Page 24
Clean Version: Page 20
Underline the word "prohibit" in the first sentence, and delete the comma after discharges. Also, delete the word "Prohibit" from the beginning of sections a-j.. For example:
"1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges~~,~~ to the storm drain system, including, but not limited to:
a) ~~Prohibit~~ Illicit discharges and illicit connections and require removal of illicit connections;"

26. Legal Authority, Part 3.G.i
Strike-Out Version: Page 24
Clean Version: Page 21
Change section to read:
"~~Prohibit t~~The discharge of concrete or ~~concrete~~ cement laden wash water from concrete trucks, pumps, tools, and equipment to the MS4;"

27. Legal Authority, Part 3.G.2.a
Strike-Out Version: Page 25
Clean Version: Page 21

Change section to read:
"Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);"

Part 4. Special Provisions

28. General Requirements, Part 4.A.2
Strike-Out Version: Page 27
Clean Version: Page 23
Move section 2 "Customized SQMP" to Part 3.E "SQMP Implementation, Responsibilities of the Permittees".

29. Public Information and Participation Program, Part 4.B.c
Strike-Out Version: Page 28
Clean Version: Page 23
Delete the phrase in parentheses at the end of sentence. Sentence changed to read:
"To involve and engage all socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution ~~(such as African American, Latino, East Asian, South Asian, and Middle Eastern)~~.

30. Public Information and Participation Program, Part 4.B.1.b
Strike-Out Version: Page 29
Clean Version: Page 24
Add the following sentence to the end of the section: "Permittees are responsible for providing current, updated information to the Principal Permittee."

31. Public Information and Participation Program, Part 4.B.1.c.3
Strike-Out Version: Page 29
Clean Version: Page 24
Change sentence to read:
"The Principal Permittee shall enhance existing outreach efforts to residents and businesses related to the proper disposal of cigarette butts. ~~implement an outreach program to educate on proper disposal of cigarette butts.~~

32. Public Information and Participation Program, Part 4.B.1.8
Strike-Out Version: Page 30
Clean Version: Page 25
Change section to read:
"~~The~~ Permittees shall provide the contact information for their appropriate ~~storm water~~ staff responsible for storm water public education activities to the Principal Permittee no later than (60 days from the effective date of this Order). ~~Cooperative efforts with other agencies may also be used to accomplish this requirement.~~"

33. Development Planning Program, Part 4.D.1.b
Strike-Out Version: Page 40
Clean Version: Page 34
Change the word "permeable" to "pervious". Sentence changed to read:
"Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;"

34. Development Planning Program, Part 4.D.1.c
Strike-Out Version: Page 40
Clean Version: Page 34
Change the word "impermeable" to "impervious". Sentence changed to read:
"Minimize the quantity of storm water directed impervious surfaces and the MS4;"

35. Development Planning Program, Part 4.D.1.e
Strike-Out Version: Page 40
Clean Version: Page 34
Change section to read:
"~~Ensure that treatment control BMPs are~~ pProperly designed and maintained treatment control BMPs in a manner that does not promote the breeding of vectors; and"

36. Development Planning Program, Part 4.D.2
Strike-Out Version: Page 41
Clean Version: Page 34
Change the comma to a period at the end of the second paragraph. Clarify the section name. Sentence changed to read:
"The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I)~~,~~."

37. Development Planning Program, Part 4.D.2
Strike-Out Version: Page 41
Clean Version: Page 34
In the third paragraph, change "540 days" to "3 years". Sentence changed to read:
"Each Permittee shall no later than (3 years ~~540 days~~ from the permit effective date) implement numerical criteria for peak flow control."

38. Development Planning Program, Part 4.D.3.a
Strike-Out Version: Page 41
Clean Version: Page 35
Change section to read:
"Each Permittee shall require that a single-family hillside home ~~development~~:"

39. Development Planning Program, Part 4.D.3.c
Strike-Out Version: Page 42
Clean Version: Page 36
Change "180 days" to "240 days". Section changed to read:
"Each Permittee shall require the implementation of SUSMP provisions no later than (~~180~~ 240 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA, where~~,~~ the development will:"

40. Development Planning Program, Part 4.D.5.e
Strike-Out Version: Page 43
Clean Version: Page 37
Add "of impervious surface area". Sentence changed to read:
"Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]"

41. Development Planning Program, Part 4.D.9.a
Strike-Out Version: Page 45
Clean Version: Page 39
Add an apostrophe in "developers". Sentence changed to read:
"The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred, and either".

42. Development Planning Program, Part 4.D.11
Strike-Out Version: Page 46
Clean Version: Page 39
Add the words "any of" in the first sentence. Sentence changed to read:

"The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:"

43. Development Planning Program, Part 4.D.14
Strike-Out Version: Page 47
Clean Version: Page 41
Change the first sentence of the section to read:
"Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the ~~requirements of the~~ development planning requirements on an annual basis beginning no later than (six months from the effective date of this Order), and more frequently if necessary."

44. Public Agency Activities program, Part 4.F.2.d
Strike-Out Version: Page 54
Clean Version: Page 45
Change "March 9, 2003" to "March 10, 2003".

45. Public Agency Activities Program, Part 4.F.3.c
Strike-Out Version: Page 54
Clean Version: Page 46
Sentence changed to read:

c) "Each Permittee shall require the following to prevent the discharge of pollutants to the MS4:

1. For existing facilities that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall be: ~~that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.~~

a) self-contained; or
b) equipped with a clarifier; or
c) equipped with an alternative pre-treatment device; or
d) plumbed to the sanitary sewer.

2. For new facilities, or during redevelopment of existing facilities, all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency. ~~sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.~~"

46. Public Agency Activities Program, Part 4.F.5.a and b
Strike-Out Version: Page 55
Clean Version: Page 47
Sections changed to read:

a) Designate catch basin inlets within its jurisdiction as one of the following:

Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris ~~litter~~.

Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris ~~litter~~.

Priority C: Catch basins that are designated as generating low volumes of trash and/or debris ~~litter~~.

In addition to the schedule below, between (permit effective date) and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and/or debris shall be cleaned out.

b) Clean catch basins according to the following schedule:

Priority A: A minimum of three times during the wet season and once during the dry season every year. ~~At least once during the dry season and once per month during the wet season.~~

Priority B: A minimum of once during the wet season and once during the dry season every year. ~~At least 2 times per year and once during the wet season. Between the effective date of this Order and July 1, 2003, each Permittee shall ensure that each catch basin is cleaned whenever that catch basin reaches 40% full during the wet season. From July 1, 2003 to the date this Order is renewed, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 25% full during the wet season.~~

Priority C: A minimum of once per year. ~~As necessary but at least once per year.~~

47. Public Agency Activities Program, Part 4.F.5.c
Strike-Out Version: Page 56
Clean Version: Page 47
Change second sentence to read:
"At a minimum, the Permittee(s) hosting the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event prior to any rain."

48. Public Agency Activities Program, Part 4.F.5.d
Strike-Out Version: Page 56
Clean Version: Page 47
Change section to read:
"Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than (6 months from the permit effective date), and at all other transit stops within its jurisdiction no later than (1 year from the permit effective date) ~~and maintain them~~. All trash receptacles shall be maintained as necessary.

49. Public Agency Activities Program, Part 4.F.6.c.3
Strike-Out Version: Page 58
Clean Version: Page 48
Insert the word "basins" at the end of sentence. Sentence changed to read:
"The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins."

50. Public Agency Activities Program, Part 4.F.10
Strike-Out Version: Page 59
Clean Version: Page 50
Change the last sentence to read:
"The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, ~~2002~~ 2003."

Part 5. Definitions

51. All defined terms throughout permit text have been capitalized.

52. "Automotive Service Facilities"
Strike-Out Version: Page 63
Clean Version: Page 52
Change definition to read:
"'**Automotive Service Facilities**' means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with industrial activities falling under SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water."

53. "Construction"
Strike-Out Version: Page 64
Clean Version: Page 53
Change definition to read"
"'**Construction**' means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility~~, nor does it include~~; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work."

54. "Development"
Strike-Out Version: Page 64
Clean Version: Page 53
Add the following sentence to the end of the definition:
"It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety."

55. "Environmentally Sensitive Areas"
Strike-Out Version: Page 65
Clean Version: Page 54
Insert "(ESAs)" in the definition name as follows: **"Environmentally Sensitive Areas (ESAs)".**

56. "Full Capture Device"
Strike-Out Version: Page 65
Clean Version: Page 54
Remove the definition.
~~"'Full Capture Device' means any device or system that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow resulting from a one-year, one-hour, storm."~~

57. "Inspection"
Strike-Out Version: Page 66
Clean Version: Page 55
Change definition to read:
"'**Inspection**' means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through; .
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);
8. Exit conference (to discuss preliminary evaluation); and
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such a "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP."

58. "Parking Lot"
Strike-Out Version: Page 67
Clean Version: Page 56
Change definition to read:
"'**Parking Lot**' means land area or facility for the parking or storage of motor vehicles used ~~personally, for businesses or for commerce~~ for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces."

59. "Planning Priority Projects"
Strike-Out Version: Page 68
Clean Version: Page 57
Change section viii of the definition to read:
"viii. ~~Additionally, for all~~ pProjects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and"

60. "Potable Water Distribution Systems"
Strike-Out Version: Page 69
Clean Version: Page 57
Change definition to read:
"'**Potable Water Distribution Systems Releases**' means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, ~~well development,~~ distribution line testing ~~pump test~~, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, ~~and wells~~ and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e. aquifer pumping tests, well purging etc.), and major well maintenance."

61. "Redevelopment"
Strike-Out Version: Page 70
Clean Version: Page 58
Add the following sentence to the end of definition:
"It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety."

62. "Vehicle Maintenance/Material Storage Facilities/Corporation Yards"
Strike-Out Version: Page 73

Clean Version: Page 61
Insert "service/maintenance" in section ii. Section ii. changed to read:
"Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;".

63. "Water Column Toxicity"
Strike-Out Version: Page 73
Clean Version: Page 61
Delete definition. Defined in Monitoring Program.

Part 6. Standard Provisions

64. Reopener and Modification, Part 6.I.3
Strike-Out Version: Page 77
Clean Version: Page 64
Delete section 3:
~~"This Order may be modified, revoked and reissued, or terminated for cause."~~

65. Enforcement, Part 6.P.2
Strike-Out Version: Page 81
Clean Version: Page 68
Insert the word "of". Section changed to read:
"The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation or combination of violations."

Monitoring and Reporting Program

66. Reporting Program, Section I.A.3.d
Both Versions: Page T-1
Change to read:
"Permittee level of effort, as indicated in the individual Annual Report self-evaluations;"

67. Reporting Program, Section I.A.3.e
Both Versions: Page T-2
Delete the last sentence. Section changed to read:
"Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the monitoring program. ~~When exceedances of applicable water quality standards have been identified, a discussion of how Permittees will comply with the requirements in Part 2 of this Order (Receiving Water Limitations) shall be included."~~

68. Reporting Program, Section I.B
Both Versions: Page T-2
Change the reference to "Attachment U-5" to "Attachment U-4" in the second sentence.

69. Reporting Program, Section I.C.2
Both Versions: Page T-2
Delete second sentence (redundant to Section I.C.6). Section changed to read:
"Data, results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each component of the monitoring program, including any specific reporting requirements included in Section II. Monitoring Program. ~~All data shall~~

~~be compared to applicable water quality standards in the Ocean Plan, the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22).~~

70. Reporting Program, Section I.C.6
Both Versions: Page T-3
Section changed to read:
"A comparison to the ~~An assessment of compliance with~~ applicable water quality standards for each component of the monitoring program. The lowest applicable standard from the Basin Plan, the Ocean Plan, the CTR, and Title 22 of the California Water Code shall be used as a comparison. Constituents that exceed applicable standards shall be identified. When data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of ~~how Permittees plan to comply with the requirements of Part 2 of this Order (RWL) shall be submitted~~ possible pollutant sources shall be included in the Monitoring Report and a RWL Compliance Report (Section I.A.4) shall be submitted with the subsequent unified Annual Report."

71. Reporting Program, Section I.C.7
Both Versions: Page T-3
Delete section (redundant to Section I.A.3.e):
"~~Recommendations for improvements to the SQMP and to the monitoring program to address water quality exceedances and potential pollutant sources~~."

72. Mass Emissions Monitoring, Section II.A
Both Versions: Page T-4
Change the word "objectives" to "standards". Add the word "applicable". Section changed to read:
"The Principal Permittee shall monitor mass emissions to accomplish the following objectives: 1) estimate the mass emissions from the MS4; 2) assess trends in the mass emissions over time; and 3) determine if the MS4 is contributing to exceedances of water quality ~~objectives~~ standards by comparing results to applicable ~~objectives~~ standards in the Basin Plan, the Ocean Plan, the CTR, Title 22, and with emissions from other dischargers."

73. Water Column Toxicity Monitoring, Section II.B
Both Versions: Page T-6
Change sections 1, 2 and 3 to read as follows:

1. The Principal Permittee shall analyze samples from two storm events (including the first storm of each year) and two dry weather events from each mass emission station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, the *Ceriodaphnia dubia* (water flea) 7-day survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test method or sample type) to 6% sample.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall begin a Phase I TIE immediately on all samples that are substantially toxic (1 Toxic Unit) to either test species.[1] If a sample is substantially toxic to both species, a TIE shall be performed for both species. ~~Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, Ceriodaphnia TIEs require at least 50% mortality in undiluted sample at any~~

13-100 13-200 3-300

[1] Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. *Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

~~time during the 7-day duration of the initial chronic bioassay.~~[2] The Phase I TIE shall include the following treatments and corresponding blanks:

a) Baseline toxicity;

b) Particle removal by centrifugation;

c) Solid phase extraction of the centirfuged sample using C18 media;

d) Complexation of metals using EDTA addition to the raw sample;

e) Neutralization of oxidants/metals using sodium thiosulfate addition to the raw sample; and

f) Inhibition of OP pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. Toxicity Reduction Evaluations (TRE)

a) When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. ~~If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed.~~ TRE development shall be performed by a neutral third party (retained by the Principal Permittee), with input from Permittees and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Principal Permittee shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:

(1) The potential sources of pollutant(s) causing toxicity;
(2) A list of municipalities that may have jurisdiction over sources of pollutant(s) causing toxicity;
(3) Recommended BMPs to reduce the pollutant(s) causing toxicity;
(4) Proposed changes to the SQMP to reduce the pollutant(s) causing toxicity; and
(5) Suggested follow-up monitoring to demonstrate that toxicity has been removed.

b) Since the Phase I TIEs may only identify a broad category of toxicants (e.g., nonpolar organics), additional TIE analysis may be required in order to identify or confirm the identity of the pollutants causing toxicity before the TRE can be completed.

~~b)~~c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

~~c)~~d) Upon approval by the Regional Board Executive Officer, the Permittee(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

~~d)~~e) The Principal Permittee shall be responsible for the development of a maximum of two TREs per year. If applicable, the Principal Permittee may use the same TRE for the same toxic pollutant or pollutant class in different watersheds. The TRE process shall be coordinated with TMDL development and implementation (i.e. If a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

[2] ~~SCCRWP~~

e)f) The Principal Permittee shall report on the development, implementation, and results for each TRE in the annual Monitoring Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

74. Tributary Monitoring, Section II.C.1
Both Versions: Page T-7
Change "WMA" to "year". Section changed to read:
"The Principal Permittee shall develop and implement a watershed-based tributary monitoring program, in which a minimum of six tributaries per year ~~WMA~~ will be monitored, based on the schedule described below:"

75. Tributary Monitoring, Section II.C.1.c.6
Both Versions: Page T-8
Change "Verdigo Wash" to "Verdugo Wash".

76. Tributary Monitoring, Section II.C.2
Both Versions: Page T-8
Change "no later than the effective date of this Order" to "in October 2002". Sentence changed to read:
"Tributary monitoring shall begin in October 2002, or the first subsequent storm event. ~~(no later than the effective date of this Order).~~"

77. Trash Monitoring, Section II.E
Both Versions: Page T-10
Modify the first section to read:
" To assess the quantities of trash in receiving waters after storm events and to identify areas impaired for trash, the Principal Permittee shall conduct visual observations of trash and take a minimum of one photograph at each mass emission station after the first storm event and 3 additional storm events per year.

The Principal Permittee and Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall develop and implement a ~~conduct~~ trash monitoring program in the Los Angeles River and Ballona Creek watersheds to assess likely sources and amounts of trash no later than October 15, 2002~~to identify areas impaired for trash. The Principal Permittee and the Permittees in the Los Angeles River and Ballona Creek WMAs (listed in Attachment A) shall develop and implement a trash monitoring program for the Los Angeles River and Ballona Creek watersheds no later than October 15, 2002.~~ The monitoring program and schedule shall be consistent with and pursuant to the CWC §13267 Request for Trash Monitoring, issued by the Regional Board on [date letter issued]. ~~All other Permittees shall begin implementation of the trash monitoring program in watersheds that are not presently listed on the CWA §303(d) list for impairment for trash no later than October 15, 2003~~."

78. Trash Monitoring, Section II.E.1
Both Versions: Page T-10
Section changed to read:
"For the first two years of monitoring, either of the following formats for monitoring plans may be used:"

79. Trash Monitoring, Section II.E.3
Both Versions: Page T-11
Section changed to read:
"Following the first two years of data collection, Permittees shall conduct compliance monitoring, which involves calculating ~~calculate~~ trash loading as a running three-year average (estimated total load discharged from 2003-2006, divided by three)."

80. Estuary Sampling, Section II.F.3.d.2
Both Versions: Page T-12
Change sentence to read:
"Phase I TIEs of interstitial water, using the amphipod test species ~~Ceriodaphnia dubia and Strongylocentotus purperatus (sea urchin) fertilization~~, shall be conducted for samples from stations identified to be toxic in a single amphipod survival bioassay."

81. Bioassessment, Section II.G
Both Versions: Page T-13
Insert the word "by" in the first sentence:
"The Principal Permittee shall continue participation on the Stormwater Monitoring Coalition (SMC), as well as coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Board to complete this requirement."

82. Bioassessment, Section II.G.4
Both Versions: Page T-13
In the last sentence, change "Boar" to "Board".

83. Standard Monitoring Provisions, Section II.K.5.
Both Versions: Page T-17
Last sentence changed to read:
"If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or ~~by~~ both."

84. Standard Monitoring Provisions, Section II.K.7
Both Versions: Page T-17
Section changed to read:
"For priority toxic pollutants that are identified in the CTR (65 *Fed. Reg.* 31682), the MLs published in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* - 2000 (SIP) shall be used for analyses, unless otherwise specified. The MLs from the SIP are incorporated into the Constituent List (Attachment U-1). ~~Appendix 4 of the SIP is included as Attachment U-2. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Appendix U-1 shall be used for all analyses, and the ML for these parameters shall be lower than or equal to the lowest applicable water quality criteria from the Basin Plan and/or the Ocean Plan.~~

85. Attachment U-1, *List of Constituents for the Storm Water Monitoring Program and Associated Minimum Levels (MLs)*
The following changes have been made to the Constituent List:
a. Semi-volatile organic compounds that are not federal priority pollutants and that have consistently not been detected in Los Angeles County storm water analyses have been removed.
b. For each priority pollutant, the lowest corresponding ML from Appendix 4 of the SIP (Attachment U-2) has been incorporated. Therefore, Attachment U-2 will be eliminated.
c. Streptococcus has been changed to Enteroccus for salt water and E. coli for fresh water.
d. Title changed to read as written above.

86. Attachment U-2, *Appendix 4 of SIP*
Remove entire attachment.

87. Attachment U-4, *Total Maximum Daily Loads Scheduled for Implementation in Los Angeles County Watershed Within 10 Years*
a. Delete the word "Watershed" from the title. Title changed to read:

"*Total Maximum Daily Loads Scheduled for Implementation in Los Angeles County within 10 Years*".

b. Change the first column title from "Waterbody" to "Watershed".
c. Change from "Attachment U-4" to "Attachment U-3"

88. Attachment U-5, Individual Annual Report Form
    a. Page 1: Change from "Attachment U-5" to "Attachment U-4".
    b. Add Table of Contents to Page 1
    c. Modify several questions to better correspond to permit sections and requirements.
    d. Page 18, Section C.2: Change the last sentence of the section to read as follows: "~~Briefly describe each procedure and attach examples of how each was required in a priority development or redevelopment project.~~ List the types and numbers of BMPs that your agency required for priority projects to meet the requirements listed above."
    e. Page 31, Section F.2: Change the first senterice to read:
    "Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b)."
    f. Page 32, Item 9: Change last column label from "# not identified" to "# that resulted in *other* actions". Under the table, insert the sentence: "Explain any *other* actions that occurred in the last year."

Change Sheet Additions

(12/10/01)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

COUNTY OF LOS ANGELES
MUNICIPAL STORM WATER NPDES PERMIT
(NPDES PERMIT No. CAS004001)

ADDITIONS TO DRAFT CHANGE SHEET

SUMMARY

This additional Change Sheet lists proposed changes to the Final Tentative - County of Los Angeles Municipal Storm Water NPDES Permit (October 11, 2001), in addition to those included in the draft Change Sheet issued on December 4, 2001. Cross-references to pages and sections are for the 'Clean Version' and the 'Strike-Out Version', of the tentative draft, dated October 11, 2001. New text added to a sentence is indicated by underline, and deleted text is indicated by strikethrough.

PROPOSED CHANGES

1. Finding B.9
   Strike-Out Version: Page 4
   Clean Version: Page 3
   Insert the following sentence at the beginning of finding:
   "The discharge of washwaters and contaminated storm water from businesses is an environmental threat and also can adversely impact public health and safety."

2. Finding C.6
   Strike-Out Version: Page 5
   Clean Version: Page 5
   Change last sentence of finding to read:
   "Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria~~under the MS4 program~~, as well as in other U.S. States."

3. Finding F.8
   Strike-Out Version: Page 15
   Clean Version: Page 13
   Change finding to read:
   "This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP ~~or requirement~~ under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order."

4. SQMP Implementation, Part 3.A.1
   Strike-Out Version: Page 20
   Clean Version: Page 17
   Change last sentence to read:
   "The SQMP shall be implemented immediately following (the permit effective date), unless a later date has been specified for particular provisions in this Order."

5. SQMP Implementation, Part 3.A.4
   Strike-Out Version: Page 20
   Clean Version: Page 18
   Change first sentence to read:

R0007281

"Permittees that modify ~~deviate from~~ the countywide SQMP (i.e., need additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable to the area under its jurisdiction), shall develop a local SQMP, no later than (6 months from the permit effective date)."

6. SQMP Implementation, Part 3.E.5
   Strike-Out Version: Page 21
   Clean Version: Page 19
   Change the requirement for a summary of budget expenditures to read:
   "Prepare an annual summary of expenditures applied to the storm water management program. This summary of budget expenditures shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
   a) Program management
      - Administrative costs
   b) Program implementation
      Where information is available, provide an estimated percent breakdown of expenditures for the categories below:
      - Illicit connection/illicit discharge
      - Development planning
      - Development construction
        - Construction inspection activities
      - Industrial/Commercial inspection/site visit activities
      - Public Agency Activities
        - Maintenance of structural BMPs and treatment control BMPs
        - Municipal street sweeping
        - Catch basin clean-up
        - Trash collection
        - Capital costs
   c) Public Information and Participation
   d) Monitoring Program
   e) Miscellaneous Expenditures

7. Public Information and Participation Program, Part 4.B
   Strike-Out Version: Page 28
   Clean Version: Page 23
   Change the last paragraph of Part 4.B to read:
   "The Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals, and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year. ~~a panel to review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer for consideration no later than December 31, annually. The PIPP will become effective upon approval.~~"

8. Public Information and Participation, Part 4.B.8
   Strike-Out Version: Page 30
   Clean Version: Page 25

R0007282

Change section to read:
"~~The~~ Permittees shall provide the contact information for their appropriate ~~storm water~~ staff responsible for storm water public education activities to the Principal Permittee no later than (60 days from the effective date of this Order), and changes to contact information no later than 30 days after a change occurs. ~~Cooperative efforts with other agencies may also be used to accomplish this requirement.~~

9. Development Planning Program, Part 4.D.2
Strike-Out Version: Page 41
Clean Version: Page 34
Change the fourth paragraph to read:
"A Permittee of group of Permittees may substitute ~~for~~ the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:"

10. Development Planning Program, Part 4.D.3
Strike-Out Version: Page 41
Clean Version: Page 35
Insert the following paragraph at the beginning of the SUSMP section:
"Each Permittee shall amend codes and ordinances not later than [6 months from permit effective date] to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than [7 months from permit effective date]."

11. Development Planning Program, Part 4.D. 3.c
Strike-Out Version: Page 42
Clean Version: Page 36
Change section to read:
"Each Permittee shall require the implementation of SUSMP provisions no later than (7 months ~~240 180 days~~ from the permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA, where the development will:"

12. Development Planning Program, Part 4.D.5.e
Strike-Out Version: Page 43
Clean Version: Page 37
Change section to read:
"Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate."

13. Development Planning Program, Part 4.D.14
Strike-Out Version: Page 47
Clean Version: Page 41
Change last sentence to read:
"For Permittees with a population of 250,000 or more (2000 Census), training shall be completed no later than (one year from the effective date of this Order)."

14. Development Planning Program, Part 4.D.15.b
Strike-Out Version: Page 48
Clean Version: Page 41
Change the date to read:
"The Principal Permittee in partnership with Permittees shall issue no later than (two years ~~ten months~~ from the effective date of this Order), a technical manual for the siting and design of BMPs for the development community in Los Angeles County."

15. Development Construction Program, Part 4.E.4

Strike-Out Version: Page 51
Clean Version: Page 44
Insert the following section between sections 3 and 4:
4. GCASP Violation Referrals

a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:

A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections within 3 months, and
- Two warning letters or notices of violation.

b) Referral of Violations of GCASP Filing Requirements:

For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:

- Project location,
- Developer,
- Estimated project size, and
- Records of communication with the developer regarding filing requirements.

16. Public Agency Activities Program, Part 4.F.3.c
Strike-Out Version: Page 54
Clean Version: Page 46
Change section to read:

c) Each Permittee shall implement ~~require~~ the following measures to prevent the discharge of pollutants to the MS4:

~~1.~~ For existing facilities, that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall be: ~~that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.~~

a) Self-contained; or

b) Equipped with a clarifier; or

c) Equipped with an alternative pre-treatment device; or

d) Plumbed to the sanitary sewer.

2. For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency. ~~sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.~~

~~This provision does not apply to fire fighting vehicles.~~

17. Public Agency Activities Program, Part 4.F.5
Strike-Out Version: Page 55
Clean Version: Page 46
Modify the Storm Drain Operation and Maintenance section to read:

a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:

Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris~~litter~~.

Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris~~litter~~.

Priority C: Catch basins that are designated as generating low volumes of trash and/or debris~~litter~~.

b) Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:

(1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;

(2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;

(3) Record keeping of catch basins cleaned; and

(4) Recording of the overall quantity of catch basin waste collected.

c) Permittees not subject to a trash TMDL shall:

(1) Clean catch basins according to the following schedule:

Priority A: A minimum of three times during the wet season and once during the dry season every year.

Priority B: A minimum of once during the wet season and once during the dry season every year.

Priority C: A minimum of once per year.

In addition to the schedule above, between (permit effective date) and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

(2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.

(3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than (6 months from the permit effective date), and at all other transit

stops within its jurisdiction no later than (1 year from the permit effective date). All trash receptacles shall be maintained as necessary.

e) ~~The Permittees shall implement a program which achieves the waste load allocations in conformance with a TMDL schedule of implementation by using an effective combination of BMPs which may include a combination of street sweeping, catch basin clean outs, installation of treatment devices, or other BMPs.~~

18. Public Agency Activities Program, Part 4.F.6.b
Strike-Out Version: Page 57
Clean Version: Page 48
Change section to read:
"Each Permittee shall perform street sweeping of curbed streets according to the following schedule:"

19. Definitions, Part 5
Strike-Out Version: Page 63
Clean Version: Page 52
Change "Automotive Service Facilities" definition to read:
"'**Automotive Service Facilities**' means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided these facilities have no outside activities or materials that may be exposed to storm water."

20. Definitions, Part 5
Strike-Out Version: Page 70
Clean Version: Page 58
Insert the following definition of "Screening" after the "Runoff" definition:
"'**Screening**' means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation."

21. Definitions, Part 5
Strike-Out Version: Page 73
Clean Version: Page 61
Change the "Water Quality Standards and Water Quality Objectives" definition to read:
"'**Water Quality Standards and Water Quality Objectives**' means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, Title 22 of the California Water Code, and other state and federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges."

22. Standard Provisions, Part 6.S
Strike-Out Version: Page 81
Clean Version: Page 68
Change section to read:
"This Order expires on December 13 ~~November 29~~, 2006. The ~~Principal~~ Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with Title 23, California Code of Regulations~~, not later than 180 days~~

~~in advance of such date~~ as application for reissuance of waste discharge requirements, not later than June 13, 2006.

23. Program Reporting Requirements, Section I.A.3
Both Versions: Page T-1
Change section to read:
An assessment of the effectiveness of SQMP requirements to reduce storm water pollution. This assessment shall be comprised of a compilation of watershedwide assessments conducted by each WMC. ~~This a~~Assessments ~~will~~shall be based upon the specific record-keeping information requirement in each ~~major~~ section of the permit, monitoring data, summaries of program effectiveness from each Permittee, and any other information related to program effectiveness. The program assessment shall include summaries of the following:
    a) Summary of common activities conducted by all Permittees;
    b) Watershed Management Area ~~Countywide~~ BMP implementation;
    c) Identification of management measures proven to be effective and/or ineffective at reducing urban runoff pollutants and flow;
    d) Permittee level of effort, as indicated in their Individual Annual Report self evaluations (Attachment U-4, section VI); and
    ~~e)~~ Integrated summary of Monitoring Program results, including the identification of water quality improvements or degradation, and recommendations for improvements to the SQMP (including proposed BMPs) based on the results from the Monitoring Program. ~~When exceedances of applicable water quality standards have been identified, a discussion of how Permittees will comply with the requirements in Part 2 of this Order (RWL) shall be included.~~

24. Program Reporting Requirements, Section I.A.4.
Both Versions: Page T-2
Change section to read:
"Pursuant to Part 2 of this Order, after a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, a ~~A~~Receiving Water Limitations (RWL) Compliance Report shall be submitted with the ~~attached to the~~ subsequent Unified Annual report. A status RWL Compliance Report shall be submitted every alternate year following the submittal of the first Report~~, beginning in 2003~~. The RWL Compliance Report shall include the following:"

25. Program Reporting Requirements, Section I.C.6
Both Versions: Page T-3
Change section to read:
"A comparison to the ~~An Assessment of compliance with~~ applicable Water Quality Standards for each component of the Monitoring Program. The lowest applicable standards from the Basin Plan, the Ocean Plan, the CTR, or Title 22 of the CWC shall be used for ~~as a~~ comparison. Constituents that exceed applicable Water Quality Standards shall be highlighted. When data indicate that discharges are causing or contributing to exceedances of applicable Water Quality Standards, a discussion of possible pollutant sources shall be included in the Monitoring Report and a RWL Compliance Report (Section I.A.4) shall be submitted with the subsequent Unified Annual Report. ~~how Permittees plan to comply with the requirements of Part 2 of this Order (RWL) shall be included.~~"

26. Tributary Monitoring, Section II.C.2
Both Versions: Page T-8
Change section to read:
"Tributary monitoring shall begin in October 2002~~, or the first subsequent storm event(no later than the effective date of this Order)~~.

Section C

Tentative Permit
(Clean Copy)

- Tentative Permit of the County of Los Angeles NPDES Municipal Permit Only

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-xxx
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

R0007289

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STATE OF CALIFORNIA

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The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit Existing Permit and Report of Waste Discharge

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District 1994-2000 Integrated Receiving Water Impacts Report are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.

2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine

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operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (iii) audit of MS4 Permittee programs; and (iv) clarifying enforcement responsibilities between the State and local governments.

5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight,* Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight*, Rachel T. Noble et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001).

6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are

lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

7. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York.)

8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi) automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000).

9. A review of industrial waste/ pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of

widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) adequate legal authority, (ii) fiscal resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) monitoring and reporting program.

2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

   Public Information and Participation
   Development Planning
   Development Construction
   Public Agency Activities
   Illicit Connection/Illicit Discharge Elimination Program

   These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water monitoring program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). Tne Regional Board finds that the Permittees' proposed SQMP, incorporating the additional provisions contained in this Order would meet the minimum requirements of federal regulations.

5. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260

(1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, , L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]

6. Retail gasoline outlets are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from retail gasoline outlets have high concentrations of hydrocarbons and heavy metals. [*Schueler and Shepp* (1992)]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The LA Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria under the MS4 program, as well in other U.S. States.

7. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County Flood Control District within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing,* Bureau of the Census, U.S.

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Department of Commerce (2001)] in an area of approximately 3,100 square miles. Attachment B shows the map of the permitted area in Los Angeles County Flood Control District.

2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

   About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

   About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

   About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

   The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the United States.

5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C Section 1251-1387). This section requires

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the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.

- The USEPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed Reg.* 47990).

- The USEPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the USEPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed Reg.* 68722).

2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contains certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.

4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act (ESA) and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].

5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the

Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).

6. Section 402 (p) of the CWA (33 U.S.C. Section 1342(p) provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

7. The CWA authorizes the USEPA to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Board, through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a MOA with the USEPA, on September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and require amending the SQMP after pollutants loads have been allocated and approved.

9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. Sections 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.

10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule) 65 *Fed. Reg.* 31682 (40 C.F.R. § 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000,* on March 2, 2000, for implementation of the California Toxics Rule (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.

11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.

12. The State Board *In Re*: California Department of Transportation (State Board Order WQ 2001-08), determined that the discharge of storm water to Areas of Special Biological Significance (ASBS) is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.

14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA the TMDLs for trash will be effective and enforceable.

15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).

17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)

18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County

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to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

- The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for retail gasoline outlets.

- The State Board's Chief Counsel interprets the Order to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.

- The Regional Board has determined that the creation of structural or treatment control BMPs for storm water mitigation in waters of the U.S. is not permissible. 40 CFR Part 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

19. The Regional Board supports a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach should be to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with available resources.

20. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

Malibu Creek and Rural Santa Monica Bay WMA
Ballona Creek and Urban Santa Monica Bay WMA
Los Angeles River WMA
San Gabriel River WMA
Dominguez Channel/Los Angeles Harbor WMA, and
Santa Clara River WMA

Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

21. To facilitate compliance with federal regulation, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

22. The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.

24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th. Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

25. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC Section 13241. The Regional Board has considered the requirements of sections 13263 and 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.

26. CWC Section 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the Federal Clean Water Act and its amendments.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal Pub Resources Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.

2. On March 12, 2001, the United States Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F3d. 526 (9th Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

3. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

4. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

5. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then structural and treatment control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

6. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

7. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the SIP The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interferences. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

8. This Order provides flexibility for Permittees to petition the Regional Board Executive Officer to substitute a BMP or requirement under the SQMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

9. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable from new development and redevelopment activities.

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However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its requirements are not intended to restrict or control local land use decision-making authority.

10. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain treatment control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of treatment control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.

4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.

5. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit, pursuant to Section 402 of the CWA, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.

6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal Pub. Resources Code Section 21100 *et seq.*), in accordance with CWC § 13389.

7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to the State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.

8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges are:

1. covered by a separate individual or general NPDES permit for non-storm water discharges; or

2. fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:

   a) Category A - Natural flow:

      (1) Natural springs and rising ground water;

      (2) Flows from riparian habitats or wetlands;

      (3) Stream diversions, permitted by the State Board; and

      (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].

b) Category B - Flows from emergency fire fighting activity.

c) Category C - Flows incidental to urban activities:

(1) Reclaimed and potable landscape irrigation runoff;

(2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination/debromination and suspended solids reduction practices);

(3) Drains for foundations, footings, and crawl spaces;

(4) Air conditioning condensate;

(5) Dechlorinated swimming pool discharges;

(6) Dewatering of lakes and decorative fountains;

(7) Non-commercial car washing by residents or by non-profit organizations; and

(8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of anti-degradation policies and TMDLs.

Part 2. RECEIVING WATER LIMITATIONS

1. Discharges from the MS4 that cause or contribute to the violation of water quality standards or water quality objectives are prohibited.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.

3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of water quality objectives or water quality standards (collectively, water quality standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee

shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:

a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedances of water quality standards. This report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the Report.

b) Submit any modifications to the report required by the Regional Board within 30 days of notification.

c) Within 30 days following the approval of the report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.

4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order.

2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the maximum extent practicable.

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3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the maximum extent practicable.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution controls. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the maximum extent practicable.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments. Such amendments may include regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, The Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;

2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;

3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;

4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;

5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;

6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;

7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and

8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings B.2. and D.2.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;

3. Designate a technically knowledgeable representative to the appropriate WMC; and

4. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and SQMP.

5. Prepare an annual summary of expenditures applied to the storm water management program. This summary of budget expenditures shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

   a) Program management
      - Administrative costs

   b) Illicit connection/illicit discharge

   c) Development planning

   d) Development construction
      - Construction inspection activities

   e) Industrial/Commercial inspection/site visit activities

   f) Public Agency Activities

      (1) Maintenance of structural BMPs and treatment control BMPs

      (2) Municipal Street Sweeping

      (3) Catch basin clean-up

      (4) Trash collection

      (5) Capital costs

   g) Public Information and Participation

   h) Monitoring Program

i) Miscellaneous Expenditures

6. Each Permittee, in addition to the budget summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).

2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a) Facilitate cooperation and exchange of information among Permittees;

b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and

g) Conduct joint WMC meetings four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges, to the storm drain system, including, but not limited to:

a) Prohibit illicit discharges and illicit connections and require removal of illicit connections;

b) Prohibit the discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;

c) Prohibit the discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

d) Prohibit the discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;

e) Prohibit the discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

f) Prohibit the discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;

g) Prohibit the discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

h) Prohibit washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;

i) Prohibit the discharge of concrete or concrete laden wash water from concrete trucks, pumps, tools, and equipment to the MS4.

j) Prohibit, dumping, or disposal of materials into the MS4, other than storm water, such as:

(1) Litter, landscape debris and construction debris;

(2) Any state or federally banned or unregistered pesticides;

(3) Food and food processing wastes; and

(4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

a) Require persons within their jurisdiction comply with conditions in Permittees ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;

c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to source control, and treatment control, BMPs;

d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4.

e) Require the use of best management practices (BMPs) to prevent or reduce the discharge of pollutants to MS4s to the maximum extent practicable.

f) Require that treatment control BMPs be properly operated and maintained to prevent the breeding of vectors.

3. Each Permittee shall, no later than [9 months from permit effective date] amend and adopt, (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.

4. Each Permittee shall submit no later than [10 months from permit effective date], a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific Best Management Practice (BMP) substitution upon petition by a Permittee(s), if the Permittee can document that:

a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

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c) The proposed alternative BMP or program will be implemented within a similar period of time.

2. Customized SQMP

Each Permittee shall have available a local SQMP, which:

a) Is customized and reflects the conditions in the area under its jurisdiction; and

b) Specifies activities being implemented under the appropriate elements described in the countywide SQMP.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

a) To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;

b) To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions;

c) To involve and engage all socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution (such as African American, Latino, East Asian, South Asian, and Middle Eastern).

The Principal Permittee shall convene a panel to review the PIPP and the effectiveness of each of its components. Panel members shall possess the expertise to assess public information and outreach programs, strategies, and materials. Comments and recommendations on the PIPP shall be submitted to the Regional Board Executive Officer for consideration no later than December 31, annually. The PIPP will become effective upon approval.

2. PIPP - Residential Program

a) "No Dumping" Message

Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than (2 years after the effective date of this Order). Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

b) Countywide Hotline

The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts within 30 days of the date this order becomes effective.

c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year Public Education Program:

(i) Advertising;

(ii) Media relations;

(iii) Public service announcements;

(iv) "How To" instructional material distributed in a targeted and activity-related manner;

(v) Corporate, community association, environmental organization and entertainment industry tie-ins;

(vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than (365 days from the effective date of this Order).

(3) The Principal Permittee shall implement an outreach program to educate on proper disposal of cigarette butts.

(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.

(5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning (within 3 months of the effective date of this Order). The Principal Permittee shall provide guidance for

Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.

(6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

(7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

(8) The Permittees shall provide the contact information for their appropriate storm water staff to the Principal Permittee no later than (60 days from the effective date of this Order). Cooperative efforts with other agencies may also be used to accomplish this requirement.

(9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than (90 days from the effective date of this Order). It shall be implemented on approval.

(10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than (90 days from the effective date of this Order). The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than (365

days from the effective date of this Order). Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts. .

Table 1.	
Watershed	***Target Pollutants for Outreach***
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

3. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target retail gasoline outlets and restaurant chains. At a minimum, this program shall include:

(1) Conferring with corporate management to explain storm water regulations;

(2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all retail gasoline outlet and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than (365 days from effective date of this Order).

b) Business Assistance Program

(1) The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

(2) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and

(3) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Program

Each Permittee shall implement an Industrial and Commercial Facilities Program. The objective is to reduce pollutants in storm water runoff to the maximum extent practicable by requiring the implementation of pollutant reduction and control measures at industrial and commercial facilities. At a minimum, the Program shall include the following requirements.

1. Inventory of Facilities

a) Database for Critical Sources Identification

Each Permittee, within its jurisdiction, shall update annually (individually or in partnership) a watershed-based inventory of all facilities identified as priority through the Permittees critical sources identification program. The database inventory of facilities may be augmented or reduced as new data becomes available. The update of the database may be accomplished through the collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits). The inventory shall include the following minimum fields of information for each industrial and commercial facility:

(1) Name of facility and name of owner/operator;

(2) address;

(3) coverage under the GIASP or other individual or general NPDES permits; and

(4) a narrative description including SIC codes that best reflects the principal products or activities performed by each facility.

The use of an automated database system, such as Geographical Information System (GIS) or Internet-based system is highly

recommended, but not required. The Permittees may add other fields of information, as necessary (e.g. to point out discrepancies between SIC Code designation and type of activities actually performed on-site, exposure of activities and/or materials to storm water, etc.) Facilities determined at no risk of exposure will be so identified in the inventory database. At a minimum, the type of facilities considered for the inventory, will include:

b) High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

c) Lower Priority Categories

Facilities which are listed in Attachment B of the permit.

2. Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA)

a) The Permittees shall inspect

(1) Municipal landfills;

(2) Hazardous waste treatment, disposal and recovery facilities; and,

(3) Facilities subject to SARA Title III

once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

3. Restaurants

The Permittees, in cooperation with their appropriate departments (such as health, public works, etc.), or using an equivalent approach, shall inspect all restaurants to determine that storm water BMPs are being implemented effectively.

a) Frequency: The Permittees shall inspect each restaurant once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Restaurants shall be inspected to verify that:

(1) Oil and Grease residue is not poured onto a parking lot, street or adjacent catch basin;

(2) The trash bin area is clean, trash bin lid closed, not filled with liquid or washed out;

(3) Parking lot, alley, sidewalk and street areas (in the immediate vicinity of the establishment), floormats, filters and garbage containers are not washed and that no washwater is poured in those areas;

(4) Removal of food waste, rubbish or other materials from the parking lot area is not performed in an unsanitary manner or creating a nuisance through hosing down the area.

d) Inspectors shall distribute educational materials to facility operator on storm water pollution prevention practices.

4. Retail Gasoline Outlets

The Permittees shall communicate appropriate BMPs to each RGO (in accordance with the SQMP and Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs.)

a) Frequency: The Permittees shall inspect each RGO and Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) RGOs shall be inspected to verify that:

(1) Fuel-dispensing areas are routinely swept for removal of litter and debris, and that rags and absorbents are ready for use in case of leaks and spills;

(2) Operator is aware that wash down of RGO area to the storm drain is prohibited;

(3) Employees are trained in management of waste materials;

(4) Drains and flow patterns are labeled at the facility;

(5) Inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries are performed before October 1 each year;

(6) Posting signs are close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;

(7) Outdoor waste receptacle and air/water supply area is routinely cleaned-up of leaks and drips, that only watertight waste receptacles are used and lids are closed. Check if grading is done in such a way to prevent run-on of storm water, segregation of flow, and if a roof cover or a low containment berm was built; and,

(8) Employees are trained to implement storm water pollution prevention practices.

d) A follow-up inspection shall be performed within one business day when a complaint related to non-storm water or contaminated storm water discharge is made against a previously inspected RGO.

5. Wholesale Trade (scrap, auto dismantling), Fabricated Metal Products, Motor Freight, Chemical/Allied Products, Primary Metal Products Facilities

a) The Permittees shall inspect

(1) Wholesale trade (scrap, auto dismantling);

(2) Fabricated metal products;

(3) Motor freight;

(4) Chemical/Allied products; and

(5) Primary metal products

facilities once every 24 months.

b) Level of inspection: The Permittees shall confirm that

(1) BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP; and,

(2) Each owner/operator has a current Waste Discharge Identification (WDID) number, and that a Storm Water Pollution Prevention Plan is available on-site.

6. Automotive Service Facilities

The Permittees shall communicate appropriate BMPs to each Automotive Service facility (in accordance with the SQMP and Regional Board Resolution 98-08.)

a) Frequency: The Permittees shall inspect each Automotive Service facility once every 24 months.

b) Level of inspection: The Permittees shall confirm that BMPs are effectively implemented in compliance with County and Municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Automotive Service facilities shall be inspected to verify that:

(1) The facility area is clean and dry without evident stains;

(2) Measures are implemented to prevent spills and leaks;

(3) The facility operator properly manages wastewaters;

(4) The facility operator is aware of the prohibition on discharge of non-storm water to the storm drain;

(5) The facility operator properly manages raw and waste materials including proper disposal of hazardous waste;

(6) Outdoor work and storage areas are protected to prevent potential pollution;

(7) Storm drain inlets situated on the property are labeled, inspected and routinely cleaned out; and,

(8) Employees are trained to implement storm water pollution prevention practices.

7. Site Visits to Lower Priority Categories

a) Based on the inventory developed under paragraph 1. above, each Permittee shall visit facilities identified as lower priority as specified below.

(1) Frequency: Each Permittee shall visit all industrial/commercial facilities (except those subject to the inspection program) no later than (24 months from the permit effective date).

(2) Level of visit: Each Permittee shall confirm that each owner/operator:

(i) has a current Waste Discharge Identification (WDID) number (for facilities discharging storm water associated with industrial activity), and that a Storm Water Pollution Prevention Plan is available on-site, and

(ii) is implementing BMPs consistent with model programs for industrial and commercial facilities, and local storm water/urban runoff ordinances.

(3) Enforcement Referral: For any facility not complying with requirements for facilities discharging storm water associated with industrial activity (i.e. a non-filer), Permittees shall advise the owner/operator of such facility of its obligation to obtain coverage under the GIASP, and shall document this action. On a quarterly basis, Permittees shall provide the Regional Board an updated electronic record of non-filers identified during site visits

b) Each Permittee shall develop and implement a program to conduct spot checks of lower priority facilities subject to site visits (excluding those previously determined to pose no risk of exposure). After the completion of the first site visit cycle (i.e.. first 24 months) twenty percent of the total number of facilities will be visited per year. Spot check visits will be performed as described in paragraph a.2. and a.3. of section 7.

8. BMPs Implementation

In the event that particular minimum BMPs are infeasible at any site, Permittees shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Furthermore, Permittees may require additional site-specific controls (BMPs) as necessary to comply with this Order, including BMPs that are more stringent than those required under the statewide GIASP.

a) For industrial and specified commercial facilities, identified as critical sources, tributary to CWA § 303(d) impaired water bodies,

Permittees shall consider requiring operators to implement additional controls as necessary.

b) For industrial and specified commercial facilities, identified as critical sources, within or directly adjacent to or discharging directly to ESAs, Permittees shall consider requiring operators to implement additional controls as necessary.

9. Complaint Response

In response to any complaint related to storm water or unauthorized non-storm water discharges or a specific request by the Regional Board Executive Officer, a Permittee shall visit any facility, to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances.

10. Interagency Coordination

The Permittees shall provide compliance assistance to the Regional Board through supporting activities, including but not limited to: referrals of complaints, assisting in identification of current owners, operators, and leasees in conjunction with activities performed at any facility within municipal jurisdiction, appearing as witnesses in Regional Board enforcement hearings, and participating in joint inspections when requested by Regional Board staff.

Copies of the inspection/site visit report and any follow-up documentation shall be provided to the Regional Board Executive Officer upon request.

11. Regional Board Inspected Facilities

To the extent that the Regional Board has conducted an inspection of a facility during a particular year, or the inspection has been performed through an authorized agent on behalf of the Regional Board, the Permittee need not inspect the facility during the same 24 month inspection period.

12. Facilities Not Addressed

The Permittees need not inspect State or Federal facilities that are not under their jurisdiction.

D. Development Planning Program

1. The Permittees shall implement a development-planning program that will require all planning priority development and redevelopment projects to:

   a) Minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA (Cal. Pub.

Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

b) Maximize the percentage of permeable surfaces to allow percolation of storm water into the ground;

c) Minimize the quantity of storm water directed to impermeable surfaces and the MS4;

d) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices;

e) Ensure that treatment control BMPs are properly designed and maintained in a manner that does not promote the breeding of vectors; and

f) Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

2. Peak Flow Control

The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in natural drainage systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural drainage systems are located in the following areas:

a) Malibu Creek

b) Topanga Canyon Creek

c) Upper Los Angeles River

d) Upper San Gabriel River

e) Santa Clara River

f) Los Angeles County Coastal streams (see Basin Plan Table 2-1)

The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section I),

Each Permittee shall no later than (540 days from the permit effective date) implement numerical criteria for peak flow control.

A Permittee or group of Permittees may substitute for the peak flow control criteria with a Hydromodification Control Plan, on approval by the Regional Board, in the following circumstances:

(1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic.modeling and supporting field observations; or

(2) Watershed wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

3. Standard Urban Storm Water Mitigation Plans

a) Each Permittee shall require that a single-family hillside home development:

(1) Conserve natural areas

(2) Protect slopes and channels

(3) Provide storm drain system stenciling and signage

(4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability

(5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability

b) Each Permittee shall require that a Standard Urban Storm Water Mitigation Plan as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet redevelopment thresholds

c) Each Permittee shall submit an Environmentally Sensitive Area (ESA) Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than (120 days from permit effective date) for approval by the Regional Board

Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.

d) Each Permittee shall require the implementation of SUSMP provisions no later than (180 days from permit effective date), for all projects located in or directly adjacent to or discharging directly to an ESA, where, the development will:

(1) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and

(2) create 2,500 square feet or more of impervious surface area.

4. Numerical Design Criteria

The Permittees shall require that post-construction treatment control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

a) Volumetric Treatment Control BMP

(1) the 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998)*, or

(2) the volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993), or

(3) the volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or

(4) the volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

b) Flow Based Treatment Control BMP

(1) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity, or

(2) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County, or

(3) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

5. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of planning priority projects to design and implement post-construction treatment controls to mitigate storm water pollution:

a) Single-family hillside residential developments of one acre or more of surface area

b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more

c) A 100,000 square feet or more impervious surface area industrial/ commercial development

d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]

e) Retail gasoline outlets [5,000 square feet or more and with projected Average Daily Traffic (ADT) of 100 or more vehicles]

f) Restaurants (SIC 5812) [5,000 square feet or more of surface area]

g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 3.c.

i) Redevelopment projects in subject categories that meet redevelopment thresholds

6. Not later than March 9, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial category to projects that disturb one acre or more of surface area.

7. Site Specific Mitigation

Each Permittee shall no later than (180 days from permit effective date) require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

a) Vehicle or equipment fueling areas

b) Vehicle or equipment maintenance areas, including washing and repair

c) Commercial or industrial waste handling or storage

d) Outdoor handling or storage of hazardous materials

e) Outdoor manufacturing areas

f) Outdoor food handling or processing

g) Outdoor animal care, confinement, or slaughter

h) Outdoor horticulture activities

8. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all planning priority projects that undergo significant redevelopment in their respective categories.

a) Significant redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

Where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the change must be mitigated, and not the entire development.

b) Redevelopment does not include activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.

c) Existing Single Family Structures are exempt from the redevelopment requirements.

9. Maintenance Agreement and Transfer

Each Permittee shall require that all developments subject to SUSMP and site specific plan requirements provide verification of maintenance provisions for structural and treatment control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

a) The developers signed statement accepting responsibility for maintenance until the responsibility is legally transferred, and either

b) A signed statement from the public entity assuming responsibility for structural or treatment control BMP maintenance and that it meets all local agency design standards, or

c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year, or

d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the structural and treatment control BMPs; or

e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction structural or treatment control BMPs

10. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements . Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will

a) result in equivalent or improved storm water quality;

b) protect stream habitat;

c) promote cooperative problem solving by diverse interests;

d) be fiscally sustainable and has secure funding; and

e) be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of SUSMP requirements, as approved in this Order.

11. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where the following situations occur:

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a) A waiver for impracticability is granted

b) Legislative funds become available

c) Off-site mitigation is required because of loss of environmental habitat

d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation

12. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

a) Potential Impact of project construction on storm water runoff

b) Potential Impact of projects post-construction activity on storm water runoff.

c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas.

d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit

e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies

f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm

g) Potential for significant increases in erosion of the project site or surrounding areas

13. General Plan Update

a) Each Permittee shall amend, revise or update its General Plans to include watershed and storm water quality and quantity management considerations and policies when the following General Plans elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, (iv) Open Space.

b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 et seq.

14. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the requirements of the development planning on an annual basis beginning no later than (six months from the effective date of this Order), and more frequently if necessary. For Permittees with a population of 250,000 or more, training shall be completed no later than (one year from the effective date of this Order).

15. Developer Technical Guidance and Information

a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.

b) The Principal Permittee in partnership with Permittees shall issue no later than (ten months from the effective date of this Order), a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

(1) treatment control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;

(2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;

(3) expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;

(4) maintenance considerations; and

(5) cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

a) Sediments generated on the project site shall be retained using adequate treatment control or structural controls;

b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage

facilities, receiving waters, or adjacent properties by wind or runoff;

c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.

2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:

a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.

The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

"As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

The landowner or the landowner's agent shall sign a statement to the effect:

"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.

c) Require, commencing March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2.and shall:

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

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b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

4. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than (six months from the effective date of this Order), and annually thereafter. For Permittees with a population of 250,000 or more, initial training shall be completed no later than (one year from the effective date of this Order). Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems Maintenance, Overflow, and Spill Prevention
- Public Construction Activities Management
- Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
- Landscape and Recreational Facilities Management
- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Parking Facilities Management
- Public Industrial Activities Management
- Emergency Procedures
- Treatment Feasibility Study

1. Sewage System Maintenance, Overflow, and Spill Prevention

a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:

(1) Investigation of any complaints received;

(2) Upon notification, immediate response to overflows for containment; and

(3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:

(1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and

(2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

2. Public Construction Activities Management

a) Each Permittee shall implement the Development Planning Program requirements (Permit Section D) at public construction projects.

b) Each Permittee shall implement the Development Construction Program requirements (Permit Section E) at Permittee owned construction sites.

c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population need not obtain coverage under a separate permit until March 10, 2003.

d) Each Permittee, no later than March 9, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Each Permittee, consistent with the SQMP, shall implement pollution prevention plans for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:

(1) Good housekeeping practices;

(2) Material storage control;

(3) Vehicle leaks and spill control; and

(4) Illicit discharge control.

c) Each Permittee shall require:

(1) For existing facilities, that all vehicle/equipment wash areas are self-contained or covered, or equipped with a clarifier, or other pretreatment device.

(2) For new facilities or during redevelopment of existing sites to be equipped with a clarifier, or other pretreatment device, and properly connected to the sanitary sewer to prevent the discharge of pollutants to the MS4.

This provision does not apply to fire fighting vehicles.

4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

a) A standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;

b) Consistency with State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ).

c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

d) Ensure that no banned or unregistered pesticides are stored or applied;

e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;

g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

i) Regularly inspect storage areas.

5. Storm Drain Operation and Management

Each Permittee shall:

a) Designate catch basin inlets within its jurisdiction as one of the following:

Priority A – catch basins that are designated as consistently generating the highest volumes of trash and/or litter.

Priority B - catch basins that are designated as consistently generating moderate volumes of trash and/or litter

Priority C – catch basins that are designated as generating low volumes of trash and/or litter.

b) Clean catch basins according to the following schedule:

Priority A –At least once during the dry season and once per month during the wet season.

Priority B – At least 2 times per year and once during the wet season. Between the effective date of this Order and July 1, 2003, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 40% full during the wet season. From July 1, 2003 to the date this Order is renewed, each Permittee shall ensure that each catch basin is cleaned whenever the catch basin reaches 25% full during the wet season.

Priority C – as necessary but at least once per year.

c) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the Permittee shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain.

d) Place trash receptacles at all transit stops within its jurisdiction and maintain them.

e) The Permittees shall implement a program which achieves the waste load allocations in conformance with a TMDL schedule of implementation by using an effective combination of BMPs which may include a combination of street sweeping, catch basin clean outs, installation of treatment devices, or other BMPs.

f) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.

g) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

(1) A program to visually monitor Permittee-owned open channel storm drains and other drainage structures for

debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

(2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;

(3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

(4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and

(5) Proper disposal of material removed.

6. Streets and Roads Maintenance

a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter.

Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter.

Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter.

b) Each Permittee shall perform street sweeping according to the following schedule:

Priority A – These streets and/or street segments shall be swept at least two times per month.

Priority B - Each Permittee shall ensure that each street and/or street segments is swept at least once per month.

Priority C – These streets and/or street segments shall be swept as necessary but in no case less than once per year.

c) Each Permittee shall require that:

(1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain.

(2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and

(3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch.

d) Each Permittee shall, no later than (six months from effective date of this Order), train their employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

(2) Identify and select appropriate BMPs.

For Permittees with a population of 250,000 or more training shall be completed no later than (one year from the effective date of this Order.)

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity , obtain separate coverage under the GIASP except that a municipality under 100,000 in (1990 Census) population need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows from their jurisdiction which may impact

public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1,2002.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

b) Tracking: All Permittees shall, no later than [365 days from the effective date of this Order] develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than [365 days from the effective date of this Order] the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.

c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000, training shall be completed no later than [six months from the effective date of this Order]. For Permittees with a population of 250,000 or more, training shall be completed no later than [365 days from the effective date of this Order]. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

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2. Illicit Connections

a) Screening for Illicit Connections

(1) Field Screening: All Permittees shall field screen the storm drain system for illicit connections in accordance with the following schedule:

(i) Open channels: [365 days from the effective date of this Order];

(ii) Underground pipes in priority areas: [three years from the effective date of this Order]; and

(iii) Underground pipes with a diameter of 36 inches or greater: [five years from the effective date of this Order].

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been screened vis a vis the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

(2) Permit Screening: [five years from the effective date of this Order], Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

(1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

3. Illicit Discharges

a) Abatement and Cleanup: Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"**Areas of Special Biological Significance (ASBS)**" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"Automotive Service Facilities" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

"Discharging Directly" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

"Discharge of a Pollutant" means: Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of

transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

"Environmentally Sensitive Areas" means an area "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments" (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game's Significant Natural Areas Program; an area listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; or an area identified by a Permittee as environmentally sensitive.

"Full Capture Device" means any device or system that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow resulting from a one-year, one-hour, storm.

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal; private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to: 1. Pre-inspection documentation research.; 2. Request for entry; 3. Interview of facility personnel; 4. Facility walk-through. 5. Visual observation of the condition of facility premises; 6. Examination and copying of records as required; 7. Sample collection (if necessary or required); 7. Exit conference (to discuss preliminary evaluation); and, 8. Report preparation, and if appropriate, recommendations for coming into compliance.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR § 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population estimate of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water CWA's § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Specifically, municipalities must choose effective BMPs, and reject applicable BMPs only where other effective BMPs will serve the same purpose. See the legal memorandum (Feb 11, 1993) from State Board OCC to DWQ.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water,

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which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used personally, for businesses or for commerce with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)

(4) Retail gasoline outlets

(5) Restaurants (SIC 5812)

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces

(7) Redevelopment projects in subject categories that meet redevelopment thresholds

Additionally, for all projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and

(8) Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

(9) Vehicle or equipment fueling areas;

(10) Vehicle or equipment maintenance areas, including washing and repair;

(11) Commercial or industrial waste handling or storage;

(12) Outdoor handling or storage of hazardous materials;

(13) Outdoor manufacturing areas;

(14) Outdoor food handling or processing;

(15) Outdoor animal care, confinement, or slaughter; or

(16) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

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"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; ; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

"Restaurant" means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

"Sidewalk Rinsing" means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

"Significant Ecological Area (SEA)" means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.[1]
Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.

[1] The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

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3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.
7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.[2]

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

[2] These criteria from the 1976 study have been modified in the *Update Study 2000.*

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both treatment control BMPs and source control BMPs.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;

ii. Performs fleet vehicle on ten or more vehicles per day including repair, maintenance, washing, and fueling;
iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

"Water Column Toxicity" means a 70 percent survival rate for a single test or an average of 90 percent survival for three consecutive tests.

"Water Quality Standards and Water Quality Objectives" means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

"Waters of the State" means any surface water or groundwater, including saline waters, within boundaries of the state.

"Waters of the United States" or "Waters of the U.S." means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate "wetlands";
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
a. All impoundments of waters otherwise defined as waters of the United States under this definition;
b. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
c. The territorial sea; and
d. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's

status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with US EPA.

"Wet Season" means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.

2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.

3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal Government Code Section 6250 *et seq.*).

2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a

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combination thereof [40 CFR 122.41(a), CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC Section 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;

2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;

3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,

4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the Clean Water Act and the California Water Code.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC Section 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of

Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. **Reopener and Modification [40 CFR 122.41(f) & 122.62]**

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the Water Code and Title 23 of the California Code of Regulations for the issuance of waste discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

   a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;

   b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

   c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,

   d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   a) Violation of any term or condition contained in this Order;

   b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,

   c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

3. This Order may be modified, revoked and reissued, or terminated for cause.

4. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

5. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR Part 122.63, if processed as a minor modification. Minor modifications may only:

   a) Correct typographical errors, or

   b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)][3]

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][4]

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);

[3] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

[4] This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;

3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)][5]

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b) The permitted facility was being properly operated by the time of the upset;

   c) The Permittee submitted notice of the upset as required; and,

   d) The Permittee complied with any remedial measures required.

2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

[5] *Supra*. See footnote number 2.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The Clean Water Act provides the following:

   a) Criminal Penalties for:

      (1) Negligent Violations:

      The CWA provides that any person who negligently violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

      (2) Knowing Violations:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

      (3) Knowing Endangerment:

      The CWA provides that any person who knowingly violates permit conditions implementing sections 301, 302, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

      (4) False Statement:

      The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more

than four years, or by both. (See section 309(c)(4) of the Clean Water Act.)

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of violation; or some combination thereof, depending on the violation or combination violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on November 29, 2006. The Principal Permittee must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with Title 23, California Code of Regulation, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on November 29, 2001.

_____

Dennis A. Dickerson
Executive Officer

ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural
Agoura Hills
*Calabasas
Los Angeles County Flood Control
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban
Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates

*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles (City of)
Los Angeles County Flood Control

Los Angeles (County of)
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
*Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount
Pasadena

Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park

Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
*Long Beach[1]
Los Angeles County Flood Control
Los Angeles (County of)
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

*Santa Clarita
Los Angeles County Flood Control
Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

[1] *The City of Long Beach is covered under order No. 99-060*

ATTACHMENT B
Critical Sources Categories Prioritization

High Priority Categories

(1) Municipal Landfills

(2) Hazardous Waste Treatment, Disposal and Recovery Facilities

(3) Facilities Subject to SARA Title III (also known as EPCRA)

(4) Restaurants

(5) Wholesale trade (scrap, auto dismantling)

(6) Automotive service facilities

(7) Fabricated metal products

(8) Motor freight

(9) Chemical/allied products

(10) Automotive Dealers/Gas Stations

(11) Primary Metals Products

Lower Priority Categories

(12) Electric/Gas/Sanitary

(13) Air Transportation

(14) Rubbers/Miscellaneous Plastics

(15) Local/Suburban Transit

(16) Railroad Transportation

(17) Oil & Gas Extraction

(18) Lumber/Wood Products

(19) Machinery Manufacturing

(20) Transportation Equipment

(21) Stone, Clay, Glass, Concrete

(22) Leather/Leather Products

(23) Miscellaneous Manufacturing

(24) Food and kindred Products

(25) Petroleum Refining

(26) Mining of Nonmetallic Minerals

(27) Printing and Publishing

(28) Electric/Electronic

(29) Paper and Allied Products

(30) Furniture and Fixtures

(31) Laundries

(32) Instruments

(33) Textile Mills Products

(34) Apparel

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ITEM 10D
Legal Brief

Section D

Legal Brief

Winston H. Hickox
Secretary for Environmental Protection

State Water Resources Control Board

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Gray Davis
Governor

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov

TO: Dennis Dickerson
Executive Officer
REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

FROM: Michael A.M. Lauffer
Staff Counsel
OFFICE OF CHIEF COUNSEL

DATE: November 9, 2001

SUBJECT: LEGAL ISSUES CONCERNING RENEWAL OF ORDER NO. 96-054, AS REFLECTED IN TENTATIVE WASTE DISCHARGE REQUIREMENTS DATED OCTOBER 11, 2001

INTRODUCTION

This memorandum addresses some of the more notable legal issues raised by commenters during the development of a revised municipal separate storm sewer system (MS4) permit for Los Angeles County. The memorandum broadly follows an outline of legal issues raised by Rutan & Tucker in a May 15, 2001, letter to Dr. Xavier Swamikannu, with additional legal issues raised by other commenters. As the permit has evolved through multiple drafts, certain legal issues have been resolved. Except as noted, resolved issues are not the subject of this memorandum.

DISCUSSION

The Regional Board staff has followed applicable law and precedent in developing the October 11, 2001 tentative draft MS4 (draft MS4 permit). Many of the legal issues raised by commenters have been the subject of prior challenges to the State Water Resources Control Board (State Board) and have been resolved in a manner consistent with the draft MS4 permit's approach. To the extent the draft MS4 permit expands upon prior permit conditions and State Board precedential orders, the permit does so based on solid findings and in conformance with the iterative approach underlying storm water permitting.

A. *THE DRAFT MS4 PERMIT'S REQUIREMENTS FOR INSPECTION, ENFORCEMENT, MONITORING, AND REPORTING FOR CERTAIN INDUSTRIAL/COMMERCIAL FACILITIES ARE CONSISTENT WITH THE CLEAN WATER ACT AND AUTHORIZED BY LAW.*

The Clean Water Act and implementing MS4 regulations afford the Regional Board adequate legal authority to establish a permit condition, in the Regional Board's judgment, that requires inspections of facilities contributing pollutants to the MS4. The Clean Water Act vests the Regional Board with substantial authority in developing MS4 permit requirements. Section 402(p)(3)(B) states that permits for MS4 discharges:

> (i) may be issued on a system- or jurisdiction-wide basis;
> (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and
> (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

(33 U.S.C. § 1342(p)(3)(B)(i)-(iii).) Congress created the "maximum extent practicable" (MEP) standard and the requirement to "effectively prohibit non-stormwater discharges" into the MS4 in an effort to allow permit writers the flexibility necessary to tailor permits to the site-specific nature of MS4 discharges. (132 Cong.Rec. S16,424 (Oct. 16, 1986), *reprinted in* 2 Environment and Natural Resources Policy Division, Library of Congress, *A Legislative History of the Water Quality Act of 1987* 646 (1988); House Committee on Public Works and Transportation, Section-by-Section Analysis (100th Sess. 1987), *reprinted in* 1987 U.S.C.C.A.N. (101 Stat. 7) 5, 38-39; *see also* 55 Fed.Reg. 47990, 48,038 (Nov. 16, 1990).) The flexibility includes the ability direct permit requirements at the sources of pollution, and not simply the MS4 discharge points. (55 Fed.Reg. at 48,038 (Nov. 16, 1990).)

In developing regulations to implement the MS4 requirements, the United States Environmental Protection Agency (USEPA) identified specific program elements that a municipal discharger had to identify as part of the MS4 permit application. (40 C.F.R. § 122.26(d).) Again, these were application requirements that in many instances identified the minimal authority that the municipal discharger must demonstrate as part of an application. (See, e.g., 40 C.F.R. § 122.26(d)(2)(iv).) Nothing in the regulations erodes the Regional Board's authority to establish provisions it deems "appropriate for the control of [] pollutants" in the MS4. (33 U.S.C. § 1342(p)(3)(B)(iii); see also *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1166-1167 (discussing permitting authorities' authority to establish appropriate requirements in storm water permitting approach).) In fact, the USEPA contended during the rulemaking that:

> Proposed management programs will then be evaluated in the development of permit conditions. * * * EPA anticipates that storm water management programs will evolve and mature over time. The permits for discharges from municipal separate storm sewer systems will be written to reflect changing conditions that result from program development and implementation and corresponding improvements in water quality.

(55 Fed.Reg. 47990, 48052 (Nov. 16, 1990).)

As part of the MS4 application, the permittee needs to develop a proposed management program that encompasses commercial and residential areas, illicit discharges, and discharges of storm water associated with industrial activities. (40 C.F.R. § 122.26(d)(2)(iv).) For commercial and residential areas, the application must describe "structural and source control measures to reduce pollutants." (40 C.F.R. § 122.26(d)(2)(iv)(A).) For illicit discharges and discharges associated with industrial activities, the program description must include a program of inspections. (40 C.F.R. § 122.26(d)(2)(iv)(B),(C).)

As part of work under its existing permit, the permittees identified certain commercial facilities that contributed substantial pollutants to the MS4. In particular, Retail Gasoline Outlets (RGOs) and restaurants contribute significant pollutants. (Findings B.8-9 and C.5-6.) At restaurants, pretreatment records indicated that grease traps often backed up from the sanitary sewer system into the MS4. In addition, there was a prevalence of illicit discharges into the MS4 from improper washdown operations. At RGOs, the significant volumes of pollutants had the ability to introduce pollutants via non-storm water discharges to the MS4. The permittee and the Regional Board have evaluated this evidence, and Regional Board staff has determined that more in-depth inspection is appropriate at these facilities.

The draft MS4 permit's requirement for inspections is appropriate within the meaning of section 402(p)(3)(B). First, the discharger has identified the subject facilities as significant contributors to the MS4 system. To have any meaning, the reduction of pollutants to the maximum extent practicable must include responding to pollutant concerns identified as part of the permit program. The current permit regime appears to be inadequate, so additional enforcement (through inspections to identify problems) is an appropriate response. Second, the pollutants are reaching the MS4 apparently as the result of illicit discharges and/or illicit connections to the MS4 and the inadequate implementation of storm water controls. To this extent, the USEPA's Part 2 MS4 application regulation explicitly requires the permittee to identify inspection authority. Following through with an actual inspection program is necessary to effect the regulatory provisions and reduce pollutants to the maximum extent practicable. The inspection requirement is a reasonable and appropriate application of the Regional Board's permitting authority.

B. THE DEVELOPMENT PLANNING (SUSMP) REQUIREMENTS IN THE DRAFT MS4 PERMIT ARE CONSISTENT WITH APPLICABLE LAW AND LAWFULLY EXPAND BEYOND THE STATE BOARD'S ORDER WQ NO. 2000-11 (SUSMP ORDER).

1. The .75-inch standard is appropriate.

A comment argues that the .75-inch standard is not based on "quantitative data," source identification," and "source characterization, " as assertedly required by the Federal storm water regulations. The Regional Board's existing SUSMP order contains the same .75-inch standard as a measure of performance. The party submitting this comment represented petitioners in a petition to the State Board challenging the Regional Board's SUSMP order. Following two days of hearing by the State Board and extensive analysis, the State Board issued its SUSMP Order. There, the State Board upheld the .75-inch standard. This argument has no merit. The proposed action merely incorporates the already-approved standard into the proposed permit.

2. Staff gave appropriate consideration to Water Code Section 13263 and 13241.

In large part, the proposed permit would incorporate into the permit renewal provisions that have already been found to be lawful and appropriate by the State Board. The comment asserts that re-adoption of the .75-inch standard fails to address "economic considerations" and "the need for developing housing within the Region." The draft MS4 permit includes a Fact Sheet that discusses economic and housing considerations. The staff has prepared two technical reports, which address these issues. (See "Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts," Radulescu, Swamikannu, and Hammer, 2001, and "Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality," Fisher and Swamikannu, 2001.) The Regional Board staff has adequately considered factors required under Water Code section 13263, subdivision (a), and these factors will again be considered by the Regional Board in adopting the permit.

3. The Regional Board may regulate Environmentally Sensitive Areas.

Citing the State Board's observation in the SUSMP Order that Environmentally Sensitive Areas (ESAs) are already subject to extensive regulation under other regulatory programs, a comment asserts that it is inappropriate for the Regional Board to include regulation of ESAs within the proposed permit.[1] The State Board's Order does not, as the comment suggests, foreclose inclusion of ESAs as a development category. The State Board stated:

[1] Letter from Richard Montevideo (Rutan & Tucker) to Dr. Xavier Swamikannu (May 15, 2001) (Montevideo Letter), p. 7. The comment erroneously states that the State Board "invalidated the prior SUSMP." Actually, the State Board did not invalidate the entire SUSMP, but rather, determined that the record failed to support ESAs as a properly- included category within the SUSMP.

> While it may be appropriate to include more stringent controls for developments in ESAs, we also note that such developments are already subject to extensive regulation under other regulatory programs. Moreover, in light of the permit language limiting the SUSMPs to development categories, ESAs are not an appropriate category within the SUSMPs. The Regional Water Board may choose to consider the issue further when it reissues the permit.

(SUSMP Order, p. 25.)

As is clear from the foregoing passage, the State Board left the issue open for the Regional Board to develop further. The Fact Sheet for the draft MS4 permit includes a technical report prepared by staff entitled, "Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas," Yeager and Swamikannu, 2001, which supports inclusion of ESAs within the development categories covered by the permit. The report demonstrates the need to afford ESAs additional protection from urban runoff through the extension of SUSMPs to projects in ESAs.

4. *The term "Redevelopment" has been revised to limit its application.*

A comment suggests that the term will make SUSMP requirements applicable to unintended projects, such as replacement of existing structures, rather than expansion or installation of a new structure. The comment has been considered by staff and revised definitions of "new development" and "redevelopment" have been incorporated into the tentative permit and the glossary. The revised definitions adequately address the concerns presented by the comment.

5. *The SUSMP permissibly covers nondiscretionary projects.*

The Regional Board staff has prepared a detailed report that provides the justification for extending the SUSMP requirements to nondiscretionary projects in order to improve the quality of storm water discharges. One comment suggests that the extension of SUSMPs to nondiscretionary projects is in violation of the SUSMP Order.[2] The comment grossly distorts the State Board's SUSMP Order.

---

[2] Montevideo Letter, p. 9. The comment also implies that, through a finding concerning nondiscretionary projects, the Regional Board is somehow attempting "to modify the regulations to CEQA." (*Ibid.*) The finding language does not attempt to alter CEQA, but simply reflects a correct statement of law: if local ordinances impose conditions to create decision-making discretion in approving a project, then the subsequent project action may be discretionary within the meaning of CEQA. The finding does not require the permittees to undertake any particular course of action. However, the finding does continue by observing that the Regional Board considers all new development and specified redevelopment to be subject to the SUSMP requirements.

In the SUSMP Order, the State Board was addressing the narrow issue of whether the existing MS4 permit, for which SUSMPs were being developed, could be construed to cover nondiscretionary projects. The State Board was analyzing, in pertinent part, whether "the inclusion of non-discretionary, or ministerial, projects is inconsistent with the terms of the permit." (SUSMP Order, p. 25.) In answering this question, the State Board concluded that existing permit provisions appeared "to link the development requirements for SUSMPs to developments that receive discretionary approval." (*Id.*, p. 26.) Because the SUSMPs were an implementation tool for the existing MS4 permit, the State Board concluded that the SUSMPs "must be consistent with the permit." (*Ibid.*)

Simply put, the State Board's decision in no way limited the Regional Board's authority to include nondiscretionary projects in the revised MS4 permit. After concluding that applying SUSMPs to nondiscretionary projects exceeded the scope of the existing permit, the State Board observed that "the limitation of the SUSMPs to discretionary projects may not be sufficiently broad for an effective storm water control program." (*Ibid.*) The State Board further stated that "The Regional Water Board may consider expanding the development controls beyond [California Environmental Quality Act (CEQA)] discretionary projects when it reissues the permit." (*Ibid.*)

Staff has revisited the issue of nondiscretionary projects, and has found adequate justification to expand the SUSMP provisions to nondiscretionary projects. The draft MS4 permit is accompanied by a lengthy report identifying the need for SUSMPs to cover nondiscretionary projects. (See Storm Water Mitigation Requirements for Priority Planning Projects for the Protection of Water Quality," Fisher and Swamikannu, 2001.) The draft MS4 permit removes the "discretionary" limitation that appeared in the prior permit, and if approved by the Regional Board will extend SUSMP requirements to nondiscretionary projects.

6. *The waiver fund is now an optional component.*

A comment suggests that the proposed order fails to include information that the State Board specifically indicated was required in order to make the "waiver fund" supportable. Although finding the proposed waiver fund unworkable, the State Board specifically endorsed the potential benefits and flexibility that arise from a waiver fund or mitigation bank. (SUSMP Order, p. 27.) The mandatory fund provisions have been removed from the October 11, 2001 tentative permit, but the permittees still have the option of implementing their own mitigation banks.

7. Regional solutions have not been considered because the permittees have not proposed a regional solution in lieu of the SUSMP approach.

A comment asserts that the Regional Board has failed to adequately consider "regional solutions." To the extent the comment maintains that State Board's SUSMP Order encouraged regional solutions, the Regional Board staff concurs. Specifically, the State Board encouraged the permittees to develop such projects. However, there is no requirement that the Regional Board itself develop regional solutions. Nor is there any requirement that the Regional Board adopt proposed regional solutions, in place of SUSMP requirements. Rather, it is the burden of the permittees to develop and present workable, acceptable programs that meet or exceed the requirements of the draft MS4 permit. At this time, the permittees have not submitted any specific proposals for regional solutions or programs. The Regional Board itself maintains broad discretion to consider proposed programs in the future.

8. The draft MS4 permit lawfully covers retail gasoline outlets (RGOs) and establishes threshold criteria for the numeric design standards.

The SUSMP Order recognizes the Regional Board's authority to include RGOs in the SUSMP categories, provided there are adequate findings supporting RGOs as a category. (SUSMP Order, pp. 22-23.) Since the SUSMP Order, the Regional Board staff has extensively studied the issue of storm water from RGOs. (See "Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts," Radulescu, Swamikannu, and Hammer, 2001 (RGO Report).) The RGO Report documents the significant pollutant contribution from RGOs. (*Id.*, p. 4-5, 10-11.) In light of this substantial evidence, the draft MS4 permit includes provisions to extend SUSMP provisions to RGOs.

In extending SUSMPs to RGOs, staff analyzed and the draft MS4 permit establishes threshold criteria that trigger numeric design standards. (See RGO Report, pp. 8-9.) Staff considered the impervious surface area, the projected average daily traffic, and the projected volume of gasoline sales as criteria. (*Ibid.*) In analyzing the likelihood of the criteria to predict storm water pollutant loading, staff proposed a two-part threshold. First, the RGO must create 5,000 square feet of impervious surface. Second, the RGO must have a projected trip generation of 100 or more motor vehicles average daily traffic. (RGO Report, p. 9.) A RGO that meets both criteria would be subject to SUSMP numeric design standards. The criteria ensure that SUSMP design criteria are targeted at those RGOs that have the greatest potential to contribute pollutants to the MS4.

C. *APPLICABLE LAWS DO NOT REQUIRE THE REGIONAL BOARD TO DEVELOP A COST-BENEFIT ANALYSIS IN DEVELOPING THE PERMIT.*

The Regional Board staff considered economic considerations in developing elements of the draft MS4, but the Regional Board is not required to conduct a cost-benefit analysis. Comments concerning economic issues closely parallel arguments presented to the State Board as part of the petition that resulted in the SUSMP Order. The State Board rejected any contention that a Regional Board is required to conduct a cost-benefit analysis as part of developing an MS4 permit: "It is clear that cost should be considered in determining MEP; this does not mean that the Regional Water Board must demonstrate that the water quality benefits outweigh the economic costs." (SUSMP Order, pp. 19-20.)

The commenter has also asserted that various provisions of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) similarly require a cost-benefit analysis. Although the commenter references several provisions purportedly requiring economic consideration, the commenter relies on Water Code section 13225, subdivision (c) for the proposition that a cost-benefit analysis is required.[3] Section 13225 does not govern the issuance of this permit. Section 13225 appears in Article 2 (General Provisions Relating to Powers and Duties of Regional Board) of Chapter 4 (Regional Water Quality Control) of the Porter-Cologne Act. Section 13225 empowers the Regional Board to require local agencies to report on "technical factors involved in water quality control." (Wat. Code, § 13225.) This authority is a general authority that the Regional Board can use outside the context of a specific investigation (Wat. Code, § 13267) or waste discharge requirements (Wat. Code, § 13263) as part of the Regional Board's responsibilities to assess water quality and to develop water quality control strategies for the region. The general authority does not trump the more specific authority the Regional Board has in the context of issuing waste discharge requirements. (Wat. Code, § 13263(a).) At most, the Regional Board is required to consider economic issues.

The State Board's SUSMP Order discussion was framed in the context of the Clean Water Act and Federal regulations governing the MEP standard. As a result, the SUSMP Order provides the relevant standard for the reissuance of the Los Angeles County MS4 permit. The Regional Board staff has invited comments on cost and other economic factors and the Regional Board has received ample testimony on economic factors. Some of the cost issues are in the administrative record supporting the development of SUSMPs. As the State Board noted, the Regional Board has already considered: "the costs of pilot mitigation projects, studies from similar programs in other states, and research studies[;]" and "the Regional Water Board found that the cost to include [best management practices (BMPs)] that will meet the mitigation criteria will be one to two percent of the total development cost." (SUSMP Order, p. 21.) Costs and other economic factors have been, are, and will be a component of the Regional Board's consideration of the

[3] The commenter also cites Water Code section 13165, which is not applicable because by its own terms section 13165 only applies to the State Board.

MS4 permit; however, there is no requirement in State or Federal law to demonstrate that the water quality benefits outweigh the economic costs.

D. THE PROPOSED PERMIT DOES NOT IMPOSE UNFUNDED MANDATES UPON THE MUNICIPALITIES IN VIOLATION OF THE CALIFORNIA CONSTITUTION.

The unfunded mandate argument has been made repeatedly and uniformly rejected by the State Board. The argument first appeared in the petition and lawsuit filed by the City of Long Beach contesting the validity of the Regional Board's adoption of Order No. 96-054, the existing MS4 permit for Los Angeles County. Next, the Regional Board saw the argument raised in connection with the SUSMP order adopted by the Regional Board pursuant to the existing MS4 permit. The argument now appears in connection with this tentative permit. The commenter argues that the draft order shifts responsibility for carrying out governmental functions to local entities. One commenter, in particular, asserts that the proposed order would shift to the municipalities the burden of carrying out "a state mandate."[4]

First, and most importantly, the draft MS4 permit does not purport to implement state law, but rather implements Federal law as provided in the Clean Water Act and the MS4 regulations promulgated thereunder.[5] Second, the State Board has already addressed the issue in its decision regarding this Region's SUSMP Order. In the SUSMP Order, the State Board indicated that its earlier decisions held that the constitutional provisions cited by the commenter have no application to the adoption of national pollutant discharge elimination system (NPDES) permits. The State Board cited its decision *In re San Diego Unified Port District*, State Board Order No. 90-3, for the proposition that the constitutional state mandate requirements do not apply to NPDES permits issued by Regional Board in that the NPDES permit program is a federally mandated program, rather than state-mandated. (*Id.*, p. 14.) The Regional Board's issuance of the MS4 permit does not violate the California constitutional prohibition on unfunded mandates because the MS4 permit implements Federal law.

E. THE DRAFT MS4 PERMIT DOES NOT IMPROPERLY TRANSFER THE BURDEN OF PROOF ON TO THE PERMITTEES IN ENFORCEMENT ACTIONS.

The definition of "pollutant" in early drafts of the permit improperly characterized a permittee's responsibility for demonstrating compliance with pollutant reductions to the maximum extent practicable. Staff has removed the provision at issue.

[4] Montevideo Letter, p. 13.
[5] 40 C.F.R. § 122.26.

F. THE DRAFT MS4 PERMIT DOES NOT IMPERMISSIBLY MANDATE CONTRACTUAL PROVISIONS IN PRIVATE PARTY AGREEMENTS GOVERNING BMP MAINTENANCE.

The draft MS4 permit identifies several options for permittees to use in ensuring that structural and treatment control BMPs are properly maintained. One comment contends that the draft MS4 permit, without legal support, imposes a requirement for permittees to verify written conditions in private sale and lease agreements. First, the Regional Board has established a maintenance requirement to ensure that structural and treatment control BMPs are functioning and can carry out there intended function. There can be no argument that proper, continuing maintenance of certain BMPs is required to ensure the BMPs' effectiveness. As a result, the draft MS4 permit includes a mechanism to ensure that such maintenance occurs.

Second, the Regional Board staff concluded that effective maintenance of certain BMPs required that there be a person with clear responsibility for maintaining the structural and treatment control BMPs. In attacking this provision, the comment mischaracterizes the draft MS4 permit's approach to this issue.

The draft MS4 permit provides four distinct options for the permittees to verify there is a person with maintenance authority. The commenter solely challenges Part 4.D.9.c which allows verification, by reviewing leases or sales agreements, that someone is responsible for BMP maintenance. However, a permittee may also accept responsibility itself (Part 4.D.9.b), establish a requirement that home owners associations assume responsibility (Part 4.D.9.d), or review "[a]ny other legally enforceable agreement that assigns responsibility for the maintenance of post-construction structural or treatment control BMPs" (Part 4.D.9.e). The draft MS4 permit affords the permittees flexibility in ensuring that there is some entity with the legal responsibility for maintaining structural and treatment control BMPs. The requirement is reasonable and necessary to effect the permit requirements.

G. THE ADMINISTRATIVE PROCEDURE ACT DOES NOT CONTROL THE ISSUANCE OF THE DRAFT MS4 PERMIT.

A comment asserts that the issuance of the MS4 permit constitutes a "regulation" and is subject to the processes set forth in the Administrative Procedure Act (Govt. Code, § 11340, et seq.). This is not the case. In adopting the Administrative Procedure Act (APA), the Legislature specifically exempted the adoption of permits by the State Board and regional boards. Government Code section 11352 states very plainly: "The following actions are not subject to this chapter: *** (b) issuance, denial, or revocation of waste discharge requirements and permits pursuant to sections 13263 and 13377 of the Water Code. . . ." The adoption of the proposed NPDES permit is an action pursuant to Water Code section 13377.

The Legislature recognized that the adoption of permits is an action that applies solely to the named dischargers who are subject to the individual permit, and that the process that the boards follow to adopt a permit complies with notice, comment, and response requirements necessary under the Regional Board's permitting authority. Moreover, the State Board has previously dispensed with this same comment in its SUSMP Order.

The Regional Board tailored the permit requirements to the needs of the Los Angeles County MS4. Only the named permittees are governed by the permit, and they as well as any other interested persons have had ample opportunity to comment on the permit. The Regional Board's permitting of the MS4 is exempt from the APA.

H. THE DRAFT MS4 PERMIT'S RECEIVING WATER LIMITATIONS IS APPROPRIATE AND COMPORTS WITH APPLICABLE STATE BOARD PRECEDENTS.

The Regional Board has the authority to issue MS4 permits with receiving water limitations. While it is true that waste discharge requirements and an MS4 permit allow the discharge of storm water,[6] the discharge requirements must nonetheless meet specific requirements. The Porter-Cologne Act requires waste discharge requirements to "implement relevant water quality control plans . . . ." (Wat. Code, § 13263, subd (a).) The water quality control plan identifies the beneficial uses to be protected and specifies the "water quality objectives reasonably required" to protect those uses, along with "the need to prevent nuisance . . . ." (*Ibid.* and *id.*, § 13241.[7])

The various permit conditions and requirements to implement BMPs provide the minimum conditions for the discharge of waste in conformance with the permit. The conditions reflect the best professional judgment of Regional Board staff in reducing the Clean Water Act and the Porter-Cologne Act into effective permit conditions to protect beneficial uses. Ultimately, however, the MS4 permittee is responsible for the discharges from the MS4. Those discharges are required to conform to the permit, but are subject to the underlying restrictions of the Porter-Cologne Act. Namely, the discharges from the MS4 may not violate the water quality objectives in the water quality control plan or contribute to a condition of nuisance.

Rather than being an "open ended" standard, the receiving water and nuisance permit language is a catchall provision ensuring that the underlying restrictions of the Porter-Cologne Act remain in force. The catchall standard is driven by water quality objectives and is, therefore, not an arbitrary or unknowable standard. The limitation simply reflects standards identified in the water quality control plan. Further, the limitation acknowledges the exigencies of permitting. The Regional Board may authorize the discharge of waste meeting certain requirements, but cannot provide blanket license for discharges of waste exceeding water quality objectives or creating a

[6] Montevideo Letter, p. 17.

[7] Compare Montevideo Letter, p. 17 (seemingly limiting waste discharge requirements to those "reasonably required" without regard to the beneficial uses protected or the need to prevent nuisance).

nuisance, and the permittee is not out of compliance so long as it timely implements the appropriate control measures.

The draft MS4 permit addresses many of the concerns raised by the commenter's letter by expressly demonstrating the nexus between timely implementation of measures in the SQMP and compliance with the receiving water limitations. To this extent, the revision affords the dischargers some measure of certainty that the timely implementation of controls consistent with the permit will satisfy the permit terms. In addition, the revision continues to uphold the underlying requirements of the Clean Water Act and the Porter-Cologne Act to implement the relevant water quality objectives and to protect against nuisance.

The authority for the Regional Board to incorporate receiving water limitations in an MS4 permit is discussed at length in State Board Order WQ 98-01 (as modified by State Board Order WQ 99-05). To the extent the commenter argues that the specific receiving water limitations and discharge prohibition for nuisance do not appear in State Board Order WQ 99-05, the argument is misplaced. The language in Order WQ 99-05 demonstrates the manner for compliance with the receiving water limitation and the discharge prohibition. The language in Order WQ 99-05 makes no sense absent underlying prohibitions and receiving water limitations: requirements emanating explicitly from the Porter-Cologne Act.

Further, the State Board issued Order WQ 99-05 as a precedential decision, which is explicitly authorized by the California Administrative Procedure Act. (Govt. Code, § 11425.60.) The order and its predecessor interpret the Federal Clean Water, the Porter-Cologne Act, and decisions by the USEPA, to identify a significant legal interpretation—namely, suitable language for compliance with the applicable MS4 permit requirements. Similarly, the State Board is poised to uphold similar receiving water language for the San Diego County storm water permit. (*In re Building Industry Association of San Diego County, et al.*, Draft Order WQ 2001-__ (November 2, 2001) at fn. 8, p. 3.) As such, the Regional Board may lawfully follow the State Board's precedential orders.

I. THE DRAFT MS4 PERMIT DOES NOT ATTEMPT TO AMEND STATUTORY AND REGULATORY REQUIREMENTS UNDER CEQA AND STATE GENERAL PLAN REQUIREMENTS.

The draft MS4 permit addresses many of the concerns voiced by commenters concerning CEQA and planning reviewing. As currently proposed, Part 4.D.12 makes clear that the permittees are not to revise the CEQA Guidelines. The current draft reflects staff's intent, all along, which is to include permit requirements that ensure the permittees consider storm water issues when reviewing CEQA documents.

Similarly, Part 4.D.13 has been modified so it does not require updating of the specified general plan elements until the elements are next updated by the permittees. The intent of the CEQA and planning procedure requirements is to ensure that permittees consider storm water issues during general planning and project planning, when opportunities to mitigate storm water impacts can best be devised. Neither provision conflicts with the statutory and regulatory requirements under CEQA or general planning law.

J. *THE REGIONAL BOARD HAS AUTHORITY TO ISSUE NPDES PERMITS IN ACCORDANCE WITH THE CLEAN WATER ACT AND A MEMORANDUM OF UNDERSTANDING WITH USEPA.*

The Regional Board has the authority to issue permits consistent with the Clean Water Act, the Porter-Cologne Act, and the USEPA's program approval. "On May 14, 1973, California became the first State to be approved by USEPA to administer the NPDES permit program." (54 Fed.Reg. 40,664 (Oct. 23, 1989).) The Porter-Cologne Act at the time of program approval authorized the regional boards to issue waste discharge requirements that would serve as Federal NPDES permits. (Wat. Code, §§ 13263 (regional water boards shall issue waste discharge requirements) and 13374 (waste discharge requirements equivalent to Federal permits under the Clean Water Act).) The regional boards' authority continues. Since 1973, California's approval to implement various Clean Water Act programs has expanded, and memoranda of agreement between the State Board and USEPA Region IX have authorized the issuance of NPDES permits by the regional boards. (See, 54 Fed.Reg. 40,664-40,665 (renewing and expanding California permitting authority under the Clean Water Act in 1989); see also, NPDES Memorandum of Agreement between the U.S. Environmental Protection Agency and the California State Water Resources Control Board [hereafter USEPA/California MOA], Sep. 22, 1989, pp. 6-7.)

The Porter-Cologne Act and the USEPA/California MOA recognize the State Board as the state water pollution control agency for purposes of the Clean Water Act. The Legislature confirmed the State Board's role in the Porter-Cologne Act. (Wat. Code, § 13160). In carrying out the State Board's role, the State Board entered into the USEPA/California MOA which serves as a basis for California NPDES program approval. (USEPA/California MOA, pp. cover, 1, and 49; see also, 54 Fed.Reg. 40,664.) The USEPA/California MOA makes clear that the State Board administers California's NPDES program as meant by the Federal regulations. (See, e.g., *id.*, pp. 1 ("State Board has been authorized . . . to administer the National Pollutant Discharge Elimination System [] program in California"), 5 (state board to act "on its own as necessary to assure that the program is administered in conformance with Federal and State legislation, regulations, policy, this MOA, and the State annual 106 Workplan"), and 7 (USEPA to meet with regional board in coordination with State Board and only after notifying State Board).) In contrast, the regional boards do not administer the NPDES program, but do implement portions of the NPDES program through the issuance of permits as authorized by USEPA. (See, e.g., *id.*, p. 6 (regional board responsibility to "regulat[e] discharges subject to the NPDES and

pretreatment programs . . . in conformance with Federal and State law, regulations, and policy". and to "maintain[] an adequate public file at the appropriate Regional Board Office for each permittee").)

The Federal regulations do not divest the Regional Board of authority to issue NPDES permits. The foundation for the commenter's argument is based on false premise: that the Regional Board must be the statewide agency that administers the NPDES program. The regulations merely require a statewide agency to *administer* California's NPDES program. (40 C.F.R. § 123.22.) In California, only the State Board administers the NPDES program under the terms of the Porter-Cologne Act and the USEPA/California MOA. However, this does not deprive the regional boards of the authority to issue permits and to carry out elements of the NPDES program.[8] The USEPA/California MOA acknowledges this reality and explicitly recognizes the State Board's authority to administer the program by modifying NPDES permits initially issued by regional boards. The Regional Board has lawful authority to issue NPDES permits, including the draft MS4 permit.

K. THE REGIONAL BOARD HAS APPROPRIATELY CONSIDERED THE CONDITIONS IN THE RECEIVING WATERS OR THE TYPES OF AND SOURCES OF POLLUTANTS IN DEVELOPING THE DRAFT MS4 PERMIT.

One comment suggests that the draft MS4 permit has not taken account of the receiving water conditions and the sources of pollutants. This contention is without merit. The draft order identifies the impairing characteristics of urban runoff discharged from the MS4, and for Los Angeles County's receiving waters particularly. (Findings B.1-9.) Moreover, the permit does not impose a one-size-fits-all approach to BMPs and storm water mitigation. Instead, the permit identifies specific sources that are high priority for control and targets enhanced storm water management requirements for such facilities. (See, e.g., Findings B.8-9, and Parts 4.C, 4.D (especially Parts 4.D.3.b, 4.D.5, and 4.D.6), and 4.E.) The Regional Board staff clearly considered the receiving waters and the sources in developing the draft MS4 permit.

[8] To the extent the commenter relies on section 123.2(g)(1) of the regulations to indicate that each regional board must submit its own approval application, that reliance is misplaced. First, section 123.2(g)(1) continues by saying that "each agency must make a submission meeting the requirements of section 123.21 before EPA will begin formal review." Here, USEPA has already accepted the State Board's application, begun formal review, completed formal review, and approved California's NPDES program. Second, the regulation did not exist at the time California's approval was granted and it is unclear what effect, if any, the regulation would have on California's NPDES program. Clearly, the USEPA believes there is no effect as it has authorized literally thousands of NPDES permits issued by regional boards and entered into an updated memorandum of agreement in 1989.

L. THE DRAFT MS4 PERMIT PROVIDES A NARROWLY TAILORED REQUIREMENT FOR PUBLIC AGENCIES TO CONTROL THEIR APPLICATION OF PESTICIDES, HERBICIDES, AND FERTILIZERS THAT MAY DISCHARGE FROM THE MS4.

The limited provisions of the draft MS4 permit in respect to pesticides, herbicides, and fertilizers (collectively pesticides) are not pre-empted by other laws. First, the draft MS4 permit does not impose or require the permittees to impose any restrictions on the use of these compounds by the general public. Instead, the permit requires the permittees to comply with applicable pesticide laws and to conform the permittees' use and storage of pesticides to practices that reduce the contribution of pesticides to the MS4. (Part 5.F.4.) These storm water-protection requirements do not conflict with applicable pesticide laws.

Moreover, the Ninth Circuit has recently recognized that Clean Water Act permitting requirements, which are specific to the point of use, are not pre-empted by the Federal Insecticide, Fungicide, and Rodenticide Act. (*Headwaters, Inc. v. Talent Irrigation District* (9th Cir. 2001) 243 F.3d 526.) The MS4 permit does not frustrate the relevant pesticide laws, but instead provides specific elements for the permittees to develop and to follow when it comes to using pesticides. These elements are tailored to the permittees' manner of use and storage that will minimize pesticides reaching the MS4. As with the *Talent Irrigation District* case, the Clean Water Act requirements carried out through the MS4 permit are distinct from the pesticide laws, not in conflict with the pesticide laws, and will perform a function intended by Congress under the Clean Water Act.

M. THE ISSUANCE OF THE MS4 PERMIT IS EXEMPT FROM THE DOCUMENTARY REQUIREMENTS OF CEQA.

The Porter-Cologne Act exempts, in relevant part, the Regional Board's issuance of the MS4 permit from compliance with CEQA. Water Code section 13389 provides that regional boards shall not "be required to comply with the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirements, except requirements for new sources as defined in the Federal Water Pollution Control Act. . . ." Under the Clean Water Act, "new sources" has a specialized and limited meaning. Specifically "new source" means any source, the construction of which is commenced *after the publication of proposed regulations prescribing a standard of performance* under [section 306] which will be applicable to such source, if such standard is thereafter promulgated in accordance with [section 306]." (33 U.S.C. § 1316(a)(2) (emphasis added); see also, 40 C.F.R. § 122.2.)

Clean Water Act section 306 governs the development of national standards of performance for certain categories of sources. (33 U.S.C. § 1316.) As such, Congress tailored section 306 to certain narrows sectors. The national standards of performance appear as effluent guidelines in Code of Federal Regulations, title 40, chapter 1, subchapter N (commencing with part 400). The

national performance standards must be applied to "new sources" that are to be issued an NPDES permit. (33 U.S.C § 1316(b)(1)(B).)

In crafting the CEQA exemption, the Legislature explicitly incorporated the Federal new source scheme. (Wat. Code, § 13389.) The CEQA exemption exists so long as regional board is not establishing waste discharge requirements for "new sources"—i.e., in relevant part, those new sources commenced after Federal regulations establishing a national performance standard for the type of source.

Here, the Regional Board is establishing waste discharge requirements for the MS4. The Los Angeles MS4 is not a "new source" for two reasons. First, there is no national performance standard for MS4s. Second, the Los Angeles MS4 is not new in any ordinary or legal sense. The permitting for the Los Angeles MS4 falls squarely within the exemption of Water Code section 13389. There is no "new source" with a national performance standard under section 306 of the Clean Water Act that unravels the CEQA exemption. The Regional Board does not need to comply with the documentary requirements of CEQA for the issuance of the Los Angeles County MS4 permit.

N. THE DRAFT MS4 PERMIT DOES NOT VIOLATE THE PROHIBITION SET FORTH UNDER CALIFORNIA WATER CODE SECTION 13360.

The draft MS4 permit does not violate the restriction in Water Code section 13360 on the Regional Board identifying the "design" or "particular manner" in which a permittee shall comply with a permit. Water Code section 13360 restricts the Regional Board from specifying the manner of compliance with a permit. Specifically, the Regional Board may not specify the "design" or "particular manner in which compliance may be had." (Wat. Code, § 13360.) At the same time, Water Code Section 13377 provides that, notwithstanding section 13360, the Regional Board shall issue waste discharge requirements "which apply and ensure compliance with all applicable provisions of the [Clean Water Act]."

The commenters challenge the draft MS4 on two distinct levels. First, a commenter contends that the 0.75-inch volumetric standard is a design standard. In support of this contention, the commenter indicates that Water Code section 13360 precludes the Regional Board from "dictating the cure."[9] However, the 0.75-inch volumetric standard does not dictate the cure, it identifies the minimum level of protection that will prevent the harm, while affording the discharger a full range of options to meet the 0.75-inch standard. The *Tahoe Sierra* court explicitly permitted such an approach.

[9] Montevideo Letter, p. 22 (citing *Tahoe Sierra Preservation Council v. State Water Resources Control Board* (1989) 210 Cal.App.3d 1421, 1438).

In *Tahoe Sierra*, the Third Appellate District upheld a water quality control plan for the Lake Tahoe basin that placed impervious surface coverage limitations on land surrounding the lake. The plaintiffs challenged the plan on numerous grounds, including that the coverage standard created an impermissible design restriction under Water Code section 13360. The court quickly dispensed with the argument by noting that "The Plan sets a discharge prohibition – no greater discharge than would occur if the coverage standard were met." (*Tahoe Sierra, supra*, 210 Cal.App.3d at 1438.) The Court further observed that "Section 13360 is a shield against unwarranted interference with the ingenuity of the party subject to a waste discharge requirement; it is not a sword precluding regulation of discharges of pollutants." (*Ibid.*). Like the coverage standard in *Tahoe Sierra*, the 0.75-inch standard leaves to the dischargers the ingenuity in determining the design and best way to meet the standard.

The second challenge under Water Code section 13360 is an open-ended statement to the effect that any provision of the draft MS4 permit requiring the permittee to do specific things (e.g., amend ordinances, adopt or approve certain business assistance programs, or incorporate certain lease language) impermissibly specifies a "particular manner."[10] First, this contention fails for the same reason as the commenter's design argument. The permittee is left to its own ingenuity in terms of how it remedies the identified problem or carries out the activity.

Second, inasmuch as the permit seeks to implement Clean Water Act requirements, it does not violate Section 13360 with respect to specified programs that must be implemented by the municipalities to carry out Clean Water Act MS4 requirements. Many of the elements evolved out of iterative BMP identification and evaluation and recommendations identified by the permittee in its efforts to reduce pollutants to the maximum extent practicable. Reliance on BMPs requires specification of those practices that are relied upon to reduce pollution. It would be illogical to not allow the Regional Board to incorporate those recommendations into subsequent permit revisions, especially if the permittee retains final control in how the objective is achieved and the particular manner of carrying out the requirement. The program elements do not impermissibly identify a particular manner of compliance with a Regional Board order.

O. THE PERMIT DOES NOT REQUIRE A FINDING OF CONSISTENCY WITH THE AREA-WIDE WASTE TREATMENT MANAGEMENT PLAN.

Section 208 of the Federal Clean Water Act does not limit or otherwise affect the issuance of this NPDES permit. The Section 208 planning process, which has largely been subsumed by other planning processes in the development of the Basin Plan, is primarily directed at plans to identify, coordinate, and improve the needs and facilities for publicly owned treatment works and nonpoint sources. (33 U.S.C. § 1288(b); see also Rodgers, Environmental Law: Air and Water (1986) §§ 4.9, 4.21 ("EPA administered the Section 303(e) [statewide planning] provisions with gusto, effectively using them to replace Section 208 areawide planning"),

[10] Montevideo Letter, p. 22.

pp. 129, 313-314.) In addition, to the extent they are approved, the Section 208 plans are incorporated into statewide planning provisions under Section 303. (2 Rodgers, *supra*, §§ 4.9, 4.21, pp. 129, 314 (noting that a common problem is that the regional planning agencies have never generated Section 208 plans or all the elements thereof).)

To the extent the Section 208 planning process may have a residual effect on this NPDES permit, the effect would only be if the draft MS4 permit was somehow in conflict with an approved Section 208 plan. The Regional Board staff is not aware of any such conflict and the discharger has not identified how the NPDES permit could be in conflict with an approved Section 208 plan, let alone indicated how it conflicts. The Regional Board staff developed the tentative permit by implementing the previously adopted state and Federal laws and regulations designed to protect water quality. There is no need for a specific finding on consistency with a Section 208 plan.

P. THE MS4 PERMIT CONSTITUTES IMPERMISSIBLE LAND USE PLANNING BY A STATE AGENCY.

The draft MS4 permit does not impermissibly infringe on the permittees' ability to carry out their land use planning authority and responsibilities. The Regional Board staff concedes that both the Clean Water Act and California law anticipate that local land use planning and zoning will be carried out on the municipal level. (See 33 U.S.C. § 1251(b) (preserving state's primary responsibilities and rights to plan development and use of land resources).) However, the Regional Board staff strongly disagrees that the draft MS4 permit amounts to land use planning. Like the ability of USEPA to approve total maximum daily loads (TMDLs) and to establish the regulatory framework in which subsequent land use decisions will be made, the draft MS4 is an appropriate regulatory function. (See, e.g., *Pronsolino v. Marcus* (N.D. Cal. 2000) 91 F.Supp.2d 1337, 1355-1356.)

The draft MS4 places no constraints on what land uses a municipality may authorize within its jurisdiction. Further, the draft MS4 permit does not dictate how a municipality may zone its jurisdiction. Simply put, there is no land use planning or zoning done by the Regional Board through the draft MS4 permit. At most, the draft MS4 permit could be construed to place certain conditions on various types of land uses (e.g., the provision that municipalities require residential developments exceeding ten units to undertake certain mitigation measures or require developments on hillsides to undertake certain mitigation measures (Draft MS4 permit Part 4.D.5)). These conditions were developed by the Regional Board and permittees to reduce pollutants from the MS4 to the maximum extent practicable. These provisions do not invade the fundamental, municipal choice to make land use decisions and zone accordingly. As with many other Federal or State permitting and regulatory functions, the draft MS4 simply provides contours around which the municipalities must carry out their land use and zoning responsibility.

Q. THE REGIONAL BOARD MAY IMPOSE PERMIT CONDITIONS TO LIMIT PEAK FLOWS.

The Clean Water Act and the Porter-Cologne Act allow the Regional Board to include peak flow limitations for storm water entering natural channels. Contrary to a commenter's arguments, Clean Water Act case law has not uniformly "found the definition of 'pollutant' to not include the release of water which causes downstream erosion."[11] First, the commenter's citation to *National Wildlife Fed'n v. Gorsuch* (D.C. Cir. 1982) 693 F.2d 156 is inapposite. *Gorsuch* involved the issue of whether USEPA's decision not to require an NPDES permit for all dams was reasonable. The D.C. Circuit upheld USEPA's determination because it found that there was no addition of pollutants by the point source, and hence, no need for an NPDES permit. The *Gorsuch* decision simply does not apply in the MS4 context for which an NPDES permit is clearly required under the Clean Water Act. (See 33 U.S.C. § 1342(p).)

Unlike dams, which simply confine water in its natural course and then release it, an MS4 collects storm water, which contains pollutants, from throughout a jurisdiction and discharges the storm water from point sources into waters of the United States. Often the storm water discharged from the MS4 is discharged to a location that is not the natural drainage point for urban runoff. In this respect, the MS4 is distinguishable from *Gorsuch* and its progeny and is more akin to the analysis adopted by the Second Circuit in *Catskill Mountains Chapter of Trout Unlimited v. City of New York* (2d Cir. Oct. 23, 2001) ___ F.3d ___, 2001 WL 1267391, *9 (finding the addition of pollutants requiring an NPDES permit occurs when a tunnel conveys water and sediments from one water source to another). In conjunction with the express permitting requirements in the act, it is clear the NPDES permit is required and that there is an addition of pollutants from the MS4 that requires heightened regulation.

Moreover, the State Board has dismissed any contention that it is unlawful to establish peak flow controls designed to minimize erosion. Erosion limitations underlie many of the SUSMP provisions upheld by the State Board in 2000. (See SUSMP Order, p. 4.) Further, in a draft order on the San Diego County MS4, the State Board soundly rejects the argument that erosion cannot be the subject of an MS4 permit. The State Board states "It is absurd to contend that the [San Diego County MS4] permit should have ignored [the erosion] impact from urban runoff." (*In re Building Industry Association of San Diego County, et al.*, Draft Order WQ 2001-__ (November 2, 2001) at fn. 8, p. 3.)

The fundamental point that undermines the comment is that, while erosion may not trigger an NPDES requirement in certain circumstances, once an NPDES permit is required the NPDES permit provisions and California waste discharge requirements must protect beneficial uses. (33 U.S.C. § 1342(a); Wat. Code, § 13263, subd. (a).) The preamble to the USEPA Phase II storm water regulations states that for post-development, "[the] consideration of the increased flow

[11] Letter from Rufus Young (Burke, Williams & Sorensen) to Dennis Dickerson (Jul. 19, 2001), p. 14.

rate, velocity, and energy of storm water discharges must be taken into consideration in order to reduce the discharge of pollutants, to meet water quality standards, and to prevent the degradation of receiving streams." (64 Fed.Reg. 68722, 68761 (Dec. 8, 1999).) Further, the Regional Board staff has identified several studies that demonstrate the nexus between pollutant discharges and increased flow from increases in impervious surface area. The draft MS4 permit has been crafted to reduce these increased flows in natural channels to protect aquatic ecosystems and other beneficial uses within the receiving waters. Peak flow limitations are an appropriate and lawful requirement of the MS4 permit.

R. *THE REGIONAL BOARD CAN REISSUE THE NPDES PERMIT EVEN IF THE ORIGINAL PERMIT APPLICATION DID NOT CONTAIN ALL THE ELEMENTS REQUIRED IN SUBSEQUENTLY PROMULGATED APPLICATION REQUIREMENTS.*

The Regional Board may reissue the MS4 permit even if the permittees have not fulfilled a Part 1 application requirement that arose subsequent to the issuance of the permittees' initial permit. The Regional Board issued its first MS4 permit to Los Angeles County in the summer of 1990. The Phase I storm water regulations identifying Part 1 application requirements for MS4s did not become effective until December 17, 1990. (55 Fed.Reg. 47990 (Nov. 16, 1990).) As a result, the application materials that resulted in the 1990 permit issuance may not have strictly conformed with the subsequently promulgated application requirements of Code of Regulations, title 40, section 122.26(d)(1). Further, there was no requirement for the permittees to resubmit a permit application upon promulgation of the regulation because the Regional Board had already issued a permit for the subject MS4 discharges. (40 C.F.R. § 122.26(e) ("[a]ny operator of a point source required to obtain a permit under [section 122.26] that *does not have an effective* NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines . . . .")

Before the Regional Board reissued the MS4 permit in 1996, Regional Board staff reviewed the reapplication and determined that it was consistent with USEPA's Reapplication Policy, which was then in draft form. The published Reapplication Policy (61 Fed.Reg. 41698 (Aug. 9, 1996)) indicates that the MS4 reapplication for a subsequent five-year permit term should contain certain basic information, information for proposed changes, and proposed improvements to the storm water management program and monitoring program. (*Id.* at 41698-41699.) The crux of the reapplication policy is on (1) developing information that will result in an improved storm water management program, and (2) obtaining information for the permitting authority that will assist it in determining what program elements need to be revised in light of changes that have occurred since initial permit development. (*Id.* at 41698.)

The draft MS4 permit includes requirements for additional information development. The Part 1 application requirements are a component of the additional information development, but the

post-permit promulgation of application requirements does not bar the reissuance of an updated NPDES permit for the Los Angeles County MS4.

CONCLUSION

The Regional Board staff has crafted a draft MS4 permit that is grounded in applicable laws, regulations, and State Board precedents. Where appropriate, the staff has revised the draft MS4 permit to incorporate the legally necessary changes proposed by the commenters. In other respects, the staff has demonstrated a need for the permit requirements, and the Regional Board has the requisite legal authority to require the permit conditions.

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Section E

Existing Permit

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 96-054
(NPDES NO. CAS614001)

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES

R0007385

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 96-054
NPDES NO. CAS614001 (CI 6948)

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES

Findings

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board), finds:

Existing Permit and Report of Waste Discharge

1. The County of Los Angeles and 85 incorporated cities within the County of Los Angeles (see Attachment A, List of Permittees), hereinafter referred to as Permittees, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems, and water courses within the County of Los Angeles into receiving waters of the Los Angeles Basin under countywide waste discharge requirements contained in Order No. 90-079 adopted by this Regional Board on June 18, 1990. That Order also serves as a National Pollutant Discharge Elimination System (NPDES) permit (CA0061654).

2. On December 21, 1994, the Permittees submitted a Report of Waste Discharge (ROWD) as an application for re-issuance of waste discharge requirements and an NPDES permit.

Nature of Discharges and Sources of Pollutants

3. The discharges consist of surface runoff (non-storm water and storm water) from various land uses in all the hydrologic drainage basins that discharge into water bodies in Los Angeles County. The quality and quantity of these discharges vary considerably and are affected by the hydrology, geology, and land use characteristics of the watersheds; seasonal weather patterns; and frequency and duration of storm events.

4. Studies have shown that storm water runoff from urban and industrial areas typically contains the same general types of pollutants that are often found in wastewater in industrial discharges. Pollutants commonly found in storm water runoff include heavy metals, pesticides, herbicides, and synthetic organic compounds such as fuels, waste oils, solvents, lubricants, and grease. [References: *'Surface Runoff to the Southern California Bight'* and, *'Characteristics of Effluents from Large Municipal Wastewater Treatment Facilities in 1990*

and 1991,' SCCWRP Annual Report 1990-1991 and 1991-1992 (1993); Pitt and Field, *Hazardous and Toxic Wastes Associated with Urban Storm Water Runoff*, In Proceedings of the Sixteenth Annual RREL Hazardous Waste Reduction Symposium, Document No. EPA 600-9-90-037 (1990); *Storm Runoff in Los Angeles and Ventura Counties, Final Report*, California Regional Water Quality Control Board, Los Angeles Region (1988).]

These compounds can have damaging effects on both human health and aquatic ecosystems. In addition to pollutants, the high volumes of storm water discharged from MS4s in areas of rapid urbanization have had significant impacts on aquatic ecosystems due to physical modifications such as bank erosion and widening of channels. [References: *Fundamentals of Urban Storm Water Management*, Terrene Institute and USEPA, (1994); *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*, USEPA, Document No. EPA 833-B-92-002 (1992).]

5. Water Quality Assessments conducted by the Regional Board identified impairment of a number of water bodies in Los Angeles County. [Reference: *Water Quality Assessment 1996*, Regional Water Quality Control Board, Los Angeles Region (1996).] The beneficial uses of certain water bodies specifically identified in these assessments are either impaired or threatened to be impaired. Pollutants found causing impairment include: heavy metals, coliform, enteric viruses, pesticides, nutrients, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, organic solvents, sediments, trash, debris, algae, scum, and odor.

6. An epidemiological study conducted during the summer of 1995 for the Santa Monica Bay Restoration Project (SMBRP) demonstrated that there is an increased risk of acute illnesses caused by swimming near flowing storm drain outlets in Santa Monica Bay. [Reference: *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay*, SMBRP (1996).]

   Previous investigations conducted for the SMBRP showed pathogens were detected in summer runoff at four storm drain locations. [References: *Pathogens and Indicators in Storm Drains within the Santa Monica Bay Watershed*, SMBRP (1992); *Storm Drains as a Source of Surf Zone Bacterial Indicators and Human Enteric Viruses to Santa Monica Bay*, SMBRP (1991), *An Assessment of Inputs of Fecal Indicator Organisms and Human Enteric Viruses from Two Santa Monica Storm Drains*, SMBRP (1990).]

   Possible sources of pathogen contamination include pet and livestock feces, illicit sewer connections to the storm drains, leaking sewer lines, malfunctioning septic systems, and improper waste disposal by recreational vehicles, campers or transients. Additional potential sources of human pathogens in nearshore waters include sewage overflows into storm drains, small boats waste discharges, and bathers themselves.

7. The Regional Board therefore considers storm water/urban runoff discharges to be significant sources of pollutants that may be causing, threatening to cause, or contributing

to the impairment of the water quality and beneficial uses of the receiving water bodies in Los Angeles County, and, as such, need to be regulated.

Coverage and Exemptions

8. The requirements in this Order cover all areas within the boundaries of the cities as well as unincorporated areas in Los Angeles County within the jurisdiction of the Los Angeles Regional Board except the City of Avalon. The Permittees serve a population of about 11.4 million [Reference: *1990 Census of Population and Housing,* Bureau of the Census, U.S. Department of Commerce (1992)] in an area of approximately 3,100 square miles. Attachment B shows the map of the permitted area in Los Angeles County.

9. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the County of Los Angeles, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. Consequently, the Regional Board recognizes that the Permittees will not be held responsible for such facilities and/or discharges.

   For those entities within the Permittees' boundaries, the Regional Board may consider designating them as Permittees under this Order or issuing separate NPDES permits consistent with this Order. The California Department of Transportation (Caltrans), currently a Co-Permittee to Order No. 90-079, submitted an ROWD on July 3, 1995, for separate waste discharge requirements for its discharges in the County of Los Angeles and the County of Ventura. The waste discharge requirements to be issued to Caltrans will be consistent with this Order.

10. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

    a. About 34 square miles of unincorporated area in Ventura County drain into Malibu Creek, thence to Santa Monica Bay,

    b. About 9 square miles of the City of Thousand Oaks also drain into Malibu Creek, thence to Santa Monica Bay, and

    c. About 86 square miles of area in Orange County drain into Coyote Creek, thence into the San Gabriel River Watershed in the County of Los Angeles.

    The Regional Board will insure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this

Order.

11. The City of Santa Clarita and some unincorporated areas of Los Angeles County drain into the Santa Clara River Watershed, a portion of which is located in Ventura County. Discharges of municipal storm water in Ventura County are regulated under NPDES permit CAS063339 (Order No. 94-082). Successful management of the entire watershed needs coordination among the City of Santa Clarita, the County of Los Angeles, and Ventura County in developing and implementing the storm water management plan for the watershed.

12. Certain pollutants present in storm water and/or urban runoff may be contributed by activities which the Permittees cannot control. Examples of such pollutants and their respective sources are: polycyclic aromatic hydrocarbons which are products of internal combustion engine operation, nitrates from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, and natural-occurring minerals from local geology. However, Permittees can implement measures to minimize entry of these pollutants into storm water.

Bases of Waste Discharge Requirements

Federal Statutes and Regulations

13. Section 402(p) of the federal Clean Water Act (CWA), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges from MS4s to waters of the United States. Section 402(p)(3)(B) requires that permits for MS4s: ..... "(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

14. On November 16, 1990, pursuant to Section 402(p) of the CWA, the USEPA promulgated 40 Code of Federal Regulations (CFR) Part 122.26 which established requirements for storm water discharges under the NPDES program. The regulations recognize that certain categories of non-storm water discharges may not be prohibited if they have been determined not to be significant sources of pollutants.

15. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. As required by CZARA, USEPA issued *Guidance Specifying Management Measures For Sources of Non-point Pollution In Coastal Waters*, Document No. EPA-840-B-92-002 (1993). The guidance focuses on five major categories of non-point sources that impair or threaten coastal waters

nationally: (a) agricultural runoff; (b) silvicultural runoff; (c) urban runoff (including developing and developed areas); (d) marinas and recreational boating; and (e) hydromodification. This Order includes management measures for pollution from urban runoff. Thus, it provides the functional equivalence for compliance with CZARA in this area.

State Statutes and Permits

16. To facilitate compliance with federal regulations, in 1992 the State Water Resources Control Board (State Board) issued two statewide general NPDES permits: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activities Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. "Industrial Activities," as defined in 40 CFR § 122.26(b)(14)(i) through (xi), and construction activities with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or be covered by these statewide general permits by completing and filing a Notice of Intent with the State Board.

17. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by Regional Boards shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; and, the need to prevent nuisance.

Regional Board Water Quality Control Plans and Policies

18. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994). 'The Basin Plan, which is incorporated in this Order by reference, specifies the beneficial uses of receiving waters and contains both narrative and numerical water quality objectives for the receiving waters in the County of Los Angeles.

19. This Regional Board has implemented a Watershed Management Approach to address water quality protection in the region. The objective of the Watershed Management Approach is to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. It emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available.

20. To implement the Watershed Management Approach, as well as facilitate compliance with this Order, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

a. Malibu Creek and Rural Santa Monica Bay WMA
b. Ballona Creek and Urban Santa Monica Bay WMA
c. Los Angeles River WMA
d. San Gabriel River WMA
e. Dominguez Channel/Los Angeles Harbor WMA
f. Santa Clara River WMA

Attachment A, shows the list of Permittees under each Watershed Management Area.

Other Bases

21. The SMBRP developed a Bay Restoration Plan to serve as a blueprint for Santa Monica Bay's recovery, *'The Santa Monica Bay Restoration Plan*, SMBRP (1994).' The Plan recommends actions that the Regional Board should integrate into the storm water permit and provides guidance to the Regional Board for the development of a strong, environmentally sound storm water program.

22. The Regional Board is the enforcing authority in the Los Angeles region for the two statewide general permits, described in Finding 16, which regulate discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites are also regulated under local laws and regulations.

23. The ROWD submitted by the Permittees includes:

a. Summary of Best Management Practices (BMP) implemented;
b. Storm water management plans for the six WMAs;
c. Countywide evaluation of existing storm water quality data; and
d. Monitoring Program.

The ROWD served as partial basis for the development of the Storm Water Management Program (SWMP) requirements of this Order.

24. A USEPA review of activities conducted by the automotive service sector indicates that automotive service facilities present a significant potential for the discharge of pollutants into storm water. [Reference: *Storm Water Discharges Potentially Addressed by Phase II of the NPDES, Report to Congress*, USEPA (1995).]

25. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and retail gasoline stations), or facilities which perform vehicle repair, maintenance, or fueling (such as retail gasoline outlets with service bays) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water*

Runoff Study, Western States Petroleum Association and American Petroleum Institute, (1994); Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices, Final Report, County of Sacramento (1993).]

Studies also suggest that the implementation of best management practices can reduce storm water pollutants from these types of facilities. [References: *Storm Water Best Management Practices for Retail Gasoline Outlets*, Western States Petroleum Association, (1996); and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, Document No. EPA 840-B-92-002 (1992).]

26. A review of industrial waste/pretreatment records in Los Angeles County on illicit discharges indicate that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations.

Objectives and Requirements of this Order

27. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires implementation of BMPs intended to reduce pollutants in storm water and urban runoff such that ultimately their discharge will neither cause violations of water quality objectives nor create conditions of nuisance in receiving waters.

28. The Regional Board recognizes the challenges unique to regulating storm water discharges through municipal storm sewer systems, including intermittent and variable nature of discharges, difficulties in monitoring, and limited physical control over the discharge, and that it will require adequate time to implement and evaluate the effectiveness of best management practices required in this Order and to determine whether they will adequately protect the receiving water.

29. This Order designates the County of Los Angeles as the Principal Permittee. The Principal Permittee will coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for insuring compliance of any individual permittee.

30. Each Permittee is only responsible for the implementation of the appropriate storm water management program developed pursuant to the requirements of this Order, and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. A Permittee is required to comply only with the requirements of this Order applicable to discharges which originate from places within its boundaries over which it has authority to enforce the requirements of this Order.

31. In the ROWD, the Permittees proposed the formation of a countywide Executive Advisory Committee (EAC), and a Watershed Management Committee (WMC) for each of the WMAs.

The EAC and the six WMCs are now functional.

The EAC's main role is to facilitate programs within each watershed and to enhance consistency among all of the programs. Similar to the Principal Permittee, the EAC is not responsible for insuring compliance of any individual permittee with the requirements of this Order.

The WMCs, as required in this Order, will provide the leadership framework to facilitate development of the Watershed Management Area Plans and foster cooperation among Permittees.

32. The USEPA issued a guidance manual for submittal of a Part II application for MS4s. [Reference: *Guidance Manual for the Preparation of Part of the NPDES Applications for Discharges from Municipal Separate Storm Sewer Systems*, EPA Document No. 833-B-92-002 (1992).] The manual describes the components of a municipal storm water program that will meet the requirements of 40 CFR Part 122.26.

33. The SWMP required in this Order builds upon the foundation established in Order No. 90-079, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SWMP includes requirements with compliance dates to provide specificity and certainty of expectations. It also includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SWMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable.

34. The main focus of the SWMP is pollution prevention through education, public outreach, planning, and implementation of BMPs. Successful implementation of the provisions of the SWMP will require cooperation and coordination of all public agencies in each Permittees' organization, among Permittees, and the regulated community. To minimize cost, the Permittees are encouraged to utilize their existing organizational framework to implement the various activities required in this Order.

35. As required in Order No. 90-079 and pursuant to 40 CFR Part 122.26(d)(2)(i), this Order requires Permittees to demonstrate that they possess the legal authority to implement and enforce the storm water programs within their respective jurisdictions. If Permittees decide that the legal authority will be through ordinances, Permittees are encouraged to develop a model ordinance to minimize cost and promote countywide consistency.

The Permittees are encouraged to enter into interagency or interjurisdictional agreements or other means to control the discharge of pollutants from one portion of the MS4 to another portion of the MS4.

36. Order 90-079 required the development and implementation of BMPs to minimize pollutants in storm water. In 1993, the Regional Board approved 13 baseline BMPs to facilitate the implementation of countywide minimum requirements, encourage countywide consistency, and provide a minimum measure of progress. These BMPs were selected from Permittees' MS4 programs. Twelve of these 13 BMPs have been incorporated into this Order: a) catch basin labeling; b) public illicit discharges reporting; c) construction storm water ordinance; d) public education and outreach; e) catch basin cleanout; f) roadside trash receptacles; g) street sweeping; h) proper disposal of litter, lawn clippings, pet feces; i) removal of dirt, rubbish and debris at homes and businesses; j) oil, glass, and plastics recycling; k) proper disposal of household hazardous wastes; and l) proper water use and conservation. The thirteenth BMP (inspections of vehicle repair shops, vehicle body shops, vehicle parts and accessories, gasoline stations, and restaurants) has been changed to educational site visits.

37. Each Permittee owns and operates facilities within its jurisdiction that may impact storm water quality. Each Permittee, under this Order is required to implement BMPs to reduce pollutant discharges from these activities and/or facilities.

38. This Order provides the flexibility for the Permittees to petition the Regional Board Executive Officer to substitute a BMP or requirement under the SWMP with an alternative BMP, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP in meeting the objectives of this Order.

39. This order contemplates that the Permittees are responsible for considering potential stormwater impacts when making planning decisions. However, neither this order nor any of its requirements are intended to restrict or control local land use decision-making authority.

Others

40. The Regional Board will provide the Principal Permittee with an updated list of NPDES permits on a quarterly basis through the Regional Board's electronic bulletin board which may be accessed at (213) 266-7663, or other available methods, for use by each Permittee to identify permitted sources of active non-storm water discharges into the MS4.

41. This action to adopt and issue waste discharge requirements and a NPDES permit is exempt from the provisions of the California Environmental Quality Act; Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Section 13389 of the California Water Code.

Public Process

42. The Regional Board will notify interested agencies and interested persons of the availability of reports, plans, and/or schedules of implementation submitted pursuant to the requirements of this Order. The Regional Board will consider comments prior to taking any

action on the submitted documents as provided for in this Order.

43. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the federal NPDES program, and the California Water Code and Title 23 of the California Code of Regulations for the issuance of waste discharge requirements.

44. The Regional Board staff solicited comments on early drafts of this Order from Permittees, interested agencies, and interested persons. In addition, Regional Board staff met with representatives from Permittees, business associations, environmental groups, and other interested persons to discuss permit requirements and attempt to resolve critical issues. Regional Board staff also solicited feedback from the SMBRP Oversight Committee on early drafts of the Order, attended Permittee watershed meetings, made presentations to government officials, and conducted and/or participated in public workshops to hear concerns.

The Regional Board has notified Permittees, interested agencies, and interested persons of its intent to prescribe waste discharge requirements and an MS4 NPDES permit for storm water discharges, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

The Board, in a public hearing, heard and considered all comments pertaining to the tentative waste discharge requirements. This order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, or amendments thereto, and shall take effect at the end of 15 days from the date of its adoption, provided the Regional Administrator of the U.S. Environmental Protection Agency, Region IX, has no objections.

Requirements

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act, as amended, and regulations and guidelines adopted thereunder, shall comply with the following for the areas within their boundaries and subject to their regulatory jurisdiction, in the County of Los Angeles.

Part 1. DISCHARGE PROHIBITIONS AND RECEIVING WATER LIMITATIONS

I. Discharge Prohibition

Each Permittee shall, within its jurisdiction, effectively prohibit non-storm water discharges into the municipal separate storm sewer system (MS4) and watercourses, except where such discharges are:

A. In compliance with a separate individual or general NPDES permit; or

B. Identified and in compliance with Part 2.II.C (Non-storm Water Discharges), of this Order; or

C. Discharges originating from federal, state or other facilities which the Permittee is pre-empted from regulating.

Compliance with this Order through timely development and implementation of programs described herein shall constitute compliance with this prohibition.

II. Receiving Water Limitations

The water quality objectives and water quality standards applicable to receiving waters in Los Angeles County contained in the Basin Plan, '*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, California Regional Water Quality Control Board, Los Angeles Region, Monterey Park (1994),' and amendments thereto, shall serve as receiving water limitations for discharges covered under this Order. It is the purpose of this Order that the discharge of storm water, or non-storm water, from a municipal separate storm sewer system (MS4) for which a Permittee is responsible not cause nuisance, continuing or recurring impairment of beneficial uses, or exceedances of water quality objectives in the receiving waters.

Timely and complete implementation by a Permittee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations. However, if the Integrated Receiving Waters Impact Report required in this Order (Part 2.VII.D.) and/or other available information show that discharges authorized under this Order still cause or contribute to the impairment of the beneficial uses or exceedances of water quality objectives, Permittees, as part of their Report of Waste Discharge for the renewal of this Order, shall submit revised storm water management programs that are watershed-specific and will increase the likelihood of preventing future exceedances of water quality objectives.

Part 2. STORM WATER MANAGEMENT PROGRAM REQUIREMENTS

The objective of the Storm Water Management Program requirements prescribed in this Order is to reduce pollutants in discharges to the maximum extent practicable in order to attain the water quality objective and protect the beneficial uses of receiving waters in Los Angeles County. Each Permittee shall implement within its jurisdiction the Storm Water Management Program requirements of this Order and those of the Countywide Storm Water Management Plan (CSWMP) or Watershed Management Area Plan (WMAP) that will be developed pursuant to this Order.

The CSWMP is the unified plan consisting of programs developed under the Storm Water Management Program Requirements of this Order.

The WMAP is the comprehensive implementation plan for a specific Watershed

Management Area (WMA) based on the requirements of this Order, the CSWMP, and any other applicable actions that address pollutants of concern and other water quality issues unique to that WMA toward the objective of reducing pollutants in discharges to the maximum extent practicable. Upon approval by the Executive Officer, the WMAP will supersede the CSWMP.

If there is any conflict or discrepancy between information in the tables and the narrative provisions of this Order, the narrative provisions prevail.

I. Program Management

Table 1 shows the summary of program management requirements and their corresponding compliance dates.

Table 1
Program Management Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Submit completed CSWMP	I.A.8	✓		Upon completion of development of all programs but not later than July 30, 1999.	Executive Officer
Develop a WMAP for the WMA	I.C.3.d	✓	(through WMCs)	Within 180 days prior to expiration of Order (February 1, 2001) (pending the approval of the CSWMP by Executive Officer)	Executive Officer
Identify additional SIC groups	I.C.3.g		(through WMCs)	Established through WMCs	N/A
Prepare budget summary format	I.D.1	✓		3 (October 30, 1996)	Executive Officer
Submit annual budget summary to Principal Permittee	I.D.2		✓	60 days after budget adoption	Executive Officer
Demonstrate legal authority	I.E.2		✓	120 days (November 28, 1996)	Executive Officer

A. Responsibilities of the Principal Permittee

The County of Los Angeles is hereby designated as the Principal Permittee, and as such shall:

1. Coordinate permit activities among permittees and act as liaison between Permittees and the Regional Board on general permit issues;

2. Provide personnel and fiscal resources for the development and update of the CSWMP and WMAPs and their components;

3. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part 2.I.C upon designation of representatives;

4. Provide technical and administrative support for committees that will be organized to implement this Order;

5. Implement the Countywide Monitoring Program required in this Order;

6. Provide personnel and fiscal resources for the preparation and submittal to the Regional Board of annual reports, and summaries of other reports required under this Order;

7. Comply with the "Responsibilities of the Permittees" in Part 2.I.B; and

8. Submit to the Regional Board the CSWMP upon completion of the development of all programs under the SWMP requirements.

B. Responsibilities of the Permittees

Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of SWMP and CSWMP and their amendments;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of this Order applicable to such Permittee in an efficient and cost-effective manner;

3. Participate in the development and, if necessary, the update of the CSWMP;

4. Submit in a timely manner to the Principal Permittee an annual report on its implementation of the SWMP and CSWMP;

5. Appoint a technically knowledgeable representative to the appropriate WMC;

6. Participate in the development of the WMAP for its respective watershed management area through its WMC, and shall implement said WMAP upon approval by the Executive Officer; and

7. Work with other agencies, to the extent necessary, and submit a report to the Executive Officer on recommendations to resolve any conflicts identified between the provisions of this Order and the requirements of

other regulatory agencies, if the Permittee considers it necessary.

C. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.

2. The WMC's chair and secretary shall be chosen by the WMC. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a. Facilitate cooperation and exchange among Permittees;

b. Establish goals and objectives for the WMA;

c. Prioritize pollution control efforts considering beneficial use impairment as a basis;

d. Participate in the development of the WMAP for its respective WMA after the CSWMP is completed;

e. Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the CSWMP and the WMAP;

f. Coordinate and facilitate the submittal of completed reporting forms to the Principal Permittee for report integration, and assist in the preparation of Annual Reports by the Principal Permittee on storm water management activities within the WMA for submittal to the Executive Officer;

g. Identify, as part of the industrial/commercial Source Identification program, additional SIC industrial/commercial groups selected as priority to be included in the database described in Part 2.V.B.1.a. The following criteria shall be considered in the identification process:

i. Extent of exposure of the industrial/commercial activity to storm water;

ii. Types and quality of non-storm water discharges;

iii. Similarity of industrial/commercial activity to industrial activity

regulated under the USEPA Phase 1 facilities;

iv. Types of chemicals and wastes generated that can contaminate storm water;

v. Existence of duplicate regulatory programs with other agencies that emphasize waste management and minimize exposure of the industrial/commercial activity to storm water;

vi. Number of facilities in the WMA;

vii. Professional understanding of the industrial/commercial sector's waste management practices;

viii. Experience of local agency industrial waste inspection programs; and

ix. Any other information that indicates a significant potential for contamination of storm water.

D. Fiscal Resources

1. The Principal Permittee, in consultation with the Permittees, shall prepare a budget summary format not later than October 30, 1996, for use by each Permittee to report resources available to implement the SWMP.

2. Each Permittee shall submit to the Principal Permittee a summary of resources dedicated for storm water program implementation, not later than 60 days after budget adoption by the Permittee's elected local governing body. A Permittee may provide all necessary data in an alternate format which includes the same information unless directed otherwise by the Executive Officer.

E. Legal Authority

1. Pursuant to the time frame established in E.2, each Permittee shall demonstrate that it possesses the legal authority necessary to control discharges to and from those portions of the Municipal Separate Storm Sewer System (MS4) over which it has jurisdiction so as to comply with this Order. This legal authority may be demonstrated by either a single ordinance or a single guidance document containing all the applicable statutes, ordinances, permits, contracts, orders or agreements which govern a Permittee's storm water management activities, as required by 40 CFR 122.26(d)(2)(i).

Each Permittee shall either individually or collectively possess the legal authority to:

a. Control the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity, unless permitted under a separate NPDES permit, through the following prohibitions and requirements:

i. Prohibit the discharge of untreated wash waters to the MS4 when gas stations, auto repair garages, or other types of automotive service facilities are cleaned;

ii. Prohibit the discharge of untreated wastewater to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

iii. Prohibit to the maximum extent practicable, discharges to the MS4 from areas where repair of machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze is undertaken;

iv. Prohibit the discharges of untreated runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

v. Prohibit the discharge of commercial/municipal swimming pool filter backwash to the MS4;

vi. Prohibit the discharge of untreated runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

vii. Prohibit or control to the maximum extent practicable washing impervious surfaces in industrial/commercial areas which results in a discharge of untreated runoff to the MS4, unless specifically required by State or local health and safety codes;

viii. Prohibit the discharge from washing out of concrete trucks to the MS4;

ix. Require regular sweeping or other equally effective measures to remove debris from industrial/commercial motor vehicle parking lots with more than twenty-five parking spaces that are

located in areas potentially exposed to storm water; and,

x. Require the use of BMPs or placement of machinery/ equipment that is to be repaired or maintained such that leaks, spills and other maintenance-related pollutants are not discharged to the MS4;

b. Prohibit illicit discharges and illicit connections to the MS4 and require removal of illicit connections.

c. Control spills, dumping, or disposal of materials, including the following, to the MS4 through the following prohibitions and requirements:

i. Prohibit littering;

ii. Prohibit the disposal of leaves, dirt, or other landscape debris into a storm drain;

iii. Prohibit the discharge to the MS4 of any pesticide, fungicide, or herbicide banned by the USEPA or the California Department of Pesticide Regulation;

iv. Require proper disposal of food wastes;

v. Prohibit the disposal of hazardous wastes into trash containers used for municipal trash disposal so as not to cause a discharge to the MS4; and

vi. Require, in areas exposed to storm water, the use of BMPs and/or removal and lawful disposal of all fuels, chemicals, fuel and chemical wastes, animal wastes, garbage, batteries, and other materials which have potential adverse impacts on water quality.

The above requirements (Part 2.I.E.1.) do not require inspection of private property. Legal authority is necessary, however, so that if the Permittee becomes aware of situations associated with private property that cause obvious discharges of prohibited materials to the MS4 or pose the potential for such discharges, the Permittee has the legal authority to abate such discharges.

2. Each Permittee shall:

Provide to the Principal Permittee for submittal to the Executive Officer, not later than November 28, 1996, copies of ordinances, regulations, and other legal documents establishing legal authority, or in the alternative:

a. A statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order, referencing that legal authority with specificity; and/or

b. If Part 2.I.E.2.a. is only partially fulfilled, a timely schedule for obtaining adequate legal authority to comply with this Order, enumerating, with specificity, the legal authority that remains to be obtained.

F. Best Management Practice (BMP) or Program Substitution or Elimination

A Permittee may petition the Executive Officer to:

1. Substitute any BMP or program identified in this Order, the CSWMP, or the WMAP, if the Permittee can document that:

   a. The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

   b. The fiscal burden of the original BMP or program is substantially greater than the proposed alternative, but does not achieve a substantially greater improvement in storm water quality; and,

   c. The proposed alternative BMP or program will be implemented within a similar period of time.

2. Eliminate any BMP or program identified in this Order, the CSWMP, and/or the WMAP, if the Permittee can document that:

   a. The BMP or program is not technically feasible and no substitute is available; or

   b. The cost of implementation outweighs the pollution control benefits; or

   c. The BMP or program is not applicable in the Permittee's jurisdiction.

The Executive Officer may approve or disapprove the petition in accordance with

Part 2.I.G and 2.I.H.

G. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the Regional Board under this Order. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action.

1. Storm water program documents, including progress reports, guidelines checklists, BMPs, databases, program summaries, and implementation and compliance schedules, developed by the Principal Permittee or a Permittee under the provisions of this Order, shall be submitted to the Executive Officer or the Regional Board, where required for approval. The process is as follows:

   a. For documents that require Executive Officer's approval, the Executive Officer will notify the Principal Permittee and/or Permittee of the results of the review and approval or disapproval within 120 days. If the Executive Officer has not responded within 120 days following submittal, the Permittee shall notify the Regional Board of its intent to implement the program components as submitted. If after 10 days the Executive Officer has not responded, the Permittee will implement the submitted program and the Executive Officer may not make modifications; and,

   b. Documents that require formal Regional Board approval will undergo public review and comment before Board consideration at a public meeting.

2. If the Executive Officer determines that a Permittee's storm water program is insufficient to meet the provisions of this Order, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee, with specific information in support of the determination. The NIMC shall include a time frame by which the Permittee must meet with Regional Board staff. The processes are as follows:

   a. The Permittee, upon receipt of a NIMC, shall meet and confer with Regional Board staff to demonstrate that the Permittee's program is sufficient to meet the requirements of this Order; and, if not, seek clarification on the steps to be taken to completely meet the provisions of this Order. The meet and confer period will conclude with either a notice of program sufficiency to the Permittee, or the

submittal to and acceptance by the Executive Officer of a written "Storm Water Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of this Order;

b. The Executive Officer will approve or reject the submitted SPCA or an amended SPCA within 120 days. Rejection of an SPCA by the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have sixty (60) days to remedy the specified deficiency and resubmit the SPCA. If the Executive Officer has not responded within 120 days following submittal of an SPCA, the Permittee shall notify tne Executive Officer of its intent to implement the SPCA as submitted. If after 10 days the Executive Officer has not responded, the Permittee will implement the submitted SPCA and the Executive Officer may not make modifications;

c. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer on progress made under the SPCA. The frequency of progress report submittal shall be quarterly unless otherwise prescribed by the Executive Officer. Failure to comply with the terms and conditions of the SPCA shall constitute a violation of this Order and shall be cause for enforcement action by the Regional Board; and,

d. The Executive Officer shall not take enforcement action against a Permittee until the Executive Officer has notified the Permittee in writing that the Administrative Review Process has been exhausted and that the Executive Officer has determined that a violation exists warranting enforcement.

H. Public Review

1. The Principal Permittee shall maintain a current mailing list of interested parties, organized by WMAs, for distribution of documents that require the Executive Officer's approval. The Executive Officer will provide the Principal Permittee with the initial list of interested parties.

2. The Principal Permittee shall distribute for public comment the initial CSWMP, WMAPs, and other storm water program requirements that are submitted to the Executive Officer or the Regional Board for approval.

Interested parties wishing to have their comments considered prior to Regional Board action on these documents must submit their comments in writing to the Regional Board not later than 45 days after the Principal Permittee has made the document available to the public. The date of public release is also the date of submittal to the Regional Board. This 45-day comment period is part of the 120 day review period for documents submitted for Executive Officer's approval.

II. Illicit Connections and Illicit Discharges

Table 2 on the following page shows the summary of requirements under this section and corresponding compliance dates.

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Table 2
Illicit Connections and Discharges Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop model illicit connection elimination program	II.A.1	✓		8 months (March 31, 1997)	Executive Officer
Implement illicit connection elimination program	II.A.2		✓	≤ 36 months (July 30, 1999)	N/A
Develop model illicit discharge elimination program	II.B.1	✓		8 months (March 31, 1997)	Executive Officer
Implement illicit discharge elimination program	II.B.2		✓	≤ 36 months (July 30, 1999)	N/A
Conduct a study of municipal street and municipal sidewalk washing	II.C.3		✓ City of Los Angeles	Within 12 months from Executive Officer date of determination	Executive Officer
Submit BMPs and schedule for implementation	II.C.3		✓ City of Los Angeles	Within 12 months from Executive Officer date of determination	Regional Board
Implement non-storm water management program BMPs	II.C.3		✓	In accordance with RB approved schedule ≤ 36 months (July 30, 1999)	N/A
Develop standard program for public reporting of illicit discharges and illicit disposal practices	II.D.1	✓		8 months (March 31, 1997)	Executive Officer
Implement standard program to facilitate public reporting of illicit discharges and illicit disposal practices	II.D.2		✓	≤ 36 months (July 30, 1999)	N/A
Develop standard program for reporting hazardous substances	II.D.3	✓		8 months (March 31, 1997)	Executive Officer
Implement standard program for reporting hazardous substances	II.D.4		✓	≤ 36 months	N/A

A. Illicit Connections

1. The Principal Permittee, in consultation with the Permittees, shall develop a countywide model program for elimination of illicit connections to the MS4 not later than March 30, 1997. The program shall include, at a minimum:

   a. Standardized storm drain inspection procedures, and illicit connection identification and elimination procedures;

   b. Methods to prioritize potential problem areas, including, but not limited to old commercial/industrial areas, and areas with heavy industry listed under subchapter N of 40 CFR Parts 405 - 471;

   c. Methods to utilize results of field screening activities, and other appropriate information;

   d. Standardized record keeping to document illicit connections; and

   e. Enforcement procedures to terminate illicit connections.

2. Each Permittee, based on the countywide model program, shall develop and implement as appropriate a program to identify and eliminate illicit connections to the maximum extent practicable not later than four (4) months after the commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

B. Illicit Discharges

The primary responsibility for cleanup and removal of illicit discharges of pollutants to the MS4 shall be with the owner/operator of the discharging facility or site. Nothing in this Order shall be interpreted to limit or in any way prevent action by a Permittee against the party responsible for the illicit discharge.

1. The Principal Permittee, in consultation with the Permittees, shall develop a countywide model illicit discharges elimination program not later than March 31, 1997. The program shall include, at a minimum:

   a. Standardized enforcement procedures, including administrative and judicial, to eliminate illicit discharges;

b. Standardized procedures for investigation, containment and cleanup of spills, which include a procedure to ensure that sewage treated with disinfection agents will not be discharged into the storm drain system to the extent practicable;

c. Methods to prioritize problem areas of illicit disposal where inspection, cleanup, and enforcement are necessary to prevent the discharge of contaminants;

d. Standardized procedures to educate inspectors, maintenance workers, and other field staff to notice illicit discharges during the course of their daily activities, and report such occurrences;

e. Standardized record keeping system to document illicit discharges; and,

f. Industrial/commercial education and outreach materials to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices.

2. Each Permittee shall, based on the countywide model program, develop and implement, as appropriate, a program to identify and eliminate illicit discharges not later than four (4) months after commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval, but in no event shall implementation be later than July 30, 1999.

C. Non-Storm Water Discharges

Non-storm water discharges in compliance with a separate NPDES permit/Waste Discharge Requirements (WDR) or granted a discharge exemption by the Regional Board, the Executive Officer, or the State Water Resources Control Board are not prohibited under this Order.

1. Exempted Discharges

The following non-storm water discharges need not be prohibited:

a. Flows from riparian habitats or wetlands;
b. Diverted stream flows;

c. Springs;
d. Rising ground waters;
e. Uncontaminated groundwater infiltration; and
f. Discharges or flows from emergency fire fighting activities.

The Executive Officer, upon presentation of evidence in accordance with Part 2.II.C.4., may include other categories of non-storm water discharges under this subsection.

2. Conditionally Exempted Discharges

The following non-storm water discharges need not be prohibited. However, if they are identified by either a Permittee or the Executive Officer as being significant sources of pollutants to receiving waters, then appropriate BMPs to minimize the adverse impacts of these sources shall be developed and implemented under the CSWMP or the WMAPs:

a. Landscape irrigation;
b. Water line flushing;
c. Potable water sources provided the discharges are managed in accordance with an approved Industry-wide Standard Pollution Prevention Practices developed by the American Water Works Association, California-Nevada Section, or equivalent document; and in compliance with any requirements established by the Permittee(s);
d. Foundation drains;
e. Footing Drains;
f. Air conditioning condensate;
g. Irrigation water;
h. Lawn watering;
i. Water from crawl space pumps;
j. Dechlorinated swimming pool discharges;
k. Individual residential car washing; and,
l. Street washing (including sidewalk washing).

The Executive Officer, upon presentation of evidence in accordance with Part 2.II.C.4., may include other categories of non-storm water discharges under this subsection.

3. Designated Discharges

Municipal street washing and municipal sidewalk washing discharges have been determined by the Executive Officer to be potential sources of pollutants of concern. The City of Los Angeles will conduct a study to characterize municipal street washing and sidewalk washing, assess the

impacts of such activities, and recommend appropriate BMPs to control any adverse impact. The City of Los Angeles will submit its recommendations to the Executive Officer not later than one year from adoption of this Order. A BMP implementation schedule shall be included where appropriate.

The Regional Board will determine within four (4) months of the City of Los Angeles' submittal which BMPs, if any, the Permittees shall implement, and approve any necessary schedule of implementation, provided the implementation date is not later than July 30, 1999.

The Executive Officer, upon presentation of evidence, may include other categories of non-storm water discharges under this subsection.

4. Procedures for Exemption

A Permittee may identify and describe additional categories of non-storm water discharges to be considered by the Executive Officer for exemption from the Discharge Prohibitions. The criteria to be considered for a request for exemption include one or more of the following:

a. Documentation that the discharge is not a significant source of pollutants to receiving waters or does not cause impairment of beneficial uses of receiving waters;

b. Special circumstances that have been defined in which the discharge has been found not to be a significant sources of pollutants to, or does not cause impairment of beneficial uses of receiving waters;

c. Specific BMPs, where determined feasible, that have been identified to reduce pollutants in the discharge to the maximum extent practicable and minimize adverse impacts of such source, with an implementation schedule; or

d. Established procedures to ensure BMP implementation, including an implementation schedule, performance standards, monitoring and record keeping.

The exemption request for additional non-storm water discharges may be submitted, beginning with the first Annual Report. The exemption becomes effective upon approval by the Executive Officer.

D. Public Reporting

1. The Principal Permittee, in consultation with the Permittees, shall develop

a countywide standard program to promote, publicize, and facilitate public reporting of illicit discharges and illicit disposal practices not later than March 31, 1997. The program may include, but not be limited to:

a. A system to receive incoming complaints;

b. A communication network to link Permittees so that action can be coordinated and complaints can be investigated promptly; and

c. A system to notify the complainant of any action taken, if appropriate.

2. Each Permittee shall implement the countywide illicit discharges and illicit disposal reporting program not later than four months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

3. The Principal Permittee, in consultation with the Permittees, shall develop a countywide program not later than March 31, 1997, for reporting incidents of "reportable quantity" of hazardous substances entering the MS4. The incidents shall be reported to the State of California Office of Emergency Services (OES) [current number, (800) 852-7550] and the Federal Hazardous Response Center [current number, (800) 424-8802].

4. Each Permittee shall implement the countywide program for reporting hazardous substances entering the MS4, not later than four months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

III. Development Planning and Construction

A. Development Planning

Table 3 on the following page shows the summary of requirements under this section and corresponding compliance dates.

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Table 3
Development Planning Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop a model system for prioritization of development projects	III.A 1.a	✓		18 (January 30, 1998)	Executive Officer
Implement a system for prioritization of development projects	III.A.1.a		✓	≤ 36 months (July 30, 1999)	N/A
Develop list of recommended BMPs for development projects (countywide guidelines)	III.A.1.b	✓		18 (January 30, 1998)	Regional Board
Develop Standard Urban Storm Water Mitigation [illegible] (SUSMP)	III.A.1.c	✓		6 months after Regional Board approval of countywide guidelines	Executive Officer
Develop and submit a schedule of implementation for a program for planning measures consistent with the Standard Urban Storm Water Mitigation Plan (SUSMP) for priority projects	III.A.2		✓	≤ 36 months (July 30, 1999)	N/A
Develop guidelines for preparing/reviewing CEQA documents	III.A.3.a	✓		18 (January 30, 1998)	Executive Officer
Incorporate CEQA guidelines into internal procedures	III.A.3.a		✓	≤ 36 months (July 30, 1999)	N/A
Include watershed and storm water management consideration into General Plan revisions	III.A.4 3.b		✓	During General Plan revisions	N/A
Develop model program for developers	III.A.4	✓		18 (January 30, 1998)	Executive Officer
Implement developer [illegible]ation program	III.A.4		✓	≤ 36 months (July 30, 1999)	N/A

1. Countywide Development Planning Guidance

The Principal Permittee, in consultation with the Permittees, shall develop the following development planning guidance materials for use during planning and permitting of all development projects requiring discretionary approval:

a. A model documented system, such as a checklist, for determining priority projects as well as a list of specifically exempt projects not later that January 30, 1998. Priority and exempt projects are defined as follows:

i. Priority Projects are development and redevelopment projects requiring discretionary approval which the Building Official (or equivalent municipal authority) determines may have a potential significant effect on storm water quality.

ii. Exempt Projects are development and redevelopment projects which the Building Official (or equivalent municipal authority) determines will not have a potential significant impact on storm water quality.

The documented system shall consider location of the project with respect to designated environmentally sensitive areas and the slope and erosion potential of the site and surrounding areas.

Each Permittee shall incorporate a substantially similar system into its procedures not later than six months after commencement of its next fiscal year following approval of the of the documented system by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

b. A list of recommended BMPs not later than January 30, 1998. The list of BMPs shall include:

i. Site planning practices;
ii. Post-construction best management practices; and
iii. Redevelopment and infill practices.

Consideration shall be given to the type of development and the potential for storm water pollution when determining the applicability of BMPs. Cost effectiveness, ease of maintenance, and consistency with other environmental mandates may also be considered.

For developments where increased storm water discharge rates will result in an increase in downstream erosion potential, the list of recommended BMPs shall include those BMPs which can be used to maintain peak runoff rates at pre-development levels to the maximum extent feasible.

The list of recommended BMPs shall be submitted to the Regional Board for approval.

c. Standard Urban Storm Water Mitigation Plans (SUSMPs) and guidelines for their preparation not later than six months after Regional Board approval of the BMPs in Part 2.III.A.1.b. The SUSMPs shall incorporate the appropriate elements of the recommended BMPs list. At the minimum, SUSMPs and guidelines shall be prepared for the following development categories:

i. a 100+ home subdivision;
ii. a 10-home subdivision;
iii. a 100,000+ square-foot commercial development;
iv. an automotive repair shop;
v. a retail gasoline outlet;
vi. a restaurant; and
vii. a hillside-located single-family dwelling.

2. Planning Control Measures

Each Permittee shall develop a program on planning control measures for priority projects (Part 2.III.A.1.a) consistent with the programs developed under Part 2.III.A.1.b. & c.. Each Permittee shall initiate implementation of its program not later than six months after commencement of its next fiscal year following approval of the model Standard Urban Storm Water Mitigation Plans by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be initiated later than July 30, 1999. Each Permittee shall require that the project applicant submit an Urban Storm Water

Mitigation Plan appropriate and applicable to the project, and that the Permittee approve the Plan prior to the issuance of any grading or building permit. The Urban Storm Water Mitigation Plan shall incorporate by detail or reference appropriate post-construction BMPs to:

a. Implement, to the maximum extent practicable, requirements established by appropriate governmental agencies under CEQA, Section 404 of the Clean Water Act, local ordinances and other legal authorities intended to minimize impacts from storm water runoff on the biological integrity of natural drainage systems and water bodies;

b. Maximize, to the maximum extent practicable, the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Minimize, to the maximum extent practicable, the amount of storm water directed to impermeable areas and to the MS4;

d. Minimize, to the maximum extent practicable, parking lot pollution through the use of appropriate BMPs such as retention, infiltration, and good housekeeping;

e. Establish reasonable limits on the clearing of vegetation from the project site including, but not limited to, regulation of the length of time during which soil may be exposed and, in certain sensitive cases, the prohibition of bare soil; and

f. Provide for appropriate permanent controls to reduce storm water pollutant load produced by the development site to the maximum extent practicable.

The Permittee may refer applicants to the *'California Storm Water Best Management Practice Handbooks,* California Storm Water Quality Task Force, Sacramento, CA (1992)' and its revisions; the Countywide Storm Water Management Plan; *'USEPA Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Issued under the Authority of Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990,* Document No. EPA 840 B 92-002 (1993),'; and similar manuals for specific guidance on selecting post-construction BMPs for reducing pollutants in storm water discharges.

3. Planning Process

In order to integrate storm water management considerations into

discretionary development projects at the time that they are first proposed to jurisdictions, and to support other provisions of this Order:

a. The Principal Permittee, in consultation with the Permittees, shall develop storm water management guidelines for use in preparing/reviewing CEQA documents, and in linking storm water quality mitigation conditions to local discretionary project approvals not later than January 30, 1998.

The guidelines shall address the preservation of areas that provide water quality benefits such as riparian corridors and wetlands and shall promote protection of the biological integrity of drainage systems and water bodies.

Each Permittee shall review the guidelines for the purpose of making appropriate modifications in their internal procedures not later than six months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

b. Each Permittee shall include watershed and storm water management considerations in the appropriate elements of the Permittee's General Plan, whenever said elements are significantly rewritten. Appropriate elements may include the following:

i. Conservation; and/or
ii. Open space; and/or
iii. Land-use; and/or
iv. Public utilities; and/or
v. Infrastructure; and/or
vi. Other appropriate elements.

4. Developer Information Program

The Principal Permittee, in consultation with the Permittees, shall develop a model program not later than January 30, 1998, to inform developers seeking discretionary approvals about:

a. Development and construction storm water management;

b. Maximization of pervious areas and storm water infiltration (where geology and topography permit); and

c. Cost effective storm water pollution control measures.

The program shall provide specific guidance on selecting BMPs to reduce pollutants in storm water discharges from urbanized areas, and include appropriate BMPs, educational materials, and handbooks and guidelines described in Part 2. III.A.3.

Each Permittee shall implement a developer information program consistent with the model program not later than six months after commencement of its next fiscal year following approval of the model by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999. Each Permittee's program shall include information about its legal authorities. Permittees are encouraged to engage in joint efforts in implementing the program.

B. Development Construction

Table 4 on the following page shows the summary of requirements and corresponding compliance dates under this section.

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Table 4
Development Construction Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop minimum requirements, recommended BMPs, and design checklists for construction	III.B.1	✓		14 (September 30, 1998)	Regional Board
Develop and implement a program for construction control measures	III.B.2.a		✓	≤ 36 months (July 30, 1999)	N/A
Require applicants to demonstrate coverage under State Construction General Permit prior to issuance of grading permits	III.B.2.b		✓	6 (January 31, 1997)	N/A
Develop a model construction inspection program	III.B.3.a	✓		14 (September 30, 1997)	Executive Officer
Implement a construction inspection program	III.B.3.b		✓	≤ 36 months (July 30, 1999)	N/A

1. Countywide Development Construction Guidance

The Principal Permittee, in consultation with the Permittees and appropriate stakeholder organizations, shall develop not later than September 30, 1998, the following development construction guidance materials for all development project construction activities: minimum recommended requirements, BMPs appropriate for various activities, and checklists for use in design and inspection. The Countywide minimum requirements and recommended BMPs shall:

a. Include erosion and sediment control practices;

b. Address multiple construction activity-related pollutants;

c. Focus on BMPs such as source minimization, education, good housekeeping, good waste management, and good site planning;

d. Target construction areas and activities with the potential to generate significant pollutant loads;

e. Require retention on the site, to the maximum extent practicable, of sediment, construction waste, and other pollutants from construction activity;

f. Require, to the maximum extent practicable, management of excavated soil on site to minimize the amount of sediment that escapes to streets, drainage facilities, or adjoining properties;

g. Require, to the maximum extent practicable, use of structural drainage controls to minimize the escape of sediment and other pollutants from the site.

h. Require, to the maximum extent practicable, containment of runoff from equipment and vehicle washing at construction sites, unless treated to remove sediments and pollutants.

The lists of BMPs shall be submitted to the Regional Board for approval.

2. Construction Control Measures

a. Each Permittee shall develop a regulatory program for construction activities as defined in Part 2.III.A.1.a. consistent with the Countywide Development Construction Guidance not later than six months after commencement of its next fiscal year following approval of the minimum recommended requirements and BMPs in Part 2.III.B.1. by the Regional Board , provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

The Program shall require, prior to the issuance of any building or grading permit, preparation of appropriate wet weather erosion control and storm water pollution prevention plans which include, by detail or reference, all appropriate construction BMPs developed under Part 2.III.B.1.

Priority Project plans must include a narrative discussion of the reasons used for selecting or rejecting BMPs. In lieu of a narrative, the project architect or engineer of record may sign a statement on the plan to the effect: "As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activities."

b. Each Permittee shall implement a procedure not later than January 31, 1997, whereby the Permittee shall not issue a grading permit for developments with disturbed areas of five acres or greater unless the applicant can show that (i) a Notice of Intent (NOI) to comply with the State Construction Activity Storm Water Permit has been filed and (ii) a Storm Water Pollution Prevention Plan (SWPPP) has been prepared.

3. Site Inspection

a. The Principal Permittee, in consultation with the Permittees, shall develop a model construction activity inspection program, which includes checklists, not later than September 30, 1997. The model program shall include but not be limited to:

i. Procedures for construction site inspections;

ii. Procedures to require corrective action be undertaken by contractors at noncomplying sites;

iii. Procedures for enforcement action against noncomplying construction activity; and

iv. Appropriate training for program staff.

b. Each Permittee shall implement a construction activities inspection program based on the model program not later than six months after commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such

program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999. The program may be integrated with the Permittees regular program of construction inspection for maximum efficiency.

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IV. Public Agency Activities

Table 5 shows the summary of requirements under this section and their corresponding compliance dates.

Table 5
Public Agency Activities Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Evaluate existing public agency activities and develop a model program to reduce storm water impacts	IV.A	✓		16 (December 1, 1997)	Executive Officer
Develop a program to reduce storm water impacts from public agency activities with a schedule for implementation	IV.B		✓	4 months after Executive Officer approval of model ≤ 36 months (July 30, 1999)	N/A

A. Public Agency Model Program

The Principal Permittee, in consultation with the Permittees, shall develop a model program to reduce the impact of public agency activities on storm water quality not later than December 1, 1997. The model program shall include a discussion of the on-going investigation of the feasibility of dry weather flow diversion from the MS4 to municipal waste water treatment plants, where appropriate. The model shall be submitted to the Regional Board for approval.

To minimize costs and avoid duplication of effort, it is encouraged to incorporate and recognize in the model program existing regulations, requirements and plans, such as waste minimization plans, spill prevention control and countermeasures, and business plans.

B. Permittee Public Agency Programs

Each Permittee shall develop and implement a Public Agency Program based on the model program developed by the Principal Permittee not later than four

months after commencement of its next fiscal year following approval of the model program by the Executive Officer, provided; however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

C. Program Requirements

Both the model program and the Permittee programs shall at a minimum include, where applicable:

1. Sewage Systems Operations

   a. Procedures to keep sewage spills or leaks from facilities operated by a Permittee from entering the MS4 to the maximum extent practicable;

   b. Procedures to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers operated by a Permittee to the MS4;

   c. Procedures to respond to overflows and investigate complaints;

   d. Procedures to insure that the Permittee is able to investigate any suspected connections or cross connections from the sanitary sewer systems to the MS4; and

   e. Procedures to notify public health agencies with discretionary decision authority on beach closures when there is a threat to public health.

2. Public Construction Activities Management

   a. Storm water management requirements for the design and construction of public facilities consistent with the requirements and time lines specified for private development in Part 2.III.A and III.B. ;

   b. Procedures to seek coverage, as an option, under this Order for construction activity with a disturbed area of five acres or more (Phase 1, 40 CFR 122.26) which is under taken by or on behalf of the Permittee, if the Permittee develops:

i. A process for notifying the Executive Officer of Permittee's construction activity;

ii. A checklist of construction activity BMPs using BAT/BCT criteria for public construction activity;

iii. A procedure to verify implementation of construction activity BMPs;

iv. A requirement to prepare and retain site-specific SWPPPs;

v. A procedure to report annually on the effectiveness of SWPPPs at public construction activity sites, and certify compliance with the requirements in this Order.

3. Vehicle Maintenance/Material Storage Facilities Management

a. Model pollution prevention plan for public vehicle maintenance/material storage facilities which have the potential to discharge pollutants into storm water. A public vehicle maintenance/material storage facility is any Permittee-owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase 1 facilities;

ii. Performs fleet vehicle maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;

iii. Performs maintenance and/or repair of heavy industrial machinery/equipment; and

iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control, and Counter-measures (SPCC) plan.

b. BMPs to improve site specific pollutant control including but not be limited to:

i. Good housekeeping practices;

ii. Material storage control;

iii. Vehicle leaks and spill control;

iv. Illicit discharge control;

v. Training for employees on proper outdoor loading/unloading of materials;

vi. Vehicle and equipment washing area control;

vii. Regular maintenance of treatment structures such as sumps, oil/water separators, or equivalent; and

viii. Proper waste handling disposal.

4. Landscape and Recreational Facilities Management

a. Procedures for application of pesticides, herbicides, and fertilizers that will include:

i. List of approved pesticides and selective and environmentally responsible uses;

ii. Product and application information;

iii. Application equipment use and maintenance; and

iv. Record keeping.

b. Procedures to minimize storm water pollution by pesticides and fertilizers used for landscape maintenance, including the utilization of Integrated Pest Management (IPM) techniques to the maximum extent practicable;

c. Procedures to prevent the disposal of landscape waste into the MS4;

d. Procedures to encourage retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs;

e. BMPs to reduce exposure of fertilizers and pesticides to storm water during storage, to include as applicable, the following:

i. Storage indoors or under cover on paved surfaces;

ii. Secondary containment;

iii. Reduction in storage and handling of hazardous materials;

iv. Regular inspection of storage areas;

f. Guidelines to schedule irrigation and fertilization to minimize:

i. Chemical application during wet season and to terminate chemical application during storm events; and

ii. Over-watering and nutrients/pesticides entrainment.

g. Procedures to manage discharges of municipal swimming pool water into the MS4, including dechlorination practices, proper disposal of clean-out waters, and piping of filter backwash to the sanitary sewer;

h. BMPs to minimize trash, debris, and other pollutants from entering Permittee-owned recreational water bodies, to include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illicit disposal.

5. Storm Drain Operation and Management

a. BMPs for Inlet Maintenance to be implemented to the maximum extent practicable, including but not be limited to:

i. Inspection and cleaning of catch basins between May 1 and September 30 of each year;

ii. Additional cleaning of catch basins, as necessary, between October 1 and April 30;

iii. Record keeping of catch basins cleaned; and

iv. Recording of the overall quantity of catch basin waste collected.

b. BMPs for Storm Drain Maintenance to be implemented to the maximum extent practicable, including but not be limited to:

i. Proper disposal of material removed;

ii. Removal of trash and debris from open channel storm drains at least annually between May 1 and September 30 of each year;

iii. Surveillance for debris buildup in open channels during the rainy season.

c. Waste Management program to include:

i. Procedures to identify problem areas of illicit discharge for regular inspection;

ii. Procedures to minimize to the maximum extent practicable the discharge of contaminants during MS4 cleanup to maintain optimum channel capacity; and

iii. A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized.

6. Streets and Roads Maintenance

a. Program to sweep curbed streets at a targeted frequency of:

i. At least monthly; and,

ii. Where feasible, more frequently in areas generating significant refuse.

b. Streets and roads maintenance program including:

i. BMPs for existing saw-cut management and paving practices to include but not be limited to:

aa. Avoidance during wet weather to the extent feasible; and

bb. Material storage away from drainage areas to prevent storm water pollution or other equally effective BMPs.

ii. Good housekeeping practices to insure proper management of any wastes that are generated;

iii. Collection, transport, and disposal of maintenance waste at appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations;

iv. Management of concrete materials and wastes including but not limited to:

aa. Washout of concrete trucks off- or on-site in designated areas and not into storm drains, open ditches, streets, or catch basins;

bb. Material storage under cover, away from drainage areas or other equally effective BMPs; and

cc. Avoidance of excess mixing of concrete or cement on-site.

v. Employee training to:

aa. Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

bb. Identify and select appropriate BMPs.

7. Parking Facilities Management

Parking Facilities Management Plan to include sweeping or other equally effective measures to remove debris from Permittee-owned parking lots with more than twenty-five parking spaces that are located in areas potentially exposed to storm water.

8. Public Industrial Activities

a. Procedures to seek coverage, as an option, under this Order for Phase I industrial facilities which are owned or operated by a Permittee, if the Permittee develops:

i. A process for notifying the Executive Officer of public industrial facilities owned or operated by the Permittee;

ii. A checklist of BMPs using BAT/BCT criteria for public industrial facilities;

iii. A procedure to verify implementation of industrial facility BMPs;

iv. A requirement to prepare and retain site specific SWPPPs; and

v. A procedure to report annually on the effectiveness of SWPPPs and the results of the facility monitoring programs at public

Phase 1 industrial facilities, and certify compliance with the requirements of this Order.

9. Emergency Procedures

Procedures for addressing emergency repairs of essential public services and infrastructure and responding to natural disasters.

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V. Public Information and Participation

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this Order. In recognition of the importance of public education to effective storm water management solutions, this Order calls for immediate Permittee public outreach efforts at a specified minimum level as well as a longer term effort to develop an integrated, comprehensive outreach program. As part of the immediate effort, each Permittee is expected to choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality in its own individual jurisdiction, with efforts at a prescribed minimum level as described below. As part of the longer term effort, each Permittee is expected to work collaboratively to develop a comprehensive outreach/education program countywide and within its watershed management area.

The objectives of the public education program are: (i) to measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions for the target audiences to implement BMPs to reduce the problems caused; and (ii) to measurably change the behavior of target audiences by encouraging those audiences to implement appropriate solutions.

Table 6 on the following page shows the summary of requirements and corresponding compliance dates under this section.

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Table 6
Public Information and Education Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Have outreach materials available for distribution	V.A.1		✓	8 (March 31, 1997)	N/A
Demonstrate outreach materials are being distributed	V.A.2.a		✓	12 (July 30, 1997)	N/A
Demonstrate appropriate Permittee employees are being trained	V.A.2.b		✓	12 (July 30, 1997)	N/A
Develop industrial/commercial facility database format	V.B.1.a	✓		6 (January 31, 1997)	N/A
Collect information based on database format	V.B.1.b		✓	12 months from WMC designation	N/A
Compile information from Permittees into industrial/commercial site visits	V.B.1.c	✓		22 (June 1, 1998)	N/A
Develop a checklist of BMPs for industrial/commercial site visits	V.B.2	✓		10 (May 30, 1997)	Regional Board
Implement an Industrial/Commercial facility site visit program	V.B.3.a		✓	Upon Regional Board approval of BMP checklist and in accordance with Table 7	N/A
Provide list of facilities visited	V.B.3.c		✓	Quarterly	N/A
Begin use of BMP checklists	V.B.3.b		✓	Upon Regional Board approval	N/A
Develop a 5 year public education strategy	V.C.1	✓		12 (July 30, 1997)	Executive Officer
Implement the strategy	V.C.2		✓	Based upon implementation schedule to be included in the strategy	

A. Immediate Outreach

1. Each Permittee shall, at a minimum, have available for distribution or reference as appropriate, not later than March 31, 1997, the following:

a. Written Material

i. Written materials (minimum of three types) to convey pertinent information to meet program objectives. Examples of written materials include flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters;

ii. Documentation that a reasonable effort was made to list pertinent city phone numbers under the government pages of phone directories. This should be updated as necessary and should include telephone numbers for reporting clogged catch basin inlets and/or illicit discharges/dumping, and a general number for storm water management program information. These phone numbers may be city-specific or countywide;

iii. Training materials for educating appropriate Permittee employees regarding compliance with applicable storm water permits;

iv. An up-to-date listing of contractor and developer storm water management training programs available in the area. This list should be updated annually;

v. An up-to-date checklist and a brochure explaining contractor and developer needs as they relate to Development Planning and Construction (Part 2.III) of this Order for use at a Permittee's planning/permitting counter. They should be updated annually; and

vi. Education materials (a minimum of three types) for targeted business sector audiences for use in site visits as per provisions in Part 2.V.B.2 of this Order.

b. Audio Material

Documentation that a reasonable effort was made by the Principal Permittee or on behalf of the Permittees as a whole to obtain radio broadcast public service announcements to convey information regarding storm water management.

c. Visual Material

A catch basin labeling program, including label installation and maintenance schedules, to educate the public on the ultimate destination of storm drain flows.

2. Each Permittee shall demonstrate by July 30, 1997, that it has undertaken the following activities:

a. Distribution of outreach materials to the general public, or targeted audiences such as schools, community groups, contractors and developers at the appropriate public counters and public events; and,

b. Training of the appropriate Permittee employees (those whose jobs or activities directly affect storm water quality, or those who respond to questions from the public) regarding the requirements of the storm water management program.

B. Industrial/Commercial Educational Program

Each Permittee shall develop an industrial/commercial site visit program. The purpose of such site visits will be solely educational and to provide industrial/commercial facilities with information regarding the Permittee's storm water program, and to provide advice when requested in understanding and complying with the Permittee's storm water regulations. To minimize cost, each Permittee is encouraged to coordinate its site visit program with existing fire, health, industrial wastes and/or other inspection type programs so that the Permittee need not institute new and separate site visit programs. The program shall contain the following components:

1. Identification of Sources

a. The Principal Permittee in consultation with the Permittees shall develop a database format for listing industrial/commercial facilities by four digit SIC Industry Numbers not later than January 31, 1997. This database will serve as a reference resource for the public, business, industry, local government, the Regional Board, and other public agencies on storm water program participation. The initial accuracy of the database will be dependent on the accuracy of electronic and information sources used to establish the database, but the accuracy is expected to improve after Permittees begin to implement the industrial/commercial site visit program. No legal import is to be attributed to the database developed by the Permittees. The database format shall include at a minimum:

i. Facility name;
ii. Site address;
iii. Watershed Management Area;
iv. Applicable SIC code(s); and
v. NPDES storm water permit coverage status, if applicable.

b. Each Permittee shall collect information based on the format developed by the Principal Permittee to identify industrial/commercial facilities within its jurisdiction and submit to the Principal Permittee not later than one year after the Principal Permittee provides the database format to the Permittees or for "iii" below not later than one year after designation of groups by the WMC. The list of facilities shall include, at a minimum:

i. All industrial groups regulated under Phase I of the Federal storm water program (40 CFR 122.26; Phase I Facilities);

ii. Motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, gas stations, and restaurants; and

iii. Additional SIC industrial/commercial groups identified as priorities by each WMC pursuant to this Order.

c. The Principal Permittee shall compile the information submitted by each Permittee into a database of industrial/commercial facilities not later than June 1, 1998. This database shall include:

i. For each four-digit SIC Industry Number, primary activities that might impact runoff discharges (from national or commercial database sources); and

ii. For each four-digit SIC Industry Number, primary materials that might impact runoff discharges (from national or commercial database).

2. Source Control Measures

The Principal Permittee, in consultation with the Permittees, shall develop a list of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site visits under Part 2.V.B.3. not later than May 30, 1997. The BMPs shall:

a. Address multiple pollutants;

b. Initially focus on pollutant source minimization, education, good housekeeping, and site design alternatives; and

c. Target source areas and activities with the highest potential to generate substantial pollutant loads.

The BMP lists shall be submitted to the Regional Board for approval, after which the Principal Permittees shall distribute them to the Permittees to be incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.

3. Educational Site Visits

a. Each Permittee shall implement an industrial/commercial educational site visit program according to the following schedule in Table 7, upon Regional Board approval of BMP checklists:

Table 7
Schedule of Educational Site Visits

FACILITIES	SITE VISIT FREQUENCY (No. of Contacts / Time period)
i) Phase I*, [i]-[ix] and [xi] with waste discharge or pretreatment permit	1 / 24 months **
ii) Phase I, [i]-[ix] and [xi] with no waste discharge or pretreatment permit but with GIASP	1 / 24 months**
iii) Phase I, [i]- [ix] with no waste discharge or pretreatment permit, and no GIASP	1 / 24 months**
iv) Phase I [xi] with no GIASP	1 / 5 years***
v) Vehicle repair shops, vehicle body shops, vehicle parts and accessories facilities	1 / 24 months**
vi) Gas stations	1 / 24 months**
vii) Restaurants	1 / 24 months**
viii) Facilities selected by WMCs	1 / 36 months

* See Glossary of Terms for definition
** Once in 24 months with a minimum of two site visits during the five-year term of this Order
*** See exception in text below

i. Phase 1 facilities in categories [i] through [ix] and [xi] which have an industrial waste discharge permit or a pretreatment permit, once every twenty-four months;

ii. Phase 1 facilities in categories [i] through [ix] and [xi], which do not have an industrial waste discharge permit or a pretreatment permit but have obtained coverage under the GIASP, once every twenty-four months;

iii. Phase 1 facilities in categories [i] through [ix], which do not have an industrial waste discharge permit, a pretreatment permit or GIASP coverage, once every twenty-four months;

iv. Phase 1 facilities in category [xi] without an industrial waste discharge permit, a pretreatment permit, or GIASP coverage. In lieu of a site visit, contact by phone, mail-out of questionnaire and educational materials, or other similar method to inform the facilities of notice of intent (NOI) requirements and encourage good storm water quality control measures (non-responders to be identified in annual report), once in five years;

v. Vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC Industry Major Group 75); once every twenty-four months;

vi. Gasoline stations (SIC Industry Number 5541); once every twenty-four months;

vii. Restaurants (SIC Industry Number 5812), once every twenty-four months; and,

viii. Additional SIC industrial/commercial groups identified by the WMC for the watershed in which the Permittee is located, once in thirty-six months, with a maximum limit of 3,000 additional site visits per Permittee during the term of this Order.

b. During the educational site visit, the Permittee shall:

i. Consult with a representative of the facility to explain applicable storm water regulations;

ii. Distribute and discuss applicable BMP and educational materials, including information regarding the codes, regulations, ordinances, and permits applicable to the category of the facility. In the case of

Phase I facilities, notify the facility of specific requirements under the Statewide Industrial General Permit including that such facilities must file an Notice of Intent (NOI) with the State Water Resources Control Board and that a Storm Water Pollution Prevention Plan (SWPPP) must be available on the site; and

iii. Follow-up with facilities, as deemed necessary and appropriate by the Permittee, to provide advice in complying with the Permittee's storm water ordinances, prohibitions, and other legal instruments.

c. Each Permittee shall submit to the Principal Permittee, on a quarterly basis, the lists of visited facilities identified by category. The Principal Permittee shall compile the submitted lists and submit them to the Executive Officer on a quarterly basis.

4. Alternative Programs

A Permittee may petition the Executive Officer to substitute the industrial/commercial educational program with an alternative industrial/commercial educational program that will achieve greater or substantially similar educational goals and which will be implemented within a similar period of time.

C. Five-Year Storm Water Public Education Strategy

A Five-Year Storm Water Public Education Strategy, which elaborates steps for implementing public education programs, shall be developed by the Principal Permittee. The strategy shall: communicate key educational information; develop educational programs for target audiences; utilize various innovative educational tools and incentives for participation; employ effective outreach to the region's multi-ethnic communities; and conduct opinion surveys to assist in evaluating public awareness both before and after implementation of the public education programs.

The Permittees shall endeavor to coordinate public outreach efforts among themselves, with environmental groups, and pertinent public and private agencies.

1. The Principal Permittee, in consultation with Permittees, shall develop not later than July 30, 1997, a Five-Year Countywide Storm Water Education Strategy which addresses education/outreach issues countywide as well as by watershed, including a schedule for implementation. The strategy shall include a full range of outreach tools, from simple brochures to sophisticated media. The strategy shall identify the Permittee's responsibilities for implementation, including specific objectives for changing knowledge and behavior.

The Principal Permittee shall submit the strategy to the Executive Officer for approval. Each Permittee shall implement the strategy not later than four months after commencement of its next fiscal year following approval of the strategy by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

At a minimum, the Five-Year Storm Water Education Strategy shall include actions for:

a. Identification of land uses and activities that have a higher potential for storm water pollution and will include and/or accomplish the following:

   i. Pollutants: The reduction of targeted pollutants of concern in a particular watershed; and

   ii. Activity-specific: Activity-specific outreach programs shall be developed and implemented using written, audio, or visual outreach tools.

   The strategy shall include activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and shall promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the countywide reporting hotline.

b. Emphasis on the importance of pollution prevention for a variety of audiences, including local residents, school-aged children, businesses, and public employees whose job functions and daily lives may impact storm water quality. Efforts will include and/or accomplish the following:

   i. For Residents

      aa. Educate residents on recycling and household hazardous waste disposal options. The program shall provide information on collection services, including locations and schedule; provide outreach materials on source reduction and proper use, storage, and disposal methods for household hazardous wastes; and continue to encourage residents to recycle, e.g., oil, antifreeze, glass, plastics, and batteries.

      bb. Encourage residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Each Permittee shall demonstrate that a good faith effort has been made

to outreach to different communities within the watershed management area or region and to receive feedback from the communities while measuring success of the program.

cc. Educate do-it-yourselfers regarding pollution prevention strategies. Each Permittee shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed management area or region.

dd. Promote public participation through cooperative programs to foster awareness and identification of storm water pollution issues among residents in a watershed. Catch basin labeling and other established sign programs are examples of this type of cooperative effort. Another example for cooperative outreach is an "Adopt-A-" program. Residents can "adopt" highways, storm drains, catch basins, or streams to monitor, restore, and protect them.

ee. Residents shall be encouraged to mow vegetation surrounding their residence rather than disk.

ii. For School Children

School programs shall be developed and implemented wherever possible to include information on MS4s, the difference between sanitary sewers and storm drains, the importance of preventing storm water pollution, and provide illicit discharges/disposal and reporting procedures, source minimization, and general pollution prevention. Acquisition and/or development of classroom materials and their distribution to teachers are encouraged.

iii. For Businesses

aa. An education and outreach program shall be developed and implemented for business activities identified as having greater potential of discharging pollutants into the MS4. This includes sidewalk washing by individual merchants. The program shall encourage employee training on the effectiveness of storm water pollution prevention practices. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailings, and submitting informational articles to trade/industry magazines. Each Permittee shall provide outreach materials through business license renewal counters and/or make efforts to outreach through professional and business associations or industrial/commercial site visits.

bb. Construction

An education program shall be developed and implemented for construction contractors, owners, builders, and do-it-yourselfers on proper BMP implementation and maintenance, and pollution prevention.

iv. Appropriate Permittee Employees

Permittee employees involved in storm water related activities shall be trained on storm water management and pollution prevention practices. Cooperative efforts among enforcement agencies should be encouraged.

Training programs shall include, but not be limited to, articles in city newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees to the extent the Permittee utilizes any of the foregoing. Materials developed for other audiences may also be used in Permittee employee training programs. Appropriate public agency employees shall be trained in:

aa. Emergency spill cleanup procedures and hotline phone numbers;

bb. Environmentally sensitive alternative products;

cc. Good housekeeping practices; and,

dd. Municipal NPDES and other permitting requirements.

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VI. Monitoring Program

A. Objectives

The overall goal of this monitoring program is to develop and support effective watershed storm water quality management programs towards reduction of pollutants to the maximum extent practicable.

The major specific objectives of program are as follows:

1. To track water quality status, pollutant trends and pollutant loads, and identify pollutants of concern;
2. To monitor and assess pollutant loads from specific land uses and watershed areas;
3. To identify, monitor, and assess significant water quality problems related to storm water discharges within the watershed;
4. To identify sources of pollutants in storm water runoff;
5. To identify and eliminate illicit discharges;
6. To evaluate the effectiveness of management programs, including pollutant reductions achieved by implementation of BMPs; and,
7. To assess the impacts of storm water runoff on receiving waters.

B. Monitoring Program Requirements

The Principal Permittee shall implement the monitoring program described in Attachment C, Monitoring Program Requirements. The summary of the monitoring program requirements and compliance dates are given in Table 8 on the following page.

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Table 8
Monitoring Requirements And Compliance Dates

Requirement	Permit Attachment	Principal Permittee	Permittees	Months from Order Adoption Compliance Date)
Begin re-evaluation of land use monitoring station locations	C.1.a	✓		
Complete re-evaluation of land use monitoring station locations	C.1.a	✓		Upon EO* approval- Sept 1, 1996
Monitor land use stations at prescribed storm event frequency	C.1.c	✓		0
Implement a pilot study monitoring program from one sampler at a land use station to sample storm greater than .1 inches of rainfall	C.1.d	✓		0
Monitor at mass emission stations	C.2.a	✓		0
Submit a report for characterizing critical sources and BMPs	C.3.b	✓		Sept 1, 1996
Conduct a program for characterizing critical sources and BMPs	C.3.b	✓		Upon EO* approval
Install and evaluate BMPs appropriate to the critical sources	C.3.d	✓		Second full rainy season
Re-evaluate progress made by other entities within the state to evaluate critical sources and BMPs	C.3.e	✓		Third full rainy season
Submit a workplan for Loads Assessment model	C.4	✓		18 (January 30, 1998)
Fund a receiving waters study	C.5	✓		
Prepare, retain, and revise a Monitoring Plan	VI.C.1	✓		Submit to the EO* when so requested

* Executive Officer

VII. Program Reporting and Evaluation

Table 9 shows the summary of requirements under this section with corresponding compliance dates.

Table 9
Program Evaluation and Reporting Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop standard Annual Reporting format, including reporting forms	VII.A.1	✓		6	Executive Officer
Submit Annual Report to Regional Board	VII.A.2	✓		Every October 15	N/A
Submit an Annual Monitoring Report	VII.B	✓		Every July 15	N/A
Submit a Program Evaluation Report of 5-Year Strategy	VII.C.1	✓		48 (July 31, 2000)	N/A
Submit Assessment of Effectiveness of CSWMP Components	VII.C.2	✓		48 (July 31, 2000)	N/A
Submit Recommendations for Development of Performance Standards for selected CSWMP Components	VII.C.3	✓		54 (February 1, 2001)	N/A
Submit a Receiving Water Impacts Report	VII.D	✓		48 (July 31, 2000)	N/A
Submit WMAPs	Part 3.VI		✓	To be included with ROWD. (February 1, 2001)	Executive Officer

A. Annual Program Report

1. The Principal Permittee shall, not later than January 31, 1997, develop a standard annual program reporting format for use by Permittees, including reporting forms.

2. The Principal Permittee, in coordination with the Permittees, shall submit an Annual Program Report to the Executive Officer on or before October 15 of each year. The first Annual Report is due October 15, 1997. The Annual Program Report shall comply with 40 CFR §122.42(c) and include, at a minimum:

   a. The implementation status of program tasks contained in this Order, CSWMP, and/or WMAP, as applicable to each Permittee;

   b. The status of, or statement of completion of all components and milestones described in this Order, CSWMP, and/or WMAP, as applicable to each Permittee;

   c. Results of program tasks contained in this Order, CSWMP, and/or WMAP, as applicable to each Permittee;

   d. Program accomplishments and self-assessment of strategy effectiveness (including how the Permittee arrived at new program elements, if any) by each Permittee, organized by Watershed Management Areas, in the areas of (i) Program Management; (ii) Illicit Connections/Discharges; (iii) Development Planning/Construction; (iv) Public Agency Activities; (v) Public Education/Public Participation;

   e. A summary of BMP implementation, Permittee level of effort, and other such measures of achieving storm water program objectives, utilizing uniform information and data collection methodology to support area-to-area, and year-to-year comparisons;

   f. The names, titles, and telephone numbers of personnel responsible for supervising implementation of the program tasks contained in this Order, CSWMP, and/or WMAP, as applicable to each Permittee.

   g. Recommended changes and/or modifications to the programs identified in this Order, CSWMP, and/or WMAP.

B. Annual Monitoring Report

The Principal Permittee shall submit a separate Annual Monitoring Report by July 15 of each year. The first Annual Monitoring Report is due on July 15, 1997. The report shall include status of implementation of the monitoring program, results of the monitoring program and interpretation thereof, and suggested modifications or amendments to the Monitoring Program with relevant justifications.

C. Program Evaluation Report

1. The Principal Permittee, shall, not later than July 31, 2000, complete an analysis of the general success of the Five-Year Storm Water Public Education Strategy and identify its accomplishments. This report shall serve as the basis for the next Five-year Storm Water Public Education Strategy that will be part of the ROWD.

2. The Principal Permittee shall, not later than July 31, 2000, and in consultation with the Permittees, prepare and submit a report on the assessment of the effectiveness of the CSWMP components (except that identified in C.1.).

3. The Principal Permittee shall, not later than February 1, 2001, submit a report on the identification of CSWMP components for which performance standards will be developed and implemented during the next term of the permit. The report shall include a schedule of development of performance standards. The performance standards will indicate the level of implementation necessary to demonstrate that efforts are being made to reduce the discharge of pollutants in storm water to the maximum extent practicable. This report will be an integral part of the ROWD.

D. Integrated Receiving Water Impacts Report

The Principal Permittee shall not later than July 31, 2000, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to a comprehensive analysis of the results of the different monitoring data (land use, mass emissions, critical source, load assessment, receiving waters, and other pertinent studies available), and feasible environmental indicators. It should also include recommendations on future monitoring requirements, e.g., integration of storm water receiving water monitoring with regional receiving water monitoring, if applicable. This report will be an integral part of the ROWD.

Part 3. STANDARD PROVISIONS

I. The initial storm water management program, as delineated in the CSWMP or WMAPs may need to be modified, revised, or amended periodically to respond to changed conditions and to incorporate more effective approaches to pollutant controls. Minor changes may be made at the direction of the Executive Officer. Minor changes requested by the Permittees shall become effective upon written approval of the Executive Officer. If proposed changes involved a major revision in the overall scope of the program, such changes must be approved by the Regional Board as amendments to this Order.

II. Except as otherwise provided in this Order, all reports or submittals made directly to the Executive Officer or through the Principal Permittee shall be signed under penalty of perjury by the principal executive officer or the ranking elected official of the Permittee or a duly authorized representative if:

A. The authorization is made in writing by a person described above;

B. The authorization specifies either an individual or a position having responsibility for the overall operation of the Permittee's storm water management program, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the Permittee. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

C. The written authorization is submitted to the Executive Officer.

III. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the Water Code and Title 23 of the California Code Regulations for the issuance of waste discharge requirements, and upon prior notice and hearing, to:

A. Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;

B. Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

C. Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or

D. Consider any other federal, or state laws or regulations that became effective after adoption of this Order.

IV. The Permittees shall continue to implement the BMPs and/or programs that were required pursuant to Order No. 90-079 until such time that replacement BMPs/programs are implemented under this Order. Except for the foregoing, enforcement purposes, and applicability to the State of California Department of Transportation (Caltrans), Order No. 90-079 (NPDES Permit No. CA0061654) is hereby superseded and replaced by this Order.

V. The issuance of this Order is not intended to, and does not, absolve any Permittee of liability for conduct which may have constituted a violation of Order 90-079 (CA0061654, CI 6948) adopted by this Regional Board on June 18, 1990, nor is it intended to impose any liability on any Permittee or person for any conduct prior to the effective date of this Order.

VI. This Order expires on July 30, 2001. The Principal Permittee and Permittees must submit complete Reports of Waste Discharge (ROWD) in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements. The ROWD shall include watershed-specific WMAPs.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 15, 1996.

Robert P. Ghirelli

ROBERT P. GHIRELLI, D.Env.
Executive Officer

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 96-054
(NPDES NO. CAS614001)

ATTACHMENTS
TO
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

R0007455

ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills
*Calabasas
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban

Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles
Los Angeles County
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Long Beach
Los Angeles
Los Angeles County
Lynwood
Maywood
Montebello
Monterey Park
Paramount
Pasadena
Rosemead
San Fernando
San Gabriel
Sierra Madre
Signal Hill
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
Long Beach
Los Angeles County
Monrovia
Norwalk
Pomona
Pico Rivera
San Dimas
San Marino
Santa Fe Springs
South El Monte
Walnut
West Covina
Whittier

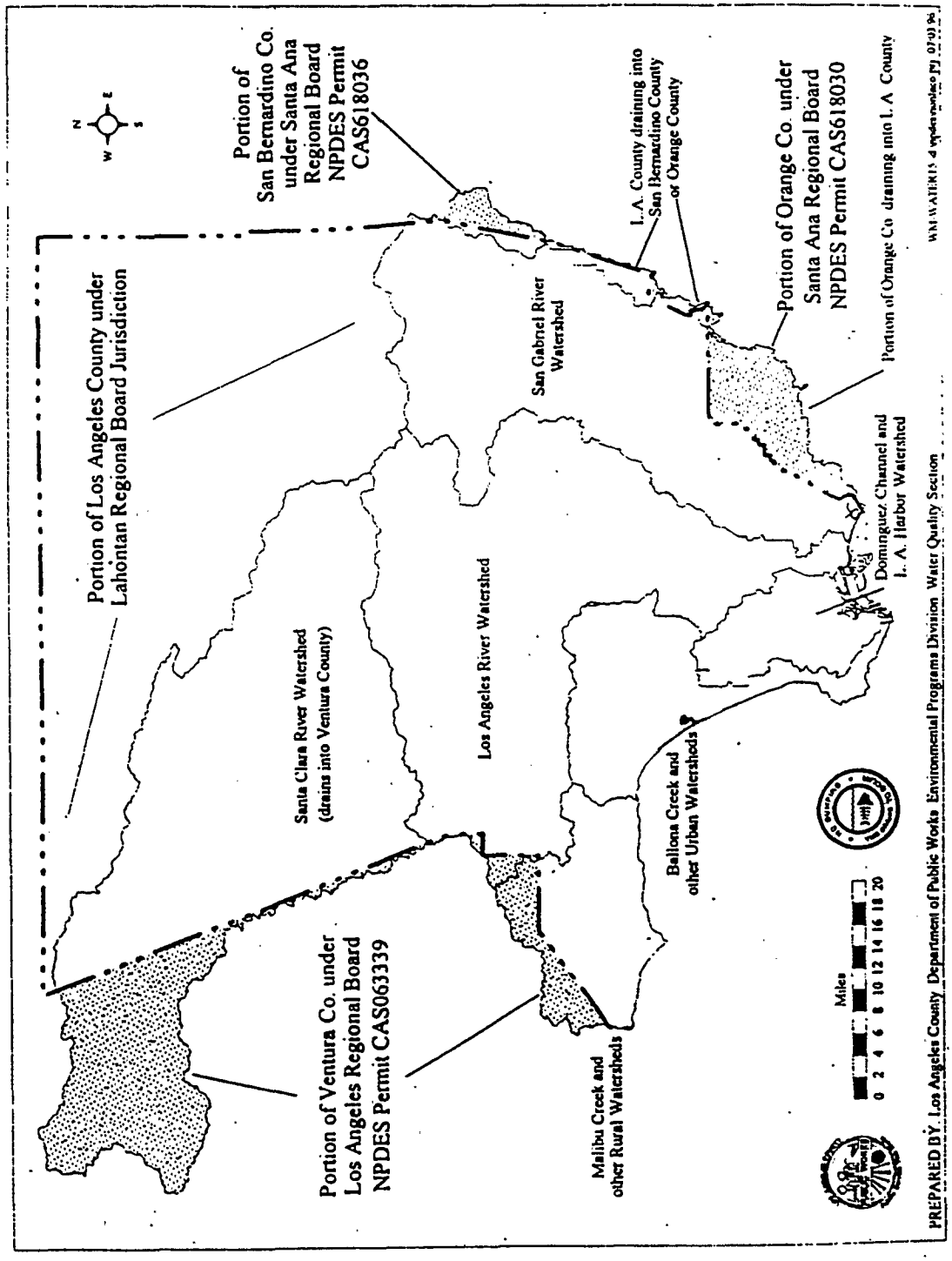
Santa Clara River

Los Angeles County
*Santa Clarita

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than the County of Los Angeles and the City of Los Angeles.*

ATTACHMENT B

MAP OF LOS ANGELES COUNTY PERMITTED AREA



ATTACHMENT C

MONITORING PROGRAM REQUIREMENTS

A. MONITORING PLAN

The Principal Permittee shall prepare, maintain, and update, if necessary, a monitoring plan which shall include at a minimum, the following:

1. Quality control, quality assurance, data collection, storage and analyses, and detection limits;

2. All sample collection, handling, storage, and analyses in accordance with 40 CFR 136;

3. Location of monitoring stations, constituents, and sampling frequency;

4. Targeted monitoring indicators (e. g., ecosystem, biological diversity, in stream toxicity, habitat, chemical, sediment, stream health) chosen for monitoring;

5. Statistical methods used to design studies, conduct sampling, and interpret data;

6. A description of the role and responsibilities of all the participants in monitoring studies;

7. A description of computer software and modelling programs that will be utilized to assess data, interpret information; and

8. A general description of how data are intended to be utilized for feedback into the storm water management program.

An up-to-date Monitoring Plan shall be submitted to the Executive Officer, when so requested.

B. MONITORING PROGRAM

The following monitoring program is designed to meet the objectives stated under Part 2.VI of this Order:

1. Land Use Station Monitoring

   a. The Principal Permittee shall reevaluate the location of existing monitoring stations (established under Order No. 90-079) reflecting specific land uses ("land use stations") consistent with the cost-benefit methodology described in Attachment C-1. Upon completion of Step 6 of the reevaluation process, but not later than

September 1, 1996, the Principal Permittee shall submit a report to the Executive Officer outlining the steps taken in the reevaluation process; and recommend land use categories to be monitored. Based on results of the reevaluation process, existing land use stations established pursuant to Order 90-079, may be moved to monitor recommended land use categories for monitoring. Existing land use stations under Order 90-079 which do not reflect land use categories recommended for monitoring under the cost-benefit analysis or which are duplicative of other stations will be decommissioned.

b. Upon approval of the report by the Executive Officer, the Principal Permittee shall complete Steps 7-8 of the reevaluation process in Attachment C-1.

c. The Principal Permittee shall monitor land use stations according to the following schedule provided there are sufficient storm events during the season:

Storm Season	Number of Station Events/Storm Season
1996-97	100
1997-98, and thereafter	200

A station event is defined as one sampling event per station.

The land use stations shall be monitored during the term of this Order or until such time that event mean concentrations (EMC) are derived, at the 25% error rate, for the following constituents of concern:

PAHs (total)	Chlordane	Cadmium
Copper	Nickel	Lead
Chromium	Silver	Zinc
Selenium	Mercury	Total Nitrogen
Total Phosphorus	Total Suspended Solids	Diazinon
Chlorpyrifos	Malathion	Simazine
Total DDT	Total PCBs	

The Executive Officer may add or delete constituents of concern. However, for constituents added after the commencement of the second rainy season under the Order, the Principal Permittee need not derive an EMC at an error rate of 25% prior to closing a land use station.

d. All samples for land use station monitoring may be taken with the same type of automatic sampler used under Order 90-079. The samplers shall be set to monitor storms totalling 0.25 inches or greater of rainfall. The constituents to be analyzed are listed in Attachment C-3. The Principal Permittee, for land use sites,

may exclude constituents from the list that require grab sampling.

In addition, the Principal Permittee shall, as a pilot study, set one land use sampler to monitor storms from 0.1 inch of rainfall. Based upon an assessment of the following, a decision will be made as to whether to set some or all of the remaining land use samplers to monitor storms totalling 0.1 inches of rainfall or greater: 1) the operational effectiveness of the sampler; 2) the feasibility and effectiveness of sample retrieval and transport; and 3) the ability to reprogram and maintain this setting at other samplers.

e. If a constituent is not detected at the method detection limit (MDL) for its respective test method listed in Attachment C-3 in more than 25 percent of the first ten sampling events or on a rolling basis using ten consecutive sampling events, it will not be further analyzed unless the observed occurrences show high concentrations and are cause for concern. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents at each station for as long as the station is monitored.

2. Mass Emission Station Monitoring

a. The Principal Permittee shall monitor a total of four mass emission stations. During the 1995-96 storm season, monitoring shall be conducted only at the Ballona Creek and Malibu Creek monitoring stations established under Order 90-079. During the 1996-97 storm season, monitoring shall begin at the San Gabriel River and Los Angeles River (downstream of Wardlow Road) stations. The Principal Permittee shall monitor at the Ballona Creek and Malibu Creek monitoring stations during the 1995-1996 storm season up to ten station events per year including dry weather sampling. Thereafter, monitoring shall be reduced at all stations to a maximum of five events per year. Mass emission station monitoring frequency will be evaluated after the 1998-1999 storm season. However, regardless of the results, monitoring shall not exceed five storm events per station for the 1999-2000 storm season.

b. Samples for mass emission station monitoring shall be taken with the same type of automatic sampler used under Order 90-079, as well as through grab sampling. The samplers shall be set to monitor storms totalling 0.25 inches or greater of rainfall. The constituents to be analyzed for samples taken at mass emission stations are listed in Attachment C-3. The Principal Permittee may elect not to sample Volatile Organic Compounds from the list of constituents for mass emission stations.

c. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment C-3 in more than 25 percent of the first ten sampling events or on a rolling basis using ten consecutive sampling events, it will not be

further analyzed unless the observed occurrences show high concentrations and are cause for concern.

d. With the exception of the stations noted in (2)(a) above, monitoring at other mass emission stations installed under Order 90-079 shall be discontinued and the stations decommissioned.

3. Critical Source/Best Management Practice Monitoring

The Principal Permittee shall conduct a program for monitoring critical sources to characterize sources of storm water pollutants and assess effectiveness of BMPs. The program shall be consistent with the following:

a. Selection of Critical Sources: The Principal Permittee will select critical sources for monitoring based on the methodology described in Attachment C-4 (Critical Source/BMP Monitoring). A total of five (5) critical sources will be monitored over six rainy seasons commencing with the 1996-97 rainy season, subject to the provisions of (3)(d) below.

b. Not later than September 1, 1996, the Principal Permittee shall submit a report to the Executive Officer for approval on the critical source selection process and recommend critical sources for evaluation. Upon approval of the report, the Principal Permittee shall proceed to conduct the activities set forth in (3)(c-f).

c. Characterization of Critical Sources: Commencing with the 1996-97 rainy season, the Principal Permittee shall commence the characterization of critical sources. A total of six (6) representative sites of each critical source will be characterized through analysis of runoff. Fewer representative sites may be selected due to distance considerations and/or the unavailability of sufficient source locations willing to participate in the program. A total of at least five (5) storms will be used to characterize the critical source runoff. Samples will be analyzed for those pollutants anticipated to be found in the critical source storm runoff and such analytes will be partitioned, as appropriate, to determine the soluble and suspended fractions.

d. Evaluation of BMPs: In the year after a critical source has been characterized, a BMP or BMPs appropriate to the critical source will be selected and installed at up to half of the critical source examples (the "test sites"). Flow from the remaining source representative sites (the "control sites") will continue to be analyzed. A total of ten (10) targeted storm events will be monitored to assess the effectiveness of the BMPs. If there are insufficient storm events during the year, the evaluation may be continued during the next storm season. The Principal Permittee's monitoring of critical sources and evaluation of BMPs will be concluded by the end of the sixth full rainy season after the adoption of this Order, provided that sufficient number of storms have occurred.

e. Additional Evaluation: After the third full rainy season following the adoption of the Order, the Principal Permittee will reevaluate, the progress made by other public entities in the State to evaluate critical sources and BMPs. If after the evaluation, the Principal Permittee determines that there are either additional critical sources, or BMPs associated with identified significant critical sources which have not been monitored and/or evaluated, the Principal Permittee, subject to the approval of the Executive Officer, will undertake "Additional Monitoring". The Additional Monitoring will consist of monitoring up to three (3) additional critical sources, or evaluate up to an additional three (3) BMP sets, or some combination thereof totalling three. The extent of Additional Monitoring will be dependent on the Principal Permittee's ability to complete the monitoring/evaluation described in(3)(c-d) above; if more time is needed to complete such monitoring, the extent of the Additional Monitoring shall be accordingly reduced.

4. Loads Assessment Model

The Principal Permittee shall, not later than January 15, 1998, submit to the Executive Officer for approval a workplan for performing a loads assessment analysis for each of the six WMAs to determine pollutant loads entering the ocean from receiving waters in the county. The assessment shall be conducted following the third full rainy season after adoption of this Order using the collected monitoring data from the land use and mass emission stations (including data collected from stations monitored under Order No. 90-079) and employing the USEPA simplified model.

5. Receiving Waters Study

The Principal Permittee, in conjunction with other participants that it may choose, will fund a study of receiving waters impacted by storm water described in Attachment C-5, subject to revisions as set forth below in (5)(d). The purpose of the study will be to study the impacts, if any, of storm water/non-storm water discharges on the beneficial uses of Santa Monica Bay and to assist the Permittees in developing storm water management programs. The obligation of the Principal Permittee under this Order with respect to the receiving waters study shall consist of the following:

a. Plume Study: The Principal Permittee will support a plume study to evaluate the dispersion, fate, and transport of storm water pollutants in Ballona Creek and Malibu Creek, through a contribution of up to a maximum of $145,000.

b. Benthic Study: The Principal Permittee will support a study to assess impacts of storm water on the marine benthic community near the mouths of Ballona Creek and Malibu Creek, through a contribution of up to a maximum of $205,000. If it is the consensus of project scientists that a third year of benthic study is advisable to meet the goals of the receiving waters study, the Principal Permittee will contribute up to a maximum of an additional $80,000 for the third year of study.

c. Toxicity Study: The Principal Permittee will support a study to evaluate sediment and water column toxicity in Ballona Creek and Malibu Creek through a contribution of up to a maximum of $118,500. If it is the consensus of the project scientists that a third year of toxicity studies is advisable to meet the goals of the receiving waters study, the Principal Permittee will contribute up to a maximum of $80,500 to fund a third year of study.

d. River Study: The Principal Permittee will take a total of three (two storm weather and one dry weather) water samples at each of the Los Angeles and San Gabriel River mass emission stations during the 1997-98 and 1998-99 seasons. The samples will be subjected to sea urchin fertilization bioassays to evaluate water column toxicity, with the Principal Permittee's out-of-pocket expenses for the study not to exceed $3,600.

e. Project Design: The receiving waters study shall initially contain the elements established in Attachment C-5. However, the scientists conducting the receiving waters study may alter the parameters of the second and (if necessary) the third year of the receiving waters study so as to meet the objectives of the study. Such alterations may include changing of sampling locations, use of different sampling techniques, or other pertinent redirection of resources. The Principal Permittee shall notify the Executive Officer of any revisions to the second and (if necessary) third years of the receiving waters study for review and approval.

f. Study Reports: The Principal Permittee shall require the project scientists conducting the study to prepare an annual report covering study activities of the previous year, and any interim/final assessments. Such reports shall be submitted by the Principal Permittee to the Executive Officer with the Annual Monitoring Report.

g. Principal Permittee Responsibilities: The commitments of the Principal Permittee toward performance of a receiving waters study are: providing funding, and submittal of progress and final reports.

ATTACHMENT C-1

LAND USE SITE SELECTION PROCESS OUTLINE

Step 1

The Principal Permittee will take the Southern California Association of Governments ("SCAG") categories listed below as an initial list of land use categories. The Principal Permittee will use its best efforts to obtain overlays (or similar information) for use in the land use selection process. However, these overlays or information must be usable County-wide in the SCAG database and the Principal Permittee shall not be required to look for or use overlays or information which cannot be so used. The Principal Permittee also shall not be required to create overlays. Some of these categories may not be important (very small area represented in study area, and/or known very low EMC or runoff mass). The initial number of categories will be reduced at this step.

For each remaining category, the Principal Permittee will identify eight (8) representative locations. The eight (8) locations in each category would be relatively small areas, such as a square block for residential areas, a single school or church, a few blocks of strip commercial, etc. These sites would be selected, where possible, over a wide geographical area of the study area to include a range of topographical characteristics such as distance from ocean, etc.

Step 2

In this step, the Principal Permittee should perform a site survey of ground conditions. For each of the eight (8) locations identified for each category, the Principal Permittee will collect information, to the extent such information is available, including: type of roof connections, type of drainage, age of development, housing density, type of landscaping, condition of pavement, soils, and existing storm water control practices.

These are simple field surveys that can be completed by a team of two people at the rate of about 5-6 (maximum) locations a day, depending on navigation problems, traffic delays, and the proximity of the sites. Several photographs should be made of each site and archived with the field sheets for future reference.

Step 3

In this step, currently available and usable aerial photographs taken in the past five years are used to measure the percent impervious area associated with rooftops, streets, driveways, sidewalks, parking areas, storage areas, decks and sheds, swimming pools, alleyways, and other paved areas. Photographic prints for each of the homogeneous neighborhoods examined on the ground in step 2 are needed. The actual measurements require about an hour per site.

Step 4

In this step, the Principal Permittee will compile the information collected in the previous steps and use it to determine which land use categories should be monitored. This refinement step will result in a final list of categories to be examined, based on the actual measured values.

Some of the sites selected for field measurement may actually belong in another category and would be reassigned to that category before the data were evaluated. In addition, development characteristics and areas of important elements may indicate greater variability within an initial category than between other categories in the same land use. If there is no other reason to suspect differences that would affect drainage quality or quantity, these areas could be combined to reduce the total number of individual land use categories used in subsequent evaluations.

On the basis of Step 2 and Step 3, the Principal Permittee will measure the percent of directly connected impervious area for each of the eight neighborhoods surveyed. The Principal Permittee will then compare the percent of impervious area using simple non-parametric statistics to see how differences within a single land use category compare with differences between land use categories. Based on this analysis, the Principal Permittee will aggregate or subdivide land use categories as appropriate. Subdivisions of land use categories shall correspond to those in the SCAG database.

Step 5

Next, the Principal Permittee will rank the selected land use categories according to their predominance and pollutant generation. As part of its analysis, the Principal Permittee will perform a marginal cost/benefit analysis as to which land use categories should be monitored.

For each land use category the following will be estimated based on existing data: drainage area, runoff quantity and an EMC value for each of four indicator pollutants (preliminarily, copper, pyrene, total suspended solids and diazinon). The product of runoff quantity and EMC is the estimated total annual pollutant loading associated with each land use category and indicator pollutant. These sums are then ranked, from the largest to the lowest, and an accumulated percentage contribution is then produced for each pollutant. These accumulated percentage values are plotted against the number of land use categories. The graph will be relatively steep initially and then level off as it approaches 100%. A marginal cost-benefit analysis can then be used to select the number of land uses that should be monitored, which will take into account all four of the indicator pollutants.

The list of County-wide land use categories to be evaluated in Step 5 will be reviewed for each of the six watersheds in the Permit area. If there is a land use category in an individual watershed which may be feasibly monitored and is in the top five land uses in terms of total area in the watershed and is otherwise an important contributor of constituents of concern, but which would not be monitored based on the County-wide marginal cost-benefit analysis, up to two such land uses shall be monitored after the first year of the monitoring program, subject to the station event cap.

Step 6

The Principal Permittee will take the top ranked land uses and if the total number of categories exceed ten, select ten monitoring sites for monitoring the first year. All of the remaining top-ranked land uses will need

to be monitored in future years, subject to the station event cap. In selecting those sites for initial monitoring, the Principal Permittee should look for homogeneous areas that are self-contained in a drainage area. In addition, monitoring locations will need to be selected along storm drains that are able to accommodate the sampling equipment, have sampling access, no safety problems, etc.

Step 7

Next, the monitoring stations are installed. The monitoring equipment will include automatic water samplers and, if surcharging flow problems are anticipated, flow sensors measuring velocity and depth of flow. The samples collected at the automatic samplers should all be flow-weighted composites, requiring only one sample to be analyzed per event at each monitoring station. Each sampler site will need to be visited periodically to ensure that everything is ready to sample.

Step 8

The Principal Permittee will continue down the list of priority land use categories and install additional monitoring stations in subsequent years. At some point, the marginal benefit from monitoring an additional land use category will not be sufficient to justify the cost, as determined from the marginal cost-benefit analysis in step 5, and no additional sites will need to be installed. The land use sampling program will end when sufficient storms have been sampled to obtain the desired error level in the EMC values for the constituents of concern.

ATTACHMENT C-2

SCAG LAND USE CLASSIFICATIONS

1. Single Family Residential
   - High Density
   - Low Density
2. Multi-Family Residential
3. Mobile Homes and Trailer Parks
4. Mixed Residential
5. Rural Residential
6. General Office Use
7. Retail Stores and Commercial Services
8. Other Commercial
9. Public Facilities
10. Special Use Facilities
11. Educational Institutions
12. Military Installations
13. Light Industrial
14. Heavy Industrial
15. (Mineral) Extraction
16. Wholesaling and Warehousing
17. Transportation
18. Communication Facilities
19. Utility Facilities
20. Maintenance Yards
21. Mixed Transportation
22. Mixed Transportation and Utility
23. Mixed Commercial and Industrial
24. Mixed Urban
25. Under Construction
26. Golf Courses
27. Local Parks and Recreation
28. Regional Parks and Recreation
29. Cemeteries
30. Wildlife Preserves and Sanctuaries
31. Specimen Gardens and Arboreta
32. Beach Parks
33. Other Open Space and Recreation
34. Urban Vacant
35. Irrigated Cropland and Improved Pasture Land
36. Non-Irrigated Cropland and Improved Pasture Land
37. Orchards and Vineyards
38. Nurseries
39. Dairy and Intensive Livestock, and Associated Facilities
40. Poultry Operations
41. Other Agriculture
42. Horse Ranches
43. Vacant Undifferentiated
44. Abandoned Orchards and Vineyards
45. Vacant with Limited Improvements

ATTACHMENT C-3

LIST OF CONSTITUENTS IN MONITORING PROGRAM AND ASSOCIATED DETECTION LIMITS

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Conventional Pollutants		(mg/L)
Oil and Grease	413.2	1
Total Phenols	420.1	0.1
Cyanide	335.2	0.01
pH	150.1	0 - 14
Temperature		None
Dissolved Oxygen	—	Sensitivity to 5 mg/L
Bacteria		
Total Coliform	9221B	<20mpn/100ml
Fecal Coliform	9221B	<20mpn/100ml
Fecal Streptococcus	9221B	<20mpn/100ml
General		(mg/L)
Dissolved Phosphorus	300	0.05
Total Phosphorus	300	0.05
Turbidity	180.1	0.1NTU
Total Suspended Solids	160.2	2
Total Dissolved Solids	160.1	2
Volatile Suspended Solids	160.4	2
Total Organic Carbon	415.1	1
Total Petroleum Hydrocarbon	418.1	1
Biochemical Oxygen Demand	405.1	2
Chemical Oxygen Demand	410.4	20-900
Total Ammonia-Nitrogen	350.2	0.1
Total Kjeldahl Nitrogen	351.2	0.1
Nitrate-Nitrite	4110	0.1
Alkalinity	310.1	2
Specific Conductance	120.1	1umho/cm
Total Hardness	130.2	2
MBAS	425.1	<0.5
Chloride	4110	2
Fluoride	4110	0.1
Sulfate	4110	2

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Metals (Total and Soluble)		(µg/L)
Aluminum	202.1	100
Antimony	204.2	10
Arsenic	206.2	10
Barium	208.2	100
Beryllium	210.2	5
Boron	212.3	250
Cadmium	213.2	10
Calcium	215.2	200
Chromium	218.2	10
Copper	219.2	10
Hex. Chromium	7196	<10
Iron	236.2	100
Lead	239.2	10
Magnesium	242.1	200
Manganese	243.2	30
Mercury	245.1	1
Nickel	249.2	10
Potassium	258.1	100
Selenium	270.2	5
Silver	272.2	10
Sodium	273.1	50
Thallium	279.2	10
Zinc	289.2	50
Semivolatile Organic Compounds		(µg/L)
Acids	8250	
Benzoic Acid	8250	<5
Benzyl Alcohol	8250	<5
2-Chlorophenol	8250	<2
2, 4-Dichlorophenol	8250	<2
2, 6-Dichlorophenol	8250	<2
4-Dimetylphenol	8250	<2
4, 6-Dinitro-2-metylphenol	8250	<3
2,4-Dinitrophenol	8250	<3
2-Methylphenol	8250	<3
4-Methylphenol	8250	<3
2-Nitrophenol	8250	<3
4-Nitrophenol	8250	<3
4-Chloro-3-methylphenol	8250	<3
Pentachlorophenol	8250	<2
Phenol	8250	<1

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Acids (continued)	8250	(µg/L)
2,3,4,6-Tetrachlorophenol	8250	<1
2,4,5-Trichlorophenol	8250	<1
2,4,6-Trichlorophenol	8250	<1
Base/Neutral	8250	
Acenapthene	8250	<0.5
Acenapthylene	8250	<0.5
Acetophenone-	8250	<3
Aniline	8250	<3
Anthracene	8250	<0.5
4-Aminobiphenyl	8250	<3
Benzidine	8250	<3
Benzo(a)anthracene	8250	<1
4-Chloroaniline	8250	<1
1-Chloronapthalene	8250	<1
p-Dimethylaminoazobenzene	8250	<3
7,12-Dimethylbenz(a)-anthracene	8250	<1
a-,a-Dimethylphenethylamine	8250	<3
Benzo(a)pyrene	8250	<1
Benzo(b)flouranthene	8250	<1
Benzo(k)flouranthene	8250	<1
Chlordane	8250	<1
Bis(2-chloroethoxy)methane	8250	<1
Bis(2-chlorisopropyl)ether	8250	<1
Bis(2-chloroethyl)ether	8250	<1
Bis(2-ethylhexyl)phtalate	8250	<3
4-Bromophenyl phenyl ether	8250	<1
Butyl benzyl phthalate	8250	<3
2-Chloronapthalene	8250	<1
4-Chlorophenyl phenyl ether	8250	<1
Chrysene	8250	<1
Dibenz(a,j)acridine	8250	<3
Dibenz(a,h)anthracene	8250	<1
1, 3-Dichlorobenzene	8250	<0.5
1, 4-Dichlorobenzene	8250	<0.5
1, 2-Dichlorobenzene	8250	<0.5
3, 3-Dichlorobenzidine	8250	<3
Diethylphthalate	8250	<0.5
Dimethylphthalate	8250	<0.5
Di-n-butylphthalate	8250	<3
2,4-Dinitrotoluene	8250	<0.5
2, 6-Dinitrotoluene	8250	<0.5

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Base/Neutral (continued)	8250	(µg/L)
Diphenylamine	8250	<3
1, 2-Diphenylhydrazine	8250	<3
Di-n-octylphtalate	8250	<3
Ethyl methanesulfonate	8250	<3
Fluoranthene	8250	<1
Fluorene	8250	<1
Hexachlorobenzene	8250	<0.5
Hexachlorobutadiene	8250	<1
Hexachlorocyclopentadiene	8250	<3
Hexachloroethane	8250	<1
Indeno(1, 2, 3-cd)pyrene	8250	<1
Isophorone	8250	<0.5
3-Methylcholanthrene	8250	<3
Methyl methanesulfonate	8250	<3
Napthalene	8250	<0.5
1-Napthylamine	8250	<3
2-Napthylamine	8250	<3
2-Nitroaniline	8250	<3
3-Nitroaniline	8250	<3
4-Nitroaniline	8250	<3
Nitrobenzene	8250	<0.5
N-Nitroso-di-n-butylamine	8250	<3
N-Nitrosodimethylamine	8250	<3
N-Nitrosodiphenylamine	8250	<3
N-Nitroso-di-N-propylamine	8250	<1
N-Nitrosopiperidine	8250	<3
Pentachlorobenzene	8250	<3
Phenacitin	8250	<3
Phenanthrene	8250	<0.5
2-Picoline	8250	<3
Pronamide	8250	<5
Pyrene	8250	<0.5
5-Tetrachlorobenzene	8250	<3
1, 2, 4,-Trichlorobenzene	8250	<0.5
Pesticides	608	µg/L
Aldrin	608	0.05
alpha-BHC	608	0.05
beta-BHC	608	0.05
delta-BHC	608	0.05
gamma-BHC (Lindane)	608	0.05
Carbofuran	531.1	<5

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CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Pesticides (continued)	8250	(µg/L)
Chlordane	608	0.05
4, 4'-DDD	608	<0.1
4, 4'-DDE	608	<0.1
4, 4'-DDT	608	<0.1
Benzaton	515.1	<2
Dieldrin	608	<0.1
Endosulfan I	608	<0.1
Endosulfan II	608	<0.1
Endosulfan sulfate	608	<0.1
Endrin	608	<0.1
Endrin aldehyde	608	<0.1
Glyphosate	547	<.5
Heptachlor	608	0.05
Heptachlor epoxide	608	0.05
Methoxychlor	608	<0.5
Toxaphene	608	<1.0
2,4-D	515.1	<.02
2,4,5-TP-SILVEX	515.1	<0.2
Polychlorinated Biphenyls	608	(µg/l)
Aroclor-1016	608	<1
Aroclor-1221	608	<1
Aroclor-1232	608	<1
Aroclor-1242	608	<1
Aroclor-1248	608	<1
Aroclor-1254	608	<1
Aroclor-1260	608	<1
Herbicides		(µg/L)
*Diazinon		
*Chlorpyrifos		
*Diuron		
*Malathion		
*Prometryn	507	
*Atrazine	507	
Simazine	507	<2
*Cyanazine	507	
Molinate	507	<.01
Thiobencarb	507	<.1

* Method or Detection Limits to be determined

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CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Volatile Organic Compounds (VOCs)	8240A	(µg/L)
Acetonitrile	8240A	10.0
Acrolein	8240A	10.0
Acrylonitrile	8240A	0.5
Benzene	8240A	0.5
Bromoform	8240A	0.5
2-Butanone	8240A	10.0
Carbon Disulfide	8240A	10.0
Carbon Tetrachloride	8240A	0.5
Chlorobenzene	8240A	0.5
Chlorodibronmethane	8240A	0.5
Chloroethane	8240A	0.5
2-Chloroethyl vinyl ether	8240A	1.0
Chloroform	8240A	0.5
Dibromomethane	8240A	0.5
1,2-Dibromo-3Chloropropane	8240A	<.01
1, 4-Dichloro-2-butene	8240A	10.0
Dichlorobromomethane	8240A	0.5
Dichlorodifluoromethane	8240A	0.5
1, 1-Dichloroethane	8240A	0.5
1, 2-Dichloroethane	8240A	0.5
1, 1-Dichloroethene	8240A	0.5
trans-1, 2-Dichloroethene	8240A	0.5
1, 2-Dichloropropane	8240A	0.5
cis-1, 3-Dichloropropene	840A	0.5
trans-1, 3-Dichloropropene	8240A	0.5
Ethanol	8240A	10.0
Ethylbenzene	8240A	1.0
Ethylene Dibromide	8240A	<.01
Ethylene Oxide	8240A	10.0
Ethyl Metcrylate	8240A	0.5
2-Hexanone	8240A	5.0
Iodomethane	8240A	0.5
Methyl Bromide	8240A	5.0
Methyl Chloride	8240A	5.0
Methylene Chloride	8240A	1.0
4-Methyl-2-pentanone	8240A	5.0
Styrene	8240A	0.5
1, 1, 2,2-Tetrachloroethane	8240A	0.5
Tetrachloroethane	8240	0.5
Toluene	8240A	1.0
Trichlorofluoromethane	8240A	1.0
1, 2,3-Trichloropropane	8240A	0.5
Trichloroethene	8240A	0.5

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CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
VOCs (continued)	8240A	(µg/L)
1, 1, 1-Trichloroethane	8240A	1.0
1, 1,2-Trichloroethane	8240A	1.0
1,1,2-Trichlcro- 1,2,2 trifllluoroethane	8240A	<.5
Vinyl acetate	8240A	5.0
Vinyl chloride	8240A	0.5
Xylene (Total)	8240A	0.5

ATTACHMENT C-4

CRITICAL SOURCE/ BMP MONITORING

Selection of Initial Critical Sources to be Studied: The selection of initial critical sources will be made using the following steps:

Step 1: The Principal Permittee first will develop an initial list of candidate critical sources, including industrial and commercial sources that are regulated under the state's General Permit and those which are not.

Step 2: The Principal Permittee next will develop a list of criteria for prioritizing the candidate critical sources developed pursuant to Step 1, including the following: number and/or total area associated with each critical source; runoff pollutants associated with each source; the impact of non stormwater discharges associated with each source; whether or not the source is regulated under the General Permit; and, ease of implementation of monitoring and BMPs.

Step 3: The Principal Permittee next will prioritize the candidate critical sources based on the selection criteria develop under Step 2.

Step 4: The Principal Permittee next will conduct a literature review and contact other state municipal stormwater programs to identify what critical sources have been (or are planned in the next five years) to be studied elsewhere. Where studies have been conducted or are planned to be conducted elsewhere, such studies will be reviewed to assess whether the hydrologic conditions in the study area are representative of those in Los Angeles County, the quality of the study, and any conclusions from studies already conducted. This evaluation will be coordinated with the State Stormwater Quality Task Force.

Step 5: The Principal Permittee next will take the list developed in Step 3 and refine and finalize it based upon the review conducted pursuant to Step 4.

Selection of Additional Critical Sources/BMPs: The selection of additional critical sources or BMPs for monitoring following the third rainy season from the adoption of this Order will follow the steps noted above, except that BMPs be evaluated in addition to critical sources.

ATTACHMENT C-5

RECEIVING WATERS STUDY

A receiving waters study will be a joint effort among the University of Southern California, the University of California at Santa Barbara and the Southern California Coastal Water Research Project ("SCCWRP"). In addition, the study will be done in cooperation with an ongoing toxicity study by investigators at UCLA. Co-funding, either direct or in terms of vessel support, will be provided by the federal government through the Sea Grant program, and by the City of Los Angeles through SCCWRP. It must be noted that while the Principal Permittee is committed to funding a receiving waters study, the scope of that study will be affected by the availability of non-Principal Permittee funding sources, as discussed below. The Principal Permittee's commitment is limited to the provision of funds.

A. Outline of Study: The receiving waters study includes a plume study to determine the dispersion of stormwater runoff and associated sediment, a study of the benthic environment near two principal storm drains, Malibu and Ballona Creeks, and an assessment of the toxicity of storm drain waters and affected sediments near Malibu and Ballona Creeks. The plume study will be carried out by the USC Sea Grant program. The benthic and toxicity studies will be carried out by SCCWRP. All of these studies will be carried out over two storm seasons, with the third year used for analysis of the data obtained in the previous years. If it is the consensus of the project scientists that a third year of research is appropriate for the benthic and toxicity studies, such study shall be carried out. Each element of these studies is outlined below.

1. Plume Study: The plume study will be conducted over two storm seasons to, at a minimum, accomplish the following:

   - Map the spatial and temporal structure of the runoff plumes from Ballona and Malibu Creeks as they flow into Santa Monica Bay following strong winter storms.
   - Examine the interaction between the runoff plume and ocean processes as they affect the advection, dispersion, and mixing of the plume.
   - Evaluate the impact of storm runoff plumes on beneficial uses of the coastal ocean.
   - Characterize the optical properties of the suspended particulate material ("SPM") and dissolved organic material ("DOM") associated with runoff sources.
   - Examine the effects of DOM and SPM on the water column optics and the distribution of nutrient concentrations, as the same may affect phytoplankton productivity.
   - Assist in establishing appropriate locations for benthic study stations.

2. Benthic Study: The benthic study will measure the following parameters:

   - Water quality (dissolved oxygen, salinity, density, temperature, light transmissivity and pH).
   - Sediment grain size, sediment organic concentrations and sediment contaminant concentrations.
   - The structure of the benthic invertebrate community.

   The benthic study will employ the same methods used in studies of dry weather impacts in river discharge areas carried out by SCCWRP in 1994 and 1995 in the entire Southern California Bight.

3. Toxicity Study: The toxicity study will involve the following proposed annual elements:
   Water Column Toxicity

   - 30 sea urchin fertilization bioassays taken during two storm and one dry weather event off each of Ballona and Malibu Creeks (including reference sites).
   - 3 Phase I TIE tests on up to 3 samples showing toxicity in the sea urchin fertilization bioassays

   Sediment Toxicity

   - Amphipod survival bioassays of sediment samples from 10 stations (including reference sites) will be taken 2 times (1 storm and 1 dry weather period) in Year 1.
   - Amphipod survival bioassays of sediment samples from 10 stations (including reference sites) will be taken 2 times (1 storm and 1 dry weather period) in Year 2.
   - Sea urchin growth bioassays will be conducted for chronic toxicity in sediment samples from 6 stations, plus 1 reference site, with the locations to be determined by project scientists based on existing data and best scientific judgment. Biological effects only (survival, growth, sediment avoidance) will be measured for all sites in Year 2.
   - Chemical analysis of sea urchin growth test tissue samples (gonad) will be conducted for organics and metals. Duplicate samples from 4 stations (including one reference) will be analyzed in Year 2.
   - Phase I TIE tests using sea urchin fertilization of interstitial water from up to 4 stations identified to be toxic in amphipod survival bioassays (4 samples total) will be conducted in Year 2.
   - Additional interstitial water testing intended to coordinate with the UCLA study

noted below may also be carried out.

B. Project Flexibility: The exact parameters of Year 2 (and Year 3, if necessary) testing will be determined through a review by the project scientists of the results of Year 1 and Year 2 testing. Thus, the steps outlined above may be modified following the reviews.

C. Coordination with UCLA Toxicity Study: UCLA researchers are involved in an ongoing Santa Monica Bay Restoration Project study of the toxicity of stormwater runoff in Ballona and Malibu Creeks. The receiving waters study shall be coordinated, to the extent possible, with the UCLA study to maximize the utility of information obtained by both studies.

D. Los Angeles and San Gabriel River Study: In addition, the Principal Permittee will take a total of three (two storm weather and one dry weather) water samples taken at each of the Los Angeles and San Gabriel River mass emission stations during each of the first two years that those stations are monitored. The samples will be analyzed using the sea urchin fertilization bioassay, with the bioassay costs not to exceed $3,600.

ATTACHMENT D

GLOSSARY OF TERMS

40 CFR: Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Adverse Impact: A detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants. See also "Impact".

Authorized Discharge: Any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

Basin Plan: Refers to the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

Beneficial Uses: Existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

BAT/BCT Criteria: Treatment-based standards for reducing the discharge of pollutants, as defined in 40 CFR subchapter N, for specific categories of industrial facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards. Effluent limitations have been defined in 40 CFR for the reduction of toxic pollutants using Best Available Technology Economically Achievable (BAT) and for the reduction of conventional pollutants using Best Conventional Pollutant Control Technology (BCT).

BMP: See Best Management Practice

Best Management Practice (BMP): Activities, practices, facilities, and/or procedures that when implemented to their maximum efficiency will prevent or reduce pollutants in discharges. Examples of BMPs may include public education and outreach, proper planning of development projects, proper clean out of catch basin inlets, and proper sludge or waste handling and disposal, among others.

Bioaccumulate: The build up of a substance in the tissues of an organism to a higher concentration than in the surrounding environment, generally as a result of the organism's ingestion and internal storage of the substance over time.

Biostimulatory: An agent, action, or condition that arouses, elicits or accelerates physiological or organic activity. For example, the introduction of excessive nutrients to an aquatic system has a biostimulatory effect which manifests itself as excessive growth of algae in the aquatic systems. As the algae decomposes, dissolved oxygen in the water column is depleted, potentially leading to excessively low dissolved oxygen levels which can lead to suffocation of aquatic life, i.e., fish kills.

CFR: See Code of Federal Regulations.

CRWQCB: The California Regional Water Quality Control Board, Los Angeles Region. See also Regional Board.

CSWMP: See Countywide Storm Water Management Plan

California Storm Water Best Management Practice Handbooks: The technical manuals prepared under direction of the Storm Water Quality Task Force, representing California members of the American Public Works Association (APWA). Comprising three volumes—Municipal, Industrial, and Construction—they provide guidance for selecting BMPs to reduce pollutants in storm water discharges. These manuals are currently available from Blue Print Service, 1700 Jefferson Street, Oakland, CA 94612, (510) 444-6771 or Fax (510) 444-1262.

Clean Water Act (CWA): The Federal Water Pollution Control Act enacted in 1972 by Public Law 92-500 and amended by the Water Quality Act of 1987. The Clean Water Act prohibits the discharge of pollutants to Waters of the United States unless said discharge is in accordance with an NPDES permit. The 1987 amendments include guidelines for regulating municipal, industrial, and construction storm water discharges under the NPDES program.

Code of Federal Regulations: A codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government.

Construction Activity: Clearing, grading, or excavation that results in soil disturbance. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Control: To minimize, reduce or eliminate by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

Countywide Storm Water Management Plan (CSWMP): A single comprehensive plan for implementation of the requirements of this Order that are applicable to all Permittees and all Watershed Management Areas. The CSWMP is a storm water management implementation plan for the entire drainage area within the jurisdiction of the Permittees under this Order. The Countywide Storm Water Management Plan will be developed as a single document by the Principal Permittee, with assistance and participation from the Permittees, according to the schedule prescribed in the permit. The CSWMP shall be used as a tool to develop a watershed specific Watershed Management Area Plan (WMAP).

Dechlorinated Swimming Pool Discharges: Means swimming pool discharges which have no measurable chlorine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term swimming pool discharges does not include swimming pool filter backwash.

Discharge: Any release, spill, leak, pump, flow, escape, dumping, or disposal of any liquid, semi-solid or solid substance.

Disposal: Affirmative act in the placement of wastes or other materials to be thrown out or thrown away.

Disturbed Area: Means that area altered as a result of clearing, grading, and/or excavation of earth.

Do-it-yourselfers: Means any person or persons who repair or maintain their own vehicle(s) and/or home(s).

Effectively Prohibit: Means prohibit through legal authority or control through requirements, conditions, or other limitation. Control may include best management practices.

Effectiveness: A direct or indirect measure or indicator of how well a program, plan, or best management practice achieves its intended purpose. Measures or indicators of effectiveness include, but are not limited to, detailed accounting of program accomplishments, funds expended, staff hours utilized, field surveys, amount of pollutants reduced, biosurveys, and quantitative data from water quality and sediment sampling.

Erosion: The wearing away of land surface primarily by wind or water. Erosion occurs naturally as a result of weather or runoff but can be intensified by clearing, grading, or excavation of the land surface.

Executive Advisory Committee (EAC): A committee composed of representatives of the County of Los Angeles, the City of Los Angeles, and the six Watershed Management Areas.

Executive Officer: The Executive Officer of the California Regional Water Quality Control Board, Los Angeles Region, or an authorized representative.

Food Distribution Industry: Establishments primarily engaged in the warehousing and storage of perishable goods under refrigeration described by SIC 4222, and establishments primarily engaged in retail selling of food for home preparation and consumption described by SIC Major Group 54.

Food Service Industry: Establishments primarily engaged in the retail sale of prepared food and drinks for on-premise consumption or immediate consumption described by SIC 5812

GCASP: See General Construction Activity Storm Water Discharge Permit.

GIASP: See General Industrial Activity Storm Water Discharge Permit.

General Construction Activity Storm Water Discharge Permit (GCASP). The NPDES permit adopted by the State Water Resources Control Board which authorizes the discharge of storm water under certain conditions.

General Industrial Activity Storm Water Discharge Permit (GIASP). The NPDES permit adopted by the State Water Resources Control Board which authorizes the discharge of storm water under certain conditions.

Good Housekeeping Practice: A common practice related to the storage, use, or cleanup of materials, performed in a manner that minimizes the discharge of pollutants. Examples include purchasing only the quantity of materials to be used at a given time, use of alternative and less harmful products, cleaning up spills and leaks, and storing materials in a manner that will contain any leaks or spills.

Hazardous Material: Any material defined as hazardous by Chapter 6.95 of the California Health and Safety Code.

Hazardous Substance: Any substance designated pursuant to 40 CFR 302. This also includes unlisted

hazardous substances which is a solid waste, as defined in 40 CFR 261.2, which is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b), is a hazardous substance under section 101(14) of the CWA if it exhibits any of the characteristics identified in 40 CFR 261.20 through 261.24. Examples of hazardous substances include any substance or chemical product for which one or more of the following applies:

- A material safety data sheet (MSDS) is required
- The substance is listed as radioactive by the Nuclear Regulatory Commission
- The substance is listed as hazardous by the U.S. Department of Transportation
- The material is listed in Labor Code §6382(b).

Hazardous Waste: Means a 'Hazardous Substance' or 'Hazardous Material' which is to be discharged, discarded, recycled, or processed.

IPM: See Integrated Pest Management.

Illicit Connection: Any human-made conveyance that is connected to the storm drain system without a permit, excluding roof-drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

Illicit Discharge: Any discharge to the storm drain system that is prohibited under local, state or federal statutes, ordinances, codes or regulations. This includes all non-storm water discharges except discharges pursuant to an NPDES permit and discharges that are exempted or conditionally exempted in accordance with Section II of this Order.

Illicit Disposal: Any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water or urban runoff.

Impact: Any actual or potential effect caused either directly or indirectly by the discharge of pollutants.

Impervious Surface: Surface that prevents or significantly reduces the entry of water into the underlying soil, resulting in runoff from the surface in greater quantities and/or at an increased rate when compared to natural conditions prior to development. Examples of places that commonly exhibit impervious surfaces include parking lots, driveways, roadways, storage areas, and rooftops. The imperviousness of these areas commonly results from paving, compacted gravel, compacted earth, and oiled earth.

In Consultation With: Means that the Principal Permittee and Permittees work cooperatively towards the development of programs.

Industrial Activity: The term "industrial activity" is defined in 40 CFR 122.26(b)(14) and refers to 11 categories of activities required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges associated with "industrial activity" as required by 40 CFR 122.26(c). See Phase I Facilities.

Industrial/Commercial Facility: Any facility involved and/or used in either the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facility includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership

(federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Integrated Pest Management (IPM): Pest management practice that considers the whole ecosystem when determining potential pest control strategies. IPM emphasizes use of a hierarchy of controls, with a preference for mechanical controls (e.g., mowing) and biological controls (e.g., beneficial insects, pheromones) before chemical controls (e.g., pesticides).

Jurisdiction: Means the geographic area within the Permittee's boundaries that are required under this Order to be under the Permittee's regulatory control. The term is not intended to include facilities which the Permittee is preempted or otherwise precluded from regulating, such as federal and state facilities, school districts, and similar governmental (non-municipally owned or operated) entities.

Legal Authority: The ability of a Permittee to impose and enforce statutes, ordinances, and regulations to require control of pollutant sources and regulate the discharge of pollutants to the storm drain system, and to enter into interagency agreements, contracts, and memorandums of understanding. These powers are granted to the Permittees by the Constitution of the State of California and the General Laws of the State (for General Law Cities/Counties) or individual constitutions (for Charter Cities/Counties). These powers are promulgated by the Permittee through their municipal codes, ordinances, and statutes duly adopted by their governing body.

MS4: See Municipal Separate Storm Sewer System

Maximum Extent Practicable (MEP): The standard for implementation of storm water management programs to reduce pollutants in storm water. MEP refers to storm water management programs taken as a whole. It is the maximum extent possible taking into account equitable consideration and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility. Section 402(p)(3)(B)(iii) of the Clean Water Act requires that municipal permits "...shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Municipal Separate Storm Sewer System (MS4): See Storm Drain System.

NPDES: See National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System: A permit issued by the USEPA, SWRCB, or CRWQCB pursuant to the Clean Water Act that authorizes discharges to waters of the United States and requires the reduction of pollutants in the discharge.

Non-Storm Water Discharge: Any discharge to a municipal storm drain system that is not composed entirely of storm water.

Notice of Intent to Meet and Confer (NIMC): A letter sent to a Permittee or Permittees by the Regional Board Executive Officer as an invitation to discuss the implementation of requirements under this Order and is made when it is suspected that a Permittee or Permittees has/have an insufficient program based upon performance and submittals made under this Order. The NIMC is a part of the Administrative Review section of this Order and provides an opportunity for the Permittee(s) to meet with Regional Board staff to

clarify any potential misunderstandings prior to, or in lieu of the Regional Board taking enforcement action for "non-compliance".

Nuisance: Anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Permittee(s): Any agency named in the NPDES storm water permit as being responsible for permit conditions within its jurisdiction. Permittees to the NPDES storm water permit presently include the County of Los Angeles and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

Pervious: Natural or man-made surfaces that allow the entry of water into the underlying soil, resulting in less runoff from the surface when compared to impervious surfaces. Examples of pervious surfaces include vegetated areas, most undeveloped areas, uncompacted earth surfaces, and lattice type modular pavements.

Phase I Facilities: This term refers to categories of facilities which are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges associated with "industrial activity" as required by 40 CFR 122.26(c). The term "industrial activity" is defined in 40 CFR 122.26(b)(14) and in general refers to 11 categories of activities. These categories include:

i. FACILITIES SUBJECT TO STORM WATER EFFLUENT LIMITATIONS GUIDELINES, NEW SOURCE PERFORMANCE STANDARDS, OR TOXIC POLLUTANT EFFLUENT STANDARDS (40 CFR SUBCHAPTER N). Currently, categories of facilities subject to storm water effluent limitations guideline are Cement Manufacturing (40 CFR Part 411), Feedlots (40 CFR Part 412), Fertilizer Manufacturing (40 CFR Part 418), Petroleum Refining (40 CFR Part 419), Phosphate Manufacturing (40 CFR Part 422), Steam Electric (40 CFR Part 423), Coal Mining (40 CFR Part 434), Mineral Mining and Processing (40 CFR Part 436), Ore Mining and Dressing (40 CFR Part 440), and Asphalt Emulsion (40 CFR Part 442). The fact sheet accompanying this general permit contains additional information pertaining to facilities subject to new source performance standards or toxic pollutant effluent standards.

ii. MANUFACTURING FACILITIES: Standard Industrial Classifications (SICs) 24 (except 2411 and 2434), 26 (except 265 and 267), 28 (except 283 and 285) 29, 311, 32 (except 323), 33, 3441, and 373.

iii. OIL AND GAS/MINING FACILITIES: SICs 10 through 14 including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(1) because of performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released, or except for area of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment

operations, or transmission facilities that discharge stormwater contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by products, or waste products located on the site of such operations. Inactive mining operations are mined sites that are not being actively mined, but which have an identifiable owner/operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined material, or sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

iv. HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES: Includes those operating under interim status or a general permit under Subtitle C of the Federal Resource Conservation and Recovery Act (RCRA).

v. LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS: Sites that receive or have received industrial waste from any of the facilities covered by this general permit, sites subject to regulation under Subtitle D of RCRA, and sites that have accepted waste from construction activities (construction activities include any clearing, grading, or excavation that results in disturbance of five acres or more).

vi. RECYCLING FACILITIES: SICs 5015 and 5093. These codes include metal scrap yards, battery reclaimers, salvage yards, motor vehicle dismantlers and wreckers, and recycling facilities that are engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste material such as bottles, wastepaper, textile wastes, oil waste, etc.

vii. STEAM ELECTRIC POWER GENERATING FACILITIES: Includes any facility that generates steam for electric power through the combustion of coal, oil, wood, etc.

viii. TRANSPORTATION FACILITIES: SICs 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or other operations identified herein that are associated with industrial activity.

ix. SEWAGE OR WASTEWATER TREATMENT WORKS: Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the CWA.

xi. MANUFACTURING FACILITIES WHERE MATERIALS ARE EXPOSED TO STORM WATER: SICs 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-4225.

Note: Category x, Construction activity, is covered by a separate general permit.

Pollutant: Those "pollutants" defined in Section 502(6) of the federal Clean Water Act (33 U.S.C.§1362(6)), or incorporated into California Water Code §13373. Examples of pollutants include, but are not limited to the following:

- Commercial and industrial waste (such as fuels, solvents, detergents, plastic pellets, hazardous substances, fertilizers, pesticides, slag, ash, and sludge);

- Metals such as cadmium, lead, zinc, copper, silver, nickel, chromium, and non-metals such as phosphorus and arsenic;

- Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease);

- Excessive eroded soils, sediment, and particulate materials in amounts which may adversely affect the beneficial use of the receiving waters, flora or fauna of the State;

▪Animal wastes (such as discharge from confinement facilities, kennels, pens, recreational facilities, stables, and show facilities);

▪Substances having characteristics such as pH less than 6 or greater than 9, or unusual coloration or turbidity, or excessive levels of fecal coliform, or fecal streptococcus, or enterococcus;

The term "Pollutant" shall not include uncontaminated storm water, potable water or reclaimed water generated by a lawfully permitted water treatment facility.

The term "Pollutant" also shall not include any substance identified in this definition, if through compliance with the best management practices available, the discharge of such substance has been eliminated to the maximum extent practicable. In an enforcement action, the burden shall be on the person who is the subject of such action to establish the elimination of the discharge to the maximum extent practicable through compliance with the best management practices available.

Pollutant Loading: The quantity of a pollutant found in storm water and/or non-storm water expressed in mass per unit of time. Pollutant loadings are commonly expressed in units of tons/year or pounds/year.

Pollutants of Concern: Pollutants that exhibit one or more of the following characteristics:

▪Current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water,

▪Elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or

▪The detectable inputs of the pollutant are at a level high enough to be considered potentially toxic to humans and/or flora and fauna.

Pollutants of concern may be different for each receiving water.

For example, Pollutants of concern for the Santa Monica Bay Watershed Management Area include, DDT, PCBs, PAHs, Chlordane, TBT, cadmium, chromium, copper, lead, nickel, silver, zinc, pathogens, TSS (sediment), nutrients, trash and debris, chlorine, oxygen demanding substances, and oil and grease.

Pollution Prevention: Includes any planning, schedules of activities, prohibitions of practices, implementation maintenance procedures, and other management practices, to prevent or reduce pollutants in storm water / urban runoff discharges.

Potable Water Sources: Means flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

Principal Permittee: The agency named in the NPDES storm water permit to serve as permit coordinator, responsible for general administration of the permit, and coordinating cooperation by other Permittees, including but not limited to the implementation of local self-monitoring programs and BMPs, and preparation and submittal of reports required by the permit. The Principal Permittee under this Order is the County of Los Angeles.

Proper Disposal: The act of disposing of material(s) in a lawful manner and which ensures the protection of water quality and beneficial uses of receiving waters.

Public Agency Vehicle Maintenance/Material Storage Facility: Any Permittee-owned and/or operated facility that is: used for vehicle or equipment maintenance, repair, washing, or fueling; and/or is required to prepare a hazardous materials business plan.

Regional Board: The Governing Board of the California Regional Water Quality Control Board State agency with primary responsibility for the coordination and control of water quality. This means the California Regional Water Quality Control Board, Los Angeles Region. The Los Angeles Region, is comprised of all basins draining into the Pacific Ocean between the southeasterly boundary, located in the westerly part of Ventura County, of the watershed of Rincon Creek and a line which coincides with the southeasterly boundary of Los Angeles County from the ocean to San Antonio Peak and follows thence the divide between San Gabriel River and Lytle Creek drainage to the divide between Sheep Creek and San Gabriel River drainage.

Reportable Quantity: Means that quantity of a hazardous substance, as set forth in 40 CFR 302, which requires notification pursuant to 40 CFR 302 in event of that quantity release.

Receiving Waters: All surface water bodies within the permit area that are identified in the Basin Plan.

Runoff: Means any runoff including storm water and dry-weather flows from a drainage area that reaches a receiving water body or sub-surface. During dry weather it is typically comprised of many base flow components either contaminated with pollutants or uncontaminated.

SIC: See Standard Industrial Classification.

SPCA: See Storm Water Program Compliance Amendment

SWRCB: State Water Resources Control Board

Secondary Containment: Structures, usually dikes or berms, surrounding tanks or other storage containers to catch spilled or leaked materials to prevent their discharge to the MS4.

Sediment: Organic or inorganic material that is carried by or suspended in water and settles to form deposits in the storm drain system or receiving waters.

Source Minimization: Planning or operational practices that reduce the amount of materials stored at a site.

Standard Industrial Classification (SIC): The statistical classification standard, organized by industry, underlying all establishment-based federal economic statistics. The SIC of a particular industry is determined using the latest Standard Industrial Classification Manual as prepared by the Executive Office of the President, Office of Management and Budget.

Storm Drain System: Streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained or controlled by any Permittee and used for the purpose of collecting, storing, transporting, or disposing of storm water.

Storm Water: Water which originates from atmospheric moisture (rainfall or snowmelt) and that falls onto land, water, or other surfaces.

Storm Water Management Program: This is the sum of all requirements of this Order. This is not be confused with the CSWMP.

Storm Water Pollution Prevention Plan (SWPPP): A plan required by and for which contents are specified in the State of California General Permit for Storm Water Discharges Associated with Industrial Activities, and the General Permit for Storm Water Discharges Associated with Construction Activities. The purpose of the plan is to help identify the sources of pollution that affect the quality of storm water discharges from a site and to describe and ensure the implementation of practices to reduce pollutants in storm water discharges.

Storm Water Program Compliance Amendment (SPCA): The SPCA is a report prepared by a Permittee if directed to by the Regional Board Executive Officer for insufficient submittals made under this Order. The SPCA is a part of the Administrative Review section of this Order and will include additions and enhancements to the jurisdiction's storm water program with enforceable implementation deadlines.

Storm Water Runoff: That part of precipitation (rainfall or snowmelt) which travels via flow across a surface to the storm drain system or receiving waters. Examples of this phenomenon include: the water that flows from a building's roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). When all other factors are equal, runoff increases as the perviousness of a surface decreases.

Storm Water Runoff Mitigation Plan: A plan, to be submitted prior to the submittal of an application for the first planning or building approval for a new development project, that sets forth storm water pollution controls to be incorporated into development projects. The plan shall:

- be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the following goals:

- maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation,

- minimize, to the extent practicable, the amount of runoff directed to impermeable areas to the storm drain system,

- maximize, to the extent practicable, storm water filtration and storage for reuse through the use of sediment traps, cisterns or other means,

- minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of storm water, through the installation of appropriate treatment controls, or through other means.

Street Washing: The practice of washing of streets and sidewalks using water or other cleaning fluids.

Toxic Materials: For the purposes of this Order, toxic materials means any material(s) or combination of materials which directly or indirectly cause(s) either acute or chronic toxicity in the water column.

Toxic Pollutant: Those "pollutants", or combinations of pollutants, defined in Section 502(13) or 307(a)(1) of the federal Clean Water Act (33 U.S.C.§1362(13)).

Undesirable Coloration: See "Color" in the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (page 3-9) June 13, 1994.

USEPA: United States Environmental Protection Agency

Waste Minimization: Operational practices that reduce the amount of waste materials generated. Practices may include recycling and reuse.

Watershed Management Area (WMA): Any one of the six general watershed areas covered by this NPDES storm water permit consisting of the: Malibu Creek and other rural areas discharging to Santa Monica Bay, Santa Clara River, Dominguez Channel/Los Angeles Harbor, San Gabriel River, Los Angeles River, and Ballona Creek and other urban areas discharging to the Santa Monica Bay watersheds.

Watershed Management Area Plan (WMAP): A plan for implementation of permit requirements that is based on the Countywide Storm Water Management Plan (CSWMP) but further addresses specific issues, pollutants of concern, and BMPs that are unique to the specific Watershed Management Area.

Watershed Management Committee (WMC): A committee composed of representatives from each Permittee in a Watershed Management Area. Duties include establishing goals and objectives for the Watershed; prioritizing pollution control efforts; developing a specific Watershed Management Plan; coordinating and facilitating annual reports for the watershed; and facilitating compliance by Permittees in the watershed.

Section F

State Board Orders

ITEM 10F
(1) LA
SUSMP

Section F (1)

County of Los Angeles Standard Urban Storm Water Mitigation Plans (SUSMPs)

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 2000 - 11

In the Matter of the Petitions of
THE CITIES OF BELLFLOWER, ET AL., THE CITY OF ARCADIA, AND WESTERN STATES PETROLEUM ASSOCIATION
Review of January 26, 2000 Action of the Regional Board
and
Actions and Failures to Act
by both the
California Regional Water Quality Control Board,
Los Angeles Region and Its Executive Officer
Pursuant to Order No. 96-054,
Permit for Municipal Storm Water and Urban Run-Off Discharges Within
Los Angeles County
[NPDES NO. CAS614001]

SWRCB/OCC FILES A-1280, A-1280(a) and A-1280(b)

BY THE BOARD:

On July 15, 1996, the Los Angeles Regional Water Quality Control Board (Regional Water Board) issued a revised national pollutant discharge elimination system (NPDES) permit in Order No. 96-054 (permit) to the 85 incorporated cities and the county within Los Angeles County (the County).[1] The permit covers storm water discharges from municipal separate storm sewer systems throughout the County.[2]

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[1] This was the second storm water permit adopted for Los Angeles County and its cities. The first permit was the subject of an earlier Order. (In the Matter of Natural Resources Defense Council, Inc., Order WQ 91-04). In this permit, the County is designated as the Principal Permittee, and each city is designated as a permittee. The County is required to submit various documents on behalf of all of the permittees.

[2] The Regional Water Board has since issued a separate permit for one city, Long Beach. The relevant provisions of the Long Beach permit are similar to those in Order No. 96-054.

The permit contains provisions for the regulation of storm water discharges from development planning and construction.[3] Pursuant to these provisions, the County was required to submit Standard Urban Storm Water Mitigation Plans (SUSMPs).[4] The SUSMPs are plans that designate best management practices (BMPs) that must be used in specified categories of development projects. The County submitted SUSMPs, but the Regional Water Board approved the SUSMPs only after making revisions. The Executive Officer issued the revised SUSMPs on March 8, 2000.[5]

On February 25, 2000, the State Water Resources Control Board (State Water Board or Board) received a petition for review of the actions and failures to act regarding the SUSMPs from a number of cities, the Building Industry Association of Southern California and the Building Industry Legal Defense Foundation (jointly referred to as Cities). A second petition was received from the City of Arcadia. And a third petition was received from the Western States Petroleum Association (WSPA). On April 7, 2000, the petitioners filed amendments to their petitions, concerning the March 8, 2000 issuance of the SUSMPs. The Cities' amendment also revised the list of cities included in the petition. The Cities' petition now includes 32 cities. The petitions are legally and factually related, and have therefore been consolidated for purposes of review.[6] The petitioners also requested a stay of the SUSMPs. This request was denied by letter, dated May 11, 2000.

[3] Permit, Part 2.III. These provisions focus more on post-construction impacts of development than on discharges from construction activities.
[4] Permit, Part 2.III.A.1.c.
[5] These are referred to herein as the Final SUSMPs. The Final SUSMPs also apply to Long Beach, even though it is subject to a separate permit.
[6] Cal. Code of Regs., tit. 23, section 2054.

On June 7 and 8, 2000, the Board held a hearing in Torrance. Several entities, including the petitioners, the Regional Water Board, and several environmental groups[7], were designated parties. The evidence from that hearing has been included in the record before the Board. The record for comments on the petition was kept open until the end of the hearing. The parties were allowed to submit post-hearing briefs.[8]

I. BACKGROUND

In prior Orders[9] this Board has explained the need for the municipal storm water programs and the emphasis on BMPs in lieu of numeric effluent limitations. The emphasis for preventing pollution from storm water discharges is still on the development and implementation of effective BMPs, but with the expectation that the level of effort will increase over time. In its Interim Permitting Approach[10], the United States Environmental Protection Agency (U.S. EPA) stated that first-round permits should include BMPs, and expanded or better-tailored BMPs in subsequent permits where necessary to attain water quality standards. Dischargers, consultants, and academic institutions in California and nationwide have conducted numerous studies on the effectiveness of BMPs and appropriate design standards. While many questions are still

[7] The environmental groups are Natural Resources Defense Council, Inc., Santa Monica BayKeeper, and Heal the Bay.

[8] There are several documents that were not timely received and, therefore, are not made a part of the record before the Board. The hearing notice specified that all evidence from parties must be received by May 31, 2000. The Regional Water Board submitted documents on June 6, 2000. The hearing notice specified that policy statements were due by the close of the hearing. Several comment letters were received June 12, 13, and 19, 2000. None of these submittals are a part of the record. The post-hearing briefs were subject to a 10-page limit. The environmental groups submitted objections to the post-hearing brief submitted by the Cities. First, the environmental groups challenge the length of the brief. All briefs were subject to a 10-page limit. The Cities submitted a 10-page brief, with a 22-page attachment showing extensive proposed revisions to the SUSMPs. This submittal violates the page limit, and only the brief is considered part of the record. Second, the environmental groups claim that an e-mail message referred to by the petitioners is subject to attorney-client privilege and should not have been used in this hearing. This e-mail message, from the Regional Water Board's counsel to one of its engineers, was placed in the Regional Water Board's administrative record and submitted to the State Water Board. Any privilege that may have attached to the message has been waived and no longer exists. Finally, the post-hearing brief from the City of Arcadia was received late and will not be considered. Documents submitted late for interim deadlines (such as the deadline for submitting responses to the petitions), have been included in the record.

[9] See, especially Orders WQ 91-03 (In the Matter of Citizens for a Better Environment et al.) and WQ 91-04.

outstanding, more is expected of municipal dischargers, and many are implementing more effective programs.

While storm water management plans are improving, our knowledge of the impacts is also growing. Urban runoff has been determined to be a significant contributor of impairment to waters throughout the state. In Los Angeles specifically, beach closures are sometimes associated with urban runoff. In adopting the SUSMPs, the Regional Water Board took note of the urgent need for preventing further pollution from urban runoff and storm water discharges.

It is important to emphasize the role of the SUSMPs within the totality of regulating storm water discharges, and the purpose of these particular control measures. The requirement to prepare SUSMPS was part of the development controls in the permit. In addition to development controls, the permit requires education, public outreach, programs to restrict illicit connections and discharges, and controls on public facilities. In the context of the entire effort required by the permit, the development controls can be seen as preventing the existing situation from becoming worse.

The Final SUSMPs include a list of mandatory BMPs for nine categories of development. There are provisions that are applicable to all categories and lists of BMPs for individual categories. Requirements applicable to all categories include provisions to limit erosion from new development and redevelopment, requirements to conserve natural areas, protection of slopes and channels, and storm drain stenciling. Examples of BMPs specific to categories of discharge include design of loading docks for commercial projects and design of fueling areas for retail gasoline outlets. In most respects, the Final SUSMPs were similar to those proposed by the County. The significant departures were the inclusion of a numeric design standard for

[10] Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. (61 Federal Register 57425.)

structural or treatment control BMPs, and the inclusion of certain types of projects that were not covered in the County's proposal. The design standard creates objective and measurable criteria for the amount of runoff that must be treated or infiltrated by BMPs.

The record indicates that the purpose of the development controls, including the SUSMPs, is not simply to prevent pollution associated with construction runoff. As the petitioners point out, construction discharges are already subject to this Board's Statewide Construction Permit. The development controls in the SUSMPs, on the other hand, focus on post-construction runoff. They are aimed at limiting not just the pollutants in runoff from the new development, but also the volume of runoff that enters the municipal storm sewer system. By limiting runoff from new development, the SUSMPs prevent increased impacts from urban runoff generally. There is adequate technical information in the record to show that by controlling the volume of runoff from new development, BMPs can be effective in reducing the discharge of pollutants in storm water runoff.

The Procedure for Adopting the SUSMPs

The permit requires a program for controls on Development Planning and Construction. It involved a number of submissions by the County in consultation with the Cities. The first step was submission of a checklist for determining priority projects and exempt projects. The checklist was due on January 30, 1998. A list of recommended BMPs for development projects was also due on that date. The SUSMPs were due within six months of approval of the BMP list, and were to incorporate BMPs for certain categories of development. Following approval of the SUSMPs, the cities and County were to implement development programs for priority projects, consistent with the BMP list and the SUSMPs.

The BMP list was not approved until April 22, 1999. Thereafter, the County submitted proposed SUSMPs on July 22, 1999. The Regional Water Board held a public workshop on August 10, 1999. Following the workshop, the County submitted revisions to the SUSMPs on August 12, 1999. On August 16, 1999, the Regional water Board gave notice that it would discuss the SUSMPs in a public meeting on September 16, 1999. There was significant discussion at that meeting regarding the intent of the Executive Officer to approve the SUSMPs, but with revisions including a numeric design standard. At the conclusion of the meeting, the Regional Water Board members asked the Executive Officer to revise the SUSMPs and bring them back to another meeting. On December 7, 1999, the Executive Officer circulated revised SUSMPs for public review. This document incorporated a numeric design standard and made other revisions to the permittees' proposal. The Regional Water Board held a hearing on the SUSMPs on January 26, 2000. At that meeting, the Regional Water Board endorsed the SUSMPs revised by the Executive Officer, but directed him to make further changes. The Executive Officer issued the Final SUSMPs on March 8, 2000.

The Contents of the Final SUSMPs

The permit provides that the SUSMPs must incorporate the appropriate elements of the BMP list and, at a minimum, apply to seven development categories: 100-plus home subdivisions; 10-plus home subdivisions; 100,000-plus square foot commercial developments; automotive repair shops; retail gasoline outlets; restaurants; and hillside single-family dwellings.

The SUSMPs proposed by the County applied to these seven categories. Various BMPs applied to the different categories, and the SUSMPs contained narrative mitigation requirements for source control and treatment. The July proposals stated:

> "The development must be designed so as to mitigate (infiltrate and/or treat) the site runoff generated from impervious directly connected areas that may contribute pollutants of concern to the storm water conveyance system."

There were no numeric design criteria for mitigation. According to various participants, earlier County drafts had included design standards to mitigate flows from 0.6-inch storm events. But any numeric criteria had been removed from the version that was submitted.

In its revised SUSMPs, submitted on August 12, the County explained in its cover letter that the mitigation language did not mean that all runoff must be mitigated. Rather, the County's intent was to omit a numerical standard from the SUSMPs. The revised SUSMPs no longer referred to mitigation at all. Instead, the following language replaced the mitigation requirement:

> "The development must be designed so as to minimize, to the maximum extent practicable (MEP), the introduction of pollutants of concern that may result in significant impacts, generated from site runoff of directly connected impervious areas (DCIA), to the storm water conveyance system as approved by the building official."

The Final SUSMPs, as approved by the Executive Officer and the Regional Water Board, included several revisions from the County's submittal. The revision that is of greatest concern to the petitioners is the addition of Design Standards for Structural or Treatment Control BMPs.[11] The design standards require that developments subject to the SUSMPs shall be designed to mitigate storm water runoff (by treatment or infiltration) from one of the following:

> "1. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area..., or
> 2. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment..., or
> 3. The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system, or
> 4. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles

[11] The Final SUSMPs also include the narrative language quoted from the County's August 22, 1999 proposal.

County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event."

The Final SUSMPs also applied to two additional categories of development: parking lots over 5,000 square feet or with 25 or more spaces and exposed to storm water, and to developments in environmentally-sensitive areas. Other revisions included application to all projects in the categories instead of discretionary projects only and the definition of redevelopment.

II. CONTENTIONS AND FINDINGS[12]

Contention: The petitioners contend that the Regional Water Board erred in not complying with the Administrative Review Process within the permit, and acted arbitrarily and capriciously and in violation of the Clean Water Act and state law.

Finding: The permit required the County, in consultation with the cities subject to the permit, to submit SUSMPs. The permit includes some general minimum requirements for the SUSMPs.[13] The Executive Officer is granted authority to approve the SUSMPs.[14]

The permit also contains an administrative review process.[15] The permit states that the administrative review process "formalizes the procedure for review and acceptance of reports and documents" and "provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action."[16] Following this introductory statement, the permit includes two procedures. The first is for review and

[12] This Order does not address all of the issues raised by the petitioners. The Board finds that the issues that are not addressed are insubstantial and not appropriate for State Water Board review. (See *People v. Barry* (1987) 194 Cal.App.3d 158, [239 Cal.Rptr. 349], Cal. Code Regs., tit. 3, § 052.)
[13] Permit, Part 2, III.A.1.c.
[14] Permit, Part 2, III.A.2.
[15] Permit, Part 2, I.G.
[16] *Id.*

approval or disapproval of reports and documents. The second is the dispute resolution section that must be followed prior to enforcement action.

The process for review of documents that are subject to the Executive Officer's approval is that the Executive Officer will notify the permittees of the results of the review and approval or disapproval within 120 days. If the Executive Officer does not do so, the permittees must notify the Regional Water Board of their intent to implement the documents without approval. The Executive Officer then has 10 days to respond, or the permittees may implement the program and the Executive Officer may not make modifications.

The dispute resolution procedure is to be used when the Executive Officer determines that a permittee's storm water program is insufficient to meet the permit's provisions. The Executive Officer must send a "Notice of Intent to Meet and Confer" with the permittee. A meet and confer period then ensues, resulting in a written "Storm Water Program Compliance Amendment (SWPCA)." The permittee is provided time to comply with the SWPCA. The Executive Officer is not allowed to take enforcement action against a permittee until the Executive Officer notifies the permittee in writing that the administrative review process has been exhausted and that a violation exists warranting enforcement.

The petitioners contend that the Executive Officer failed to notify the permittees that their SUSMPs were inadequate within 120 days of its submittal. The petitioners also argue that, by revising the SUSMPs without pursuing the dispute resolution process, the Regional Water Board "violated" the terms of the permit.

The provision for review of documents, which clearly includes the SUSMPs, requires that the Executive Officer notify the permittees of the results of the review and approval or disapproval within 120 days. The County submitted the revised SUSMPs on August 12, 1999.

Within 120 days, the Regional Water Board held a workshop where staff expressed their concerns with the SUSMPs. Also within 120 days the Regional Water Board itself held a public meeting where there was extensive discussion and concern by board members that the SUSMPs did not include a numeric standard. And, prior to any notification by the permittees that they would proceed with implementing their SUSMPs, the Regional Water Board held a hearing January 26, 2000, where it directed the Executive Officer to issue the SUSMPs with revisions. The Executive Officer did so on March 8, 2000.

It is clear from the record that the Executive Officer, and the Regional Water Board itself, did inform the permittees that the SUSMPs were inadequate. There was no requirement for a specific form for expressing disapproval of documents. The extensive discussion and meetings on the need for revisions to the SUSMPs, and the Executive Officer's approval of revised SUSMPs, plainly refutes the allegation that the Regional Water Board never notified the permittees of its disapproval of the County's proposed SUSMPs.

The permittees also claim that the Regional Water Board "violated" the permit by failing to institute the meet and confer process.[17] The dispute resolution process, which includes meet and confer, did not apply to the decision to disapprove the proposed SUSMPs. That process is only required when the Regional Water Board ultimately takes an enforcement action against a permittee. It is separate from the process for review and approval or disapproval of documents, and does not even appear to relate to possible enforcement actions for submission of inadequate documents. This is illustrated by the fact that the provision regarding documents refers to submittals from both the Principal Permittee and the individual permittees, while the dispute resolution provision refers only to the permittees. This distinction is relevant because the County

[17] We note that permits are issued to permittees to allow discharges to waters of the state. It is only permittees, and not Regional Water Boards, who can be charged with violating permits.

is charged with submitting the documents, while the individual permittees are responsible for compliance. A fair reading of the entire section on the administrative review process is that the review and approval or disapproval of documents applies to submission of documents by the County on behalf of the cities, while the dispute resolution process applies to enforcement actions against any permittees for failing to implement adequate programs.

Contention: The petitioners contend that the Regional Water Board was not authorized to revise the SUSMPs to add more stringent requirements.

Finding: The petitioners contend that the mitigation standards in the SUSMPs are more stringent than the requirement in the permit to reduce pollutants in storm water runoff to the maximum extent practicable (MEP)[18]. The issue of what level of protection constitutes MEP will be discussed *Infra*, in the discussion of the reasonableness of the numeric standards. But the petitioners also make certain procedural claims on this point. They argue that in approving the BMP list, the Regional Water Board determined that those BMPs constituted MEP and that the Board could not add additional BMPs in the SUSMPs. They also contend the Regional Water Board itself had no authority to "usurp" the Executive Officer's role in reviewing the SUSMPs.[19] Finally, the petitioners contend that the Regional Water Board was not authorized to mandate a program for the permittees without amending the permit.

The permit requires the County to submit a list of BMPs for approval. The Regional Water Board approved this list. Following approval of the list, the County was required to submit the SUSMPs, which must "incorporate the appropriate elements of the recommended

[18] The technology-based standard for controls under municipal storm water permits is MEP. For a fuller discussion of this standard, see Order WQ 91-03.

[19] It is undisputed that, at its January 26, 2000 meeting, the Board directed the Executive Officer to make additional revisions to the SUSMPs.

BMPs list."[20] The petitioners contend that by approving the list, the Regional Water Board determined that those BMPs constituted MEP, and that under the terms of the permit the Regional Water Board could not require additional BMPs.

In addressing this contention, we face what appears to be a fundamental misunderstanding of the numeric design standards on the part of the petitioners. The design standards are objective criteria that developers must achieve in designing their BMPs. The design standards are not separate BMPs. The standards tell what magnitude of storm event the BMPs must be designed to treat or infiltrate. They do not specify the BMPs that must be employed.

The SUSMPs as submitted by the County specify BMPs for various categories of development. Many of these BMPs are designed to minimize the pollutants in storm water runoff, by reducing flow through infiltration or by treatment. Examples of BMPs proposed by the County include infiltration basins and trenches, oil/water separators, and media filtration. The County's proposed SUSMPs also included language requiring minimizing the introduction of pollutants to the storm water conveyance system. That language remains unchanged in the Final SUSMPs. The only significant difference between the two versions of the SUSMPs was that the Regional Water Board established numeric criteria for designing the BMPs.

In adopting the Final SUSMPs, the Regional Water Board based its decision on the MEP standard.[21] The Regional Water Board did not significantly revise the BMP list or specify further the actions that developers must take to comply with the SUSMPs. Thus, we find that the Regional Water Board did not inappropriately revise its determination of what constituted MEP.

[20] Permit, Part 2, III.A.1.c.
[21] Resolution R-00-02.

The Regional Water Board is the political body responsible for water quality control in the Los Angeles region.[22] While the Regional Water Board may delegate specified powers and duties to its Executive Officer,[23] it can at any time act on its own behalf. The fact that the Board authorized its Executive Officer to approve the SUSMPs in the permit did not mean that the Board thereby denied itself the opportunity to provide direction to the Executive Officer in his approval. Such an interpretation of its delegation authority would result in an improper failure of the Board to assume responsibility for water quality in the region.

We also find that the Regional Water Board was authorized to revise the SUSMPs to achieve compliance with the permit's requirements. The SUSMPs are a part of implementation of the permit. Because the permit regulates storm water discharges throughout the entire Los Angeles region and it is implemented by 85 cities and the County, it is obvious that the permit could not spell out every detail of the program for the five-year term of the permit. Instead, the implementation is through the submission, review and approval, and implementation of various programs, including the SUSMPs.[24] Where it receives a submission that it finds is not consistent with the requirements of the permit, it is reasonable for the Regional Water Board to be able to require revisions. The Regional Water Board is not required to amend the permit each time it approves a submittal or approves a submittal with revisions. On the other hand, if the Regional Water Board's action in requiring revisions is inconsistent with the terms of the permit, then the Board should not act without first amending the permit. While the Regional Water Board could have required the County to make the revisions rather than making them itself, we see no harm in the Regional Water Board's approach.

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[22] Water Code sections 13200 and 13225.
[23] Water Code section 13223.
[24] A fuller discussion of the use of storm water management plans to incorporate a developing program is found in Order No. WQ 91-03.

As will be discussed below, in most respects the Final SUSMPs are consistent with the permit. But there are some portions of the SUSMPs that are not consistent, and in those cases the SUSMPs provisions are further revised in this Order.

Contention: The petitioners make various procedural claims, including that they were denied due process, and that the Regional Water Board violated the Administrative Procedure Act, the California Environmental Quality Act (CEQA), and the California Constitution, Article XIII B, section 6 (regarding state mandates).

Finding: The petitioners point out that at the January 26, 2000 Regional Water Board hearing, there was some confusion over late changes to the SUSMPs and they contend they were not provided adequate opportunity to comment. There was significant discussion of the SUSMPs over several months. We do not agree with the petitioners that a program of this magnitude must necessarily take years to develop. But we are concerned that at the January 26, 2000 hearing, interested persons and permittees were not given adequate time to review late revisions or to comment on them. Given the intense interest in this issue, the Regional Water Board should have diverged from its strict rule limiting individual speakers to three minutes and conducted a more formal process. Such a process should provide adequate time for comment, including continuances where appropriate.[25] But to the extent the Regional Water Board's process caused any harm, this Board cured those harms. We held a two-day hearing in Los Angeles County, where all parties were allowed significant time to present their positions and testimony. In addition, we allowed the introduction of new evidence that had not been presented to the Regional Water Board. At this point, all parties have been afforded a full

[25] For future adjudicative proceedings that are highly controversial or involve complex factual or legal issues, we encourage regional water boards to follow the procedures for formal hearings set forth in Cal. Code of Regs., tit. 23, section 648 et seq.

opportunity to review the Final SUSMPs, to present their positions and evidence, and to engage in cross-examination. The petitioners' due process rights have been protected.

The Board has already addressed the contentions regarding compliance with other laws in prior decisions. The Administrative Procedure Act exempts the adoption of permits from its requirements.[26] While the SUSMPs are not a permit, they are implementing documents for a permit, and are therefore subject to the exemption. Moreover, they are relevant only to this permit, and are not a general rule of application. The constitutional provisions regarding state mandates also do not apply to NPDES permits.[27] As will be explained below, the SUSMPs as revised herein, are consistent with MEP and therefore are federally mandated. The provisions of CEQA requiring adoption of environmental documents also do not apply to NPDES permits.[28] Again, as an implementing document for the permit, there is no requirement for a separate CEQA analysis.[29]

Contention: The petitioners contend that the SUSMPs do not properly apply the maximum extent practicable standard.

Finding: The permit, consistent with Clean Water Act section 402(p)(3)(B)(iii), requires controls to reduce the discharge of pollutants to the maximum extent practicable, or MEP.[30] In approving the Final SUSMPs, the Regional Water Board acknowledged that one of the primary objectives of the municipal storm water program is the requirement to reduce the discharge of pollutants from storm water conveyance systems to the MEP.[31] While all parties appear to agree

[26] Government Code section 11352; See, Order No. 95-4 (In the Matter of the City and County of San Francisco).
[27] See, Order No. WQ 90-3 (In the Matter of San Diego Unified Port District).
[28] Water Code section 13389.
[29] We do note with interest the environmental groups' comment that if the permittees believed it was necessary to comply with the APA and CEQA prior to adoption of the SUSMPs, then they themselves would have violated those acts in their submissions of the proposed SUSMPs.
[30] Permit, Finding 13.
[31] Final SUSMPs, at page 2; Resolution No. R-00-02, at page 3.

that the standard for the SUSMPs is MEP, they disagree about what level of effort is necessary to comply with that standard.

The petitioners approach this issue from two angles. First, they contend that the SUSMPs will not provide water quality benefits that reflect MEP. Second, they contend that there could be adverse impacts on groundwater quality that have not been adequately evaluated.

Storm Water Design Standards as MEP

In adopting the Final SUSMPs, the Regional Water Board found that many rivers and streams in Los Angeles County are impaired for pollutants found in storm water and urban runoff, and that storm water runoff carries pollutants from nearly all types of developed properties.[32] Pollutant loading from the aggregate of development in the basin results in impairments from sediments, metals, complex organic compounds, oil and grease, nutrients, and pesticides.[33] The Final SUSMPs reflect two goals: to reduce the amounts of these pollutants in runoff and to reduce the ability of runoff to act as a conveyance system to deliver more pollutants to receiving waters. The Final SUSMPs, which include lists of BMPs and design standards requiring treatment or infiltration, address these two goals.

Clean Water Act section 402(p)(3)(B)(iii), which sets forth the requirements for establishing MEP in municipal storm water permits, provides that such permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." The United States Environmental Protection Agency (U.S. EPA), in a guidance document, explains that BMPs should be used in first-round storm water permits, and "expanded

[32] Resolution No. R-00-02.
[33] *Id.*

or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards."[34] The Clean Water Act, as interpreted by U.S. EPA, does require that, in a second-round permit,[35] expanded BMPs may be appropriate. In light of the number of water bodies impaired by runoff in Los Angeles County, it was appropriate to expand the scope of BMPs during the permit term.

The regulations implementing section 402(p) specifically require municipalities to have controls to reduce the discharge of pollutants from their storm sewer systems that "receive discharges from areas of new development and significant redevelopment," including post-construction discharges.[36] Clearly, it was appropriate for the Regional Water Board to require BMPs for new development and significant redevelopment. The permittees, who submitted their own version of SUSMPs with listed BMPs for categories of development, appear to have no real quarrel with this general mandate.

This Board has already endorsed requirements to limit the flow of the "first flush" of storm water, which may contain more significant pollutants.[37] The permittees' own version of the SUSMPs required mitigation of storm water runoff by treatment or infiltration, thus conceding the propriety of these two approaches to lessening the impact of storm water discharges. The crux of the disagreement is that the Regional Water Board added numeric design standards to establish the amount of runoff that must be treated or infiltrated, and required the mandatory application of these standards to categories of development.

The addition of measurable standards for designing the BMPs provides additional guidance to developers and establishes a clear target for the development of the BMPs. The U.S.

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[34] Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Federal Register 57425 (1996).
[35] The original permit was issued in 1990. The 1996 permit is a second-round permit.
[36] 40 CFR section 122.26(d)(2)(iv)(A)(2).

EPA guidance manual suggests the use of design criteria and performance standards for post-construction BMPs.[38] The numeric criteria the Regional Water Board adopted essentially requires that 85 percent of the runoff from the development be infiltrated or treated.[39] In adopting these standards, the Regional Water Board based its decision on a research review of standards in other states and a statistical analysis of the rainfall in the area. The standard was set to gain the maximum benefit in mitigation while imposing the least burden on developers.[40] In light of the evidence of the use of this or more stringent standards in other states, the expert testimony supporting this standard, the endorsement by U.S. EPA in its comments, and the cost-effectiveness of its implementation (discussed below), the Regional Water Board acted appropriately in determining that the standards reflect MEP.[41]

We also find that the Regional Water Board appropriately applied these standards to seven of the categories listed in the SUSMPs: single-family hillside residences, 100,000 square foot commercial developments, automotive repair shops, restaurants, home subdivisions with 10 to 99 housing units, home subdivisions with 100 or more housing units, and parking lots with 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff.[42] These categories, except for parking lots, were already targeted for special treatment in the permit. The evidence shows that each listed category can be a significant source

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[37] In the Matter of National Steel and Shipbuilding Company, et al., Order WQ 98-07, at slip opinion 7.

[38] Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Strom Sewer Systems, at page 6-4 (November 1992).

[39] Four different methods of calculation are permitted, so the percentage of capture may vary slightly.

[40] At the hearing in this matter, Regional Water Board staff explained that the standard was set at the bottom of the "knee" of the curve where the benefits of the mitigation requirements decrease and the cost increases. Other states have set the standard higher along this curve, requiring 90 to 95 percent mitigation.

[41] This conclusion in no way departs from our acceptance of BMPs in lieu of numeric effluent limitations in storm water permits. (See, e.g., Order WQ 91-03 and Order WQ 91-04.) The numeric standard is a design standard for BMPs. It does not quantify or limit the pollutants in the effluent. It also does not specify which of the listed BMPs must be employed.

[42] As discussed below, this Board is revising the SUSMPs to delete the application of the design standards to retail gasoline outlets and to locations within or directly adjacent to or discharging directly to environmentally-sensitive areas.

of pollutants and/or runoff following development. It is appropriate that the design standards apply so that BMPs for these categories of development result in the infiltration or treatment of a significant about of the runoff.

Potential Impacts on Ground Water

The petitioners contend that infiltration of runoff may lead to ground water pollution, and that the Regional Water Board did not properly consider such potential impacts. The mitigation standards provide for a waiver where there is a risk of ground water contamination because a known unconfined aquifer lies beneath the land surface or an existing or potential underground source of drinking water is less than ten feet from the soil surface.[43] The Final SUSMPs also include a discussion on how to use infiltration so that the risk of contamination of groundwater is reduced, and where infiltration is not appropriate.[44]

The Regional Water Board did consider the potential impacts to groundwater from infiltration, and included appropriate limitations and guidance on its use as a BMP. These provisions will ensure adequate protection of groundwater from any adverse impacts due to infiltration.

Contention: The petitioners contend the Regional Water Board failed to show that the SUSMPs as adopted are cost-effective and that the benefits to be obtained outweigh the costs.

Finding: The petitioners refer to the Preamble to the Phase II storm water regulations[45] as the basis for their economic argument. The quoted language, however, does not wholly support the petitioners' contention. The Preamble states that President Clinton's Clean Water Initiative clarifies "that the maximum extent practicable standard should be applied in a site-

[43] Final SUSMP, page 14.
[44] *Id.*, at page 15.
[45] 64 Federal Register 68722 and following. These regulations do not apply to the permit, but the general language on MEP is relevant to EPA's interpretation of the standard.

specific, flexible manner, taking into account cost considerations as well as water quality effects."[46] It is clear that cost should be considered in determining MEP; this does not mean that the Regional Water Board must demonstrate that the water quality benefits outweigh the economic costs.

While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. Probably the most comparable law that uses the term is the Superfund legislation, or CERCLA, at section 121(b). The legislative history of CERCLA indicates that the relevant factors, to determine whether MEP is met in choosing solutions and treatment technologies, include technical feasibility, cost, and state and public acceptance.[47] Another example of a definition of MEP is found in a regulation adopted by the Department of Transportation for onshore oil pipelines. MEP is defined as to "the limits of available technology and the practical and technical limits on a pipeline operator . . . ."[48]

These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.

[46] 64 Federal Register 68722, 68732 (December 8, 1999).
[47] 132 Cong. Rec. H 9561 (Oct. 8, 1986).

In reviewing the record, it is apparent that the Regional Water Board did evaluate the cost of the SUSMPs. While the petitioners claim there is no evidence in the record to show the SUSMPs are necessary and cost effective, the opposite is true. The record is replete with documentation of costs of pilot mitigation projects, studies from similar programs in other states, and research studies. The Regional Water Board complied with the requirement to consider cost.

The Regional Water Board found that the cost to include BMPs that will meet the mitigation criteria will be one to two percent of the total development cost. This amount appears reasonable, especially in light of the amount of impervious surface already in Los Angeles County and the impacts on impaired water bodies. In considering the cost of compliance, it is also important to consider the costs of impairment. The beach closures in the Los Angeles region, well documented in the evidence, have reached critical proportions. These beach closures clearly have a financial impact on the area, and should be positively affected by the SUSMPs.

We do note that there could be further cost savings for developers if the permittees develop a regional solution for the problem. We recommend that the cities and the County, along with other interested agencies, work to develop regional solutions so that individual dischargers are not forced to create numerous small-scale projects. While the SUSMPs are an appropriate means of requiring mitigation of storm water discharges, we also encourage innovative regional approaches.[49]

Contention: The petitioners have raised contentions regarding details of the SUSMPs, including the amount of time allowed for inclusion of SUSMPs in local ordinances, and their application to both "discretionary" and "non-discretionary" projects. In addition, during the

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[48] 49 CFR section 194.5.

hearing certain ambiguities in the wording of the Final SUSMPs became apparent, including the provisions regarding redevelopment and environmentally-sensitive areas. In this portion of the Order we address these issues and also the application of the design standards to retail gasoline outlets (RGOs) and the waiver funding requirements.

Finding: The testimony at the hearing in this matter revealed that there are specific provisions of the SUSMPs that create confusion as to the types of development projects subject to the mitigation design standards. The petitioners also contend that application of the standards to specific types of development either is unreasonable or is inconsistent with the terms of the permit. The specific requirements are discussed below.

Retail Gasoline Outlets

Petitioner WSPA contends that RGOs should be excluded from the SUSMPs. Its petition raised the same general contentions as the other petitioners, but at the hearing WSPA presented evidence specific to RGOs. In particular, WSPA raised questions about the propriety of applying the design standards for BMPs to RGOs. In considering this issue, we conclude that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. Moreover, in light of the small size of many RGOs and the proximity to underground tanks, treatment may not always be feasible, or safe. The mandatory BMPs that are included in the SUSMPs may be adequate to achieve MEP at RGOs, but the Regional Water Board should add additional mandatory BMPs, such as use of dry cleanup methods (e.g. sweeping) for removal of litter and debris, use of rags and absorbents for leaks and spills, restricting the practice of washing down hard surfaces unless the wash water is collected and disposed of properly, annual training of employees on proper spill cleanup and waste disposal

[49] We note that the SUSMPs as written do not in any way preclude the development of regional solutions approved by the Regional Water Board as a means to comply with the BMP and design standard requirements.

methods, and the inclusion of BMPs to address trash receptacle areas and air/water supply areas.[50] We conclude that because RGOs are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment, they should not be subject to the BMP design standards at this time, and recommend that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor. This Order should not be construed to preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued.

Redevelopment Projects

The SUSMPs were written to apply to new development and to some types of redevelopment in nine categories of projects. The definition of "redevelopment" reflected the intent of the Regional Water Board to define the scope of redevelopment projects subject to the requirements. That definition[51], however, was somewhat confusing, and it was apparent from testimony at the hearing that the parties had different understandings of the scope of redevelopment subject to the SUSMPs. In their post-hearing briefs, the various parties appeared to agree on the actual intent of the Regional Water Board in including redevelopment in the SUSMPs. This intent was to include redevelopment that adds or creates at least 5,000 square feet of impervious surface to the original development and, where the addition constitutes less

[50] These BMPs are from a list of BMPs in a publication of the California Storm Water Quality Task Force. (Best Management Practice Guide – Retail Gasoline Outlets. March 1997.) This publication includes BMPs in addition to those listed in the SUSMPs. All BMPs recommended in this publication should be mandated.

[51] The SUSMPs state: "Redevelopment" means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces or the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces.

than 50 percent of the original development, to limit the application of the BMP design standards to the addition.

While some parties requested further requirements for development, it appears that the Regional Water Board's original intent was relatively simple to apply and results in a fair and appropriate application of the SUSMPs' requirements to redevelopment. Therefore, we will revise the definition in the SUSMPs accordingly.

Environmentally-Sensitive Areas

The permit required that the SUSMPs address at least seven development categories.[52] The final SUSMPs added two more categories: parking lots of 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff; and location within or directly adjacent to an environmentally-sensitive area (ESA). The petitioners contend that the addition of ESAs was inappropriate because the permit refers only to "development categories"[53] and ESA is a location category.

Whether or not the Regional Water Board went beyond the permit's terms in including this category, we find a fundamental problem with the language of the SUSMPs regarding ESAs. All of the other categories are relatively simple to apply because they describe the types of development that fall within the category. For instance, the threshold for a commercial development is 100,000 square feet. If the development is smaller, it is not subject to the SUSMPs. But for developments within ESAs, the SUSMPs contain no threshold. This absence led to speculation by the petitioners that something as small as a new patio on a home in an ESA would make the SUSMPs applicable. The Regional Water Board, at the hearing and in its post-

[52] The categories listed in the permit are: single-family hill residences, 100,000 square-foot commercial developments, automotive repair shops, retail gasoline outlets, restaurants, home subdivisions with 10 to 99 housing units, and home subdivisions with 100 or more housing units. Permit, Part 2, III.A.1.c.
[53] *Id.*

hearing brief, conceded that there should be some threshold. While the Regional Water Board did recommend a specific threshold, we believe that it is inappropriate for this Board to add a threshold that has not been fully discussed by all interested persons.

While it may be appropriate to include more stringent controls for developments in ESAs, we also note that such developments are already subject to extensive regulation under other regulatory programs. Moreover, in light of the permit language limiting the SUSMPs to development categories, ESAs are not an appropriate category within the SUSMPs. The Regional Water Board may choose to consider the issue further when it reissues the permit.

Discretionary and Non-Discretionary, or Ministerial, Projects

The petitioners contend that the SUSMPs should apply only to projects that are considered "discretionary" within the meaning of California Environmental Quality Act (CEQA).[54] They argue that the inclusion of non-discretionary, or ministerial, projects is inconsistent with the terms of the permit.

The permit provisions on development projects do refer to "discretionary" projects in several places. The permittees are directed to develop a checklist for determining priority and exempt projects.[55] Priority projects are defined as development and redevelopment projects requiring discretionary approval, which may have a potential significant effect on storm water quality.[56] The permittees are also required to develop a BMP list.[57] In developing the SUSMPs, the permittees are required to incorporate appropriate elements of the BMP list.[58] Next, the permittees must develop a program on planning control measures for priority projects (which are limited to projects requiring discretionary approval), consistent with the list of BMPs and the

[54] Public Resources Code section 21000 *et seq.*
[55] Permit, Part 2, III.A.1.a.
[56] *Id.*
[57] Permit, Part 2, III.A.1.b.

SUSMPs.[59] The permit further states that, in order to assure compliance with these requirements, the permittees must develop guidelines on preparing CEQA documents that link mitigation conditions to "local discretionary project approvals."[60]

Taken as a whole, the provisions of the permit appear to link the development requirements for SUSMPs to developments that receive discretionary approval by local governments, as defined in CEQA. The SUSMPs are an implementation tool for the permit and must be consistent with the permit. While the limitation of the SUSMPs to discretionary projects may not be sufficiently broad for an effective storm water control program, the Regional Water Board acted inappropriately in expanding the SUSMPs to include non-discretionary projects. The Regional Water Board may consider expanding the development controls beyond CEQA discretionary projects when it reissues the permit. But at this time, the SUSMPs must be revised so that they are limited to development projects requiring discretionary approval within the meaning of CEQA.[61]

Waiver Funding Requirement

Where a waiver is granted from the design standard requirements, the Final SUSMPs provide that the permittee must require the project proponent to transfer the cost savings to a storm water mitigation fund. The fund is to be operated by a public agency or a non-profit entity, to promote regional or alternative solutions for storm water pollution in the same storm watershed. The petitioners contend that the funding requirement will create an additional administrative burden.

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[58] Permit, Part 2, III.A.1.c.
[59] Permit, Part 2, III.a.2.
[60] Permit, Part 2, III.a.3.b.
[61] We note that the Final SUSMPs already include a definition of "discretionary project" consistent with the definition in the CEQA guidelines. Final SUSMPs at page 4 of 25; Title 14, California Code of Regulations, section 15357. Apparently this definition was inadvertently retained after the Regional Water Board decided to expand the SUSMPs beyond discretionary projects.

The concept of a mitigation fund or "bank" is a positive idea for obtaining regional solutions to storm water runoff. As a long-term strategy, municipal storm water dischargers should work to establish regional mitigation facilities, which may be more cost-effective and more technically effective than mitigation structures at individual developments. But at this point there are not sufficient resources in place to require all permittees to establish such funds or to find appropriate non-profit organizations. Before mandating funding, preliminary questions should be answered, including who will manage the fund, what types of projects it will be used for, what entities can legally operate such funds, and how permittees will determine the amount of the assessments. It would be appropriate for the County to consider developing a program with the appropriate flood control agency, or as a model for the separate cities to develop. There may be suitable agencies to administer such funds, but the development of programs may take some time. The Regional Water Board should consider adopting such a program when it reissues the permit, after consultation with the appropriate local agencies.

III. CONCLUSIONS

Based on the discussion above, the Board concludes that:

1. The Regional Water Board complied with the procedural requirements of the permit, including the Administrative Review Process, in approving the Final SUSMPs.
2. The Regional Water Board was authorized to revise the SUSMPs by including more stringent requirements than the permittees had proposed.
3. The Regional Water Board complied with did not violate the Administrative Procedure Act, CEQA, or the Constitutional provisions on state mandates. The petitioners' due process rights have been protected
4. The Regional Water Board considered the costs of the SUSMPs, and acted reasonably in requiring these controls in light of the expected benefits to water quality.

5. The Final SUSMPs reflect a reasonable interpretation of development controls that achieve reduction of pollutants in storm water discharges to the maximum extent practicable.
6. The SUSMPs include adequate protections of groundwater quality from any impacts from infiltration.
7. The SUSMPs will be revised to clarify the intent of the Regional Water Board and to make them consistent with the permit. Specifically, retail gasoline outlets should not be subject to the BMP design standards because they are already heavily regulated and may be limited in their ability to construct infiltration facilities or to perform treatment. Redevelopment projects should be subject to the SUSMPs only if they result in creation or addition of 5,000 square feet of impervious surfaces. Environmentally-sensitive areas should not be listed as a category in the SUSMPs. The SUSMPs should only apply to discretionary projects. The requirement for funding by project proponents who receive waivers should be deleted. The SUSMPs will be amended as shown in the attachment to this Order.
8. In light of the revisions of the SUSMPs made by this Order, and to allow the permittees adequate time to adopt implementing ordinances, the deadline for adopting ordinances will be revised to January 15, 2001, and the effective date of the Final SUSMPs will be revised to February 15, 2001.

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IV. ORDER

IT IS HEREBY ORDERED that the Standard Urban Storm Water Mitigation Plans for Los Angeles County and Cities in Los Angeles County is revised consistent with the amendments attached hereto. In all other respects the petitions are dismissed.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 5, 2000.

AYE: Arthur G. Baggett, Jr.
Mary Jane Forster
John W. Brown
Peter S. Silva

NO: None

ABSENT: None

ABSTAIN: None

/s/
Maureen Marché
Administrative Assistant to the Board

AMENDMENTS TO SUSMPS

[These amendments are to the Final SUSMP, as published March 8, 2000]

Page 3 of 25

First full paragraph:

All **discretionary development and redevelopment** projects that fall into one of ~~seven~~ **the following** categories are ~~identified in the Los Angeles County MS4 Permit as requiring~~ **subject to these** SUSMPs. These categories are:

- Single-family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 to 99 housing units
- Home Subdivisions with 100 or more housing units
- **Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff**

Second full paragraph:

~~The Regional Board Executive Officer has designated two additional categories subject to SUSMP requirements for the Los Angeles County MS4 Permit. These categories are:~~

- ~~Location within or directly adjacent to or discharging directly to an environmentally sensitive area, and~~
- ~~Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to storm water runoff~~

Fourth full paragraph:

Permittees shall amend codes, if necessary, not later than ~~September 8, 2000~~ **January 15, 2001,** to give legal effect to the SUSMP requirements. The SUSMP requirements for projects identified herein shall take effect not later than ~~October 8, 2000~~ **February 15, 2001.**

Page 4 of 25

Delete definition of "Environmentally Sensitive Area"

Revise Definition of "Redevelopment":

"Redevelopment" means, on an already developed site, the creation or addition of at least 5,000 square feet of impervious surfaces ~~or the creation or addition of fifty percent or more of impervious surfaces or the making of improvements to fifty percent or more of the existing structure~~. Redevelopment includes, but is not limited to: the expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routing maintenance activity; and land disturbing activities related with structural or impervious surfaces. **Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these SUSMPs, the Design Standards apply only to the addition, and not to the entire development.**

Page 10 of 25

Add to "Limited Exclusion": Retail Gasoline Outlets

Page 15 of 25

Delete the first full paragraph (storm water mitigation funding)

ANNOUNCEMENT

NPDES–DEVELOPMENT PLANNING FOR STORMWATER MANAGEMENT

On July 15, 1996, the Regional Water Quality Control Board (RWQCB), Los Angeles Region, adopted Order No. 96-054 ("Permit"). Under the Permit, the County of Los Angeles is designated as the Principal Permittee and the 85 incorporated cities as co-Permittees. In February 2000, the RWQCB adopted a Resolution that established Standard Urban Stormwater Mitigation Plan (SUSMP) criteria for priority projects for the Permittees described in Part A and Part B of the attached table.

The primary objectives are to:

- Effectively prohibit non-stormwater discharges, and
- Reduce the discharge of pollutants from stormwater conveyance systems to the maximum extent practicable

The Los Angeles County Department of Public Works (DPW) is responsible for the implementation of SUSMP requirements in the County unincorporated areas (excluding the Antelope Valley area) and all County-owned facilities. Development and redevelopment projects falling into either Parts A or B of the attached table will be required to obtain SUSMP approvals. Details of facilities and measures that mitigate impacts to water quality must be shown on improvement plans and reviewed as part of those plans.

Information regarding the preparation of SUSMP is available on our website (*link to* SUSMP Plan on www.888CleanLA.com).

SUSMP pertaining to new subdivisions will be reviewed by DPW's Land Development Division. Please call Steve Burger at (626) 458-4943 with any questions (Monday through Thursday).

SUSMP for single-lot developments will be reviewed by DPW's Building and Safety Division. Please contact Mitch Miller at (626) 458-6390 with any questions pertaining to these developments (Monday through Thursday).

In addition, SUSMP for non-residential projects will be reviewed by DPW's Environmental Programs Division. Related questions should be directed to the Industrial Waste Unit of Environmental Programs Division at (626) 458-3517 (Monday through Thursday).

Attachment: SUSMP Project Types, Characteristics and Activities, Parts A and B.

SUSMP Project Types, Characteristics, and Activities
Part A. Type of Proposed Project:
A 10+ home subdivision
A 100,000+ square-foot commercial development[1, 2]
An automotive repair shop (SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539)[3]
A retail gasoline outlet
A restaurant (SIC code 5812)[4]
A hillside-located single-family dewelling[5]
Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to stormwater runoff
Location within or directly adjacent to or discharging directly to an environmentally sensitive area

Part B. Project Characteristics or Activities:
Automotive or Equipment Repair and/or Maintenance
Automotive or Equipment Washing or Cleaning Area(s)
Gas Station or Fuel Dispensing
Outdoor Material or Waste Handling or Storage
Chemical handling and/or storage of petroleum products, paints, solvents, concrete, or hazardous waste?
Outdoor Equipment or Product Fabrication including welding; cutting; sawing; metal fabrication; assembly; application of paints, coatings, or finishes; pre-cast concrete fabrication, etc.
Outdoor Areas for Equipment or Machinery Repair and/or Maintenance
Dry Cleaning Factory
Food Service
Food Processing Plant
Animal Slaughtering
Animal Confinement, Pet Care Facilities, Stables, Kennels, etc.
10 or More Dwelling Units
Hillside Location[5]

[1] "100,000 Square Foot Commercial Development" means any commercial development that creates at least 100,000 square feet of impermeable area, including parking areas.

[2] "Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, multi-apartment buildings, car was facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, and public warehouses and other light industrial complexes.

[3] "Automotive Repair Shop" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.

[4] "Restaurant" means a stand-alone facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).

[5] "Hillside" means property located in an area with known erosivesoil conditions, where the development contemplates grading on any natural slope that is 25 percent or greater

Section F(2)

ITEM 10F
(2) SD
SUSMP

County of San Diego Standard Urban Storm Water Mitigation Plans Draft (SUSMPs)

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2001-15

In the Matter of the Petitions of

BUILDING INDUSTRY ASSOCIATION OF SAN DIEGO COUNTY
AND
WESTERN STATES PETROLEUM ASSOCIATION

For Review Of Waste Discharge Requirements Order No. 2001-01
for Urban Runoff from San Diego County
[NPDES No. CAS0108758]
Issued by the
California Water Quality Control Board,
San Diego Region

SWRCB/OCC FILES A-1362, A-1362(a)

BY THE BOARD:

On February 21, 2001, the San Diego Regional Water Quality Control Board (Regional Water Board) issued a revised national pollutant discharge elimination system (NPDES) permit in Order No. 2001-01 (permit) to the County of San Diego (County), the 18 incorporated cities within the County, and the San Diego Unified Port District. The permit covers storm water discharges from municipal separate storm sewer systems (MS4) throughout the County. The permit is the second MS4 permit issued for the County, although the first permit was issued more than ten years earlier.[1]

[1] NPDES permits generally expire after five years, but can be extended administratively where the Regional Water Board is unable to issue a new permit prior to the expiration date. As the record in this matter amply demonstrates, the Regional Water Board engaged in an extensive process of issuing draft permits, accepting comments, and holding workshops and hearings since at least 1995.

The permit includes various programmatic and planning requirements for the permittees, including construction and development controls, controls on municipal activities, controls on runoff from industrial, commercial, and residential sources, and public education. The types of controls and requirements included in the permit are similar to those in other MS4 permits, but also reflect the expansion of the storm water program since the first MS4 permit was adopted for San Diego County 11 years ago.[2]

On March 23, 2001, the State Water Resources Control Board (State Water Board or Board) received petitions for review of the permit from the Building Industry Association of San Diego County (BIA) and from the Western States Petroleum Association (WSPA).[3] The petitions are legally and factually related, and have therefore been consolidated for purposes of review.[4] None of the municipal dischargers subject to the permit filed a petition, nor did they file responses to the petitions.

I. BACKGROUND

MS4 permits are adopted pursuant to Clean Water Act section 402(p). This federal law sets forth specific requirements for permits for discharges from municipal storm sewers. One of the requirements is that permits "shall require controls to reduce the discharge of pollutants to the maximum

[2] For a discussion of the evolution of the storm water program, consistent with guidance from the United States Environmental Protection Agency (U.S. EPA), see Board Order WQ 2000-11.

[3] On March 23, the State Water Board also received brief letters from the Ramona Chamber of Commerce, the North San Diego County Association of Realtors, the San Diego County Apartment Association, the National Association of Industrial and Office Properties, and the California Building Industry Association. All of these letters state that they are "joining in" the petition filed by BIA. None of the letters contain any of the required information for petitions, which is listed at Cal. Code of Regs., tit. 23, section 2050. These letters will be treated as comments on the BIA petition. To the extent the authors intended the letters be considered petitions, they are dismissed.

[4] Cal. Code of Regs., tit. 23, section 2054.

extent practicable [MEP]." States establish appropriate requirements for the control of pollutants in the permits.

This Board very recently reviewed the need for controls on urban runoff in MS4 permits, the emphasis on best management practices (BMPs) in lieu of numeric effluent limitations, and the expectation that the level of effort to control urban runoff will increase over time.[5] We pointed out that urban runoff is a significant contributor of impairment to waters throughout the state, and that additional controls are needed. Specifically, in Board Order WQ 2000-11 (hereinafter, LA SUSMP order), we concluded that the Los Angeles Regional Water Board acted appropriately in determining that numeric standards for the design of BMPs to control runoff from new construction and redevelopment constituted controls to the MEP.[6]

The San Diego permit incorporates numeric design standards for runoff from new construction and redevelopment similar to those considered in the LA SUSMP order.[7] In addition, the permit addresses programmatic requirements in other areas. The LA SUSMP order was a precedential decision,[8] and we will not reiterate our findings and conclusions from that decision.[9]

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[5] Board Order WQ 2000-11.

[6] As explained in that Order, numeric design standards are not the same as numeric effluent limitations. While BIA contends that the permit under review includes numeric effluent limitations, it does not. A numeric design standard only tells the dischargers how much runoff must be treated or infiltrated; it does not establish numeric effluent limitations proscribing the quality of effluent that can be discharged following infiltration or treatment.

[7] The San Diego permit also includes provisions that are different from those approved in the LA SUSMP Order, but which were not the subject of either petition. Such provisions include the inclusion of non-discretionary projects. We do not make any ruling in this Order on matters that were not addressed in either petition.

[8] Government Code section 11425.60; State Board Order WR 96-1 (Lagunitas Creek), at footnote 11.

[9] BIA restates some of the issues this Board considered in the LA SUSMP order. For instance, BIA contends that it is inappropriate for the permit to regulate erosion control. While this argument was not specifically addressed in our prior Order, it is obvious that the most serious concern with runoff from construction is the potential for increased erosion. It is absurd to contend that the permit should have ignored this impact from urban runoff.

The petitioners make numerous contentions, mostly concerning requirements that they claim the dischargers will not be able to, or should not be required to, comply with. We note that none of the dischargers has joined in these contentions. We further note that BIA raises contentions that were already addressed in the LA SUSMP order. In this Order, we have attempted to glean from the petition issues that are not already fully addressed in Board Order Board Order WQ 2000-11, and which may have some impact on BIA and its members. WSPA restated the contentions it made in the petition it filed challenging the LA SUSMP order. We will not address those contentions again.[10] But we will address whether the Regional Water Board followed the precedent established there as it relates to retail gasoline outlets.[11]

[10] On November 8, 2001, following the October 31 workshop meeting that was held to discuss the draft order, BIA submitted a "supplemental brief" that includes many new contentions raised for the first time. (Interested persons who were not petitioners filed comments on the draft order asking the State Water Board to address some of these.) The State Water Board will not address these contentions, as they were not timely raised. (Wat. Code § 13320; Cal. Code of Regs., tit. 23, § 2050(a).) Specific contentions that are not properly subject to review under Water Code section 13320 are objections to findings 16, 17, and 38 of the permit, the contention that permit provisions constitute illegal unfunded mandates, challenges to the permit's inspection and enforcement provisions, objections to permit provisions regarding construction sites, the contention that post-construction requirements should be limited to "discretionary" approvals, the challenge to the provisions regarding local government compliance with the California Environmental Quality Act, and contentions regarding the term "discharge" in the permit. BIA did not meet the legal requirements for seeking review of these portions of the permit.

[11] On November 8, 2001, the State Water Board received eight boxes of documents from BIA, along with a "Request for Entry of Documents into the Administrative Record." BIA failed to comply with Cal. Code of Regs., tit. 23, section 2066(b), which requires such requests be made "prior to or during the workshop meeting." The workshop meeting was held on October 31, 2001. The request will therefore not be considered. BIA also objected in this submittal that the Regional Water Board did not include these documents in its record. The Regional Water Board's record was created at the time the permit was adopted, and was submitted to the State Water Board on June 11, 2001. BIA's objection is not timely.

II. CONTENTIONS AND FINDINGS[12]

Contention: BIA contends that the discharge prohibitions contained in the permit are "absolute" and "inflexible," are not consistent with the standard of "maximum extent practicable" (MEP), and financially cannot be met.

Finding: The gist of BIA's contention concerns Discharge Prohibition A.2, concerning exceedance of water quality objectives for receiving waters: "Discharges from MS4s which cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited." BIA generally contends that this prohibition amounts to an inflexible "zero contribution" requirement.

BIA advances numerous arguments regarding the alleged inability of the dischargers to comply with this prohibition and the impropriety of requiring compliance with water quality standards in municipal storm water permits. These arguments mirror arguments made in earlier petitions that required compliance with water quality objectives by municipal storm water permittees. (See, e.g., Board Orders WQ 91-03, WQ 98-01, and WQ 99-05.) This Board has already considered and upheld the requirement that municipal storm water discharges must not cause or contribute to exceedances of water quality objectives in the receiving water. We adopted an iterative procedure for complying with this requirement, wherein municipalities must report instances where they cause or contribute to exceedances, and then must review and improve BMPs so as to protect the receiving

[12] This Order does not address all of the issues raised by the petitioners. The Board finds that the issues that are not addressed are insubstantial and not appropriate for State Water Board review. (See *People v. Barry* (1987) 194 Cal.App.3d 158 [239 Cal.Rptr. 349]; Cal. Code Regs., tit. 23, § 2052.) We make no determination as to whether we will address the same or similar issues when raised in future petitions.

waters. The language in the permit in Receiving Water Limitation C.1 and 2 is consistent with the language required in Board Order WQ 99-05, our most recent direction on this issue.[13]

While the issue of the propriety of requiring compliance with water quality objectives has been addressed before in several orders, BIA does raise one new issue that was not addressed previously. In 1999, the Ninth Circuit Court of Appeals issued an opinion addressing whether municipal storm water permits must require "strict compliance" with water quality standards.[14] (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.) The court in *Browner* held that the Clean Water Act provisions regarding storm water permits do not require that municipal storm-sewer discharge permits ensure strict compliance with water quality standards, unlike other permits.[15] The court determined that: "Instead, [the provision for municipal storm water permits] *replaces* the requirements of [section 301] with the requirement that municipal storm-sewer dischargers 'reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator . . . determines appropriate for the control of such pollutants'." (191 F.3d at 1165.) The court further held that the Clean Water Act does grant the permitting agency discretion to determine what pollution controls are appropriate for municipal storm water discharges. (*Id.* at 1166.) Specifically, the court stated that U.S.

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[13] In addition to Discharge Prohibition A.2, quoted above, the permit includes Receiving Water Limitation C.1, with almost identical language: "Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited." Receiving Water Limitation C.2 sets forth the iterative process for compliance with C.1, as required by Board Order WQ 99-05.

[14] "Water quality objectives" generally refers to criteria adopted by the state, while "water quality standards" generally refers to criteria adopted or approved for the state by the U.S. EPA. Those terms are used interchangeably for purposes of this Order.

[15] Clean Water Act § 301(b)(1)(C) requires that most NPDES permits require strict compliance with quality standards.

EPA had the authority either to require "strict compliance" with water quality standards through the imposition of numeric effluent limitations, or to employ an iterative approach toward compliance with water quality standards, by requiring improved BMPs over time. (*Id.*) The court in *Browner* upheld the EPA permit language, which included an iterative, BMP-based approach comparable to the language endorsed by this Board in Order WQ 99-05.

In reviewing the language in this permit, and that in Board Order WQ 99-05, we point out that our language, similar to U.S. EPA's permit language discussed in the *Browner* case, does not require strict compliance with water quality standards. Our language requires that storm water management plans be designed to achieve compliance with water quality standards. Compliance is to be achieved over time, through an iterative approach requiring improved BMPs. As pointed out by the *Browner* court, there is nothing inconsistent between this approach and the determination that the Clean Water Act does not mandate strict compliance with water quality standards. Instead, the iterative approach is consistent with U.S. EPA's general approach to storm water regulation, which relies on BMPs instead of numeric effluent limitations.

It is true that the holding in *Browner* allows the issuance of municipal storm water permits that limit their provisions to BMPs that control pollutants to the maximum extent practicable (MEP), and which do not require compliance with water quality standards. For the reasons discussed below, we decline to adopt that approach. The evidence in the record before us is consistent with records in previous municipal permits we have considered, and with the data we have in our records, including data supporting our list prepared pursuant to Clean Water Act section 303(d). Urban runoff is causing and contributing to impacts on receiving waters throughout the state and impairing their

beneficial uses. In order to protect beneficial uses and to achieve compliance with water quality objectives in our streams, rivers, lakes, and the ocean, we must look to controls on urban runoff. It is not enough simply to apply the technology-based standards of controlling discharges of pollutants to the MEP; where urban runoff is causing or contributing to exceedances of water quality standards, it is appropriate to require improvements to BMPs that address those exceedances.

While we will continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvement of BMPs, is appropriate. We will generally not require "strict compliance" with water quality standards through numeric effluent limitations and we will continue to follow an iterative approach, which seeks compliance over time.[16] The iterative approach is protective of water quality, but at the same time considers the difficulties of achieving full compliance through BMPs that must be enforced throughout large and medium municipal storm sewer systems.[17]

We have reviewed the language in the permit, and compared it to the model language in Board Order WQ 99-05. The language in the Receiving Water Limitations is virtually identical to the language in Board Order WQ 99-05. It sets a limitation on discharges that cause or contribute to violation of water quality standards, and then it establishes an iterative approach to complying with the limitation. We are concerned, however, with the language in Discharge Prohibition A.2, which is

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[16] Exceptions to this general rule are appropriate where site-specific conditions warrant. For example, the Basin Plan for the Lake Tahoe basin, which protects an outstanding national resource water, includes numeric effluent limitations for storm water discharges.

[17] While BIA argues that the permit requires "zero contribution" of pollutants in runoff, and "in effect" contains numeric effluent limitations, this is simply not true. The permit is clearly BMP-based, and there are no numeric effluent limitations. BIA also claims that the permit will require the construction of treatment plants for storm water similar to the publicly-owned treatment works for sanitary sewage. There is no basis for this contention; there is no requirement in the permit to treat all storm water. The emphasis is on BMPs.

challenged by BIA. This discharge prohibition is similar to the Receiving Water Limitation, prohibiting discharges that cause or contribute to exceedance of water quality objectives. The difficulty with this language, however, is that it is not modified by the iterative process. To clarify that this prohibition also must be complied with through the iterative process, Receiving Water Limitation C.2 must state that it is also applicable to Discharge Prohibition A.2. The permit, in Discharge Prohibition A.5, also incorporates a list of Basin Plan prohibitions, one of which also prohibits discharges that are not in compliance with water quality objectives. (See, Attachment A, prohibition 5.) Language clarifying that the iterative approach applies to that prohibition is also necessary.[18]

BIA also objects to Discharge Prohibition A.3, which appears to require that treatment and control of discharges must always occur prior to entry into the MS4: "Discharges into and from MS4s containing pollutants which have not been reduced to the [MEP] are prohibited."[19] An NPDES permit is properly issued for "discharge of a pollutant" to waters of the United States.[20] (Clean Water Act § 402(a).) The Clean Water Act defines "discharge of a pollutant" as an "addition" of a pollutant to waters of the United States from a point source. (Clean Water Act section 502(12).) Section 402(p)(3)(B) authorizes the issuance of permits for discharges "from municipal storm sewers."

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[18] The iterative approach is not necessary for all Discharge Prohibitions. For example, a prohibition against pollution, contamination or nuisance should generally be complied with at all times. (See, Discharge Prohibition A.1.) Also, there may be discharge prohibitions for particularly sensitive water bodies, such as the prohibition in the Ocean Plan applicable to Areas of Special Biological Significance.

[19] Discharge Prohibition A.1 also refers to discharges into the MS4, but it only prohibits pollution, contamination, or nuisance that occurs "in waters of the state." Therefore, it is interpreted to apply only to discharges to receiving waters.

[20] Since NPDES permits are adopted as waste discharge requirements in California, they can more broadly protect "waters of the state," rather than being limited to "waters of the United States." In general, the inclusion of "waters of the state" allows the protection of groundwater, which is generally not considered to be "waters of the United States."

We find that the permit language is overly broad because it applies the MEP standard not only to discharges "from" MS4s, but also to discharges "into" MS4s. It is certainly true that in most instances it is more practical and effective to prevent and control pollution at its source. We also agree with the Regional Water Board's concern, stated in its response, that there may be instances where MS4s use "waters of the United States" as part of their sewer system, and that the Board is charged with protecting all such waters. Nonetheless, the specific language in this prohibition too broadly restricts all discharges "into" an MS4, and does not

allow flexibility to use regional solutions, where they could be applied in a manner that fully protects receiving waters.[21] It is important to emphasize that dischargers into MS4s continue to be required to implement a full range of BMPs, including source control. In particular, dischargers subject to industrial and construction permits must comply with all conditions in those permits prior to discharging storm water into MS4s.

Contention: State law requires the adoption of wet weather water quality standards, and the permit improperly enforces water quality standards that were not specifically adopted for wet weather discharges.

Finding: This contention is clearly without merit. There is no provision in state or federal law that mandates adoption of separate water quality standards for wet weather conditions. In arguing that the permit violates state law, BIA states that because the permit applies the water quality

[21] There are other provisions in the permit that refer to restrictions "into" the MS4. (See, e.g., Legal Authority D.1.) Those provisions are appropriate because they do not apply the MEP standard to the permittees, but instead require the permittees to demand appropriate controls for discharges into their system. For example, the federal regulations require that MS4s have a program "to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system . . . ." (40 C.F.R. § 122.26(d)(2)(iv)(D).)

objectives that were adopted in its Basin Plan, and those objectives were not specifically adopted for wet weather conditions only, the Regional Water Board violated Water Code section 13241. These allegations appear to challenge water quality objectives that were adopted years ago. Such a challenge is clearly inappropriate as both untimely, and because Basin Plan provisions cannot be challenged through the water quality petition process. (See Wat. Code § 13320.) Moreover, there is nothing in section 13241 that supports the claim that Regional Water Boards must adopt separate wet weather water quality objectives. Instead, the Regional Water Board's response indicates that the water quality objectives were based on all water conditions in the area. There is nothing in the record to support the claim that the Regional Water Board did not in fact consider wet weather conditions when it adopted its Basin Plan. Finally, Water Code section 13263 mandates the Regional Water Board to implement its Basin Plan when adopting waste discharge requirements. The Regional Water Board acted properly in doing so.

BIA points to certain federal policy documents that authorize states to promulgate water quality standards specific to wet-weather conditions.[22] Each Regional Water Board considers revisions to its Basin Plan in a triennial review. That would be the appropriate forum for BIA to make these comments.

Contention: BIA contends that the permit improperly classifies urban runoff as "waste" within the meaning of the Water Code.

[22] These documents do not support the claim that U.S. EPA and the Clinton Administration indicated that the absence of such regulations "is a major problem that needs to be addressed," as claimed in BIA's Points and Authorities, at page 18.

Finding: BIA challenges Finding 2, which states that urban runoff is a waste, as defined in the Water Code, and that it is a "discharge of pollutants from a point source" under the federal Clean Water Act. BIA contends that the legislative history of section 13050(d) supports its position that "waste" should be interpreted to exclude urban runoff. The Final Report of the Study Panel to the California State Water Resources Control Board (March, 1969) is the definitive document describing the legislative intent of the Porter-Cologne Water Quality Control Act. In discussing the definition of "waste," this document discusses its broad application to "current drainage, flow, or seepage into waters of the state of harmful concentrations" of materials, including eroded earth and garbage.

As we stated in Board Order WQ 95-2, the requirement to adopt permits for urban runoff is undisputed, and Regional Water Boards are not required to obtain any information on the impacts of runoff prior to issuing a permit. (At page 3.) It is also undisputed that urban runoff contains "waste" within the meaning of Water Code section 13050(d), and that the federal regulations define "discharge of a pollutant" to include "additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man." (40 C.F.R. § 122.2.) But it is the waste or pollutants in the runoff that meet these definitions of "waste" and "pollutant," and not the runoff itself.[23] The finding does create some confusion, since there are discharge prohibitions that have been incorporated into the permit that broadly prohibit the discharge of "waste" in certain circumstances.

[23] The Regional Water Board is appropriately concerned not only with pollutants in runoff but also the volume of runoff, since the volume of runoff can affect the discharge of pollutants in the runoff. (See Board Order WQ 2000-11, at page 5.)

(See Attachment A to the permit.) The finding will therefore be amended to state that urban runoff contains waste and pollutants.

Contention: BIA contends that the Regional Water Board violated California Environmental Quality Act (CEQA).

Finding: As we have stated in several prior orders, the provisions of CEQA requiring adoption of environmental documents do not apply to NPDES permits.[24] BIA contends that the exemption from CEQA contained in section 13389 applies only to the extent that the specific provisions of the permit are required by the federal Clean Water Act. This contention is easily rejected without addressing whether federal law mandated all of the permit provisions. The plain language of section 13389 broadly exempts the Regional Water Board from the requirements of CEQA to prepare environmental documents when adopting "any waste discharge requirement" pursuant to Chapter 5.5 (§§ 13370 et seq., which applies to NPDES permits).[25] BIA cites the decision in *Committee for a Progressive Gilroy v. State Water Resources Control Board* (1987) 192 Cal.App.3d 847. That case upheld the State Water Board's view that section 13389 applies only to NPDES permits, and not to waste discharge requirements that are adopted pursuant only to state law. The case did not concern an NPDES permit, and does not support BIA's argument.

Contention: WSPA contends that the Regional Water Board did not follow this Board's precedent for retail gasoline outlets (RGOs) established in the LA SUSMP order.

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[24] Water Code section 13389; see, e.g., Board Order WQ 2000-11.

[25] The exemption does have an exception for permits for "new sources" as defined in the Clean Water Act, which is not applicable here.

Finding: In the LA SUSMP order, this Board concluded that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. We also noted that, in light of the small size of many RGOs and the proximity to underground tanks, it might not always be feasible or safe to employ treatment methodologies. We directed the Los Angeles Regional Water Board to mandate that RGOs employ the BMPs listed in a publication of the California Storm Water Quality Task Force. (*Best Management Practice Guide – Retail Gasoline Outlets* (March 1997).) We also concluded that RGOs should not be subject to the BMP design standards at this time. Instead, we recommended that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor. The LA SUSMP order did not preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued.

The permit adopted by the Regional Water Board did not comply with the directions we set forth in the LA SUSMP order for the regulation of RGOs. The permit contains no findings specific to the issues discussed in our prior order regarding RGOs, and includes no threshold for inclusion of RGOs in SUSMPs. Instead, the permit requires the dischargers to develop and implement SUSMPs within one year that include requirements for "Priority Development Project Categories," including "retail gasoline outlets." While other priority categories have thresholds for their inclusion in SUSMPs, the permit states: "Retail Gasoline Outlet is defined as any facility engaged in selling gasoline."[26]

[26] Permit at F.1.b(2)(a)(x).

The Regional Water Board responded that it did follow the directions in the LA SUSMP order. First, it points to findings that vehicles and pollutants they generate impact receiving water quality. But the only finding that even mentions RGOs is finding 4, which simply lists RGOs among the other priority development project categories as land uses that generate more pollutants. The Regional Water Board staff also did state some justifications for the inclusion of RGOs in two documents. The Draft Fact Sheet explains that RGOs contribute pollutants to runoff, and opines that there are appropriate BMPs for RGOs. The staff also prepared another document after the public hearing, which was distributed to Board Members prior to their vote on the permit, and which includes similar justifications and references to studies.[27] The LA SUSMP order called for some type of threshold for inclusion of RGOs in SUSMPs. The permit does not do so. Also, justifications for permit provisions should be stated in the permit findings or the final fact sheet, and should be subject to public review and debate.[28] The discussion in the document submitted after the hearing did not meet these criteria. There was some justification in the "Draft Fact Sheet," but the fact sheet has not been finalized.[29] In light of our concerns over whether SUSMP sizing criteria should apply to RGOs, it was incumbent on the Regional Water Board to justify the inclusion of RGOs in the permit findings or in a final fact sheet, and to consider an appropriate threshold, addressing the concerns we stated. The Regional Water Board also responded that when the dischargers develop the SUSMPs, the dischargers

[27] See "Comparison Between Tentative Order No. 2001-01 SUSMP Requirements and LARWQCB SUSMP Requirements (as Supported by SWRCB Order WQ 2000-11)."

[28] See 40 C.F.R. sections 124.6(e) and 124.8.

[29] U.S. EPA regulations require that there be a fact sheet accompanying the permit. (40 C.F.R. § 124.8.) The record contains only a draft fact sheet, which was never published or distributed in final form. The Regional Water Board should finalize the fact sheet, accounting for any revisions made in the final permit, and publish it on its web site as a final document.

might add specific BMPs and a threshold as directed in the LA SUSMP order. But the order specifically directed that any threshold, and the justification therefore, should be included in the permit. The Regional Water Board did not comply with these directions.

III. CONCLUSIONS

Based on the discussion above, the Board concludes that:

1. The Regional Water Board appropriately required compliance with water quality standards and included requirements to achieve reduction of pollutants to the maximum extent practicable. The permit must be clarified so that the reference to the iterative process for achieving compliance applies not only to the receiving water limitation, but also to the discharge prohibitions that require compliance with water quality standards. The permit should also be revised so that it requires that MEP be achieved for discharges "from" the municipal sewer system, and for discharges "to" waters of the United States, but not for discharges "into" the sewer system.

2. The Regional Water Board was not required to adopt wet-weather specific water quality objectives.

3. The Regional Water Board inappropriately defined urban runoff as "waste."

4. The Regional Water Board did not violate the California Environmental Quality Act.

5. The permit will be revised to delete retail gasoline outlets from the Priority Development Project Categories for Standard Urban Storm Water Mitigation Plans. The Regional Water Board may consider adding retail gasoline outlets, upon inclusion of appropriate findings and a threshold describing which outlets are included in the requirements.

IV. ORDER

IT IS HEREBY ORDERED that the Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems in San Diego County (Order No. 2001-01) are revised as follows:

1. Part A.3: The words "into and" are deleted.

2. Part C.2: Throughout the first paragraph, the words ", Part A.2, and Part A.5 as it applies to Prohibition 5 in Attachment A" shall be inserted following "Part C.1."

3. Finding 2: Revise the finding to read: **URBAN RUNOFF CONTAINS "WASTE" AND "POLLUTANTS"**: Urban runoff contains waste, as defined in the California Water Code, and pollutants, as defined in the federal Clean Water Act, and adversely affects the quality of the waters of the State.

4. Part F.1.b(2)(a): Delete section "x."

In all other respects the petitions are dismissed.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 15, 2001.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz

NO:

ABSENT:

ABSTAIN:

/s/

Maureen Marché
Clerk to the Board

R0007543

Section G

Technical Reviews

ITEM 10G
Tech.
Reviews

Section G(1)

Staff Review of SWQTF BMP Guide

ITEM 10G
(1)SWQTF
Staff Review

Storm Water Quality Task Force BMP Guide For Retail Gasoline Outlets

Review and Comment

November 2001

Dan Radulescu
Storm Water Section

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Introduction

The California Regional Water Quality Control Boards, Los Angeles Region (LA Regional Board) and the San Diego Region (SD Regional Board) issued a technical document (RB technical report) on new development standards for Retail Gasoline Outlets (RGOs) in June 2001. The RB technical report provided justification that RGOs should be subject to numerical design criteria for treatment control Best Management Practices (BMPs). On August 6, 2001, the Western States Petroleum Association (WSPA), a trade group for the petroleum industry in Western U.S., released a technical document that challenges the recommendations and the conclusions of the RB technical report. Among other claims, WSPA asserts that the California Storm Water Quality Task Force BMP Guide (Guide), a default collection of soft source control BMPs (Task Force BMPs) are sufficient and treatment control BMPs are not necessary at new and redeveloped RGOs.

The Storm Water Quality Task Force (Task Force) is primarily comprised of municipalities, private organizations and individuals responsible for and/or interested in the implementation of municipal separate storm sewer system (MS4) programs in California. Its Executive Committee is comprised of 17 members, including 11 municipal representatives, 2 industrial representatives, and 4 at-large members. The Executive Committee approves work products generated by the work groups, sets Task Force priorities, identifies issues of concern, appoints committees and work groups, updates the State Water Resources Control Board (State Board) on key issues, and establishes the agendas for bi-monthly meetings. Some Regional Board and State Board staff attend the Task Force meetings.

The following constitutes LA Regional Board staff review and comment on the Task Force BMPs and Guide.

Review of the Task Force BMPs and the Guide

The Task Force BMPs, mostly a collection of source control BMPs, are a "default" set of BMPs recommended for implementation at RGOs in 1997. The Task Force BMPs listed in the Guide carry over BMPs suggested by the USEPA in 1992 in a guidance document.[1]

The Guide recommends that BMPs be included in the construction and design of new and substantially remodeled RGO facilities. These Task Force BMPs are:

(i) Fueling area design and construction - Portland cement concrete with a 2% to 4% slope around fuel dispensing areas to prevent ponding, and minimum separation by a grade break to prevents run-on of storm water; fuel dispensing area is defined as extending 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus 1 foot, whichever is less. The paving around the fuel dispensing area may exceed the minimum dimensions of the "fuel dispensing area" stated above. In addition, the fuel dispensing area must be covered, and the cover's minimum dimensions must be equal to or greater than the area within the grade break or the fuel dispensing area, as defined above. The cover must not drain onto the fuel dispensing area.

(ii) Fuel-dispensing areas maintenance - routinely swept for removal of litter and debris, and use of rags and absorbents for leaks and spills. It is also suggested that wash down of fueling areas should never be performed (but avoids the use of word: "prohibited") unless the wash water is collected and disposed of properly.[2]

(iii) Employee training - training in management of waste materials, labeling drains and flow patterns at the facility (seldom observed in practice), inspection and cleans up of storm drain inlets and catch basins within the facility's boundaries (also not performed routinely).

(iv) Fuel dispenser signage - posting signs close to the fuel dispenser that warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles.[3]

(v) Outdoor waste receptacle and air/water supply area design and maintenance - clean-up of leaks and drips, grading the site in such a way to prevent run-on of storm water, segregation of flow, and the installation of a roof cover or a low containment berm.

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[1] *Storm Water Management for Industrial Activities – Developing Pollution Prevention Plans and Best Management Practices*, EPA 832-R-92-006, pg. 3-2 to 3-4

[2] One might infer from this statement that the quality of the wash water cleaning the fueling areas is not appropriate for disposal, due to contamination from spills, stains and deposits from vehicular traffic. That raises the question of whether the practice of sweeping for removal of debris or the use of rags and absorbents for leaks and spills, at RGOs is adequate in itself. Numerous studies have shown that there is pollutant build-up and entrapment in the base pavement that can not be removed even after multiple episodes of pressure washing.

[3] Although the signs are a very good educational BMP, both the heavy automobile traffic at RGOs and accidental spills invariably contribute to pollutant build-up.

The language in the Guide is overly broad, voluntary, non-specific, and vague from a regulatory perspective. It is not known if the BMPs are mandatory throughout the petroleum retailing industry and are routinely implemented.[4]

No evidence has been provided to date to demonstrate that the sole implementation of source controls BMPs is sufficient to achieve the goal of reducing the discharge of pollutants in storm water from RGOs. Rather, more recent data shows that the opposite is true. Source control BMPs while essential to pollution reduction efforts, and presumptively cost effective, do not obviate the need for treatment control BMPs to remove pollutants of concern in storm water from RGOs. Essentially, these BMPs are the pre-treatment step in the treatment train to reduce the discharge of storm water pollutants.

The Guide has not been updated, although much research on the effectiveness of treatment control BMPs has been done and well documented in the literature since 1997. Some of these studies have determined that the implementation of source control BMPs alone is not sufficient to adequately address storm water pollution[5]. There is a tremendous body of evidence and numerous studies have been conducted in recent years since the Guide was first issued.

Summary of Research to Date

The US General Accounting Office (GAO) Report to Congress[6] mentions the relationship between automobile traffic (such as at RGOs) and sources of pollutants in storm water runoff, including toxic pollutants such as heavy metals and petroleum hydrocarbons. The GAO Report discusses (i) the evidentiary direct correlation between vehicular traffic and Polycyclic Aromatic Hydrocarbon (PAH) concentrations in lake-bottom sediment and, (ii) the occurrence of toxicity from heavy metal concentrations in receiving waters in urban and suburban communities in the U.S. Both PAH and heavy metal concentrations have increased with the increase of vehicular traffic in these areas.

Studies analyzing the effectiveness of source control BMPs reveal that there is scant evidence to demonstrate that source control BMPs are by themselves adequate to prevent pollutants from entering storm water discharges. The effectiveness of most storm water treatment control practices is dependent on their ability to remove pollutant particles from the water, or possibly from intermediate accumulating locations and not through source reduction.[7] To the contrary, some of the more recent studies show that some source control BMPs (such as sweeping) are ineffective in removing pollutants.[8] Other studies, performed at RGOs specifically demonstrate that some potent treatment control BMPs (mobile high pressure water cleaning) are still not effective in removing

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[4] The tentative LA County MS4 permit (October 11, 2001) includes requirements for municipalities to inspect RGOs to verify implementation of BMPs in the Guide. p 35A and 35 B.

[5] *Comparison of Critical Source Results Before and After BMP Implementation* – Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report [Table 4-15, 4-16], July 31, 2000

[6] *Water Quality Better Data and Evaluation of Urban Runoff Programs Needed to Assess Effectiveness (June 2001)* US General Accounting Office

[7] *Innovative Urban Wet-Weather Flow Management Systems.* Field, Richard, James P. Heaney and Robert Pitt. (2000). Technomic Publishing Co., Inc. Lancaster.

[8] *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall.* L. L. Tiefenthaler *et. al* (2001). Southern California Coastal Water Research Project; *Effectiveness of Street Sweeping for Storm water Pollution Control*, Technical Report 99/8, T.A. Walker and T.H.F. Wong (1999), CRC for Catchment Hydrology, Victoria, Australia.

pollutants due to the high pollutant deposition rates, heavy pollutant buildup and entrapment in the base pavement and also that soft source control BMPs are not likely to have a significant impact on the sources of pollution.[9] Furthermore, studies performed in the Los Angeles region at automotive service facilities and monitoring data collected through those studies show no improvement in storm water discharge quality after the implementation of source control BMPs, similar to those suggested by the Task Force.[4] Other studies indicate that while the data to recommend outright acceptance of a number of treatment control BMPs at this time may be limited, some of these treatment control BMPs are conditionally acceptable.[10,11,12]

Conclusion

The Guide is a basic document that has become obsolete. BMPs in the Guide are not substantive. They cannot be considered as being adequate to ensure that storm water discharges from RGOs meet the standard of Maximum Extent Practicable (MEP standard) under CWA § 402(p) and do not cause or contribute to the exceedance off water quality standards in receiving waters under CWA § 301. Rather, the Guide is a "default" list of source control BMPs identified as pollution prevention measures by the Task Force to be implemented as a first step. The Task Force, unlike WSPA, has never claimed that the Task Force BMPs constitute the MEP standard for MS4 permittees for controlling the discharge of pollutants from RGOs to the MS4. The Task Force BMPs and Guide were a recommendation of a minimal "default" set of source control BMPs agreed to by a representative workgroup in 1997, nothing more. WSPA's absolute reliance on the Guide appears misplaced, considering that nearly a decade ago, USEPA identified the need to implement treatment control BMPs at RGOs to address and control storm water pollution.[13]

In light of numerous recent studies, which demonstrate the need for aggressive treatment control BMPs at RGOs in addition to pollution prevention measures, the Guide is obsolete. The source control BMPs in the Guide are insufficient to control the sources of pollutants in storm water discharges at RGOs, where such discharges cause or contribute to an exceedance of water quality standards for toxic constituents such as heavy metals and petroleum hydrocarbons.

Regional Board staff stands behind the conclusions of the previously released *Technical Report – Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts – June 2001*. The justification in the RB technical report is valid and is supported by numerous studies and monitoring data. The recommendations in

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[9] *Action Plan Demonstration Project (APDP) - Demonstration of Gasoline Fueling Station Best Management Practices, County of Sacramento, (1994)*, Submitted to US EPA Region IX, San Francisco Estuary Project.

[10] *Investigation of Structural Control Measures for New Development* (1999) Larry Walker Associates, Inc. Prepared for Sacramento Storm water Management Program

[11] *National Conference on Retrofit Opportunities for Water Resource Protection in Urban Environments* Proceedings Chicago, IL February 9-12, 1998, EPA/625/R-99/002 pag. 252

[12] *Multi-Chamber Treatment Train Developed for Storm water Hot Spots* – Article 111: Technical Note from Watershed Protection Techniques 2(3): 11-13

[13] *Urban Runoff Pollution Prevention and Control Planning (Handbook)* EPA/625/R-93/004. Pag. 111: "Certain commercial and industrial sites can be responsible for disproportionate contributions of some pollutants (e.g., grit, oils, grease, and toxic materials) to the drainage system. Typical sources of potential concern include gasoline stations, railroad yards, freight loading areas, and parking lots. In specific cases where significant pollutant loadings to the system are contributed by well-defined locations of limited area, pretreatment of the runoff from these areas could be a practical and effective control measure. Pretreatment measures can be required as part of a community's regulations. Examples of pretreatment measures include oil/water separators for gasoline stations, or the use of modified catch basin designs to enhance the retention of oil and grease or solids

the document are sound, balanced, and responsive to areas of concern raised by the State Board in the SUSMP decision.

The overarching objective of new development and redevelopment requirements for RGOs is to protect an important natural resource: the quality of waters of the State. Implementation of the source control BMPs in the Guide alone will not and cannot achieve that objective. The implementation of treatment control BMPs adequately designed for water quality volume and water quality flow for pollutants of concern in storm water discharges from new and redeveloped RGOs is necessary.

Section G(2)

Geomatrix Report

ITEM 10G
(2)
Geomatrix
Report

GEOMATRIX

REVIEW OF RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

Prepared for:

Western States Petroleum Association

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August 6, 2001

Project No. 2498

R0007552

Review of Retail Gasoline Outlets: New Development Design Standards For Mitigation of Storm Water Impacts

This report summarizes comments prepared by Geomatrix Consultants Inc. (Geomatrix) based upon a review of the "Retail Gasoline Outlets: New Development Design Standards For Mitigation of Storm Water Impacts" ("Technical Report"), June 2001 prepared by the Los Angeles and San Diego Regional Water Quality Control Boards.

As discussed in the following sections, the Technical Report attempts to establish proper justification that numerical mitigation standards are appropriate for RGOs based primarily on conclusions made by the RWQCBs regarding the quality of storm water runoff from RGOs and assertions regarding the ease and effectiveness of storm water treatment systems for RGOs.

RGO Storm Water Quality

The RWQCB's Technical Report states that RGOs are "toxic pollutant hotspots" and that RGOs have been identified as generators of significantly higher concentrations of hydrocarbon and heavy metals than parking lots, convenience store lots, and streets. These statements are based upon an unpublished study and subsequent article both prepared by Schueler and Shepp[1] and Shepp[2] that evaluated and contrasted analytical results from samples of pool water and trapped sediments collected from oil/grit separators installed to treat storm water runoff from gas stations, convenience stores, all-day parking lots, streets, and residential parking areas in suburban Maryland. Because the study was not based on analysis of actual storm water runoff samples, the results should not be construed to characterize storm water quality from these various sites. The intent of the study was to evaluate the "dismal" performance of oil/grit separators as storm water treatment BMPs. One finding of the study was that of the 100 separators inspected, not a single separator had ever been maintained. For this reason it is not

[1] Schueler, T. and D. Shepp, 1993, The Quality of Trapped Sediments and Pool Water Within Oil Grit Separators in Suburban MD. Metro Washington COG. 48 pp.

[2] Schueler, T. 2000, Hydrocarbon Hotspots in the Urban Landscape: Can They Be controlled? The Practice of Water Shed Protection by Thomas R Schueler and Heather K, Holland.

surprising that the separators would act as sumps and accumulate materials handled at the facility, which in the case of an RGO would be hydrocarbons and related materials.

The study confirms the difficulties associated with relying on structural treatment to improve storm water quality. These difficulties were also considered by the Storm Water Quality Task Force Work Group during development of the "Best Management Practice Guide for Retail Gasoline Outlets" ("Task Force BMP Guide"). At that time the Work Group, comprised of representatives from the State Water Resources Control Board, Regional Water Quality Control Boards, municipalities, and industry, considered structural treatment devices to augment the source control BMPs recommended in the Task Force BMP Guide and concluded:

> "the evidence reviewed by the Work Group indicated that the effectiveness and efficiency of these and other BMPs not listed was insufficient for them to pass peer review and therefore these BMPs can not be generally recommended for use statewide. There may be situations in which these BMPs would be effective and efficient (as evidenced by research), and therefore appropriate, but these situations should be the exception, not the rule."

In fact, the source control approach taken in the Task Force BMP Guide is consistent with the following conclusion presented in the same Schuler and Shepp article referenced in the RWQCB's Technical Report:

> "*Source control* may hold the greatest promise to reduce the delivery of pollutants from hotspots. This pollution prevention approach stresses the importance of eliminating the spills, leaks, and emissions that create hotspots in the first place. A series of better handling, recycling, storage, and disposal practices can reduce the chance that automotive fluids and cleaning solvents come into contact with rainwater and run off the site. The Santa Clara Valley Nonpoint Source Program has published an excellent summary of pollution prevention practices for gas stations."

Dr.L. Donald Duke, a U.C.L.A. researcher expanded on the Santa Clara Valley's prevention approach.

> "The intend of the pollution prevention approach is to control pollutants so well that stormwater need not be treated in a hydraulic detention facility or a pollutant removal device. The approach is highly practical from a business standpoint because it focuses on industrial operations and low-cost pollution control practices rather than expensive constructed solutions like new industrial structures or new storm water detention or treatment facilities. This approach is especially preferable in the kind of highly seasonal semi-arid rainfall regimes that are found in much of California and most of the western U.S."[3] (emphasis added)

The Santa Clara Valley Nonpoint Source Control Program BMP Guide for Automotive-Related Industries referenced by Schuler and Shepp was used as a reference by the work group during development of the Task Force BMP Guide and many of the pollution prevention practices in the Santa Clara document are incorporated into the Task Force guide.

The RWQCB's Technical Report also references the findings of a Rouge River National Wet Weather Demonstration Project as evidence that oil and grease from RGOs are a concern.[4] As with the Schuler and Shepp reference, the Rouge River study is not based upon storm water quality sampling but rather on analysis of filter media from catch basin inserts installed over an approximate one year period at two RGOs in Michigan. According to the principal investigator of the Rouge River study, neither of the RGOs monitored during the study performed any source control measures and for this reason, the presence of oil and grease in filter media is not surprising. In fact, the RGO operators were instructed not to implement source control measures and it is inappropriate to imply

[3] Santa Clara Valley Nonpoint Source Pollution Control Program. 1992. Duke, L.D. and Shannon, J.A. Best Management Practices for Industrial Storm Water Pollution Control.

[4] Rouge River National Wet Weather Demonstration Project, MI, Evaluation of On-Line Media Filters in the Rouge River Watershed, Report No. RPO-NPS-TPM59.00 (1999), 36 pp.

that the results of the Rouge River study are indicative of actual storm water quality from a RGO practicing BMPs such as those presented in the Task Force BMP Guide. A more accurate assessment of storm water quality from RGOs would be based upon actual water quality information. The results of three such studies are summarized in Table 1. The studies include a WPSA/API study published in 1994, another study published by Shepp in 1995, and Sacramento County's Action Plan Demonstration Project published in 1994. Collectively, these studies provide runoff characterization information for ten RGOs, 21 storm events, and 12 simulated storm events. Additionally, the mean concentrations for residential and commercial land uses from the National Urban Runoff Program (NURP) are summarized in Table 1. NURP was a comprehensive study conducted from 1978 through 1983 with funding and guidance provided by EPA. The results of NURP provide insight on what can be considered background levels for urban runoff.

As summarized in Table 1, the mean concentrations of total suspended solids, lead, copper and zinc in runoff from RGOs are below the background concentrations established by NURP. Additionally, in most cases, the mean concentrations of oil and grease, total suspended solids, and chemical oxygen demand are below the limitations established for a number of NPDES permits, including storm water discharge limitations established for transportation-related industrial facilities located in Alabama, Oregon, Louisiana, and North Carolina. On this basis, it appears that the mean concentrations of chemical constituents in runoff from the RGOs studies are below background and are generally below levels that require additional controls or treatment, as established by the effluent limitations developed for storm water discharges from sites where vehicle fueling, maintenance, and repair occur.

The preceding conclusions are based upon the mean concentrations in runoff samples collected from ten RGOs. Of course the analytical results for individual RGOs and storm events are variable, as would be expected based upon typical variability in RGO age, construction, throughput, and management practices. Notwithstanding this consideration, the results of this data compilation suggest that the RWQCB's characterization of RGOs

as "toxic pollutant hotspots" is inaccurate and misleading. Furthermore, the fact that the chemical composition in runoff from RGOs is consistent with urban background supports an approach of protecting the runoff water quality from RGOs through the pollution prevention measures documented in the Task Force BMP guide. The RWQCBs have failed to accurately demonstrate the need for measures beyond the pollution prevention measures presented in the Task Force BMP guide.

Another potentially misleading statement presented in the Technical Report is a reference to the *Study of the Impact of Storm Water Discharge on Santa Monica Bay*[5] and the statement "heavy metals, significant concentrations of which occur in storm water discharges from RGOs, have been demonstrated to be the main cause of toxicity in Santa Monica Bay during wet weather." While the study does report that a high percentage of samples collected offshore of Ballona and Malibu Creeks were toxic during dry and wet weather conditions and that dissolved metals contributed to the toxicity, the study does not speculate on the specific source of the metals. In fact, there is no mention of RGOs or RGO runoff quality in the RWQCB's reference. Interestingly, the Santa Monica Bay study points out that "dry weather toxicity results suggest that factors other than stormwater discharge have a major influence on surface water quality in Santa Monica Bay." This finding provides additional evidence that the RWQCB's attempt to attribute toxicity in Santa Monica Bay to RGOs is inaccurate and misleading.

Treatment Control BMPs

In the Technical Report, the RWQCBs indicate that the various studies cited by WSPA showing that the quality of RGO runoff is no worse than commercial parking lots and diffuse runoff is evidence that "existing BMPs do not address pollutants generated by motor-vehicle traffic." This statement is unfounded particularly because the studies cited by WSPA were performed prior to development of the Task Force BMPs and no data are presented to suggest that the Task Force BMPs are not effective. It is apparent that the RWQCBs have condemned the balanced pollution prevention approach provided by the

[5] "Study of the Impact of Storm Water Discharge on Santa Monica Bay – Executive Summary", Los Angeles County Department of Public Works (1999).

Task Force BMPs without adequate technical justification and instead are pushing dischargers towards treatment BMPs.

Furthermore, with respect to the effectiveness of the Task Force BMPs, the Technical Report indicates that heavy metals and oil and grease are of concern for RGOs. It is well understood and documented that the presence of heavy metals is correlated with sediment.[6] On this basis, BMPs that are effective in reducing the concentrations of sediment in storm water, such as regular sweeping, will also be effective in reducing the concentrations of total and dissolved heavy metals in storm water. Additionally, there are numerous BMPs that are effective for reducing exposure of oil and grease to storm water. These include but are not limited to grading to prevent runon across fuel islands, canopies for fueling areas, and spot cleaning of leaks and drips using appropriate materials and procedures.

In the Technical Report, the RWQCBs indicate that online media filter systems can be effective treatment devices for RGOs. In the Technical Report, the RWQCBs have recommended use of online media filters based upon their review of water quality data results for a proprietary on-line filter media device located at a large RGO in Washington. The Technical Report states that "the treatment device was effective in removing between 50 and 90 percent of pollutants of concern in storm water discharges from RGOs." The average removal results as reported in the referenced document are summarized in Table 2. The actual reported average removal rates for composite samples for total suspended solids, total zinc, and dissolved zinc are 43, 42.5, and 57.8 percent, respectively. More important than the RWQCBs' overstatement regarding filter performance is the failure of the RWQCBs to report all of the results from the study, including results for oil and grease and total phosphorous which actually increased by 84.3 and 95 percent, respectively as a result of filtering storm water through the media filter. Perhaps this selective use of data is an oversight but one must question the environmental benefit of requiring RGOs to install treatment systems that result in a net

[6] See "A Water Quality Characterization for Runoff from Discrete Land Use Types in the Washington Metropolitan Area" (Shepp, 1995); and Storm Water NPDES Monitoring in Santa Clara Valley (Cooke et. Al, 1994) where correlations between TSS, hydrocarbons, and heavy metals are established.

export of oil and grease and nutrients, particularly when many of California receiving waters are impaired by nutrients.

The only other treatment approach suggested by the RWQCBs based upon their review of performance data are storm drain filters inserts. The study cited in the Technical Report was the same Rouge River National Wet Weather Demonstration Project used by the RWQCBs as evidence that "oil and grease from RGOs are a concern." The conclusions in that study regarding filter performance were not based upon storm water quality sampling but on analysis of accumulated debris and filter media installed in the catch basins. As previously discussed in this comment letter, neither of the RGOs monitored during the study performed any source control measures and in fact, the RGO operators were instructed not to implement BMPs. On this basis, the quality of storm water entering the filters is not representative of RGOs implementing appropriate source control BMPs. Furthermore, analysis of the accumulated debris and filter media is not an accurate measure of storm water quality improvement or filter performance and is inconsistent with the BMP monitoring effectiveness approaches established by EPA and the American Society of Civil Engineers in the Urban Storm Water Best Management Practices Study. [7]

One study that did evaluate the effectiveness of drain inlet filters based upon extensive inflow and outflow monitoring was recently completed by Caltrans.[8] The study included monitoring two different types of drain inlet filter at six Caltrans maintenance stations in Los Angeles County. One of the drain inlet filters studied by Caltrans was also studied in the Rouge River study referenced in the Technical Report. The reported removal efficiencies for the drain inlet filters studied by Caltrans were very low, with average

[7] ASCE/EPA, 1999, Determining Urban Stormwater Best Management Practice (BMP) Removal Efficiencies, May 14. See also Strecker, E.W., Constituents and Methods for Assessing BMPs.

[8] Othermer Jr., E.F et al. 2001, Performance Evaluation of Structural BMPs: Drain Inlet Inserts (Fossil Filter™ and StreamGuard™ and Oil/Water Separator: American Society of .Civil Engineer's Environmental and Water Resources Institute's (EWRI's) World Water & Environmental Resource Congress, Orlando, Florida, May 20 to 24.

efficiencies of 10 percent for hydrocarbons, 14.5 percent for total suspended solids, and 5.8, 17.8, and 6 percent, respectively, for total copper, lead, and zinc. In addition to overestimating the performance of the drain inlet filters, the RWQCBs greatly underestimated the costs associated with this BMP. The Technical Report states that first year capital costs range between $250 and $900 per year and annual operations and maintenance costs are $240. These relatively low costs are in stark contrast to the findings of the Caltrans study, which report the annual operations and maintenance of the drain inlet filters to be $15,000 per year or 1250 percent of the initial purchase and installation cost.[9] The significant costs reported by Caltrans were the result of extensive cleanout and repair of the filters required throughout the study period. Additionally, the RWQCBs also have failed to consider the costs associated with constructing drainage systems at RGOs that would allow for installation of drain inlet filters or other treatment systems. Currently, storm water runoff from most RGOs is via sheet flow and installation of treatment systems would require installation of catch basins and subsurface piping. In many cases, extensive site grading or pump stations would be required to allow for proper site drainage.

In the Technical Report, the RWQCBs state that "storm water treatment at RGOs is both feasible and safe." While it may be feasible to install the storm water treatment systems recommended by the RWQCBs, the Technical Report fails to prove that the treatment systems are effective and whether treatment is necessary at all for RGOs implementing the Task Force BMPs. With respect to safety, the Technical Report states that "sub-surface fabricated treatment systems have been commonly used at RGOs to separate waste-oil before discharge to the sanitary sewer system" and that "there is no reason to suppose that storm water treatment in California introduces new and different safety and feasibility considerations, as when compared to waste water treatment systems which RGOs have readily installed in California." In fact there are significant differences in safety considerations between oil/water separators installed for discharge of oily waste to the sanitary sewer and subsurface storm water treatment systems at RGOs. Oil/water

[9] Smith, T., and Lantin, A., 2001 RBF Consulting,: Caltrans BMP Retrofit Pilot Program; A Real World Experience: from: Water Quality Elements in Development Today APWA Seminar, San Diego, CA., June 19.

separators are typically required when vehicle maintenance shop drains are connected to the sanitary sewer. The drain inlets are typically located inside a shop or in locations where they are isolated from the pump islands and consequently, there is little potential for the separator to accumulate spilled gasoline in significant quantities. However, in the case of a subsurface storm water treatment system installed to handle runoff from a fueling area, because the spill would flow into the RGO drainage/treatment system, there is a greater potential for a gasoline spill to occur undetected by the RGO operator and for the gasoline to accumulate in the enclosed underground structure resulting in a potential exposure hazard. In the absence of a subsurface treatment system, there is a greater likelihood that the spill would be noticed by the RGO operator so that appropriate spill control and countermeasure procedures could be implemented.

One additional consideration in regards to subsurface storm water treatment systems for RGOs is that from a practical perspective, any subsurface "treatment box" installed to receive runoff would act as a sump during dry weather accumulating debris, dirt and hydrocarbons. This concern is consistent with the results of the Rouge River Study where sediment and hydrocarbons were found to accumulate in the drain inlets. The presence of such a sump impedes the ability for the RGO operator to effectively clean the RGO using standard good housekeeping procedures and to perform the necessary inspections to determine when sweeping and other housekeeping activities are necessary. Cleaning a sump can be difficult and can result in significant safety issues including but not limited to confined space, lifting hazards, traffic hazards, and spider bites. Worse yet, if the subsurface treatment system retains water after the end of a storm event, an outside service would be required to perform the cleanout and handle any wastes removed. As described by the Schuler and Shepp study, the end result of installing subsurface storm water treatment systems in Maryland was that none of the more than 100 systems inspected were ever maintained and what was initially installed to improve storm water quality actually created a significant water quality concern.

Conclusions

In summary, the RWQCB's Technical Report fails to justify the need for storm water treatment at RGOs. There is no information provided in the Technical Report that proves that storm water quality concerns can't be effectively addressed through implementation of the Task Force BMPs. The RWQCB's fail to recognize the advantages of the pollution prevention approach provided by the Task Force BMPs, including the fact that all stations, whether existing, remodeled, or newly constructed, will realize improvements in storm water quality. Furthermore, as described in this report, there are significant technical concerns regarding the treatment BMPs recommended in the Technical Report, including significant and unrealistic maintenance requirements, questions regarding true performance, potential pollutant export, and the actual costs to install, operate, and maintain the treatment devices.

Table 1

Comparison of RGO Results with Typical Permit Limitation and NURP

Constituent (units)	Results from RGO Studies			Typical Permit Limitations and Results from NURP					
	WSPA/API Study (mean of all results)	Discrete Land Use Study (mean of all results)	Action Plan Demonstration Project (mean of all pre-BMP results)	AL NPDES Permit[1] (daily maximum average)	LA NPDES Permit[3] (daily maximum average)	NC NPDES Permit[4] (daily maximum average)	OR NPDES Permit[5] (daily maximum average)	PA NPDES Permit[7] (daily maximum average)	NURP - Residential/ Commercial Land Use[9]
Oil and Grease (mg/l)	7.1	3.7	4.61	15	15	30	10/15[6]	15/30[8]	--
Total Suspended Solids (mg/l)	11.5	41.3	59.33	502	--	100	--	--	239
COD (mg/l)	--	57.1	--	--	--	--	--	--	94
Lead (mg/l)	7.5	17.8	26	--	--	--	--	--	238
Copper (mg/l)	20	9	20	--	--	--	--	--	53
Zinc (mg/l)	170	204.3	195	--	--	--	--	--	353

1. NPDES General permit by the state of Alabama Department of Environmental Management for storm water discharges associated with vehicle and equipment storage, maitnenance, repair and washing (permit no. ALG140000).
2. Effluent limitations for vehicle and equipment exterior washing operations that do not use solvents.
3. NPDES General permit by the Louisiana Department of Environmental Quality for all industrial storm water discharges (based on the original EPA "core" industrial permit).
4. NPDES General permit by the North Carolina Department of Health and Natural Resources for storm water discharges associated with oil/water separators, petroleum bulk storage and terminals secondary containment areas (permit no. NCG080000).
5. NPDES General permit (waste discharge permit) issued by the Oregon Department of Environmental Quality for storm water discharges associated with storing, transferring, formulating and/or packaging bulk petroleum products or vegetable oil (permit no. 1300-J).
6. Oil & Grease discharge limitations for sources not controlled by an oil/water separator is 10mg/l, and 15mg/l for sources that have oil/water separators.
7. NPDES General permit by the Pennsylvania Department of Environmental Protection for storm water discharges of facilities required to sample for oil and grease.
8. Effluent limits for grease and oil are 15mg/l and 30mg/l, respectively.
9. Results of the National Urban Runoff Program, US EPA, 1983.

P:\S2498\DOCS\Tables\Table 1

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Table 2
Concentration and Average Mass Loading Percent Removal
Storm Filter Performance Results
Burwell/Straley's Union 76 Station
Bremerton, Washington

Constituent	Average Percent Removal
TSS	43 (42.6)
Total-P	-84.3 (-17.3)
O&G	-95
Total-Zn	42.5 (43.3)
Dissolved-Zn	57.8 (54.6)

Note: Numbers in parenthesis refer to the percent removal by mass loading.
Negative values indicated percent increases.

Source: Stormwater Sampling - Storm Filter™ Performing Results, Burwell/Straley's Union 76 Station Storms Captured - April 2000 through March 2001 (4 storms).

P:\2498\DOCS\Tables\Table 2

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APPENDIX B

CALTRANS REPORT

Performance Evaluation of Structural BMPs: Drain Inlet Inserts (Fossil Filter™ and StreamGuard™) and Oil/Water Separator

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Abstract

The performance of Drain Inlet Inserts (Fossil Filter™ and StreamGuard™) in treating runoff from three California Department of Transportation (Caltrans) maintenance stations was evaluated as part of the Best Management Practice (BMP) Retrofit Pilot Program. Additionally, the effectiveness of an oil/water separator was evaluated at one Caltrans maintenance station. The study included 1) retrofitting the structural BMPs in existing maintenance stations and documenting those costs; 2) estimating percent pollutant removal efficiencies; 3) assessing the causes and frequency of flow bypass; and 4) documenting the type and level of effort required to maintain the structural BMPs. Drain Inlet Insert results to date show that reductions in metals, hydrocarbons, and solids are consistent with expectations for the technology; however, frequent flow bypass required more maintenance than anticipated. Oil/water separator results show no discernable difference between influent and effluent hydrocarbon concentrations at the low levels measured.

Introduction

Concern about the potential adverse impacts of urban and highway runoff on receiving waters has resulted in increased pressure on municipal and highway agencies to treat stormwater discharges. There are a variety of land uses managed by highway agencies and the runoff quality from these areas may differ significantly. In addition, receiving waters have different designated beneficial uses and varying sensitivity to stormwater discharges. Consequently, there is a need to identify a "toolbox" of structural Best Management Practices (BMPs) for implementation downstream of specific land uses to achieve a quality of discharge sufficient to preserve the environmental quality of a given receiving water.

The California Department of Transportation (Caltrans) has embarked on a comprehensive analysis of the siting requirements, cost (both installation and maintenance), and performance of a number of structural BMPs for retrofitting existing highway infrastructure. Elsewhere, use of Drain Inlet Inserts (DIIs) is becoming common but with little understanding of their effectiveness and maintenance needs. Oil/water separators are commonly used near industrial processes where hydrocarbon concentrations are in excess of 15 mg/L, but their effectiveness in treating stormwater discharge from a transportation facility is not well understood. These are important considerations for assessing the overall feasibility of this type of device. The goal of

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this paper is to present the interim findings related to the evaluation of two DII types and an oil/water separator.

Siting and Selection

Drain Inlet Inserts

A total of six DIIs were sited, installed, maintained, and monitored for this study in Caltrans District 7 (Los Angeles County) maintenance stations (MSs). A wide-range of proprietary DII products was commercially available. Initial candidates for the study included the Aquafend Filter, Fossil Filter™, Gullywasher® Geotextile CB Insert, Hydro-Kleen, StreamGuard™, and Zero Discharge Storm Drain Liner. These candidates use a variety of treatment mechanisms (e.g., trays, bags, and baskets), are manufactured from a variety of materials (e.g., stainless steel, fiberglass, polypropylene, PVC, and galvanized steel), have different flow capacities, and have anywhere from less than 10 to more than 20,000 installations (according to the manufacturers). The process of selecting two DIIs for the study was restricted to review of manufacturer's literature and the limited test data available. Also, because the purpose of the study was to determine the effectiveness of the DII technology as a BMP, consideration was not necessarily given to any one specific proprietary product. Given that, the Fossil Filter™ "Drop In" insert, which is manufactured by KriStar Enterprises, Inc.; and the StreamGuard™ Oil & Grease Catch Basin Insert (#3001), which is manufactured by Foss Environmental Services were selected for the study.

The original siting criteria for identifying locations where DIIs could operate effectively were established with the aid of manufacturer's literature. For example, Fossil Filter™ literature said "*Fossil Filter was developed and designed to remove petroleum hydrocarbons from water runoff and its most logical use is where motor vehicles park, are refueled or serviced. Customer and employee parking lots and corporation yards, service stations, airport ramps and refueling areas, even some marinas, are excellent prospects for the installation of Fossil Filter...*" The process of locating sites involved extensive field review. Each site required at least two drain inlet structures so that comparison between each DII type could be made. Consideration was also given to the types of maintenance activities and equipment storage at the station. Since the primary function of the DIIs tested is to remove petroleum hydrocarbons, the DIIs were sited in locations where vehicular storage, fueling, and/or maintenance operations were conducted. For comparability, each DII was installed in similar-sized watersheds. Also, maintenance stations were selected because of the routine use of source controls (e.g., sweeping), which minimized the potential for sediment clogging the DIIs.

In the case of the Fossil Filter™ DII, there were locations where sediment, leaves, and debris discharged into the DII and blocked the filter cartridges. Even though source controls were practiced at maintenance stations, small quantities of sediment, leaves, and debris clogged the filter cartridges, rendering the DII ineffective in removing petroleum hydrocarbons. Though installed and tested in locations meeting the manufacturer's guidance, it seems that this may not be the application for which the DII was designed.

In the case of the StreamGuard™ DII, their literature says "*Great for parking lots and storage areas.*" However, when consulting with Mr. John Macpherson (StreamGuard™ DII inventor) during the study, he said that the StreamGuard™ was best suited for industrial locations where

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high hydrocarbon concentrations could be expected. He also noted that the StreamGuard™ DII was developed to improve water quality at a reasonable price but was not intended to be implemented as a long-term BMP.

Characteristics of the contributing watersheds for the selected sites are shown in Table 1.

Oil/Water Separator

The oil/water separator selected for the study was an Areo-Power® 5,000-gallon ST1-P3. As with the DIIs, the process of locating sites involved extensive field review of twenty-two maintenance stations. Site characteristics considered included presence of heavy equipment, method of asphalt containment, likelihood of oil storage, site exposure to rain, type of onsite drainage, and availability of operating hydraulic head. In addition, runoff from top ranking sites were sampled during storms and analyzed for oil and grease. Locations with concentrations less than 10 mg/L of oil and grease were not considered. Characteristics of the contributing watersheds for the selected sites are shown in Table 1.

Table 1: Summary of Contributing Watershed Characteristics for Drain Inlet Inserts and the Oil/Water Separator

Site Location	BMP Type	Watershed Area (ha)	Imp. Cover(%)
Foothill MS	Fossil Filter™	0.64	100
Las Flores MS	Fossil Filter™	0.32	70
Rosemead MS	Fossil Filter™	0.10	100
Foothill MS	StreamGuard™	0.07	100
Las Flores MS	StreamGuard™	0.09	62
Rosemead MS	StreamGuard™	0.49	100
Alameda MS	Oil/Water Separator	0.32	100

Design

Fossil Filter™ Drain Inlet Insert

The Fossil Filter™ DII (Figure 1) is a trough structure that is installed under the grate of a drain inlet. Within the structure are stainless steel filter cartridges containing amorphous alumina silicate for the removal of petroleum hydrocarbons and other potential contaminants. The trough is fabricated using fiberglass material and consists of a large center opening for the bypass of water when the filter's flow-through capability is exceeded.

StreamGuard™ Drain Inlet Insert

The StreamGuard™ DII (Figure 2) is a conical-shaped porous sock made of polypropylene fabric. The StreamGuard™ Oil and Grease model used in this study is equipped with an oil absorbent polymer. As runoff enters the insert, the fabric absorbs oil and retains sediment. Floating oil and grease are absorbed by the absorbent polymer. The insert is also fabricated with two overflow cutouts near the top of the cone to allow bypass when the fabric's flow-through capacity is exceeded.

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Oil/Water Separator

The Areo-Power® 5,000-gallon ST1-P3 Oil/Water Separator (Figure 3) is designed to remove free oil and grease from stormwater runoff. This oil/water separator separates oil and water by allowing oil droplets to collide and coalesce to become larger globules, which are captured in the separator. The separator consists of three compartments: a forebay, an oil separation cell, and an afterbay. The forebay is a cistern that traps and collects sediments. The central oil separation cell captures and holds oil. Vertical metal plates allow oil to migrate away from the stormwater. The afterbay is designed to discharge stormwater at concentrations of 10 ug/L of oil and grease or less.

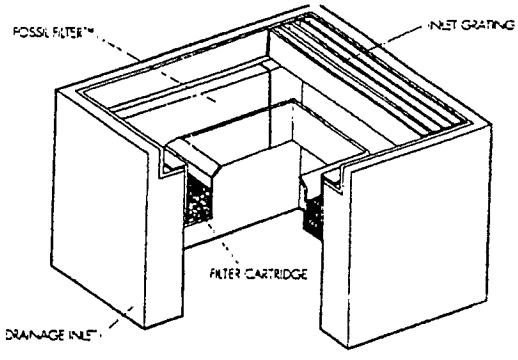

Figure 1: Schematic of a Fossil Filter™ "Drop In" Drain Inlet Insert

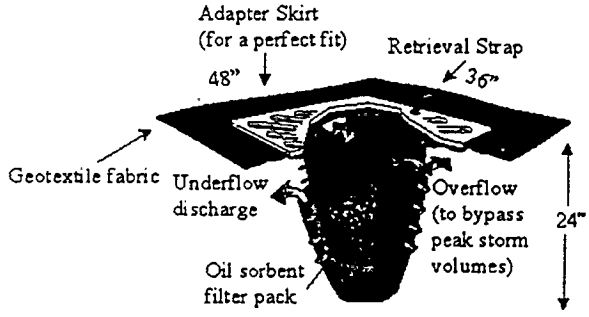

Figure 2: Schematic of a StreamGuard™ Oil and Grease Drain Inlet Insert

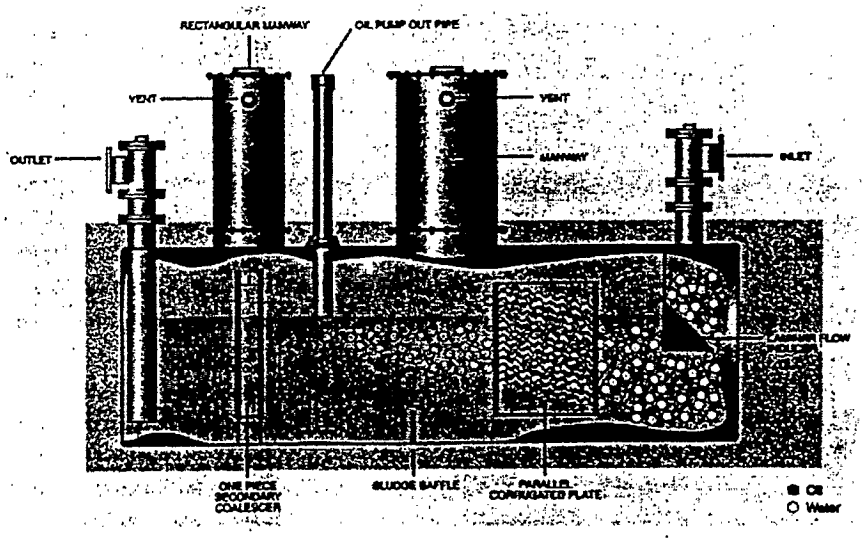

Figure 3: Schematic of an Areo-Power® ST1-P3 Oil/Water Separator

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Installation

Typically, installation of DIIs is simple and requires no specialized equipment. Both DIIs used in this study are sized to fit standard Caltrans G2 drain inlets. Conversely, retrofit of the oil/water separator required extensive construction including excavation, construction of storm drain conveyance system, and field modifications to accommodate unanticipated buried utilities. Runoff from the maintenance station generally sheet flowed offsite. To maximize the amount of runoff treated by the oil/water separator, a trench drain had to be retrofitted at the MS; this trench drain channelized flow directly into the oil/water separator. Excavation for the oil/water separator became complicated because of unanticipated buried utilities. Consequently, the oil/water separator had to be rotated ninety degrees to accommodate the buried utilities.

Operation and Maintenance

Maintenance is dependent on the rate pollutants accumulate, storage capacity, and requirements to maintain hydraulic function. Consequently, DIIs had greater maintenance requirements than many other types of stormwater treatment BMPs. Conversely, the oil/water separator required less maintenance. Following is a summary of maintenance conducted at each BMP.

Fossil Filter™ Drain Inlet Inserts

Early in the study manufacturers maintenance guidance was followed to ensure proper functioning of the DII. Based on empirical observations during initial storm events, it was noted that the DIIs were highly subject to flow bypass because of sediment and debris clogging the cartridges. Additional steps were subsequently taken to remove sediment and debris from on top the cartridges both before and once during storm events. Even with this excessive maintenance, moderate flow continued to bypass the DIIs because of flow exceeding the capacity of the filter cartridges or more material flowing into the DII and impeding its filtering ability.

Routine inspections were conducted at each site prior to and during each storm event as well as monthly. Generally, small amounts of trash, debris, and sediment were removed from the DII both before and once during a storm event. Removed trash, debris, and sediment were placed in an on-site storage container designed to emulate DII conditions, and were subsequently sent to a laboratory with the DII for analysis. In addition, each DII was inspected weekly for the presence of vectors.

The thresholds for replacement of the DII filter media provided by the manufacturer were not reached. The adsorbent granules were removed at the end of the wet season. Subsequently, the adsorbent granules from the cartridges and trash, debris, and sediment collected during the wet season were sent to the laboratory for analysis. Results of the analyses were used to estimate pollutant removal efficiencies.

StreamGuard™ Drain Inlet Inserts

As with the Fossil Filter DII, manufacturer's maintenance guidance was followed to ensure proper DII functioning. Based on observations during storm events, oil sheens were observed passing through the DII and water was observed to pond within the DII. Subsequently, the manufacturer was consulted as to whether maintenance was required. The manufacturer responded that seeing an oil sheen passing through the DII and water ponding within the DII was to be expected and that maintenance was not required. The most common maintenance activity

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of the StreamGuard™ DII was the need to refit the DII in the drain inlet after it had slipped because of the weight of water and material collected within it. Close pre-storm inspection and maintenance of the insert fit were necessary to minimize it slipping into the drain inlet during storms.

Routine inspections were conducted at each site prior to and during each storm event and monthly. At one location, organic material, mostly leaves, was removed from the DII once during the fall. Removed material was placed in an on-site storage container designed to emulate DII conditions. The thresholds for replacement of the DIIs provided in the manufacturer were not reached. At the end of the wet season, the DIIs and trash, debris, and sediment collected during the wet season were sent to the laboratory for analysis. Results of the analyses were used to estimate pollutant removal efficiencies. In addition, each DII was inspected weekly for the presence of vectors. Figure 4a summarizes the frequency of maintenance activities (i.e., number of times maintenance was conducted at the BMP) and Figure 4b summarizes the average amount of time spent performing each activity.

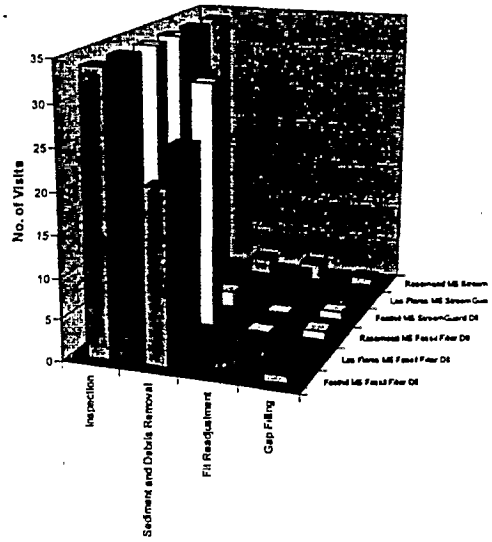

Figure 4a: Frequency of Maintenance Activities at the DII Sites (1999-2000)

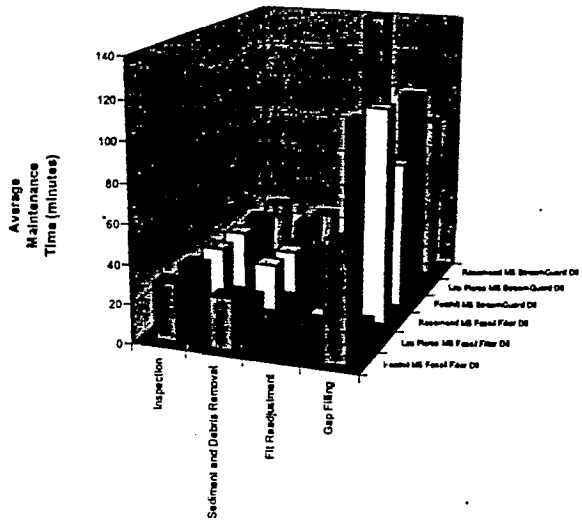

Figure 4b: Average Maintenance Times at the DII Sites (1999-2000)

Oil/Water Separator

Unlike the DIIs, monthly inspection of the internal components of the oil/water separator appeared to be excessive. This was because the amount of sediment and oil collected by the oil/water separator were far below manufacturer's maintenance thresholds. Consequently, inspection of the oil/water separators internal components was reduced to a quarterly frequency.

As expected, minimal maintenance was required of the oil/water separator. Maintenance conducted at the site included monthly inspections, removing debris from the conveyance system upstream of the oil/water separator, general site maintenance, and vector inspection. Figure 5a summarizes the frequency of maintenance activities (i.e., number of times maintenance was conducted at the BMP) and Figure 5b summarizes the average amount of time spent performing each activity.

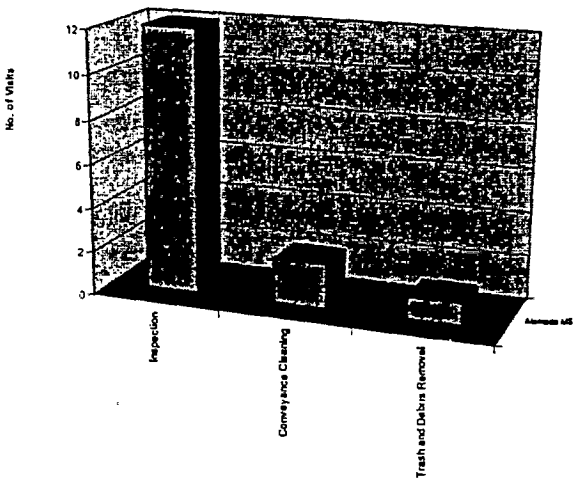

Figure 5a: Frequency of Maintenance Activities at the Oil/Water Separator (1999-2000)

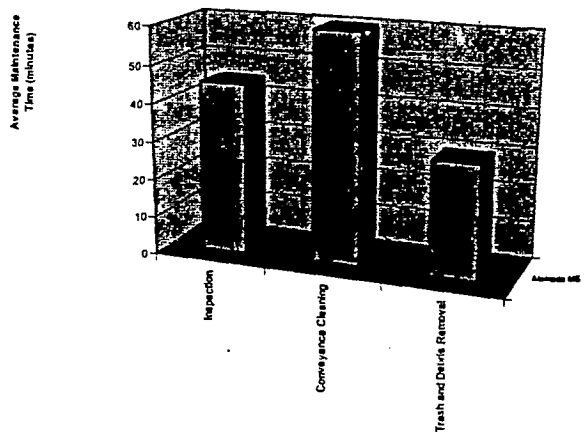

Figure 5b: Average Maintenance Times at the Oil/Water Separator (1999-2000)

Performance (Chemical Monitoring)

Drain Inlet Inserts

Pollutant removal efficiencies were estimated using a mass-balance approach for three Fossil Filter™ DIIs and three StreamGuard™ DIIs at the Foothill, Las Flores, and Rosemead Maintenance Stations, which were installed on 27 September 1999 and removed on 1 June 2000. Because of the inability to capture litter and debris bypassing the DIIs (a key component in estimating efficiency using a mass-balance approach), efficiencies presented in Table 2a do not account for the entrapment of litter and debris by the DIIs. However, the mass and associated pollutant load of the entrapped material is presented in Table 2b as anecdotal information.

To estimate the removal of contaminants by a DII, the procedure below was used. For purposes of these calculations, the value of the reporting limit was used in cases where an analyte was reported as undetected.

1. Calculate percent efficiency representing the time interval since the last time the insert medium was changed, using the equation:

$$\text{Efficiency (\%)} = \frac{\text{Estimated Influent Pollutant Mass} - \text{Effluent Pollutant Mass}}{\text{Estimated Influent Pollutant Mass}} \times 100$$

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2. Estimate the influent pollutant mass for the time interval according to:

Estimated Influent Pollutant Mass = Insert Medium Pollutant Mass + Total Effluent Pollutant Mass for the Time Interval

3. Calculate total effluent pollutant mass in two ways, and compute efficiency with each method for comparison:

I. Storm-by-storm method:

A. Estimate the effluent mass for each storm event in the time interval according to:

Estimated Event Effluent Pollutant Mass = Effluent Event Mean Concentration (EMC) x Event Runoff Volume

B. For storm events that were successfully monitored, use the measured data.

C. For any storm event during the time interval that met the deployment criteria but was not successfully monitored, estimate the EMC for that event as the mean of all EMCs measured for that case in all storm events during the time interval. How the mean EMC is determined depends on whether the data tend more to be normally or log-normally distributed. If the concentrations tend more to be normally distributed, use the arithmetic mean of the effluent EMCs. If they tend more to be log-normally distributed, calculate the mean effluent EMC by log-transforming individual storm EMCs, averaging, and then transforming back.

D. Add the effluent pollutant masses from all storm events in the time interval.

II. Aggregated storm method:

A. Estimate the total effluent mass for all storm events in the time interval according to:

Estimated Total Effluent Pollutant Mass = Mean EMC x Total Runoff Volume

B. How the mean EMC is determined depends on whether the data tend more to be normally or log-normally distributed. If the concentrations tend more to be normally distributed, use the arithmetic mean of the effluent EMCs measured for that case in all storm events during the time interval. If they tend more to be log-normally distributed, calculate the mean effluent EMC by log-transforming individual storm EMCs, averaging, and then transforming back.

4. Compute mean efficiencies for each pollutant and each wet season by averaging results computed according to Steps 1-3 for all time intervals in that wet season.

Pollutant removal was within expectations for both DII types. Solids, metals, and hydrocarbon removal efficiency by the Fossil Filter™ DII decreased with increased flow volume. Solids removal efficiency by the Fossil Filter™ DII at Rosemead MS and the StreamGuard™ DIIs at

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Foothill and Las Flores MSs was comparatively higher than the other DIIs because of the quantity of wind-blown material and leaves entrapped by the DIIs. Efficiencies by the StreamGuard™ DII at Rosemead MS were especially poor and are attributed to the large flow volume passing through the DII and the relatively small amount of sediment and debris in its watershed.

Oil/Water Separator

Pollutant removal efficiencies (based on load reduction) were estimated for the oil/water separator using analytical data from first-flush grab samples collected at the influent and effluent monitoring sites and flow data. Table 3 summarizes average, minimum, and maximum wet season efficiencies based on loads. Minimum and maximum constituent concentrations are also listed in the table. For purposes of these calculations, the value of the reporting limit was used in cases where an analyte was reported as undetected. Negative values indicate increases in loads. The following equation was used:

$$\text{Efficiency}\,(\%) = \frac{\text{Load in} - \text{Load out}}{\text{Load in}} \times 100$$

With the exception of Total Petroleum Hydrocarbon (Diesel), pollutant removal efficiency by the oil/water separator was generally poor. In fact, there was a net export of total suspended solids over the wet season. The relatively poor hydrocarbon removal efficiencies are attributed to the inability of the oil/water separator to remove hydrocarbons at low concentrations.

Table 2a: Removal Efficiencies for Drain Inlet Inserts

	Efficiency (%)					
	Fossil Filter DII			StreamGuard DII		
Constituent/Efficiency Method	Foothill MS	Las Flores MS	Rosemead MS	Foothill MS	Las Flores MS	Rosemead MS
Total Flow (cubic feet)	27,257	20,609	9,805	8,462	2,831	39,422
Solids w/o Litter Component - Storm-by-Storm	18	23	39			
Solids w/o Litter Component - Aggregate	19	25	35			
Copper w/o Litter Component - Storm-by-Storm			12			
Copper w/o Litter Component - Aggregate			19			
Lead w/o Litter Component - Storm-by-Storm	15		35			
Lead w/o Litter Component - Aggregate	19		46			
Zinc w/o Litter Component - Storm-by-Storm	6		11			
Zinc w/o Litter Component - Aggregate						
Hydrocarbons w/o Litter Component - Storm-by-Storm			5			
Hydrocarbons w/o Litter Component - Aggregate						

Table 2b: Quantity of Material and Associated Pollutant Load of Material Entrapped by Drain Inlet Inserts

	Entrapped Load (lbs)					
	Fossil Filter DII			StreamGuard DII		
Constituent	Foothill MS	Las Flores MS	Rosemead MS	Foothill MS	Las Flores MS	Rosemead MS
Mass of Entrapped Material (lbs)	5.0	14.0	31.0	10.0	15.0	3.3
Copper	0.0003	0.0003	0.0014	0.0003	0.0001	0.0002
Lead	0.0005	0.0001	0.0022	0.0001	0.0001	0.0004
Zinc	0.0018	0.0010	0.0265	0.0063	0.0015	0.0019
Hydrocarbons	0.0227	0.0047	0.0913	0.0286	0.1326	0.0077

Table 3: Removal Efficiencies for the Oil/Water Separator

Constituent	Influent Concentration		Effluent Concentration		Efficiency (%)		
	Minimum	Maximum	Minimum	Maximum	Minimum Removal (Storm)	Maximum Removal (Storm)	Seasonal Load Removal
Total Suspended Solids (mg/L)	9.3	68	13	170	[illegible]	[illegible]	[illegible]
TPH - Gasoline (ug/L)	<50	<50	<50	<50	[illegible]	[illegible]	[illegible]
TPH - Diesel (ug/L)	200	3100	270	690	[illegible]	[illegible]	[illegible]
TPH - Heavy Oil (ug/L)	<200	420	<200	260	[illegible]	[illegible]	[illegible]
Oil & Grease (mg/L)	<5	13	<5	<5	[illegible]	[illegible]	[illegible]

Performance (Empirical Observations)

Performance assessments of BMP operations were determined using empirical observations. Empirical observations were taken at variable times during monitored events.

Fossil Filter™ Drain Inlet Inserts

Prior to the 1999-2000 storm season, steps were taken to eliminate or minimize flow bypass around the peripheral of the Fossil Filter™ DIIs. This was accomplished by sealing the DII-inlet interface with foam material. Additionally, to promote flow into the DII at Rosemead MS, a section of rubber was attached along interface of the curb inlet and the insert.

Hydraulic capacity of the units is an inherent limiting factor in the performance of the DIIs. The Fossil Filter™ DIIs are designed not to impede flow (due to flood control considerations). During higher discharge rates, runoff has sufficient velocity and/or volume to pass over the lip of the cartridges and go directly into the storm drain system. No alterations in the design of the units were undertaken to eliminate this factor.

A third factor that caused flow bypass was blockage and clogging of the DII. Blockage occurred from the accumulation of trash, debris, and/or sediment on top of the filter cartridge screens. This accumulation blocked the filter cartridge screens so that stormwater runoff could not pass through the screens. The resultant standing water pooled and eventually achieved a depth where it spilled over the cartridge lip into the storm drain. Clogging also occurred when sediment passed through the cartridge screens and settled in the pore spaces between the adsorbent granules. This appeared to cause a slowing in the infiltration of water through the adsorbent. Water pooled and reached a depth where it spilled over the cartridge lip into the storm drain.

To minimize flow bypass because of blockage and clogging, it was decided to increase the maintenance of the units to maintain hydraulic capacity. Trash, debris, and/or sediment were removed from the units once prior to a storm event and once during a storm event. The removed trash, debris, and sediment were placed in an on-site storage container designed to emulate ambient conditions at the top of the cartridges.

Although extreme measures were taken to prevent or minimize flow bypass during moderate events, flow bypass still occurred because of the following reasons:

1. Hydraulic capacity. This was observed at both Foothill and Rosemead MSs. Based on several observations of hydraulic capacity exceedance at the Foothill MS, bypass generally was observed to occur when a flow rate of 0.07 cfs (31 gpm) was reached.

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2. Blockage and clogging of cartridges. Despite removing trash/debris/sediment prior to a storm event and once during a storm event, bypass continued to be observed. Typically, after the removal of trash, debris, and sediment, more trash, debris, and sediment would be deposited during the course of the storm, again leading to more bypass.
3. During the last storm at Foothill MS, the stainless steel flange holding the cartridges bent upward due to the weight of water, and bypass occurred beneath the flange.

StreamGuard™ Drain Inlet Inserts

At the beginning of the wet season StreamGuard™ DIIs were installed in the three MSs per the manufacturer's installation guidance However, due to concern that there could be flow bypass between the insert fabric-inlet interface, wood was inserted into the area between the insert and inlet edge to form a tight seal.

Flow bypass was observed at StreamGuard™ DIIs at all three sites. There were two reasons for this:

1. Hydraulic capacity. Runoff filled the cone and flowed through the overflow cut-outs. The cone of the StreamGuard™ DIIs is 24 inches in depth. When standing water in the cone reaches a depth of approximately 22 inches, bypass can occur through the two overflow cut-outs on the sides.
2. The weight of the standing water in the cone caused the insert to slip downward into the inlet, thereby causing a gap in the inlet-insert interface and subsequent bypass.

The first reason for flow bypass was investigated by evaluating the manufacturing process of the filter fabric. It was determined that the fabric pore size can vary from roll to roll of the fabric. Even though the manufacturing process is the same for each roll of fabric, variation in pore size is normal and is not subject to control. It is possible that the inserts used during the 1999/2000 wet season were constructed with a fabric having small pore size, thereby potentially reducing flow rate through the filter fabric and consequently causing standing water within the insert. Generally, standing water in the cones resulted in flow bypass only. However, on three occasions at Rosemead MS flooding was observed. The second reason for bypass was related to the first reason. More standing water in the cones meant more weight in the cones, thereby causing the inserts to slip downward into the inlet. Slippage of the insert was observed at Las Flores and Rosemead MSs, and bypass through the gap was observed once at Las Flores MS.

Oil/Water Separator

Observations of the oil/water separator indicated no bypass or short-circuiting. Influent water quality was generally brown with suspended solids with a slight oily sheen. Recent observations indicated clear effluent discharge with black suspended solids. Hydrocarbon odor was also noticed from the discharge of the oil/water separator.

Cost

Costs for the retrofit of the DIIs and oil/water separator are summarized in Table 4. Actual costs are those costs incurred for the installation of the BMP for the project including associated monitoring facilities (e.g., installation of flumes). Estimated costs without monitoring facilities

are costs incurred for the installation of the BMPs including site-specific costs. Estimated product costs are costs for the BMP itself without installation.

Table 4: Installation Costs

Site	BMP Type	Actual Cost	Estimated Cost without Monitoring Facilities*	Estimated Product Cost
Foothill MS	Fossil Filter™ DII	$36,879	$1,186	$500
Las Flores MS	Fossil Filter™ DII	$51,696	$1,186	$500
Rosemead MS	Fossil Filter™ DII	$32,116	$1,186	$500
Foothill MS	StreamGuard™ DII	$36,879	$1,186	$100
Las Flores MS	StreamGuard™ DII	$51,696	$1,186	$100
Rosemead MS	StreamGuard™ DII	$32,116	$1,186	$100
Alameda MS	Oil/Water Separator	$179,437	$165,043	$45,000

* Total cost to install both types of DIIs at a site were equally divided.

Conclusions

Siting and Selection

The selection of DIIs and oil/water separators over other stormwater treatment controls should consider relative removal efficiencies and maintenance requirements and logistics.

Drain Inlet Inserts

Consideration of anticipated flow rates should be evaluated, as flows exceeding ~ 0.07 cfs (31 gpm) tend to bypass the Fossil Filter™ DII. In the case of the StreamGuard™ DII, consideration should be given to the potential for flooding. As seen during the study, flooding has occurred and facilities upstream could be potentially impacted. Also, consider treatment goals and maintenance requirements and logistics.

Oil/Water Separator

Knowing the oil and grease concentration at a prospective site is essential when considering use of an oil/water separator. Few if any, maintenance station sites were found to have oil and grease concentration sufficiently high to be effectively removed by coalescing plate oil/water separators. The one applicable site found only had temporarily high oil and grease concentrations; these concentrations were subsequently reduced using source controls. Consequently, oil/water separators are not a recommended technology for stormwater treatment.

Installation

Fossil Filter™ Drain Inlet Inserts

A design problem noted at the Fossil Filter™ DII sites is that even though the units are sized for standard Caltrans drain inlets, the fit is imperfect, resulting in a gap between the inlet and the DII. This gap can lead to flow bypass. Sealant was used to close the gap and eliminate the potential for this type of flow bypass.

StreamGuard™ Drain Inlet Inserts

A design problem noted at the StreamGuard™ DII sites is that when the units are installed per manufacturer's direction, a gap exists between the filter fabric and the edge of the inlet. This gap can lead to flow bypass and allow for DII slippage into the drain inlet. Wood shim was forced into each gap, thereby closing it and eliminating the potential for flow bypass due to it.

Oil/Water Separator

Configuration of existing storm drain systems should be considered when selecting a site for retrofit. Where stormwater runoff is not concentrated, additional stormwater conveyance systems may need to be constructed. Also, since determining the locations of all utilities prior to construction is not practical due to limited documentation, it is suggested that a small budgetary contingency be reserved in case unknown utilities are encountered.

Operation and Maintenance

Both DII types tested required maintenance before and after storm events as small as 2.54 mm (0.1 inch). Trash, debris, and sediment in the catchment had a significant impact on the frequency of maintenance.

Oil/water separators had minimal accumulation of oil and grease. This resulted in no major clean-out activity in the two years monitored.

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References

Caltrans, 2001, BMP Retrofit Pilot Program: Construction Cost Summary Districts 7 and 11, Caltrans Report CTSW-RT-01-003.

Young, G.K., et al, 1996, *Evaluation and Management of Highway Runoff Water Quality*, Publication No. FHWA-PD-96-032, U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.

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Section G(3)

SWQTF BMP Guide

ITEM 10G
(3)SWQTF
BMP Guide

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Best Management Practice Guide

Retail Gasoline Outlets

California
Stormwater Quality Task Force

Prepared by
Retail Gasoline Outlet Work Group

March 1997

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Disclaimer

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The guide was produced and published by the California Stormwater Quality Task Force, an advisory body of municipal agencies regulated by the storm water program. This guide is not a publication of the State Water Resources Control Board or any Regional Water Quality Control Board, and none of these Boards has specifically endorsed the contents thereof. The purpose of this guide is to assist municipal agencies and retail gasoline outlets subject to storm water regulations, in attaining compliance with such regulations. This guide is not specifically intended for use in geographic areas not subject to federal or state storm water regulations, or at facilities that do not discharge storm water either directly to surface waters or indirectly, through municipal separate storm drain systems. Implementation of these best management practices can not be construed as compliance with all other applicable regulations, including local requirements.

Introduction

This guide represents the work of the California Stormwater Quality Task Force's (SWQTF) Retail Gasoline Outlet Work Group. The Work Group formed in May 1996 and met on a regular basis to review and discuss appropriate best management practices for fueling and other closely related activities likely to be found at retail fueling operations. Representatives from industry, municipalities, and regulatory agencies participated. Best management practices (BMPs) from throughout California, and elsewhere, were reviewed and considered for inclusion in this guide. The Work Group worked in the tradition of the SWQTF by raising and discussing issues in an open forum, and working to reach consensus on each issue. The Work Group worked in parallel and communicated with State and Regional Board staff responsible for storm water permit compliance.

These best management practices were developed with retail gasoline outlets primarily in mind, and may or may not have applicability to other facility types (e.g., cardlocks, bulk plants, fleet operations). The need for and application of these BMPs to other facility-types should be carefully reviewed on a case-by-case basis. During the development of this guide, storm water and wastewater issues were addressed together to avoid cross-media transfers of waste. In addition, the potential of these BMPs to affect other environmental media/regulations (e.g., hazardous waste) was considered before their inclusion in this guide.

Regulatory Context

The Federal Clean Water Act, as amended in 1987, and the State Porter-Cologne Act are the principle regulations for control of storm water pollutants. There are, however, other regulations that deal with the control of storm water pollutants. Examples include the Federal Coastal Zone Act Reauthorization Amendments of 1990, and the State Hazardous Waste Source Reduction and Management Review Act. The 1987 amendments to the Federal Clean Water Act added section 402(p) which establishes a framework for regulating municipal, industrial, and construction storm water discharges under the National Pollutant Discharge Elimination System (NPDES) program. On November 16, 1990, the USEPA published final regulations that establish application requirements for storm water permits from five classes of discharges (Phase 1) including storm water associated with industrial activity (industrial storm water) that discharges either directly to surface waters or indirectly through municipal separate storm drain systems. Municipalities with a population over 100,000 or those that have been determined to be a significant contributor of pollutants are also required to obtain a NPDES storm water permit.

As part of its storm water management program, a municipality is required to develop a program to monitor and control pollutants in storm water discharges from its municipal system. These programs must include structural and source control measures to reduce pollutants from runoff from commercial and industrial areas. Thus it is important for commercial and industrial facilities located within municipalities to realize that there may be municipal requirements on storm water discharges from their facilities.

In addition to the storm water requirements, both the Federal Clean Water Act and the State Porter-Cologne Act require the control of pollutants in wastewater discharges. The Porter-Cologne Act requires the development of Basin Plans for drainage basins in California. These basin plans are used in turn to identify more specific controls for discharges (e.g., wastewater treatment plant effluent). The basin plans are implemented through the NPDES program. Many municipalities, being subject to both storm water and wastewater regulations, will develop water quality protection programs that deal with both types of discharges in a coordinated and integrated way.

Purpose and Intent

The purpose of this guide is two-fold. First, to be a compilation of peer-reviewed best management practices for fueling and other closely related activities found at retail fueling operations. Second, to be a reference for municipalities, regulators, and facility owners and operators.

The intent of the SWQTF is that these best management practices serve as a "default" set of BMPs for use throughout California. Municipalities and retail gasoline outlets that have not yet adopted best management practices for these activities should give these practices strong consideration. Municipalities and retail gasoline outlets that do have and use BMPs should compare their current practices with those presented here. Substantive differences should be identified and re-evaluated. Successful implementation of these BMPs depends on a partnership between municipalities, regulators, and facility owners and operators. Each has a role to play:

- Municipalities should become familiar with these BMPs and incorporate them into their water quality protection programs, as appropriate.
- Regulators and inspectors should use these or similar BMPs to measure the pollution prevention efforts of facilities.

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- Facility owners and operators should become familiar with these BMPs, teach their employees about them, and ensure that they are used on-site.

How to Use the Best Management Practices

Coverage - These best management practices cover three activities or areas:

- Fuel dispensing
- Air/water supply
- Outdoor waste receptacles

Retail gasoline outlets will have every combination of these activities/areas on-site, including other activities not covered by this guide. For example, a facility may have a fuel dispensing area, air/water supply area, indoor service bay, but no outdoor waste receptacles. These BMPs cover the first two areas but not the indoor service bay. Best management practices for the indoor service bay may be found elsewhere. The inclusion of best management practices for air/water supply areas is not intended to suggest that air and/or water must be supplied by retail gasoline outlets in geographic areas not otherwise required to do so.

Design - The design of this guide is purposely different from many BMP lists that are designed as a menu of BMPs from which the facility owner/operator, and the inspector, may choose some but not necessarily all BMPs. These BMP lists are designed so that if the activity/area is on-site, each numbered BMP listed below the activity should be implemented. For some BMPs, as described below, several implementation options are provided. The best management practices are meant to be implemented, monitored, and maintained on a year round basis. The guide also makes an important distinction between existing facilities and new or substantially remodeled facilities. A definition of new or substantially remodeled is also provided. The Work Group used these design elements to help clarify and unify expectations.

Options - Several of the best management practices provide facility owners and operators options for compliance. For example, one best management practice is:

- Minimize the possibility of storm water pollution from outside waste receptacles by doing at least one of the following:
  a) use only watertight waste receptacle(s) and keep the lid(s) closed, or
  b) grade and pave the waste receptacle area to prevent run-on of storm water, or
  c) install a roof over the waste receptacle area, or
  d) install a low containment berm around the waste receptacle area, or
  e) use and maintain drip pans under waste receptacles.

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It is the intent of these BMPs that a) through e) are options. Effective implementation of at least one of these options, chosen by the facility owner/operator, should be deemed implementation of this best management practice.

Other BMPs - The Work Group considered other BMPs not listed here including:

- Oil/water separators
- Catch basin inserts

The evidence reviewed by the Work Group indicated that the effectiveness and efficiency of these and other BMPs not listed was insufficient for them to pass peer review and therefore these BMPs can not be generally recommended for use statewide. There may be situations in which these BMPs would be effective and efficient (as evidenced by research), and therefore appropriate, but these situations should be the exception, not the rule. Members of the SWQTF are conducting studies on these and other BMPs. If that research shows that a particular BMP is effective and efficient, the SWQTF will consider adding it to this guide.

Best Management Practices

Existing Facilities

Fuel Dispensing Areas

1. Maintain fuel dispensing areas using dry cleanup methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills. Fueling areas should never be washed down unless the wash water is collected and disposed of properly.

2. Fit underground storage tanks with spill containment and overfill prevention systems meeting the requirements of Section 2635(b) of Title 23 of the California Code of Regulations.

3. Fit fuel dispensing nozzles with "hold-open latches" (automatic shutoffs) except where prohibited by local fire departments.

4. Post signs at the fuel dispenser or fuel island warning vehicle owners/operators against "topping off" of vehicle fuel tanks.

Facility - General

1. "Spot clean" leaks and drips routinely. Leaks are not cleaned up until the absorbent is picked up and disposed of properly.

2. Maintain and keep current, as required by other regulations, a spill response plan and ensure that employees are trained on the elements of the plan.

3. Manage materials and waste to reduce adverse impacts on storm water quality.

4. Train all employees upon hiring and annually thereafter on proper methods for handling and disposing of waste. Make sure that all employees understand storm water discharge prohibitions, wastewater discharge requirements, and these best management practices. Use a training log or similar method to document training.

5. Label drains within the facility boundary, by paint/stencil (or equivalent), to indicate whether they flow to an oil/water separator, directly to the sewer, or to a storm drain. Labels are not necessary for plumbing fixtures directly connected to the sanitary sewer.

6. Inspect and clean if necessary, storm drain inlets and catch basins within the facility boundary before October 1 each year.

Outdoor Waste Receptacle Area

1. Spot clean leaks and drips routinely to prevent runoff of spillage.

2. Minimize the possibility of storm water pollution from outside waste receptacles by doing at least one of the following:
   a) use only watertight waste receptacle(s) and keep the lid(s) closed, or
   b) grade and pave the waste receptacle area to prevent run-on of storm water, or
   c) install a roof over the waste receptacle area, or
   d) install a low containment berm around the waste receptacle area, or
   e) use and maintain drip pans under waste receptacles.

Air/Water Supply Area

1. Minimize the possibility of storm water pollution from air/water supply areas by doing at least one of the following:
   a) spot clean leaks and drips routinely to prevent runoff of spillage, or
   b) grade and pave the air/water supply area to prevent run-on of storm water, or
   c) install a roof over the air/water supply area, or
   d) install a low containment berm around the air/water supply area.

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New or Substantially Remodeled Facilities

The elements listed below should be included in the design and construction of new or substantially remodeled facilities.

Fuel Dispensing Areas

1. Fuel dispensing areas must be paved with portland cement concrete (or, equivalent smooth impervious surface), with a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable. The fuel dispensing area is defined as extending 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus 1 foot, whichever is less. The paving around the fuel dispensing area may exceed the minimum dimensions of the "fuel dispensing area" stated above.

2. The fuel dispensing area must be covered, and the cover's minimum dimensions must be equal to or greater than the area within the grade break or the fuel dispensing area, as defined above. The cover must not drain onto the fuel dispensing area.

Outdoor Waste Receptacle Area

1. Grade and pave the outdoor waste receptacle area to prevent run-on of storm water to the extent practicable.

Air/Water Supply Area

1. Grade and pave the air/water supply area to prevent run-on of storm water to the extent practicable.

Substantially Remodeled Facilities

One of the following criteria must be met before a facility is deemed to be substantially remodeled and the design elements described above are required to be included in the new design and construction:

- the canopy cover over the fuel dispensing area is new or is being substantially replaced (not including cosmetic/facial appearance changes only) and the footing is structurally sufficient to support a cover of the minimum dimensions described above, or

- one or more fuel dispensers are relocated or added in such a way that the portland cement concrete (or, equivalent) paving and grade break or the canopy cover over the fuel

dispensing area do not meet the minimum dimensions as defined above. Replacement of existing dispensers or underground storage tanks do not, by themselves, constitute a substantial remodel.

Special note on the paving BMP (#1 only) addressing Fuel Dispensing Areas under New or Substantially Remodeled Facilities

This best management practice is not specifically intended to apply to facilities that install a new canopy where no canopy existed.

Special note on the canopy BMP (#2 only) addressing Fuel Dispensing Areas under New or Substantially Remodeled Facilities

This best management practice is not specifically intended to apply to facilities that:

- are located in geographic areas not subject to federal or state storm water regulations
- do not discharge storm water either directly to surface waters or indirectly, through municipal separate storm drain systems
- do not add fuel dispensers
- replace, relocate, or add fuel dispensers within the parameters described in the BMP
- increase their throughput of fuel dispensed without modifying their equipment
- make only cosmetic or facial appearance changes to their existing canopy

For the purposes of the waste receptacle area and air/water supply area BMPs only, the facility is considered substantially remodeled if the area around the waste receptacle area or air/water supply area is being regraded or repaved.

Help

For assistance with implementation of these best management practices, municipal staff or facility owners and operators should contact their local storm water program representative, Regional Board or State Board storm water contact, or the Stormwater Quality Task Force.

Section H

Response

Section H will be sent under a separate cover.

Section H

(1)Response to Comments
(2)RGO Technical Report
(3)Case for Inspection

Section H(1)

Response to Comments

ITEM H
(1)
Response to
Comments

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

LOS ANGELES COUNTY MUNICIPAL STORM WATER DISCHARGE PERMIT

Summary of Comments and Regional Board Staff Response
Tentative Draft [October 11, 2001]

The Response here supplements the '*Summary of Comments and Regional Board Staff Response, Second Draft (June 29, 2001)*' (October 2001). In general comments responded to in that document are not revisited here. Legal matters are addressed in Regional Counsel's legal brief, *'Legal Issues Concerning Renewal of Order No. 96-054 as Reflected in Tentative Waste Discharge Requirements Dated October 11, 2001'* (Nov. 9, 2001)

Commentors	Comment	Staff Response
Santa Monica Bay Keeper (SMBK)	1. Completeness of Permit Application Permittees have not complied with storm water permit application requirements at 40 CFR 122.26(d).	The Regional Board issued the first municipal storm water permit consistent with NPDES application requirements in effect in 1990, and processed the reapplications consistent with U.S. EPA policies. Please see also p. 1 in 'Summary of Comments and Regional Board Staff Response' (October 11, 2001), and p. 20 Regional Counsel's legal brief (November 9, 2001)
CAA, CICWQ, LAEDC, BWS, ALH, CAM, COM, ELS, GAR, IND, LAW, LOM, LYN, MOO, SCL, SFS, SIH, SMA, TOR	2. Economic Consideration Give further consideration to economic cost of implementation. Compliance costs will be substantial and projected to exceed $50 billion.	The iterative process to meet receiving water limits explicitly takes into account the economics of compliance. Permittees self-reported budget for implementation of the permit requirements for 2001-2002 is about $145 million, a fraction of the projected cost claimed in the $50 billion. More than likely, Permittees current budget overstates costs because it includes activities being conducted for other than storm water purposes (such as street sweeping and corporation yards maintenance). The Regional Board staff has significantly reduced the scope of the industrial/ commercial inspection program after facilitation by the U.S. EPA mediator.

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Commentors	Comment	Staff Response
CAR, CAA, EAC, CPR, RT, BWP, BCSMW, CUD, CUL, BEH, BEF, BEG, HAW, HIH, LAK, LCF, LMI, PAR, ROS, RWG, SCL, SFE, SGA, SOG, VRN, WEH, WEV	3. Executive Advisory Committee Reinsert into the permit the EAC, which is a representative and coordinating body for Permittees. How will they now coordinate?	The Regional Board cannot create the EAC under any authority. The EAC is the Permittees prerogative to organize. The EAC can continue to perform its role for Permittees and interact with the Regional Board irrespective of whether or not it is recognized in the permit. The Regional Board encourages Permittees to better use the Watershed Management Committees (WMCs) for permit coordination and implementation because the WMC is a functional unit based on common water quality protection interests.
MWD, [City of Los Angeles Department of Water and Power, California Water Service Company, Southern California Water Company,	4. Non-Storm Water Discharges Authorize releases of potable water discharges that are in accordance with an equivalent document to Industry-wide practice guidelines developed by the American Water Works Association (AWWA)	For purposes of standardization, the AWWA whose membership, includes the commentors, should develop guidance (technical bulletins) for potable water discharge releases, if they have not already done so.
BRB, DB, AR, RT, R&T, RWG, BWS, LAC, LA, CPR, EAC	5. Industrial/ Commercial/ Construction Inspections The State should not transfer its responsibility to inspect facilities and construction sites covered under statewide general permits.	The MS4 Permittee has a responsibility to make sure that industrial sites (including construction) comply with local government storm water and urban runoff ordinances. The USEPA clearly contemplates a dual and a cooperative oversight of facilities 'discharging storm water associated with industrial activity', between the permitting authority and the MS4 permittee (55 *Fed. Reg.* 222, 48000; and Storm Water Phase II Compliance Assistance Guide (USEPA 2000), p 4-32 and 5-11). See also, Radulescu (2001), *A Case for Inspection*, and Regional Board Counsel's brief at p. 2. Regional Board staff have considerably reduced the scope of the industrial/ commercial inspection program through the efforts of a U.S. EPA mediator.
CLA DHS	6. Restaurant Inspections Since restaurant inspections will involve health inspectors, reference requirements from the California Uniform Food Facilities Law	The Regional Board is the permitting authority for the CWA and Cal. Water Code. The County of Los Angeles (including the Departments of Public Health and Health Services) are best positioned in deciding on the appropriate changes to the County Code to enforce compliance by restaurants with the Cal. Uniform Food Facilities Law and the Cal. Water Code.

Commentors	Comment	Staff Response
WSPA, RT	7. RGOs RGOs should be exempted from new development requirements because the Regional Board has provided no proper justification.	Proper justification for inclusion of RGOs has been developed and the basis has been specified in the permit. Please see p. 8 in Summary of Comments and Regional Board Staff Response (October 11, 2001), p. 7 in Regional Counsel's legal brief (November 9, 2001), Technical Report - *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts* (Radulescu et al., 2001), *Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets: Review and Comment* (Radulescu, 2001), and *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts: Supplement* (Radulescu and Swamikannu, 2001)
BCSMW , PAS, RPV, BUR, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BCSMW, BIA, SEM, SOG, WEH,	8. ESAs Allow cities to submit designations for ESAs in addition to the other listed agencies. Reasonableness depends on what is approved by the Regional Board as constituting ESAs.	Regional Board staff has proposed thresholds for ESAs to be responsive to the State Board decision in Order No. WQ 2000-11. In that decision, the State Board set forth types of evidence and criteria necessary for inclusion of ESAs in subsequent permits, including thresholds (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). For a complete discussion of the ESA matter see, Fact Sheet/ Staff Report – Attachment, Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'.
ULARAW	9. Infiltration Concern Infiltration practices can inadvertently contaminate ground water basins.	Permittees may impose restrictions where there is a threat of ground water contamination. Storm water mitigation for new development includes the option to treat, filter, or infiltrate (not just infiltration). Infiltration studies conducted by the USGS and university researchers demonstrate that where conditions for infiltration are favorable, infiltration is effective in removing common pollutants of concern in storm water, and the risk of ground water contamination is minimal. For a discussion, see U.S. EPA Report No./600/R-94/051 (1994); Pitt et al. (1996) *Groundwater Contamination from Storm Water Infiltration*, Ann Arbor Press, 218 pp.; USGS Water Resources Investigation Report No. 93-4140 (1995)
CAA, CLA, LACo	10. Definition of MEP Retain the MEP definition in the current permit instead of the revised definition. MEP definition is contrary to the CWA. It does not require the balancing of other factors.	The definition of MEP references its expression in the CWA, and its interpretation by State Board Senior Staff Counsel in a legal memorandum (Feb. 11, 1993). So long as the memorandum states that multiple interests have to be balanced, the need to make such analyses is incorporated by reference.

Commentors	Comment	Staff Response
BWS, CPR, LAK, POM, RT, SGA, VRN,	11. Definition of Redevelopment The definition of "redevelopment" is overly broad and should be limited to addition or creation of 5,000 square feet or more of surface area (exclude replacement). U.S. EPA defines the threshold for redevelopment as one acre or more which should be criterion instead of 5,000 sq. ft. Requirement may discourage property improvement.	The definition has been revised to exclude exterior remodeling and replacement of roofs. It is inclusive of the replacement of building footprint. U.S. EPA Phase II guidance do recommend a threshold of 1 acre to trigger requirements for Phase II MS4s. However the Regional Board adopted the 5,000 sq. ft. threshold for redevelopment in the LA SUSMP, an action which was upheld by the State Board (Board Order No. WQ 2000-11). The 5,000 sq. ft. threshold is consistent with thresholds established for redevelopment triggers by other States (such as Washington, Maryland, Virginia, and Florida) for U.S. EPA Phase I MS4 Permittees. Please see also p. 9 in Summary of Comments and Regional Board Staff Response (October 11, 2001), and p. 5 Regional Counsel's legal brief (November 9, 2001).
BCSMW , CUD, CUL, HAG, PAR, PAS, ROS, SOG,	12. Public Agency Activities: Fire Truck Washing Fleet vehicles deserve the same exemption as fire-fighting vehicles for wash-down to the MS4. Why is this wash-down exempt from discharge prohibitions?	The allowance for wash-down of fire trucks at existing fire stations was made because a prohibition would involve taking the trucks off service. The trucks would have had to be sent to a dedicated washing facility, thus compromising their availability to respond to situations of public health and safety.
BCSMW, DIA, CLA, PAS, RPV, SOG, WEH, LACo,	13. Public Agency Activities: Trash Receptacles at Transit Stops Requirement to place trash receptacles at all transit stops is unreasonable and premature	More time has been provided. The provision has been revised to require receptacles at transit stops with rain shelters within 6 months and all other transit stops within a year from permit effective date.
LACo	14. Monitoring: Trash Requirements to monitor trash in watersheds not listed as impaired for trash will cost as much as $5 million.	This monitoring requirement for unimpaired watersheds has been changed to eliminate trash sampling. It now requires photographic documentation after qualifying storm events.
BCSMW, BUR, SEM, SOG, WEH,	15. Reporting Provide Permittees with 180 days to propose an alternative reporting format from the one in the permit.	The purpose in providing a sample reporting form is to assist permittees in collecting information to document compliance with the permit requirements. The reporting format under the existing permit appears deficient because permittees report in multiple ways. Permittees can always develop an equivalent reporting form so long as it provides the same information as that which is requested by the Regional Board in the sample reporting form.

List of Commentors on Draft Permits.

City of Arcadia (ARC)
City of Alhambra (ALH)
City of Baldwin Park (BWP)
City of Bell (BEL)
City of Burbank (BUR)
City of Bellflower (BEF)
City of Bell Gardens (BEG)
City of Beverly Hills (BEH)
City of Calabasas (CAL)
City of Camarrillo (CAM)
City of Carson (CAR)
City of Cerritos (CER)
City of Claremont (CLA)
City of Compton (COP)
City of Covina (COV)
City of Culver City (CUV)
City of Diamond Bar (DIB)
City of Duarte (DUA)
City of El Segundo (ELS)
City of Hawthorne (HAW)
City of Hawaiian Gardens (HAG)
City of Hidden Hills (HIH)
City of Industry (IND)
City of Irwindale (IRW)
City of La Canada Flintridge (LCF)
City of La Mirada (LMI)
City of Lawndale (LAW)
City of Lomita (LOM)
City of Lakewood (LAK)
City of Los Angeles (LAC)
County of Los Angeles (LACO)
City of Lynwood (LYN)
City of Monrovia (MON)
City of Montebello (MOL)
City of Moorpark (MOR)
City of Norwalk (NOR)
City of Paramount (PAR)
City of Pico Rivera (PIR)
City of Rancho Palos Verdes (RPV)
City of Redondo Beach (REB)
City of Rosemead (ROS)
City of San Gabriel (SGA)
City of San Fernando (SFE)
City of San Marino (SNM)
City of Santa Clarita (SCL)
City of South Gate (SOG)
City of Santa Fe Springs (SFS)
City of Sierra Madre (SMA)
City of Signal Hill (SIH)
City of South El Monte (SEM)
City of South Pasadena (SPA)
City of Temple City (TPL)
City of Torrance (TOR)
City of Vernon (VRN)
City of West Hollywood (WEH)
City of Westlake Village (WEV)
City of Whittier (WHT)

Ballona Creek/ Santa Monica Watershed (BCSMW)
Coalition for Practical Regulation (CPR)
Rutan and Tucker (RT)
Richards Watson and Gershon (RWG)
Charles Abbott and Assoc. (CAA)
Executive Advisory Committee (EAC)
Burke, Williams & Sorensen, LLP (BWS)
California Coastal Commission (CCC)
State of California Department of Health Services
County Sanitation Districts of Los Angeles County (CDSLAC)
County of LA Department of Health Services (CLADHS)
Upper Los Angeles River Area Watermaster (ULARAW)
Water Replenishment District (WRD)
City of Los Angeles Department of Water and Power (DWP)
California Water Service Company
Central Basin Water Association
Southern California Water Company
South Montebello Irrigation District
Building Industry Association (BIA)
Western States Petroleum Association (WSPA)
So. Ca. Building Industry Assoc. (BIA)
Construction Industry Coalition on Water Quality (CICWQ)
Bull Shot System, Inc. (BULSYS)
National Association of Industrial and Office Properties (NAIOP)
Heal the Bay (HTB)
Natural Resources Defense Council(NRDC)
Santa Monica Baykeeper (SMBK)

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Section H(2)

RGO Technical Report – Supplemental

ITEM H
(2) RGO
Tech.
Report

RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

SUPPLEMENT

(To June 2001 Technical Report)

December 2001 [Revised 12/10/01]

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California Water Quality Control Board, Los Angeles Region
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Introduction

On March 23, 2001, the Western States Petroleum Association (WSPA), a trade association for the petroleum industry in the Western U.S., submitted a petition to the State Water Resources Control Board (State Board) which challenged the inclusion of numerical design standards for Retail Gasoline Outlets (RGOs) in the Municipal Separate Storm Sewer (MS4) permit for San Diego County.[1]

In June 2001, the California Water Quality Control Board, Los Angeles Region (LA Regional Board) and the California Water Quality Control Board, San Diego Region (SD Regional Board) issued a Technical Report, 'Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts' (RGO Technical Report). The Technical Report was prepared in response to the direction provided by the State Board in its decision in, *In Re*: City of Bellflower et al. (Order No. WQ 200-11, hereafter the LA SUSMP Decision) for the inclusion of numerical design standards for RGOs in future MS4 permits. The RGO Technical Report addressed presumptive concerns expressed by the State Water Resources Control Board (State Board) in the LA SUSMP Decision such as, (i) heavily regulated; (ii) limitations of space; (iii) feasibility and safety of treatment; (iv) absence of a threshold relative to RGO size. It also recommends a threshold relative to RGO size as directed by the State Board. WSPA claims that the Regional Board's evidence and findings are not "proper justification" as

[1] The State Board upheld WSPA's petition on procedural grounds. See *In Re*: Building Industry Association of San Diego and Western States Petroleum Association (Order No. WQ 2001-15)

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required by the State Board. In contrast, Regional Board Counsel has determined that the criteria established are lawful and proper.[2]

On August 6, 200, WSPA submitted a critique of the RGO Technical Report in its comment on the second draft of the Los Angeles County MS4 permit. WSPA, in large part, contended that the justification was not proper. The LA Regional Board staff has prepared this Supplement to the RGO Technical Report to clarify issues raised by WSPA in its critique of the RGO Technical Report, and WSPA's comments on applicability of numerical design standards to RGOs in reference to the October 11 tentative draft of the Los Angeles County MS4 permit.[3]

Lack of Specific Analyses by WSPA

We are concerned as to the lack of substantive documentation by WSPA of its assertions that the treatment of storm water to remove pollutants of concern in California is technically not feasible, not safe, and prohibitively costly. WSPA has not technically documented the bases of such claims or conducted any analyses of such conditions at RGOs. Regional Board staff and WSPA and its consultants differ in opinion on data from other studies; facts; inferences, and important differences. Regional Board staff conducted independent analyses of these factors and facts to ensure "proper justification" for the inclusion of RGOs.

For example contrary to WSPA's claims, (i) WSPA member RGOs in Western Washington and Northern Oregon have been required by their municipalities to utilize tiered treatment since 1992 to remove petroleum hydrocarbons in storm water runoff from the fueling areas and other pollutants such as heavy metals from adjacent areas, and not after "August 2001" (Figure 1);[4] (ii) treatment control BMP pollutant concentrations were higher in the effluent at a Washington State RGO study site only because the parameters were either a component of the treatment media (phosphorous and nitrates) or the influent concentration was low (oil and grease), not because the BMP was ineffective;[5] (iii) treatment control BMPs tested by Caltrans performed as expected but needed more maintenance because of undersizing and no pre-treatment, not because they were ineffective;[6] (iv) space at RGOs for installation of treatment

[2] Regional Board Staff Counsel's Brief (November 9, 2001) at p.7.

[3] See, WSPA Comment Letter on October Draft dated November 13, 2001.

[4] See p 9 where is reproduced the e-mail communication between Mr. Ciuba at Washington Department of Ecology and Dr. Swamikannu (dated Sept. 20, 2001). Mr. Ciuba explains that the criteria applied to RGOs in the State of Washington is "virtually the same as in 1992".

[5] See, Stormwater Sampling – Stormfilter, Performance Results; Burwell/ Straley's Union 76 Station, Bremerton, WA (2000) 7 pp.

[6] *See Performance Evaluation of Structural BMPs: Drain Inlet Inserts and Oil Water Separator,* Othmer, E.F. *et al.* (2001) at p 1 (cited by WSPA)

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control BMPs is not constrained to render it infeasible (Table 1)[7], (iv) subsurface treatment control BMPs are safe, as demonstrated by WSPA member RGOs in Washington and Oregon who have installed these systems for some years; and (v) cost of installation of treatment control BMPs (actually a retrofit of existing facilities) tested by Caltrans was well within estimated costs; the larger expense was for monitoring and analysis...not installation.[8]

RGOs are Storm Water Pollutant Hotspots

RGOs are incontrovertible hot spots for pollutants of concern in storm water and have been widely documented as such. The most common pollutants of concern in storm water runoff from RGOs are heavy metals, petroleum hydrocarbons (such as Polycyclic Aromatic Hydrocarbons (PAHs)), and oil and grease.[9] These pollutants have been identified through analyses of: (i) trapped sediments in on-line oil water separators; (ii) particulates removed by treatment control BMPs such as media filters; (iii) simulated runoff; or (iv) storm water runoff leaving RGOs. In studies conducted, since 1970, in relation to automotive related activities and their impact on the quality of storm water runoff, a strong correlation has emerged between the volume and duration of automotive exposure and its impact on water quality and sediment quality criteria. As a result, several areawide storm water management programs already identify RGOs as pollutant hotspots and require the implementation of treatment control BMPs.[10,11,12]

An 18-month study was performed in the Washington Metropolitan area ("Washington Study"), to compare storm water quality with the National Urban Runoff Program (NURP) monitoring results.[13] One of the monitoring locations was situated at a

[7] Table 1 illustrates that more than two-thirds of the surface area (at a sampling of RGOs in the Los Angeles area) is available for installation for WQF treatment control BMPs (some which are as compact as 50 sq. ft in dimension).

[8] *Ibid.* Footnote 6, ref. at p. 12.

[9] *A Review of Semivolatile and Volatile Organic Compounds in Highway Runoff and Urban Stormwater,* Open-File Report 98-409, U.S. Department of the Interior, U.S. Geological Survey (1998)

[10] *New York Stormwater Design Manual-Draft,* (2001) New York State Dept. of Environmental Conservation.

[11] *Virginia Stormwater Management Handbook,* Volumes 1 and 2, First Edition, (1999).

[12] *Stormwater Management Manual for Western Washington* (2001), Washington State Dept. of Ecology.

[13] *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use* – F.I. Rabanal and T.J. Grizzard (1995), Proceedings of the 4th Biennial Conference on Stormwater, FL. Note that NURP catchments generally contained both pervious and impervious surfaces, while the study surfaces here were completely impervious, which may account for comparability in some pollutant concentrations.

gasoline station. The Washington Study confirmed NURP findings, i.e., water quality criteria for metals and Chemical Oxygen Demand (COD) are exceeded for storm water runoff from sites exposed to vehicular traffic (such as gasoline stations, parking lots and streets).[14] In the Washington Study the high COD values were attributed to the presence of high concentrations of petroleum hydrocarbons in the runoff from the gasoline station site. In addition, the U.S. General Accounting Office, in its report to Congressional requesters on urban runoff water quality (Report No. GAO-01-679) cites research in Texas that shows PAH concentrations are related to the volume of vehicular traffic.[15] Nationwide studies confirm the increased concentrations of PAHs in sediments deposited by storm water from urban watersheds.[16] A similar link between the duration and volume of automotive exposure at automotive-intensive land uses, including RGOs, demonstrated that, even at moderate duration and volume of automotive exposure, the observed hydrocarbon concentrations in storm water runoff were high.[17] For the Los Angeles area, a number of studies have identified PAHs and heavy metals as pollutants of concern in storm water runoff discharging to Santa Monica Bay.[18,19]

Implementation of Storm Water Quality Task Force (Source Control) BMPs Alone is Inadequate to Control Pollutants in Storm Water

WSPA's total reliance on the Storm Water Quality Task Force RGO BMP Guide (RGO BMP Guide) is misplaced. We have reviewed the RGO BMP Guide[20] and found it to be obsolete.[21] The recommendations of the Task Force were for the implementation of a default set of source control BMPs to control

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[14] WSPA has never disputed the fact that pollutants in storm water discharges from RGOs often exceed water quality criteria. Their claim has been that it is no worse than the quality of storm water from urban land-uses characterized in the NURP study from the 1970s.

[15] *Urban Sprawl Leaves Its PAH Signature* - P. Van Metre *et al.* (2000), Env. Science Technol., 34 (19).

[16] *Selected Findings and Current Perspective on Urban and Agricultural Water Quality by the National Water-Quality Assessment Program* —USGS FS-047-01 April 2001.

[17] *Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses* – D.L. Shepp, In Watershed ' 96 Conference Proceedings, June 1996, Baltimore, MD.

[18] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994.

[19] *Study of the Impact of Stormwater Discharge on Santa Monica Bay* – Executive Summary – Southern California Coastal Water Research Project – 1999.

[20] *Best Management Practice Guide Retail Gasoline Outlets* - California Stormwater Quality Task Force (1996).

[21] *Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets: Review and Comment*, D. Radulescu (Nov. 2001), California Regional Water Quality Control Board, 5 pp.

the discharge of pollutants in storm water runoff from RGOs. In fact, the Task Force contemplated the addition of treatment control BMPs in the future to the recommended BMPs menu. The RGO BMP Guide was intended to provide a default menu of source control BMPs as a pre-treatment step, until treatment BMPs were added to the Guide. The RGO BMP Guide has not been updated, and as a result is woefully inadequate for guidance to reduce the discharge of pollutants in storm water to protect the beneficial uses of receiving waters in the Los Angeles Region.[22]

WSPA's reliance on the RGO Guide originates from two unsupported assumptions – that source control BMPs: (i) alone are sufficient to control the discharge of pollutants in storm water runoff from RGOs so that no exceedances of water quality standards will occur, and (ii) are consistently and diligently implemented. A study conducted recently in the Los Angeles Region deflates both assumptions.[23] The results from the study demonstrate that the implementation of source control BMPs alone (similar to those recommended in the RGO BMP Guide) are insufficient to reduce the concentration of pollutants discharged in storm water to meet water quality standards. Treatment control BMPs must be employed to adequately reduce pollutants in storm water to meet water quality standards. Secondly, source control BMPs by their nature are difficult to verify and often are at the operator's discretion. While pollution prevention practices recommended in the RGO BMP Guide are desirable, neither WSPA nor others have demonstrated that the implementation of such practices reduces pollutants successfully to where water quality impacts are eliminated.[24] In fact the opposite evidence now exists.[25]

Implementation of Properly Designed Treatment Control BMPs is Necessary

Treatment control BMPs in order to be effective have to be properly designed based on either the Water Quality Flow (WQF) or Water Quality Volume (WQV) criteria or both. The WQF and WQV criteria developed by the Los Angeles Regional Board are based on characteristics of precipitation in the region. The most common precipitation events are small size storms and extreme events are rare. Consequently, for water quality purposes, the design standards ensure proper design for the treatment of the small more frequent precipitation events.

More than likely a multi-chamber treatment train or a set of treatment control BMPs will be necessary to remove the full suite of pollutants of concern in storm water

[22] *Ibid.*

[23] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report* – 2000. Part of the critical sources study was conducted at automotive service facilities which have similar traffic volume and duration exposure as RGOs.

[24] See Letter from Professor L.D. Duke at UCLA to Mr. Radulescu dated Nov. 15, 2001, explaining the meaning of his statement on pollution prevention in a report cited by WSPA as proof that source control BMPs are all that are needed.

[25] *Supra.* See Footnote 23

discharges from RGOs, and regular maintenance of the treatment systems will be necessary to keep it performing optimally. Current approaches to treating runoff from RGOs include isolation of the fuel servicing area to treat VOCs, petroleum hydrocarbons, and oil and grease. The area should not be connected to an infiltration type of BMP because of the potential for soil and groundwater contamination from gasoline. These areas should be connected to the sanitary sewer system with the permission of the sewer agency or to an oil water separator and a basic treatment control BMP (such as a media filter or a biofilter). VOC concentrations in storm water because of their volatility are seldom detectable. Storm water from the general area is separately treated to remove pollutants of concern adhering to particulates. Basic treatment control BMPs being implemented elsewhere in the U.S. include sand filters, vegetated buffers, biofilters, flow-through filter cartridges, and multi-chamber treatment train.[25]

The percent removal efficiencies of treatment control BMPs are highly dependent on the influent concentration of pollutants. The higher the influent concentration the higher the percent removal. For filter media based treatment control BMPs the characteristics of the medium also matter and removal efficiencies vary according to the type of filter material.[27]

Implementation of BMPs is Safe

WSPA contends that the installation of subsurface treatment control BMPs raises safety concerns because gasoline spills would purposely be routed below grade thus presenting a potentially explosive environment. We agree that the fueling area, vehicle maintenance areas, and vehicle traffic areas represent different problems. They require different solutions. To control spills, the fuel-island may be designed with a dead-end sump or spill control separator in compliance with the Uniform Fire Code (UFC); and as a spill containment pad (UFC § 790.18). The canopy should be designed to prevent the entry of rain into the fuel pad area. Storm water collected in the fuel island area may be conveyed to the sanitary sewer system after pre-treatment (if the sewer authority approves) or discharged after passing through a treatment train that includes an oil-water separator and basic treatment BMPs (media filters, biofilters, etc.). Storm water from the vehicle traffic areas may be treated using biofilters, linear sand filters, media filters or similar BMPs.[28] Contrary to WSPA's assertions, it is feasible to minimize safety concerns by designing the fueling area at RGOs consistent with UFC standards to

[25] (i) *Storm Water Management Manual for Western Washington* (2001) Vol. 1, 4-6 to 4-11; Vol. IV 2-19 – 2-21 and Vol. V; (ii) *Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, (1999) Wayne County, MI, (iii) *Multi-Chamber Treatment Train Developed for Storm Water Hotspots*, Technical Note #87, Watershed Protection Techniques 2: 11-13 (1999).

[27] For filter medium performance see, *Catch Basin Inserts to Reduce Pollution from Stormwater.* S.L. Lau *et al* (2001), Water Science and Technol. 44: 23-34.

[28] See Table 4.1, which lists treatment control BMP options, *Storm Water Management Manual for Western Washington* (2001) Vol. 1, at p. 4-11.

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control spills, while also incorporating treatment control BMPs to reduce the discharge of storm waters pollutants.

Treatment Control BMPs are Reasonable in Cost

We have previously reviewed the literature on the cost of treatment control BMPs for RGOs and determined them to be reasonable.[29] Biofilters are expected to cost about $6,500 per 5,000 square feet.[30] The multi-chamber treatment train has been estimated to cost between $5,000 and $10,000 per 5,000 square feet of drainage area.[31] Based on the estimated project cost to build a RGO (Table 2), the cost of installation of treatment control BMPs appears to be between 1.75 – 2.3 percent of the project cost. These estimates are consistent with the Regional Board's empirical basis of reasonable cost to meet the mitigation criteria (1-2 percent of the project development cost).[32]

Conclusion

Water quality protection should be no less important for RGO operators in California than they are for their counterparts in other Western states. The RGO BMP Guide which emphasizes pollution prevention practices may be considered as the pre-treatment step that optimizes the cost-effectiveness of treatment control BMPs. Both source control and treatment control BMPs are essential to reduce the discharge the pollutants in storm water effectively and to minimize treatment costs. A suite of treatment control BMPs or a treatment train of BMPs most likely will be needed to remove the range of pollutants of concern in storm water runoff from RGOs. The thresholds established by the Regional Board for the numerical mitigation criteria to apply to RGOs are reasonable and fair, have been properly justified, and have fully met all evidentiary requirements set forth in the LA SUSMP Decision by the State Board for the inclusion of RGOs.

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[29] *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*), Radulescu *et al.*, (June 2001) at p 7.

[30] See, "Cost and Benefits of Storm Water BMPs" in, *Preliminary Data Summary of Urban Storm Water Best Management Practices*, USEPA, No. EPA-821-R-99-012 (1999) pp. 6-1 – 6-44.

[31] *Multi-Chamber Treatment Train Developed for Storm Water Hotspots*, Technical Note #87, Watershed Protection Techniques 2: 11-13 (1999), at p 29.

[32] See State Board Order No. WQ 2000-11 (LA SUSMP Decision) at p. 21, where the State Board finds that this cost basis is reasonable.

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Monday, September 10, 2001 5:36 PM
To: Lynch, Donna
Subject: RE: Manual and Questions

Would you kindly respond to the following two questions:

1. Does a new gas station development that creates 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?
2. Does an existing gas station that replaces 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?

Thanks for your assistance.

Sincerely
Xavier
Storm Water Program
CalEPA- RWQCB Los Angeles"

-----Original Message-----
From: Lynch, Donna
Sent: Wednesday, September 12, 2001 9:42 AM
To: Ciuba, Stan
Subject: FW: Manual and Questions

Stan,
Please answer these gas station questions. Thanks.

>>> "Ciuba, Stan" <sciu461@ECY.WA.GOV> 09/12/01 01:37PM >>>
Xavier, the new manual, which should be published in the next couple of weeks, applies to new and redevelopments. Local governments can also use it for retrofits as they judge necessary. The impervious containment area of the fuel island is considered a pollutant generating source requiring treatment for hydrocarbon pollutants. The 5000 square foot threshold pollutant generating surface applies to the parking area adjacent to the fuel island and includes any convenience store parking area. Hope this helps.
Stan

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Thursday, September 13, 2001 2:38 PM
To: Ciuba, Stan
Cc: Dan Radulescu
Subject: Re: FW: Manual and Questions

Hello Stan:

Some follow-up questions.
Have these requirements for gas-stations been in effect for certain parts of Western Washington State for some time....for e.g. the Puget Sound Area?
What were the requirements for gas stations in the Stormwater Management Manual for the Puget Sound Basin (1992)?
Xavier

"The answer to your question is that the gas station BMPs in the new Manual (published last week), is virtually the same as in the 1992 Manual. The language has been changed and several items are expressed more directly. The new 2001 Manual applies to Western WA and is offered as technical guidance to local governments and others. However, the BMPs in the new Manual may be incorporated into the various municipal and industrial general NPDES Stormwater Permits. Exactly how and when that will happen has not been determined.
Best regards, Stan

Figure 1. Text of e-mail communications between staff from the Regional Board and Washington Department of Ecology on treatment control BMPs at RGOs (Sept 10 to Sept. 20, 2001).

Table 1. Summary of surface and underground spatial areas of typical structures at a sample of RGOs in the Los Angeles area.

	Mobil Station #18-EDP (Gardena)	United Oil Station #51 (Harbor City)	United Oil Station #4 (Lawndale)	Thrifty Station #1 (Maywood)	Mobil Station #18-L81 (Torrance)
Total Surface Area (sq. ft.)	11,000	12,000	12,000	16,000	24,000
Area of fuel canopy (%)	6	10	14	15	10
Area of building (%)	10	3	4	2	11
Area of subsurface UST* (%)	4	6	14	9	6
Remaining area (sq. ft.)	8,800	9,720	9,360	11,840	17,520
Remaining area (%)	80	81	78	74	73

* UST = Underground Storage Tanks

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Table 2. Summary of estimated costs associated with the construction of a new gas station. Costs slightly vary from location to location, and auxiliary activities such as mini-mart, car wash, and vehicle service involve additional facility construction costs (Cost Estimates provided by a commercial land developer in the Los Angeles region).

Gas Station Development Characteristics	
Area (sq. ft.)	40,000
Land Cost ($)	800,000
Buildings and Site Improvement Costs($)	1,000,000
Entitlements (design, permits, etc.) Cost ($)	200,000
Off site Connections (signals, water lines, etc.) Cost ($)	300,000
Total Cost ($M)	2.3
Total Cost/ 5,000 sq. ft	287,500

Section H(3)

Case for Inspection

ITEM H
(3) Case for
Inspection

The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities

A Case for Inspection Activities in the Large and Medium Municipal Separate Storm Sewer System Permits

Dan Radulescu
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

November 2001

INTRODUCTION

A question that has been frequently asked during the process to renew the Los Angeles NPDES Municipal Stormwater Permit was if the storm water regulations require municipalities to conduct inspections at industrial or commercial facilities. This requirement establishes municipalities' responsibility to verify the effective implementation of best management practices to control the contribution of pollutants to the municipal storm drain system from industrial or commercial sites.

A second issue raised was the extent of responsibility municipalities have to control the contribution of pollutants from industrial or commercial sites and what is the relationship with the responsibilities that the Regional Board has over the same type of facilities.

This document attempts to answer to those specific questions raised by the Permittees and other stakeholders. The author adds emphases in the text.

I. Federal Mandate

The Federal Water Pollution Control Act Amendments (FWPCA) of 1972 created the framework for addressing critical pollution problems in the Nation's waters. Section 101, "Congressional Declaration of Goals and Policy", concisely summarized the new act. Section 101(a) stated, "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." This way a strong emphasis was put on the ecological and environmental aspects of protecting water quality. Elaborating on that position, the same section set down two "national goals": (1) eliminating the discharge of pollutants into navigable waters by 1985, and (2) achieving an interim water quality level that would protect fish, shellfish, and wildlife while providing for recreation in and on the water wherever attainable. The 1972 Amendments focused their attention on point sources such as municipal discharges through publicly owned treatment works and direct industrial discharges. The Act also focused the efforts on two categories of pollutants: conventional (BOD, SS, and pH), and what was classified as toxic.

Much of the effort following the enactment of FWPCA was to establish the United States Environmental Protection Agency (U.S. EPA) and the framework of the National **Pollutant Discharge Elimination** System (NPDES) permit program. Many other efforts were initiated in areas of construction of treatment plants, basin planning, treatment technologies development, establishment of effluent standards for toxic pollutants and the creation of appropriate regulations to implement the intent of the Act.

Under the provisions of the Act, the U.S. EPA could delegate NPDES permitting authority to the States. California is a delegated State and has full authority to issue NPDES permits with U.S. EPA's concurrence.

Between 1972 and 1987, the law has been subject to mid-course corrections and a change of name to the Clean Water Act (CWA).

The 1987 amendments, known as the Water Quality Act (WQA) of 1987, were aimed at addressing a number of issues on which progress was deemed to have been unsatisfactory. These issues included toxics, nonpoint sources, storm water, coastal

pollution, and others. States were required to identify waters not meeting designated uses because of toxic pollutants even after the application of technology based controls and to develop strategies for controlling them.

New provisions to permit discharges of storm water from separate storm sewers were also added. Section 402 phases in storm water permits. Originally, the 1972 Act required U.S. EPA to issue a NPDES permit for all point sources of pollution. The Agency interpreted that requirement so that it could issue areawide permits for separate storm sewers, rather than each storm water outfall.

The first phase of the program, commonly referred to as "Phase I", was promulgated on November 16, 1990 (55 FR 47990, 40 CFR 122). Phase I requires NPDES permits for storm water discharge from a large number of priority sources including municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

The second phase of the storm water program, recently promulgated on December 8, 1999 (64 FR 68722) expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb between one and five acres of land. The new rule allows certain sources to be excluded from the national program based on a demonstrable lack of impact on water quality. The rule also allows other sources not automatically regulated on a national basis to be designated for inclusion based on increased likelihood for localized adverse impact on water quality.

II. Water Quality Concerns

After FWPCA was adopted in 1972, the implementation of end-of-pipe control methods from traditional point sources started to show improvement in the quality of the effluent discharged from Publicly Owned Treatment Works (POTW) and industrial wastewater treatment plants. However, it also become evident that receiving waters still did not attain designated uses, and water quality standards were frequently exceeded. That focused the attention to the other major component contributing to beneficial use impairments of the receiving water quality: pollution from diffuse sources, such as runoff from urban areas, construction sites, agricultural areas, land disposal and resource extraction. Early on, the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), along with U.S. EPA, conducted a comprehensive study of diffuse pollution sources that resulted in the 1985 report, "America's Clean Water – The States Nonpoint Source Assessment." This report indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, U.S. EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP)[1]. The NURP included 28 projects across the Nation. One focus of the NURP was to characterize the water quality of discharges from separate storm sewers that drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for

eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition the study indicated that the annual loading of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, (although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff), with the median for all sites being around 21,000/100 ml. This is generally consistent with studies that found that fecal coliform mean values range from 1,600 coliform fecal units (cfu)/100 ml to 250,000 cfu/100 ml[2]. Makepeace, et al., summarized ranges of contaminants from storm water, including physical contaminants such as total solids (76--36,200 mg/L) and copper (up to 1.41 mg/L); organic chemicals; organic compounds, such as oil and grease (up to 110 mg/L); and microorganisms.

Although NURP did not evaluate oil and grease other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/l. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges, from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. The NURP data also showed a significant number of these samples exceeded various U.S. EPA freshwater water quality criteria. The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, **industrial site runoff** and illegal dumping. Other studies showed that storm water from industrial facilities might contain toxics and conventional pollutants when material management practices allow exposure to storm water.

Since the NURP study many other studies and programmatic assessments confirmed the magnitude of the diffuse pollution problem. Data from the NURP study were analyzed further in the U.S. Geological Survey (USGS) Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States survey[3]. The USGS report summarized additional monitoring data compiled during the mid-1980s, covering 717 storm events at 99 sites in 22 metropolitan areas and documented problems associated with metals and sediment concentrations in urban storm water runoff. More recent reports have confirmed the pollutant concentration data collected in the NURP study[4].

Other recent studies have not found significantly different pollutant concentrations in urban runoff when compared to the original NURP data[5].

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables[6]. After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in "first flush" discharges, which occur during the first major storm after an extended dry period[7]. Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction. Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans.

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loadings in storm water discharged to receiving waterbodies[8]. Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff[9].

Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters. For example, a study in the Puget Sound lowland ecoregion found that when the level of basin development exceeded 5 percent of the total impervious area, the biological integrity and physical habitat conditions that are necessary to support natural biological diversity and complexity declined precipitously[10]. Research conducted in numerous geographical areas, concentrating on various variables and employing widely different methods, has revealed a similar conclusion: stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent according to the findings of the Washington study referenced above)[11]. Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking[12].

In addition to impervious areas, urban development creates new pollution sources as population density increases, and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household

hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges from municipal separate storm sewer systems. A modeling system developed for the Chesapeake Bay indicated that contamination of the Bay and its tributaries from runoff is comparable to, if not greater than, contamination from industrial and sewage sources[13].

In addition, the 1996 305(b) Report, provides a national assessment of water quality based on biennial reports submitted by the States as required under CWA section 305(b)[14]. In the CWA 305(b) reports, States, Tribes, and Territories assess their individual water quality control programs by examining the attainment or nonattainment of the designated uses assigned to their rivers, lakes, estuaries, wetlands, and ocean shores. A designated use is the legally applicable use specified in a water quality standard for a watershed, waterbody, or segment of a waterbody. The designated use is the desirable use that the water quality should support. Examples of designated uses include drinking water supply, primary contact recreation (swimming), and aquatic life support. Each CWA 305(b) report indicates the assessed fraction of a State's waters that are fully supporting, partially supporting, or not supporting designated beneficial uses. In their reports, States, Tribes, and Territories first identified and then assigned the sources of water quality impairment for each impaired waterbody using the following categories: industrial, municipal sewage, combined sewer overflows, urban runoff/storm sewers, agricultural, silvicultural, construction, resource extraction, land disposal, hydrologic modification, and habitat modification.

The 1996 Inventory, based on a compilation of 60 individual 305(b) reports submitted by States, Tribes, and Territories, assessed the following percentages of total waters nationwide: 19 percent of river and stream miles; 40 percent of lake, pond, and reservoir acres; 72 percent of estuary square miles; and 6 percent of ocean shoreline waters. The 1996 Inventory indicated that approximately 40 percent of the Nation's assessed rivers, lakes, and estuaries are impaired. Waterbodies deemed as "impaired" are either partially supporting designated uses or not supporting designated uses. The 1996 Inventory also found urban runoff/discharges from storm sewers to be a major source of water quality impairment nationwide. Urban runoff/storm sewers were found to be a source of pollution in 13 percent of impaired rivers; 21 percent of impaired lakes, ponds, and reservoirs; and 45 percent of impaired estuaries (second only to industrial discharges). Additionally, urban runoff was found to be the leading cause of ocean impairment for those ocean miles surveyed.

In addition, a recent USGS study of urban watersheds across the United States has revealed a link between urban development and contamination of local waterbodies. The study found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion of wood, grass, and fossil fuels), in the reservoirs of urbanized watersheds[15].

In addition to the large-scale nationwide studies and assessments, a number of local and watershed-based studies from across the country have documented the detrimental effects of urban storm water runoff on water quality. A study of urban streams in Milwaukee County, Wisconsin found local streams to be highly degraded due primarily to urban runoff, while three studies in the Atlanta, Georgia region were characterized as being, "the first documentation in the Southeast of the strong negative relationship

between urbanization and stream quality that has been observed in other ecoregions"[16]. Several other studies, including those performed in Arizona (*Maricopa County*), California (*San Jose's Coyote Creek*), Massachusetts (*Green River*), Virginia (*Tuckahoe Creek*), and Washington (*Puget Sound lowland ecoregion*), all had the same finding: runoff from urban areas greatly impair stream ecology and the health of aquatic life; the more heavily developed the area, the more detrimental the effects[17]. Pitt and others also described the receiving water effects on aquatic organisms associated with urban runoff[18]. In Wisconsin runoff samples were collected from streets, parking lots, roofs, driveways, and lawns. Source areas were broken up into residential, commercial, and industrial. Geometric mean concentration data for residential areas included total solids of about 500-800 mg/L from streets and 600 mg/L from lawns. Fecal coliform data from residential areas ranged from 34,000 to 92,000 cfu/100 mL for streets and driveways. Contaminant concentration data from commercial and industrial source areas were lower for total solids and fecal coliform, but higher for total zinc[19,20]. A number of other studies have indicated that urban roadways often contain significant quantities of metal elements and solids[21].

Automotive service stations have been characterized as potential "hot spots" for hydrocarbon pollutants and heavy metals in urban storm water discharges[22]. In an urban area, **industrial and commercial activities** can also be considered hot spots as sources of pollutants[23]. Urban storm water also can contribute significant amounts of toxicants to receiving waters. Pitt et. al., found heavy metal concentrations in the majority of samples analyzed. Industrial or commercial areas were likely to be the most significant pollutant source areas[24].

Wet weather flows have been recognized as the primary sources of estuarine pollution in coastal communities. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows have become the largest causes of beach closings in the United States in the past years. Storm water discharges from urban areas not only pose a threat to the ecological environment, they also can substantially affect human health. A survey of coastal and Great Lakes communities reports that in 1998, more than 1,500 beach closings and advisories were associated with storm water runoff[25]. Other reports also document public health, shellfish bed, and habitat impacts from storm water runoff, including more than 823 beach closings/advisories issued in 1995 and more than 407 beach closing/advisories issued in 1996 due to urban runoff[26].

The studies and research performed in the Southern California area, including Los Angeles County, show the similar impacts of polluted urban runoff on the local receiving waters, with significant impacts on the health of the environment and local economy. The "Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay", concluded that there is a 57 percent higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains[27]. This and other studies document a relationship between gastrointestinal illness in swimmers and water quality, the latter of which can be heavily compromised by polluted storm water discharges. Other impacts on the Santa Monica Bay from the discharge of polluted storm water runoff have been documented[28].

In addition, the situation analysis of the "Los Angeles County Five-Year Public Education Overview" concluded:

Even after a generation of fighting water pollution, studies show the danger of illness to people swimming in waters near urban storm drain outfalls. The urban runoff that drains into the County's storm channels first litters and contaminates neighborhood streets and walks. Litter, fertilizers, pesticides, automobile soot and oil drippings, pet waste, and deteriorating leaves and plant debris not only make our communities unattractive, but also are swept untreated down the storm drains into our waterways...In total, the impacts of stormwater/urban runoff pollution encompass:

- losses to the County's $2 billion a year tourism economy
- health risks associated with swimming in areas near storm drain outfalls
- loss of recreational resources
- dramatic cost increases for cleaning up contaminated sediments
- impaired function and vitality of our natural resources
- losses to Southern California's commercial and sportfishing industry
- contamination to marine life[29].

III. Responsibility of Municipal Operators of Large and Medium Municipal Separate Storm Sewer Systems

The water quality impacts of urban runoff are well documented and identified as a leading cause of receiving water beneficial uses impairments. Many States and Municipalities in cooperation with U.S. EPA moved aggressively to control the sources of pollution within the framework of the NPDES permitting system and through other non-point source programs.

A. Role of Municipal Operator

As early as the promulgation of the 1990 Phase I storm water regulations, U.S. EPA clearly defined the roles and identified the responsibilities of all parties involved in the permitting process. Early on, the agency envisioned a partnership, a cooperative approach between U.S. EPA, States and Municipalities, recognizing that only through a coordinated effort will the difficult and complex issues of diffuse pollution be addressed appropriately. In the preamble to the 1990 Phase I storm water regulations, the agency stated that the:

> ...EPA still believes that municipal operators of large and medium municipal systems have an important role in **source identification** and the **development of pollutant controls for industries** that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because **storm water from industrial facilities may be a major contributor of pollutants** to municipal separate storm sewer systems, **municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program**... EPA believes that the permitting of municipal storm sewer systems and the industrial discharges through them will act in a complimentary manner to

fully control the pollutants in those sewer systems. This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible.

U.S. EPA continued to clarify its intent for:

> "...[t]he permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, **address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity**. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system... In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system... Controls developed in management plans for municipal permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop **measures to reduce pollutants or halt** storm water discharges with high level of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designated to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water."

U.S. EPA reconfirmed its position in regard to the role of municipal operators of large and medium MS4s when it issued, in 1993 (58 FR 61146), the notice for the proposed multi-sector stormwater general permit for discharges of storm water associated with industrial activity (multi-sector permit).

In the Fact Sheet for the proposed multi-sector permit, U.S. EPA reiterated its position regarding the complimentary permit approach envisioned to address storm water discharges associated with industrial activity:

> "A second permit issued to the operator of the large or medium municipal storm sewer, establishes the **responsibilities** of the municipal operators in controlling pollutants from storm water associated with industrial activity which discharge through their system... The municipal storm water management programs that will be incorporated into NPDES permits for discharges from MS4s will generally address (in addition to other possible requirements) the following three major components:
>
> - Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers.
> - Reducing pollutants in construction site runoff through municipal separate storm sewers.
> - Identifying and controlling non-storm water discharges to municipal separate storm sewers...

> Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through MS4s **specifically will address municipal responsibilities in controlling pollutants from industrial facilities.**"

Recently, in its Storm Water Phase II Compliance Assistance Guide (Guide)[30], U.S. EPA restated and further clarified its intention regarding the integration of NPDES programs for storm water discharges: "...[t]he Phase I permits for MS4s mostly cover larger cities, and require them to develop a storm water management program, **track and oversee industrial facilities** regulated under the NPDES storm water program, conduct some monitoring, and submit periodic reports."

Furthermore, when referring to integration of NPDES program for construction (which is one of the eleven industrial categories addressed by the storm water program) with NPDES program for MS4s, the Guide specifies:

- "These are two **separate** and **distinct** construction programs.
- A construction operator is subject to requirements under **BOTH** programs if it is located in an NPDES-regulated MS4's jurisdiction."

In addition, the No Exposure Certification Form for Exclusion from NPDES Storm Water Permitting[31], includes in the certification section the following statements:

> "I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that **I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections** to confirm the condition of no exposure and to make such inspection reports publicly available upon request."

Once more, U.S. EPA clearly states its standpoint that NPDES permitting authority responsibilities are intertwined with those of the local agency.

It can be reasonably inferred from the regulatory record and actions that U.S. EPA clearly envisioned a dual coverage and a strong role and clear responsibilities for the municipal operator in controlling pollutants from industrial sites as distinct from the activities required by the NPDES permitting agency. However, activities required by both entities should be coordinated and integrated as much as possible to achieve to common goal of effectively controlling and reducing the discharge of pollutants into the storm water runoff.

B. Legal Authority

40 CFR §122.26(d)(2)(i) ***Adequate legal authority.*** A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:
(A) Control through ordinance, permit, contract, order or similar means, the **contribution of pollutants to the municipal storm sewer by storm water discharges associated**

with industrial activity and the quality of storm water discharged from sites of industrial activity;
(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;
(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;
(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;
(E) Require compliance with conditions in ordinances, permits, contracts or orders; and
(F) **Carry out all inspection, surveillance** and monitoring procedures necessary to determine compliance and noncompliance with permit conditions **including** the prohibition on illicit discharges to the municipal separate storm sewer.

40 CFR §122.26(d)(2)(iv)(A)(*5*) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for **inspections** and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section);

40 CFR §122.26(d)(2)(iv)(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), **and industrial facilities** that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:
(*1*) **Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;**...

In its Guidance Manual[32] U.S. EPA explicitly states on what the municipalities must achieve: "The municipality, as a permittee, is responsible for compliance with its permit and must have the authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to **hold dischargers accountable for their contributions** to separate storm sewers."

The Guidance Manual provides more clarification in regard to the extent of facilities that must be addressed and the link that must be made with the potential sources of pollutants: "However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**... [t]he Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization

components), but ***are identified as a high priority*** under the proposed management program." It can be concluded that the scheme envisioned by the regulations do not only address industrial sites covered under the definition of storm water discharge associated with industrial activity, but depending on the identified significant sources contributing pollutants to the storm water runoff, other types of industrial facilities, such as commercial, must be addressed in the municipal program to inspect facilities contributing pollutants to the municipal separate storm drain system.

Many existing permits issued by U.S. EPA or authorized States, nationwide, already include these kind of requirements and municipalities are actively implementing them.[33] Regional Boards in California also issued MS4 permits requiring a program for inspections at industrial or commercial facilities.[34] Municipalities used a large spectrum of methods and innovative ways to implement the inspection program, and many local jurisdictions have the adequate required legal authority or have adopted ordinances giving them the necessary legal authority. Even smaller cities, to be covered under Phase II, not required to obtain the legal authorities for inspections as yet, decided to pass ordinances giving them the necessary authority for the implementation of the storm water program, including the authority to inspect industrial or commercial facilities and adopt and impose BMPs.[35]

As early as 1993, U.S. EPA Region 9, clarified the role of municipalities in addressing industrial sources.[36] More recently the same position was restated.[37] Regional Board's position, starting with the 1990 MS4 Permit was that an inspection program was required in the municipal storm water permit and was supported by the legal analysis provided by the State Board's Office of Chief Counsel[38].

C. Source Identification

40 CFR §122.26(d)(2)(ii). Source Identification... *Provide an inventory, organized by watershed of the name and address, and a description (such as SIC Codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.*

A very careful consideration was given to the issue of the pollutant sources in storm water discharges through MS4s and the control of those pollutant sources. The Agency continued to discuss and describe its intent of the elements needed to be addressed by a municipality through the application process in regards to the sources that contribute pollutants to the municipal storm sewers. Under the source identification heading in the preamble to the 1990 Phase I storm water regulations, U.S. EPA stated that, "...**the identification of sources which contribute pollutants** to municipal separate storm sewers is a **critical step** in characterizing **the nature and extent of pollutants in discharges** and in **developing appropriate control measures**." The agency expands the scope of the source identification concept leaving it general instead of focusing on any particular area, such as industrial, commercial, residential, roadways, etc., but linking it to the existing water quality problems. It is clear that the intent of the agency was to draw the attention of applicants to addressing, in a flexible way, the real issues and focus their limited resources on controlling the most problematic sources:

> "...**source identification** can be useful for providing **an analysis of pollutant source contribution** and for **identifying the relationship between pollutant**

sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm sewer system to support **a targeted approach to control pollutant sources**."

The agency continues to comment and clarify the provisions under the application requirements of the regulations:

> "...Part 1 of the application will also include: [...]**the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities** which discharge storm water to the municipal storm sewer system;...Part 2 of the application will supplement the information reported in part 1 of the application so that,[...]municipal or public entities responsible for and obtaining an NPDES permit will be required to **identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water with industrial activity into a large or medium municipal separate storm sewer system**. Requiring **these source identification measures is supported by the legislative history of section 405 of the WQA**, which instructs that '[i]n writing **any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge.**'[39]"

In answering some of the comments regarding the value of source identification information, the agency responded:

> [..]the **source identification** information serves several purposes. It is the first step for **identifying potential sources of pollutants** from which more in depth analysis can be accomplished...The **source identification component** of the municipal application also requires that **municipal applicants identify the industrial activity within the drainage area associated with each major outfall**...[A]pplicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility.

D. Los Angeles MS4 Permittees Compliance Efforts

The Permittees covered under the Los Angeles MS4 permit addressed the element of source identification and prioritization through compliance with the requirements of the 1996 permit (Board Order No. 96-054). The Critical Source Selection and Monitoring Report (Critical Source Report), identified 30 categories of industrial and commercial activities that may impact the quality of the stormwater runoff discharged to the MS4[40]. The study also ranked the critical sources on the basis of potential impact and proposed a Critical Source/BMP Monitoring program at the five highest ranked facility types: (i)

wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products.

At the same time, the Permittees, under the coordination of the Los Angeles County Department of Public Works, compiled, in 1997, a facilities database for the MS4 program identifying approximately 58,000 facilities that could have been potentially addressed by the public education site visit program. Out of the total universe of 58,000 facilities identified by their SIC Code, 21,000 were food or food related establishments. The 36,000 remaining facilities were in industrial/commercial sectors. An updated review of the potential number of facilities within the LA MS4 area, identified in the 30 industrial/commercial sectors Critical Source Report (not including food establishments), revealed that the number of facilities can be as high as 26,300 sites as of 2001. The survey was performed with the help of the Los Angeles City Stormwater Management Division staff. A significant portion of the total number of facilities, up to 60%, may be located within the City of Los Angeles boundaries. The SIC Code system proved to be inadequate in identifying the correct type of activity performed on-site, and also a significant number of facilities may not have activities or materials exposed to stormwater, which will make the actual number of sites potentially addressed through the municipal stormwater program much smaller than predicted.

The results of the Critical Source/BMP Monitoring program confirmed that the five highest ranking activities indeed contribute significant quantities of pollutants and source control BMPs alone were not effective in reducing the amount of pollutants into the stormwater runoff. The majority of the sampling results were in excess of the Criteria for Priority Toxic Pollutants for the State of California.[41] However, since the implementation of the source control BMPs was voluntary, the study could not determine with certainty that the apparent failure was due to the inefficacy of the BMPs or the lack of proper implementation.[42]

Furthermore, the Research Report on Issues, Pollutants and Materials[43](Research Report) accomplishes a comprehensive analysis of sources of pollutants, generation and receiving water impacts. The Research Report puts in a concise form and creates the link between typical pollutant sources, pollutants found in the County's waterbodies, pollutant of concerns for each Watershed Management Area and pollutants of concerns detected through previous monitoring. The Research Report clearly identifies the targeted pollutants: (i) heavy metals, (ii) oil and grease/PAHs, (iii) sediments, (iv) oxygen demanding substances, (v) litter/trash/debris, (vi) nutrients, (vii) other toxic materials, such as pesticides.[43] The Research Report confirms once again that the urban environment in the Los Angeles area is similar to the other urban areas in the nation when it comes to stormwater runoff characterization and receiving water impacts. The Los Angeles area is probably unique due to the highly industrialized and vast area served by an interconnected storm sewer system unlike any other in the nation. But that makes it even more imperative that significant efforts must be allocated in order to control the discharge of pollutants in the urban runoff.

CONCLUSION

From the record and all the studies referenced in this report it is evident that an inspection program at industrial and commercial facilities is not only required under the storm water

regulations but it is an essential component to control the contribution of pollutants from industrial or commercial facilities into storm water discharges through the municipal storm drain system. This inspection program is separate and in addition to the program administered by the Regional Board, and the municipalities have a clear responsibility to perform them.

The dual coverage is intended in the regulations, in order to maximize the use of limited resources at the State and local level, and assure through active coordination that significant sources of pollutants are not overlooked or missed due to lack of legal authority.

The Permittees under the Los Angeles MS4 Permit have made great strides in preparing the ground work for next phase of implementation: they performed a comprehensive source identification study confirmed by the monitoring results, the Regional Board approved the minimum menu of BMPs presented by the Permittees and they already put facilities on notice and performed the educational part through the site visits effort.

The introduction of the inspection program in the new MS4 permit is not capricious or arbitrary but based on facts. It utilizes tools already developed by Permittees and follows a widespread precedent in MS4 permits nationwide and in California.

Selected References

Requirement	Reference
"Today's rule also requires the municipal storm sewer permittee to describe **a program to address industrial discharges** that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges..., provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal storm sewer system, **identify priorities and procedures for inspections**, and **establish and implement control measures for such discharges."**	Final Rule (Federal Register, Vol. 55, p. 48056)
Part 2 application requirement: [The applicant must demonstrate that it can control through] Adequate Legal Authority which authorizes or enables at a minimum to: **Control** through **ordinance, permit, contract, order or similar means**, the **contribution of pollutants** to the municipal storm sewer by **storm water discharges associated with industrial activity** and the quality of **storm water discharged from sites of industrial activity**;	40 CFR 122.26(d)(2)(i)(A)
Carry out all inspection, surveillance and **monitoring** procedures necessary to **determine compliance and noncompliance** with **permit conditions *including*** the prohibition on illicit discharges to the municipal separate storm sewer.	40 CFR 122.26(d)(2)(i)(F)
In part 2 of the application, municipal applicants **must demonstrate** that **they now possess adequate legal authority** to: • **Control** construction site and **other industrial discharges** to the MS4;... • **Control potential sources of pollutants from discharges to or from** coapplicants' MS4s, or MS4s that are interconnected or shared with other entities;... • **Carry out inspection, surveillance, and monitoring** procedures.	Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (Guidance Manual) USEPA 1992 Pag. 3-1
"Control"[...] means not only to require disclosure of information, but **also** to **limit, discourage, or terminate** a storm water discharge to the MS4.	Guidance Manual pag. 3-1
However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**.	Guidance Manual pag. 3-1
In their part 2 applications, municipalities must propose programs to **control** the contributions of pollutants from industrial facilities **and prohibit** illicit discharges. For **both** of these activities, municipalities **must have the legal authority** to **carry out inspection, surveillance, and monitoring** procedures necessary to **determine compliance**.	Guidance Manual pag. 3-3
In their part 2 applications, municipalities should provide documentation of **their authority to enter, sample, inspect, review, and copy records,** etc. as well as demonstrate their authority to require regular reports.	Guidance Manual pag. 3-3
A description of **a program** to **monitor and control pollutants** in storm water discharges to municipal systems from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the**	40 CFR 122.26(d)(2)(iv)(C)

Requirement	Reference
Superfund Amendments and Reauthorization Act of 1986 (SARA), and ***industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading*** to the municipal storm sewer system. The program **shall:** (1) **Identify priorities and procedures for inspections** and **establishing and implementing control measures** for such discharges;	
NPDES permits for MS4s will establish *responsibilities* for municipal system operators to control pollutants from industrial storm water discharged through their system.	Guidance Manual pag. 6-16
Proposed storm water management programs must address the reduction of pollutants in storm water discharges from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, facilities subject to SARA Title III;** and ***other priority industrial facilities***, as determined by the applicant. **Municipalities should consider** the information gathered for [..] the part 2 application **(particularly the Source Identification and Characterization Data** components) when prioritizing storm water discharges from these sites.	Guidance Manual pag. 6-16
In part 2 application, the Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization components), but ***are identified as a high priority*** under the proposed management program.	Guidance Manual pag. 6-16 [Commercial Sites]
The municipality is **ultimately responsible** for discharges from their MS4. Consequently, the proposed storm water management program should describe how **the municipality will help** EPA and authorized NPDES States: • **Identify priority industries** discharging to their systems; • **Review and evaluate storm water pollution prevention plans and other procedures that industrial facilities must develop under general or individual permits;** • **Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them);** and • ***Inspect*** **and monitor industrial facilities *to verify* that the industries discharging storm water to the municipal systems *are in compliance with their NPDES storm water permit,*** if required.	Guidance Manual pag. 6-17
At a minimum, priority facilities include: • Operating and closed municipal landfills; • Hazardous waste treatment, disposal or recovery facilities; and • Facilities subject to SARA Title III.	Guidance Manual pag. 6-17

Requirement	Reference
Municipalities must identify these **and *other priority industrial facilities* and describe the criteria used to identify them.** For example, information from the Toxics Release Inventory is one source a municipality could use to identify industrial facilities subject to SARA Title III. **Other sources** may include CWA Section 205 or 208 use-attainability studies, other studies that **indicate a site-specific beneficial use impairment immediately downstream of a storm water outfall**, or **records of industrial pretreatment programs or other permit programs that identify facilities that may be the source of a use impairment or a major contribution of pollutants.** The program should also describe procedures for modifying the inventory of priority industries based on **additional evaluation** that occurs throughout the permit term.	
During the term of the permit, as additional information becomes available, **the municipality should target and set priorities for other program elements** that emerge.	Guidance Manual pag. 6-18
As noted above, when identifying priority sites, applicants must consider all the facilities listed in 122.26(d)(2)(iv)(C)(1). When municipalities develop criteria for **identifying additional priority industrial facilities**, they are advised to consider, **at a minimum:** • The **type of industrial activity** (SIC codes can help characterize the type of industrial activity); • The **use and management of chemicals or raw products** at the facility and **the likelihood** that storm water discharge from the site **will be contaminated**; and • The **size and location of the facility in relation to sensitive watersheds.**	Guidance Manual pag. 6-18
The proposed management program **must include procedures for inspecting priority industrial sites.** The results of inspection may be used as a basis for **requiring storm water management controls and enhanced pollution prevention measures.** It should also establish an **inspection schedule** for each priority facility at the time it is identified.	Guidance Manual pag. 6-18
Applicants also should describe a procedure for **conducting follow-up inspections**, where necessary, as part of this program component. For example, follow-up inspections **might be needed to verify the installation of a specific control or implementation of a practice specified** in a negotiated agreement between the municipality and the industrial site. A system-wide approach to establishing priorities for inspection procedures is recommended. The system-wide approach should begin with the evaluation of existing information, followed by the identification and evaluation of new information during the permit term. Therefore, applicants **should link** these procedures with information from the Source Identification and Discharge Characterization components.	Guidance Manual pag. 6-19
A municipality **must consider** if it **should place more stringent controls on discharges associated with industrial activity than are required in an industrial facility's existing NPDES storm water**	Guidance Manual pag. 6-19

Requirement	Reference
permit.	
Priority industrial facilities should focus on controlling activities such as the use, storage, and handling of toxic chemicals. Standard methods for implementing control measures at different types of facilities should be described. To facilitate this, municipalities **should obtain copies of the pollution prevention plans developed by industrial permittees. Control measures** that the municipality **may suggest include preventing exposure of pollutant sources to precipitation, on-site pretreatment, and oil/water separators.**	Guidance Manual pag. 6-19
The proposed management program **should describe the inspection procedures that will be followed. Storm water inspections can be coupled with inspections for other purposes** (e.g., pretreatment programs, fire and safety). Proposed management **programs should address minimum frequency for routine inspections.** For example, **how often, how much of the site, and how long an inspection may take** are appropriate to explain in this proposed management program component. Applicants should also describe **procedures for conducting inspections and provide an inspector's checklist.** In addition, these inspection procedures should identify the **minimum number of inspectors** that will be employed and **describe the programs to train them.**	Guidance Manual pag. 6-19
Municipalities are **urged to *evaluate* pollution prevention plans and discharge monitoring data collected by the industrial facility to *ensure* that the facility is *in compliance with its NPDES storm water permit. Site inspections* should include (1) *an evaluation of the pollution prevention plan*** and any other pertinent documents, **and (2) an *on-site visual inspection of the facility*** to ***evaluate the potential*** **for *discharges of contaminated storm water*** from the site and ***to assess the effectiveness of the pollution prevention plan.***	Guidance Manual pag. 6-20
On November 16, 1990 (55 FR 47990), EPA promulgated a permitting scheme where controls for storm water discharges associated with industrial activity through large and medium municipal separate storm sewer systems may be addressed by two permits issued in a coordinated manner. This complementary permit approach envisions cooperative efforts by the permit issuing agency and municipal operators of large and medium municipal separate storm sewer systems to develop programs that will result in controls on pollutants in storm water discharges associated with industrial activity which discharge through municipal systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Under the complementary permit approach, storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems are required to obtain permit coverage. Permits for these discharges will establish requirements (such as controls or monitoring) for industrial operators of the discharge into the municipal system. In addition, these permits provide a basis for enforcement actions directly against the owner or operator of storm water discharges associated with industrial activity.	Federal Register, Vol. 58, No. 222 pag. 61158
A second permit, issued to the operator of the large or medium municipal separate storm sewer, establishes the responsibilities of the	Federal Register, Vol. 58, No. 222 pag. 61158

Requirement	Reference
municipal operators in controlling pollutants from storm water associated with industrial activity which discharges through their system. The framework for permits for discharges from large and medium municipal separate storm sewer systems has been developed to establish the responsibilities of the municipals systems.	
At the heart of the permit program for discharges from municipal separate storm sewer systems serving a population of 100,000 or more are requirements that municipal applicants develop and implement municipal storm water management programs.	Federal Register, Vol. 58, No. 222 pag. 61158
The municipal storm water management programs that will be incorporated into NPDES permits for discharges from municipal separate storm sewer systems will generally address (in addition to other possible requirements) the following three major components: • Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage, and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers. • Reducing pollutants in construction site runoff through municipal separate storm sewers. • Identifying and controlling non-storm water discharges to municipal separate storm sewer systems. These components of a municipal program can initiate the role of the municipality in assisting EPA and authorized NPDES States in implementing controls to reduce pollutants in storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through municipal separate storm sewer systems specifically will address municipal responsibilities in controlling pollutants from industrial facilities.	Federal Register, Vol. 58, No. 222 pag. 61158
EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system.	Federal Register, Vol. 55, No. 222 pag. 47997-98
Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The	Federal Register, Vol. 55, No. 222 pag. 47998

Requirement	Reference
notification procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water, the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.	
EPA also expressed its belief, based upon an analysis of ordinance controlling construction site runoff in places in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule.	Federal Register, Vol. 55, No. 222 pag. 47998
Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers.	Federal Register, Vol. 55, No. 222 pag. 47998
In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits.	Federal Register, Vol. 55, No. 222 pag. 48000
Although today's rule will require industrial discharges through municipal storm sewers to be covered by a separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate.	Federal Register, Vol. 55, No. 222 pag. 48000
Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program.	Federal Register, Vol. 55, No. 222 pag. 48000
The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal.	Federal Register, Vol. 55, No. 222 pag. 48000
As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.	Federal Register, Vol. 55, No. 222 pag. 48000
Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal	Federal Register, Vol. 55, No. 222 pag. 48000

Requirement	Reference
systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.	
EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems.	Federal Register, Vol. 55, No. 222 pag. 48000
This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.	Federal Register, Vol. 55, No. 222 pag. 48000-01
In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system.	Federal Register, Vol. 55, No. 222 pag. 48001

Endnotes:

[1] *Results of the Nationwide Urban Runoff Program, Volume 1--Final Report.* Office of Water. U.S. EPA. 1983.

[2] *"Urban Storm Water Quality: Summary of Contaminant Data." Critical Reviews in Environmental Science and Technology 25(2):93-139.* Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995.

[3] *U.S. Geological Survey Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States. Report No. 85- 337 USGS.* Driver, N.E., M.H. Mustard, R.B. Rhinesmith, and R.F. Middleburg. *Lakewood, CO.* 1985.

[4] *Evaluation of Pollutant Loads from Urban Nonpoint Sources. Wat. Sci. Tech. 22(10/ 11):23-30* Marsalek, J. 1990.; Makepeace, et al., 1995 (see endnote 2).

[5] See Makepeace, et al., 1995 (endnote 2); Marsalek, 1990(see endnote 4); and Pitt, et al., 1995

[6] *Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001.* Office of Water. Washington, DC. U.S. EPA. 1992.

[7] *First Flush of Stormwater Pollutants Investigated in Texas." Note 28. Watershed Protection Techniques 1(2).* Schueler, T.R. 1994.

[8] U.S. EPA, 1992 (See endnote 6).

[9] *Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97- 009.* Office of Water. Washington, DC. U.S. EPA, 1997.

[10] *Quality Indices for Urbanization Effects in Puget Sound Lowland Streams; Technical Report No. 154. University of Washington Water Resources Series.* May, C.W., E.B. Welch, R.R. Horner, J.R. Karr, and B.W. May. 1997.

[11] *The Importance of Imperviousness. Watershed Protection Techniques 1(3).* Schueler, T.R. 1994.; *Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion. Watershed Protection Techniques 2(4).* May, C., R.R. Horner, J.R. Karr, B.W. Mar, and E.B. Welch. 1997.; *Assessing the Status of Aquatic Life Designated Uses in Urban and Suburban Watersheds. In*

Proceedings: National Conference on Retrofits Opportunities in Urban Environments. EPA 625-R-99-002, Washington, DC. Yoder, C.O., R.J. Miltner, and D. White. 1999.;
Assessing Biological Quality and Limitations to Biological Potential in Urban and Suburban Watersheds in Ohio. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers, Auckland, New Zealand. Yoder, C.O and R.J. Miltner. 1999.

[12] Schueler, T.R. 1994 (See endnote 11).

[13] *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation. The Environmental Professional, Vol. 14.* Cohn-Lee, R. and D. Cameron. 1992.

[14] *The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R- 97-008. Office of Water. Washington, DC.* U.S. EPA. 1998.

[15] *Research Reveals Link Between Development and Contamination in Urban Watersheds. USGS news release. USGS National Water-Quality Assessment Program.* U.S. Geological Survey 1998.

[16] *Impacts of Storm Water Runoff on Urban Streams in Milwaukee County, Wisconsin. Paper presented at National Symposium on Water Quality: American Water Resources Association.* Masterson, J. and R. Bannerman. 1994.;
Fish Dynamics in Urban Streams Near Atlanta, Georgia. Technical Note 94. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.

[17] *Selected Chemical Characteristics and Acute Toxicity of Urban Stormwater, Streamflow, and Bed Material, Maricopa County, Arizona. Water Resources Investigations Report 95-4074.* USGS Lopes, T. and K. Fossum. 1995.;
Effects of Urban Runoff on Aquatic Biota." In Handbook of Ecotoxicology. Pitt, R. 1995.;
Ecological Effects of Urban Stormwater Runoff on Benthic Macroinvertebrates Inhabiting the Green River, Massachusetts. Completion Report Project No. A-094. Water Resources Research Center. University of Massachusetts at Amherst. Pratt, J. and R. Coler. 1979.;
Historical Change in a Warmwater Fish Community in an Urbanizing Watershed. Technical Note 93. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.;
May, C., et.al. 1997 (See endnote 11).

[18] *Biological Effects of Urban Runoff Discharges.* Pitt, R.E. 1995. *In Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment,* ed. E.E Herricks, Lewis Publishers; Crunkilton, R., J. Kleist, D. Bierman, J. Ramcheck, and W. DeVita. 1999.;
Importance of Toxicity as a Factor Controlling the Distribution of Aquatic Organisms in an Urban Stream. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers. Auckland, New Zealand.

[19] *Sources of Pollutants in Wisconsin Stormwater. Wat. Sci. Tech. 28(3-5):241-59.* Bannerman, R.T., D.W. Owens, R.B. Dods, and N.J. Hornewer. 1993.

[20] *Basic Data on Urban Storm-Water Quality, Portland, Oregon* – USGS Open File Report 76-594 -1976

[21] *Partitioning and First Flush of Metals in Urban Roadway Storm Water. ASCE Journal of Environmental Engineering 123(2).* Sansalone, J.J. and S.G. Buchberger. 1997;
Physical Characteristics of Urban Roadway Solids Transported During Rain Events. ASCE Journal of Environmental Engineering 124(5). Sansalone, J.J., J.M. Koran, J.A. Smithson, and S.G. Buchberger. 1998.;
Sources of Metals in New York City Wastewater. J. Water Pollution Control Federation 46(12):2653-62. Klein, L.A., M. Lang, N. Nash, and S.L. Kirschner. 1974.;
A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction. Research Report 1943-1. Center for Transportation Research; University of Texas, Austin. Barrett, M.E, R.D. Zuber, E.R. Collins, J.F. Malina, R.J. Charbeneau, and G.H Ward., 1993.

[22] *Cars Are Leading Source of Metal Loads in California. Technical Note 13. Watershed Protection Techniques 1(1):28;*
Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program – Report to Congress. EPA 833-K-94-002;
Innovative Urban Wet-Weather Flow Management Systems. Technomic Publishing Co. Inc. Richard Field et. al. 2000.

[23] *Practical Pollution Prevention Emphasized for Industrial Stormwater. Technical Note 36. Watershed Protection Techniques 1(3):131-132.* L. Donald Duke.;

Santa Clara Valley Nonpoint Source Control Program. Source Identification and Control Report. 1992. Woodward Clyde Consultants;
Critical Source Selection and Monitoring Report prepared for Los Angeles County Department of Public Works. 1996. Woodward Clyde Consultants;
Water Quality of First Flush Runoff from 20 Industrial Sites. Water Environment Research 69 (3):305-310. D.E. Line et. al.;
Comparison of NPDES Program Findings for Selected Cities in United States. USGS Fact Sheet 192-97 January 1998;
Stormwater Runoff for Selected Watersheds in the Edwards Aquifer Recharge Zone, Bexar County USGS Fact Sheet 172-98 March 1999;
Quantity and Quality of Urban Stormwater Runoff from Selected Drainage Basins – Water-Resources Investigations Report 98-4168. 1998 USGS;
Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use. Fourth Biennial Stormwater Research Conference, Florida. Rabanal et al. 1995;
Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses. in Watershed '96 Proceedings – Baltimore. David L. Shepp, 1996;
Water Quality Of Storm Runoff And Comparison Of Procedures For Estimating Storm-Runoff Loads, Volume, Event-Mean Concentrations And The Mean Load For A Storm For Selected Properties And Constituents For Colorado Springs, Southeastern Colorado, 1992 – USGS Water-Resources Investigations Report 94-4194, 1995

[24] *Urban stormwater toxic pollutants: assessment, sources, and treatability. Water Environment Research, 67(3):260-75.* Pitt, R., R. Field, M. Lalor, M. Brown 1993.

[25] *A Guide to Water Quality at Vacation Beaches. New York, NY.* Natural Resources Defense Council. 1999.

[26] *Testing the Waters Volume VI: Who Knows What You're Getting Into. New York, NY.* Natural Resources Defense Council. 1996.;
Testing the Waters Volume VII: How Does Your Vacation Beach Rate. New York, NY. NRDC. 1997.;
Draining to the Ocean: The Effects of Stormwater Pollution on Coastal Waters. American Oceans Campaign, Santa Monica, CA. Morton, T. 1997.

[27] *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Final Report prepared for the Santa Monica Bay Restoration Project.* Haile, R.W., et. al. 1996.

[28] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994

[29] *County of Los Angeles Five-Year Stormwater Public Education Plan* 1996

[30] *EPA 833-R-00-002*, March 2000

[31] *NPDES Form 3510-11*

[32] *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* U.S. EPA 1992

[33] Broward County MS4, Palm Beach County MS4, Sarasota County MS4, issued by U.S. EPA Region 4, City of Tulsa MS4, Oklahoma City MS4, City of Corpus Christi MS4, City of Forth Worth MS4 issued by U.S. EPA Region 6, City of Seattle MS4 issued by Washington State Department of Ecology, City of Portland MS4 issued by the Oregon Department of Environmental Quality

[34] County of Santa Clara and co-permittees MS4 (issued 2001), San Diego County and co-permittees MS4 (issued 2001)

[35] *City of Monterey Stormwater Ordinance* 1997

[36] Letter from Eugene Bromley, Stormwater Coordinator U.S. EPA Region 9, to Maryann Jones Storm Water Section, California State Water Resources Control Board December 1993

[37] Letter from Alexis Strauss, Director Water Division, US EPA Region 9 to Dennis A. Dickerson in support of a municipal enforcement program for industrial sites included in the renewed MS4 Permit for LA County - December 2000;
Letter to James DeStefano, Interim City Manager – Diamond Bar, from Alexis Strauss, EPA Region 9 Water Division Director, regarding comments on the letter concerning inspection requirements – May 2001;
Letter from Christine Todd Whitman, U.S. EPA Administrator to The Honorable David Dreier, U.S. House of Representatives - July 2001

[38] Response To Comments Received On The December 18, 1995 Draft NPDES Permit For Municipal Storm Water And Urban Runoff Discharges Within The County Of Los Angeles - March 1996; Memorandum from Jorge A. Leon, Senior Staff Counsel, State Water Resources Control Board to Catheryne Tyrrell, Assistant Executive Officer Regional Board Los Angeles – April 1996

[39] Vol. 133 Cong.Rec. S733-02 (daily ed. Jan. 14, 1987).

[40] *The Critical Source Selection and Monitoring Report.* Woodward-Clyde Consultants prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997.

[41] *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (CTR),* 40 CFR 131.38.

[42] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.*

[43] *Research Report on Issues, Pollutants and Materials for the Stormwater/Urban Runoff Public Education Program.* Prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997

Proposed Renewal of the

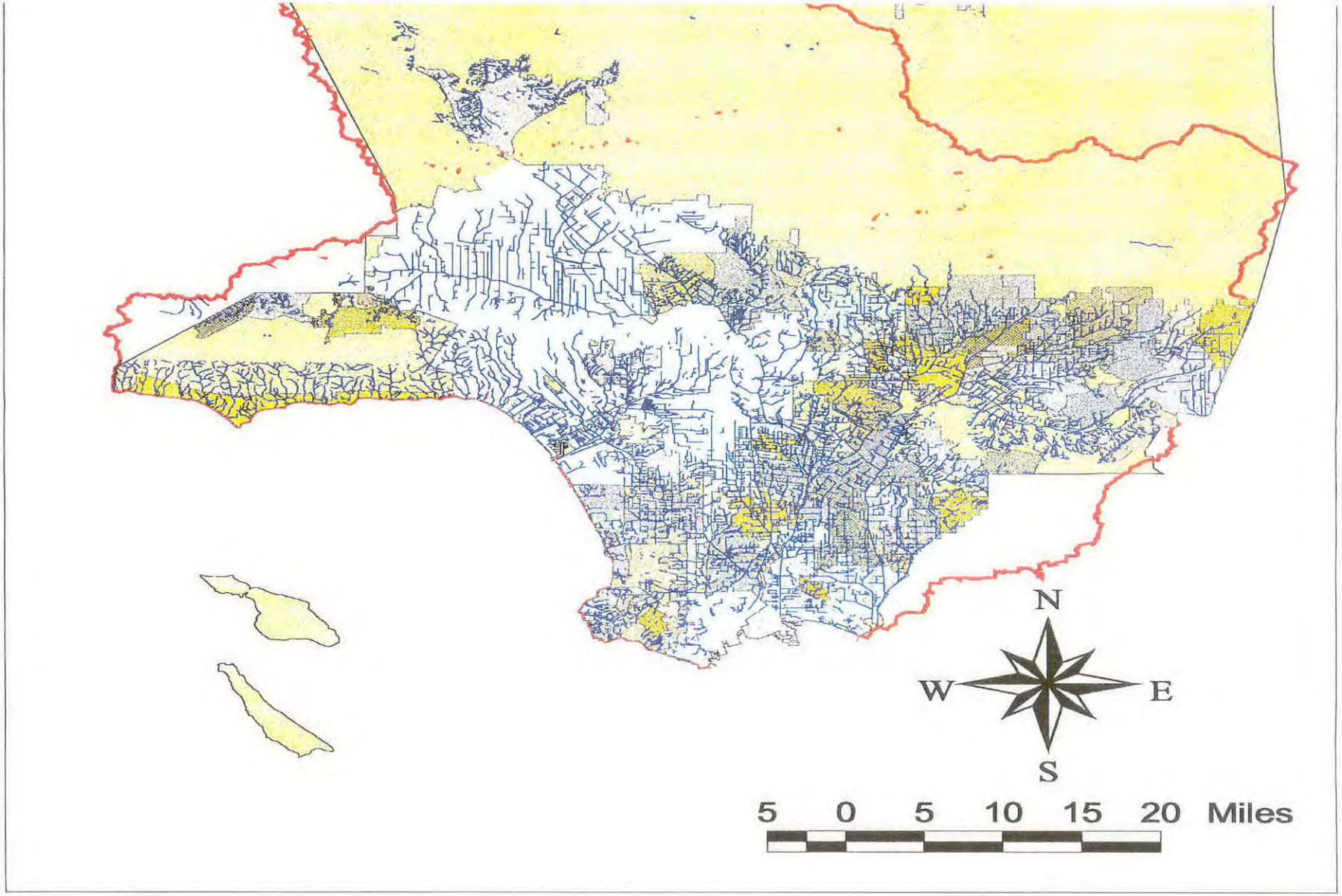
County of Los Angeles "Municipal Separate Storm Sewer System" (MS4) Permit

Regional Water Quality Control Board
Los Angeles Region
December 13, 2001

Proposed Action

- Adopt a renewed storm water permit after considering:
  - Staff Report and Legal Analysis
  - Comments from Permittees, the public, and other regulatory agencies.

R0007634



COUNTY MAINTAINED STORM DRAINS

R0007635

Permit History

- 1990: First permit (Order 90-079) issued.
  - Issued prior to finalization of US EPA Regulations.
  - Required Permittees to develop storm water ordinances, 13 BMPs, and initiate monitoring.
- 1996: Second (existing) permit (Order 96-054) issued.
  - Public/residential education - strong outreach program.
  - Industrial/commercial facilities - required "site educational visits" only.

Permit History (continued)

- 1999: City of Long Beach separated from the County-wide permit, when Regional Board issues a separate permit to Long Beach.
- 2000: Regional Board adopts "SUSMPs;" State Board largely upholds SUSMPs in a petition from 33 Permittees and other parties. Not upheld:
  - retail gasoline outlets (RGOs)
  - environmentally sensitive areas (ESAs)
  - ministerial projects

Renewal Process

- February 1, 2001: Permittees filed a Report of Waste Discharge.
- 3 drafts
  - » April 13th
  - » June 29th
  - » October 13th
- Outreach
  - 2 workshops
  - 2 US EPA-facilitated sessions on inspections.
  - Countless meetings, telephone calls, and emails.

Renewal Process (continued)

- Responded to numerous oral and written comments.
  - Change Sheet, dated December 4, 2001
- Late comments
  - Change Sheet, dated December 10, 2001
  - Change Sheet, dated December 12, 2001

Existing Permit (96-054) Accomplishments

- Public awareness has increased.
- Watershed-based monitoring initiated.
- Industrial and selected commercial facilities have been educated.

Permit Strategy

Add performance measures to the Storm Water Quality Management Plan (SQMP)

- to control industrial/commercial facilities: upgrade site education visits to inspections.
- to eliminate illicit connections/discharges: upgraded to match Long Beach requirements.
- to increase field presence on construction sites (threshold for inspections lowered to 1 acre).

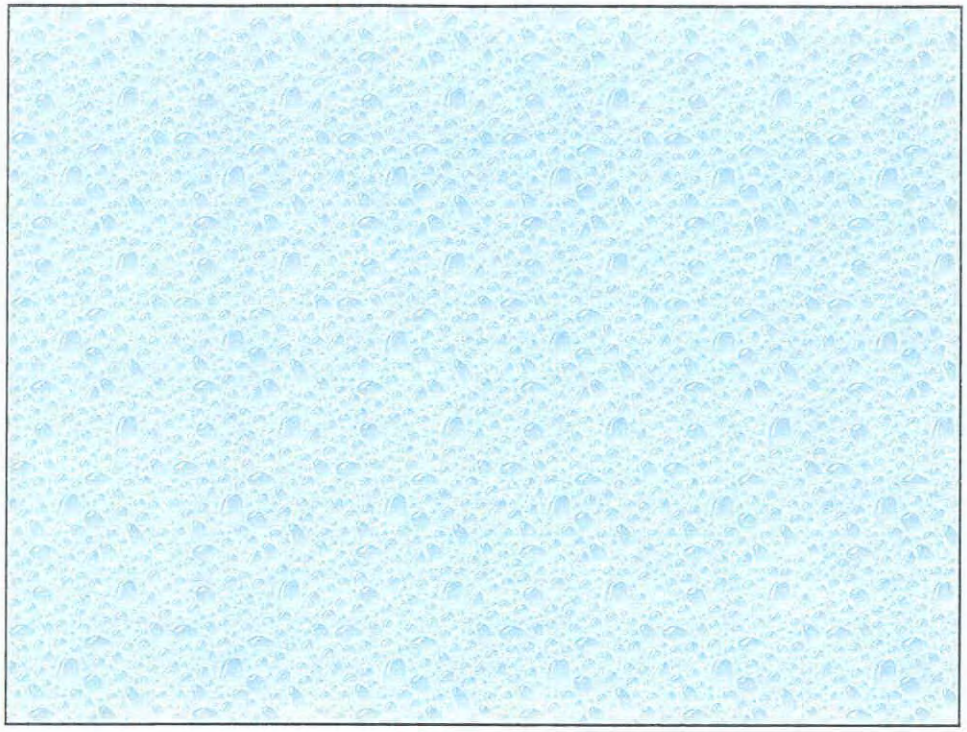
R0007638

Permit Strategy (continued)

- for Development Planning - expand scope of SUSMPs to apply to retail gasoline outlets (RGOs), Environmentally Sensitive Areas (ESAs), and ministerial projects.
- for TMDLs: automatically add allocations to permit, upon adoption of TMDL, without reopening.
- Enforcement: Eliminated a "Notice to Meet and Confer" before issuing a violation.

Objectives

- Non-storm water (i.e. dry weather) discharges to the storm drain: **prohibit.**
- Storm water: more effectively reduce pollutants, through source reduction and/or treatment.
- Based on monitoring results in receiving waters, upgrade BMPs through an "iterative" process.



Receiving Water Limitations

- **Standard for Compliance**
  - Require controls to reduce the discharge of pollutants to the maximum extent practicable
  - Shall not cause or contribute to violation of WQ standards and objectives
  - Shall not cause or contribute to a condition of nuisance
    - » CWA Section 402(p)(3)(B)(iii)
    - » CWA Section 301(b)(1) (c)
    - » CWC Section 13263 (a)
    - » *Defenders of Wildlife v Browner* (9th Cir. 1999)
    - » State Board Order 2000-15, *In Re*: BIA and WSPA (Nov. 15, 2001)
    - » Memo from Office of Chief Counsel dated Oct. 14, 1999.
    - » Memo from USEPA General Counsel dated Jan. 9, 1991

Public Information and Participation Program (PIPP)

- **Improves Current Program**
  - Increased coordination among Permittees
  - Pollutant-specific outreach
  - Principal Permittee to convene an advisory committee at least annually to receive input on PIPP implementation progress
  - Corporate Outreach Program to educate environmental managers of gas stations and restaurant chains
  - Encourages a voluntary Business Assistance Program to provide technical, non-enforcement assistance to small businesses

Development Planning Program

- **Regulatory Requirement**
  - implement and enforce controls for new development / significant redevelopment [40CFR 122.26 (d)(2)(iv)(A)(2)]
  - Develop peak discharge control criteria to prevent downstream erosion and protect habitat
  - Criteria applied to:
    - all developments meeting categories and thresholds
    - projects in environmentally sensitive areas
    - gas stations where size & traffic threshold exceeded
  - Criteria not applied to:
    - hillside homes less than 1 acre
    - routine maintenance activities

Development Planning Program

Industrial/ Commercial development threshold lowered [to 1 acre in 2003]

- Redevelopment definition clarified to cover replacement of building foot-print
- General Plan update [requires notice to Regional Board]
- Water Quality Flow criteria added for flow based BMP design
- Technical Guidance for Development Community

Development Planning Program

- **State Board SUSMP Decision (Order WQ 2000-11)**
  - Numerical design criteria appropriately identified
  - Categories identified are appropriate: commercial/ industrial development, housing development, restaurants, parking lots, automotive service facilities, and gas stations
  - Applicability to (i) ministerial projects and (ii) projects in environmentally sensitive areas set aside until supporting findings and justification are developed at permit reissuance
  - Applicability of numerical design criteria to gas stations set aside until thresholds and proper justification are developed
  - Encourages regional solutions
  - Endorses mitigation banking

Development Planning Program

- **Responsive Changes to SUSMP Decision**
  - Extends to ministerial projects [Finding B6; Agenda p B 279.]
  - Includes projects in ESAs which exceed thresholds [Agenda p B 333]
  - Establishes thresholds for gas stations (Agenda p B-334) [Findings B.10 and B.11; Agenda p B 281-282]
  - Includes provision for Regional Solutions [Agenda p B 336]
  - Encourages a mitigation banking framework [Agenda p B 337]

Development Construction Program

- **Regulatory Requirement**
  - Implement and maintain structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites [40CFR 122.26 (d)(2)(iv)(D)
- **All sites [regardless of size]**
  - Manage construction waste
  - Eliminate non-storm water discharges
  - Control Sediment
  - Minimize erosion
  - Limit grading during wet season

Development Construction Program

- **For sites 1 to 5 acres**
  - Require local SWPPP to ensure compliance with local ordinances and inspect to verify
  - Proof of coverage under the State General construction storm water permit and pollution prevention plan has been prepared [effective March 2003 per USEPA Phase II regulations, 64 *Fed. Reg.* 68722]
  - Keep record of grading permits issued

Development Construction Program

- **For sites 5 acres and greater:**
  - Require local SWPPP to ensure compliance with local ordinances and inspect to verify
  - Proof of coverage under the State General construction storm water permit and pollution prevention plan has been prepared
  - Keep record of grading permits issued

Public Agency Program

- **Regulatory Requirement**
  - Implement practices for operating and maintaining public streets, roads and highways to reduce impacts on receiving waters of discharges from the MS4 [40CFR 122.26 (d)(2)(iv)(A)(3)]
  - Implement procedures to assure that flood management projects assess impacts on water quality.... [40CFR 122.26 (d)(2)(iv)(A)(4)]
  - Implement a program to reduce pollutants in discharge from the MS4 associated with the application of pesticides, herbicide and fertilizer [40CFR 122.26 (d)(2)(iv)(A)(6)]

Public Agency Program

Continue current program with improvements:

- Site specific SWPPPs at maintenance/ repair facilities;
- Additional measures to control trash/ debris at special events;
- Prioritize catch-basins for clean-out on accumulation patterns
- BMPs for public development planning/ construction made equivalent to private development planning/ construction
- Protocol for pesticide application and storage;

Illicit Connections and Illicit Discharges (IC/ID)

- **Regulatory Requirement**
  - Implement a program, including a schedule, to detect and remove illicit discharges and improper disposal to the MS4 [40CFR 122.26 (d)(2)(iv)(A)(4)]
  - Conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated [40CFR 122.26 (d)(2)(iv)(B)(2)]
- **Move to an active program to eliminate illicit connections and illicit discharges**
  - Maintain a listing of permitted connections
  - Map illicit connections and illicit discharges
  - Screen for illicit connections and illicit discharges based on 1-5 year schedule

Storm Water Monitoring Program

- **Objectives:**
  - Assess permit compliance
  - Measure and improve SQMP effectiveness
  - Assess chemical, physical, and biological impacts of receiving waters from urban runoff
  - Characterize storm water discharges
  - Identify sources of pollutants
  - Assess overall health and long-term trends in receiving water quality
  - Provide information for TMDL development

Storm Water Monitoring Program

- **Enhanced Program**
  - Two new mass emission stations (Santa Clara River and Dominguez Channel)
  - Improved toxicity monitoring at mass emission stations
  - Tributary Monitoring
  - Shoreline Bacterial Pathogen Monitoring
  - Trash Monitoring (for TMDL Watersheds)
  - Sediment sampling in estuaries
  - Bioassessment
  - Peak Discharge Control Study
  - New Development Impact Study
  - BMP Effectiveness Study

Reporting Program

- **Improved Reporting**
  - Model Reporting Format (Attachment U-4)
  - Annual assessment of Storm Water Quality Management Program (SQMP) effectiveness on a watershed basis
  - Relate Monitoring Results to Storm Water Quality Management Program
  - Receiving Water Limitations Compliance Report - every other year once exceedances identified by Permittee or determined by Executive Officer

Tentative Permit

- **Changes from the 1996 Permit**
  - Includes State Board's Receiving Water Limitations
  - Includes provisions to enforce TMDLs without reopener
  - Eliminates the Notice of Intent to Meet and Confer provision
  - Requires inspection of industrial/ commercial facilities
  - Lowers the threshold for construction from 2 to I acre

Tentative Permit

- **Changes from the 1996 Permit**
  - Incorporates and extends new development (SUSMP) requirements
  - Requires a pro-active Illicit connection/ illicit discharges elimination program
  - Includes specific requirements for catch-basin cleaning and street sweeping to control trash.
  - Requires evaluation to reduce toxicity based on monitoring results

Edited Tentative

- **Findings**
  - Additional References [B278-292]
  - Relocation
- **Receiving Water Limitations**
  - Compliance Report submittal requested [B-294]
- **Storm Water Quality Management Plan**
  - Budget breakdown estimations accepted [B-297]
- **Public Information and Participation**
  - RB Executive Officer approval eliminated [B-301]

Edited Tentative

- **Industrial/ Commercial Inspection**
  - Version A/C included from USEPA facilitation [B324-330]
- **Development Planning**
  - For gas stations BMPs which endanger health & safety not appropriate [B-334]
- **Development Construction**
  - Referral terms for projects 5 acres or greater to Regional Board is clarified [B-341]

Edited Tentative

- **Public Agency Activities [cont'd]**
  - Requirements for new and existing facilities clearly distinguished [B-343]
  - Requirements for trash TMDL municipalities and non TMDL municipalities clearly distinguished. [B-345]
  - Street sweeping limited to curbed streets [B-347]

Edited Tentative - Definitions

- "Automotive Service" clarified to exclude facilities without outside exposure to storm water [B-351]
- "Construction"; "Development" and, Redevelopment" clarified to exclude routine maintenance activities [B-352, 357]
- "Inspection" clarified to include curb-side for restaurants [B-354]
- "Potable Water Distribution Systems Releases" clarified to exclude well-head waste water discharges
- "Screening" definition included

Edited Tentative

- **Monitoring**
  - Water column toxicity testing clarified [B-377]
  - Trash Monitoring limited to trash TMDL municipalities [B-382]

Edited Tentative - Timelines

- Local SQMP development extended from permit effective date to 6 months
- Peak flow control criteria implementation extended from 540 days to 3 years
- Implementation of SUSMP changes extended by 1 month
- Amendments to SUSMP codes/ ordinance provided 6 months
- Trash receptacles implementation extended from effective date to 6 months
- Treatment feasibility study extended by one year
- Industrial/ commercial inspections changed from once in 24 months to once in 30 months.

Inspection Program

Inspections

- Current permit (1996)
- Emphasis on education*
  - outreach materials
  - site visits, once every 24 months
    - Phase 1 facilities (designated heavy industrial sectors)
    - Automotive Service Facilities
    - Gas Stations
    - Restaurants

*Envisioned as an interim step, in response to Permittees' concerns about a more proactive approach.

Inspections

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    - Gas Stations
    - Restaurants

*Envisioned as an interim step, in response to Permittees' concerns about a more proactive approach.

Why Inspections are Appropriate

- The Permittees
  - identified critical source sites that contribute disproportionately to storm water pollution
- The NPDES Permit
  - envisions a partnership between the Regional Board and Permittees to advance the cause of pollution reduction
- Education Only Not Enough
  - education-only visits are simply not enough for all sites - inspections do make a difference
- Critical Source
  - many critical sources categorized by the Permittees are not inspected by Regional Board staff



Inspections - Options

- Three versions - *tentative draft*
  - Version A - modest inspection program
  - Version B - More comprehensive inspection program
  - Version C - The current "site education" program
- Mediation Outcome - Version A/C
  - Modified Version "B" reflecting comments of Permittees
  - Not "endorsed" by Permittees
  - Is a better version
  - Within the scope of an insignificant change

Inspection Universe

- Federally mandated facilities
  (40CFR 122.26(d)(2)(iv)(C) - Permittees are lead
- Phase 1 (2,600) - Regional Board is lead
- Critical Sources
  - Restaurants (20,000) - Local Health Depts are lead
  - Auto service (6,000) - Permittees are lead
  - Gas Stations (1,700) - Permittees are lead

Inspection Scope

- Frequency of inspections
  - Restaurants
    - twice in five years
  - Auto Service facilities
    - twice in five years
  - Retail Gas Outlets and Auto Dealers
    - twice in five years

Inspection Scope

- Level or intensity of inspections
  - Restaurants
    - Confirms BMPs being used via a checklist
  - Auto Service facilities
    - Confirms BMPs being used via a checklist
  - Retail Gas Outlets and Auto Dealers
    - Confirms BMPs being used via a checklist

Inspection Scope

- Frequency of inspections
  - Phase 1 Facilities (GIASPermittees and selected critical sources)
    - Tier 1 twice/five years
    - Tier 2 twice/five years, but
      - no additional inspections if no risk of exposure
      - once every five years if 20% of all Tier 2 facilities are inspected in any given year
  - Federally Mandated Facilities - twice/five years
- Facilities inspected by Regional Board staff are not required to be re-inspected by Permittees

Inspection Scope

- Level or intensity of inspections
  - Phase 1 Facilities (GIASPermittees)
    - Confirm NOI submitted and SWPPP in place, and confirm BMPs being used
  - Federally Mandated Facilities
    - Confirm NOI submitted and SWPPP in place, and confirm BMPs being used

Other Provisions

- Commitment to pursue progressive enforcement
  - Regional Board staff will take on difficult cases if there has been a "good faith" effort to obtain compliance
    - after two inspections and warning letters
    - more quickly for Phase 1 facilities
- Requires timely follow-up to complaints
- Requires support of Regional Board enforcement efforts
- Establishes a storm water enforcement task force

Inspections - Summary

- More aggressive approach needed to effect behavioral changes on the part of business, and to better protect water quality.
- Inspections need to address BMPs to prevent pollution - not just wait for an illicit discharge.
- Incremental workload between educational site visits and new inspection program should be minimal
- Shared responsibility for inspections will optimize scarce state and local resources, toward a better State and local partnership.

Conclusion

- Staff has responded to Board direction given in July 2001.
- Permit conforms to "floor" in the Long Beach permit.
- Permit is incrementally improved by adding requirements to inspect industrial and commercial sites, and to include storm water considerations in design of new and redeveoped projects, including RGOs, ESAs, and ministerial projects.
- Staff has diligently reached out to Permittees and stakeholders.

Recommendation

- Adopt the tentative permit with Option A/C for inspections.

Legal Comments

- Michael Lauffer, Staff Counsel

Costs may be Inflated.

- CalTrans estimate of $54 billion for capital improvements includes:
  - $6 billion in land acquisition costs (14,000 acres @ $435,000/acres)
- Permittees' estimates of $150 million/year
  - IC/ID analysis - costs per City ranged from $0 to $4.2 million
  - $114,000 average ($32,500 adjusted average)

Investment Needed to Support Economy

- $350 billion "Gross Metropolitan Product"
- $150 million / $350 billion = 0.0004

ADDITIONAL MATERIALS TO BE INCLUDED IN THE AGENDA PACKAGE

ITEM #: 10A, 10B, and 10H(2)

FROM: Xavier Swamikannu PHONE: (213) 576-6654

DATE: December 10, 2001

MESSAGE

1) Item 10A: Agenda Item – Please remove previous copy and replace with the attached revised version (pages A1-A34).

2) Item 10B:

a. **Tentative Permit (Edited Tentative Draft), dated December 10, 2001, should be inserted at page B-276. This version shows changes staff has made to the October 11, 2001 versions (clean version). These changes are editorial and clarification changes, many of which have been made in response to comments.**
b. **Draft Change Sheet, dated December 4, 2001, should be inserted starting at page B-438. This change sheet should replace the change sheet we sent you last week (without Board-agenda page numbers).**
c. **Additions to Draft Change Sheet, dated December 10, 2001, should be inserted at page B-455.**

3) Retail Gasoline Outlets (Supplement, revised December 10, 2001), should replace pages H-6 through H-11.

TO:

X ALL BOARD MEMBERS
DAVID NAHAI
CHRISTOPHER PAK
SUSAN M. CLOKE
BRADLEY MINDLIN
FRANCINE B. DIAMOND
ROBERT L. MILLER
TIMOTHY SHAHEEN
R. KEITH MCDONALD
JULIE BUCKNER-LEVY

X MICHAEL LAUFFER

X OTHER Executive Officers, Counsel, Section Chiefs,
Environmental Groups, Lead Staff

California Regional Water Quality Control Board, Los Angeles Region
448th Regularly-scheduled Meeting of December 3, 2001 (Los Angeles)

Item 10 (revised on December 10, 2001, as indicated by underlines and strikeouts)

Subject Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges, within the County of Los Angeles and the incorporated cities therein except for the City of Long Beach (hereafter referred to as the "municipal storm water permit" or "permit").

Purpose To conduct a public hearing on the proposed Municipal Separate Storm Sewer System (MS4) permit for Los Angeles County and incorporated cities therein except the City of Long Beach. The Regional Board at the meeting will consider adoption of the permit after receiving comment from Permittees, interested parties, and the public.

At a workshop on July 26, 2001, the Regional Board commented that the second draft permit was rather complete. Staff was asked to review the appropriateness of ambiguous terms in the second draft permit (such as "potential contribution"; "minimize"; "maximize", and "measurably") to ensure that permit requirements are enforceable, and issue a third draft in October for consideration at the November 29 Board Meeting. The tentative draft permit has been appropriately revised to be consistent with Regional Board direction. The Regional Board directed as follows:

- Ensure that the proposed permit requirements are at least as stringent as the Long Beach MS4 and Ventura County MS4 permits. Include specific language on trash Total Maximum Daily Loads (TMDLs) similar to the one in the Long Beach MS4 permit. Develop a strategy to get to compliance with water quality standards.

- Ensure that Best Management Practices (BMPs) being implemented are targeted to controlling particular pollutants of concern. Consider requiring permittees to enforce the Illicit Connection/ Illicit Discharges Elimination (ICID) programs with fines for illicit discharges and connections. Include an inspection program for gas stations in addition to outreach. Regional Board staff should upgrade their activities to monitor compliance and enforce implementation of the MS4 permit

R0007662

- Review the draft permit requirements for conflicts with other state and federal regulations such as air pollution [water and chemical stabilizers for dust control] fire code, health and safety etc.

- Provide justification for the development thresholds for projects in environmentally sensitive areas [2,500 sq. feet of impervious surface. Review the requirement to map MS4 discharge points relative to the cost of setting up such a system.

- Review the suggestions by the Santa Monica Bay Restoration Project (SMBRP) on monitoring and reporting for inclusion.

- Identify a contact person on Regional Board staff to provide and assist in information on funding sources. Convene an advisory committee on the public information and participation program before the November public hearing.

Background

The storm drain system regulated by the Board is principally owned and operated by the Los Angeles County Flood Control District (Principal Permittee). This system drains the coastal slopes of the Transverse Ranges, moving storm flows as well as a significant amount of dry weather runoff into the Santa Monica Bay and the Los Angeles/Long Beach Harbor.[1] It is one of the largest storm drain systems in the nation, when measured in terms of both aerial extent as well as differences in vertical elevations.

The storm drain system is also one of the most complex to operate, when considering that it encompasses 87 municipalities. Although principally owned and operated by the Principal Permittee, this system collects runoff from 87 municipalities, which, except for the City of Long Beach, are all Co-Permittees. These Co-Permittees have varying degrees of responsibility for development and maintenance of their portions of the overall system. The Permittees' physical assets that comprise the infrastructure of the system include over 100,000 catch basins, about 4,300 miles of underground storm drains, and about 500 miles of open channels. The City of Los Angeles alone accounts for 220 miles of open channel, 1,900 miles of storm drain pipe, and 62,660 catch basins. An exact summary of these physical assets in the system is not

[1] The Los Angeles County Flood Control District also operates a storm drain system on the inland side of the Transverse Ranges; this system falls under the jurisdiction of the Lahontan Regional Board.

possible, as the Permittees do not have a comprehensive map or database that can accurately show the location, extent, and ownership of all underground drains and catch basins – which is an illustration of difficulties arising from the complex ownership structure of the storm drain assets.

Regulatory History

1990: The Regional Board adopted the first municipal storm water permit for the County in 1990, Order No. 90-079, which required Permittees to develop storm water/ urban runoff ordinances and implement BMPs – in particular, a minimum of 13 BMPs such as public education, street sweeping and construction site controls.

1996: After 18 months of effort to renew the 1990 permit, the Board adopted Order No. 96-054 (i.e. the existing permit – see attachment 10.E). Key elements of this permit were requirements that Permittees develop and implement model programs for Public Information and Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges Elimination, Public Agency Activities, and Development Planning. The permit does not include a requirement for inspections as part of an industrial/commercial control program; rather, after significant debate, the Board included a requirement that Permittees conduct site visits of industrial facilities in their jurisdictions. This was intended as an interim step, to give Permittees a 5-year period to educate businesses before requiring a stronger industrial/commercial control program.

1999: Following a settlement of the litigation brought by the City of Long Beach on Board Order No. 96-054, the Board adopted Order No. 99-060 with separate requirements for the City of Long Beach. The Regional Board Executive Officer during 1998 and 1999 approved countywide model programs for ICID, Development Construction, and Public Agency Activities after making revisions.

2000: The Permittees' proposed model program for Development Planning was vigorously debated in public workshops in 1999 and 2000, culminating in the Board's adoption of Order 00-02, specifying design criteria for a Standard Urban Storm Water Mitigation Plan (SUSMP). In response to a petition of the Board's action by 33 of the Permittees and other interested parties, the State Water Resources Control Board (State Board) affirmed in large part the Regional Board action (See State Board Order WQ 2000-11, attachment 10.F.1).

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2001: On January 31, 2001, the Permittees submitted a renewal application for the permit, which expired on July 30, 2001.[2] Since then, staff, the Permittees, and Heal the Bay (on monitoring issues) have devoted significant time to exchanging information and reviewing drafts of the proposed permit, which will enter a third term since the initial permit was adopted in 1990. Staff conducted a staff workshop on April 24, 2001 after the first draft was issued. After the second draft was issued, staff conduct a workshop before the Regional Board on July 26, 2001. In addition, staff, on November 9, 2001, participated with some of the Permittees in a USEPA led workshop session to review inspection requirements after the tentative permit was issued.

Compliance Status

Staff took very few actions to enforce the permit between 1996 and 2000, as lack of staff resources prevented rigorous oversight of Permittees' compliance status. Had staff resources been adequate for systematic compliance checks of all Permittees, many more enforcement actions most likely would have needed to be taken. The few enforcement actions that were taken were generally in response to complaints, and included 5 Notices of Violation (NOVs) issued to the:

- City of Culver City (February 1998), for failure to maintain erosion and sediment controls at one of its construction sites, which resulted in a discharge of mud into Ballona Creek. The City ultimately implemented sediment controls, but only after repeated discussions with Regional Board staff and the City's consultant.

- Cities of Pomona and Lynwood, for failure to submit Annual Reports for 1996/97 by the due date of October 15, 1997. The City of Lynwood submitted its delinquent Annual Report after receiving the NOV. The City of Pomona did not submit its Annual Program Report until the Executive Officer issued an Administrative Civil Liability (ACL) in the amount of $6,700, which the City promptly paid.

- City of Alhambra, for a discharge of muddy water to the storm drain from a pipeline repair (1998). The City complied after receiving this NOV.

- City of Monterey Park, for failure to protect slopes from erosion at a city construction site on Ramona Boulevard (1999). The

[2] Order No. 96-054 continues to be in effect until the Regional Board acts to reissue the permit (40 CFR § 122.6 (d)).

City of Monterey Park ultimately complied but only after repeated discussions with City staff.

In July 2001, staff completed a review of the 1999/00 Annual Program Report, and issued 11 NOVs for failure to implement various programs, including, among others, requirements to: modify planning procedures (such as a CEQA checklist) to integrate storm water considerations; and require pollution prevention plans at construction sites between 2 and 5 acres. The 11 NOVs were issued to each of the Cities of: Azusa, Cerritos, Huntington Park, Inglewood, Malibu, Maywood, Monrovia, Rolling Hills Estates, San Gabriel, South Pasadena, and Vernon. Many of these Permittees have vehemently objected to these NOVs, have submitted documentation of their objections, and demanded that the Regional Board Executive Officer invoke a "Notice to Meet and Confer" provision, as set forth in the existing permit (see also a discussion on this provision on page 8 of this Item). Regional Board staff has held the matter in abeyance, pending a review of the documentation submitted to date.

In March 2001, staff issued NOVs to each of the Cities of Los Angeles and Covina for discharges of sediment to the storm drain.

Staff are currently reviewing the 2000/2001 Annual Program Report which was submitted on October 22, 2001. A preliminary review of the Development Construction compliance reporting summarized in Table 1 indicates apparent implementation deficiencies, reporting inconsistencies, and possible violations of Board Order No. 96-054 among Permittees. For example, seventy-four municipalities reported that less than 5 percent of construction project approvals were being reviewed for storm water controls. Three municipalities did not report at all. Several municipalities reported that zero percent of projects were reviewed or inspected for construction controls because they were either considered exempt or were non-priority. On the other hand, other municipalities reported that 100 percent of projects were reviewed because all were considered priority.

Permit Objectives

Staff proposes consideration of a tentative permit that implements regulations and guidance from USEPA, State Board, and Regional Board. Specific objectives for the third-term renewal are to:

- more effectively prohibit non-storm water (dry weather) discharges to the storm drain system, through elimination of illicit connections and unauthorized discharges;

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- more effectively reduce the discharge of pollutants in storm water; and
- require that Permittees implement additional control measures that the Board may determine are necessary for TMDLs that staff anticipates over the next five years.

Permit Approach

To meet these objectives, staff has structured the tentative permit with several improvements over the existing permit, as outlined below:

1. **Findings:** Strengthened, to elaborate upon the technical and legal basis for the permit requirements. Included in these Findings are references to technical analyses staff conducted regarding regulation of retail gasoline outlets (RGOs); see Findings ~~C.5 and C.6.~~ B.10. and B.11.
2. **Receiving Water Limitations** (Part 2, page ~~18~~ 17): Clarifies that discharges must meet water quality objectives, including that they must not cause nuisance (in addition to the statutory requirement to reduce the discharge of pollutants to the maximum extent practicable). Additionally, staff have added a requirement to implement load allocations approved by the Board in a TMDL, without reopening the permit.
3. **Storm Water Quality Management Plan** (SQMP): Adds specific performance measures to measure progress on the various elements of the SQMP. Furthermore, the following significant requirements have been added to the Permittees' SQMP:
   - **Industrial/Commercial Inspections** (Part 4, Section C – see discussion under critical issues on page A-10), ~~pages 33B-39B): Option B (staff's recommended option) specifies that Permittees must expand a site visit program to also include inspections of facilities in specified industrial and commercial sectors. These sectors were selected based on the results of a risk-based prioritization performed by the County of Los Angeles Department of Public Works (LACDPW) in 1996 and critical sources monitoring conducted between 1997 and 2000.~~
   - **Development Planning** (Part 4, Section D, pages 36 – 44 ~~40-48~~): Lowers the threshold of industrial/commercial development that is subject to Standard Urban Storm Water Mitigation Plan (SUSMP) requirements from 100,000 square feet to one acre (consistent with USEPA Phase II regulations), beginning in 2003; and expands SUSMPs to cover:

- environmentally sensitive areas
- ministerial as well as discretionary projects.

Also, Permittees will need to ensure that design of RGOs comply with the SUSMP numerical design standards to capture and/or treat the first ¾ inches of precipitation (or equivalent runoff volume or flow). This design standard applies to new or redeveloped RGOs that exceed a threshold of 5,000 square feet of impervious surface area and projected Average Daily Traffic (ADT) of 100 vehicles. For derivation of this threshold, see Technical Reports [Attachment 10.B-2].

- **Development Construction** (Part 4, Section E, pages 44-47 ~~48 to 51~~): Lowers the threshold for a local Storm Water Pollution Prevention Plan (SWPPP) and wet weather inspection program to construction sites one acre and greater in size (currently two acres and greater in the existing permit). Also, requires that construction projects five acres and greater have a local SWPPP to demonstrate compliance with local ordinances. The local SWPPP may substitute for the State SWPPP required under the State's General Construction Activities Storm Water Permit if the local SWPPP is at least as inclusive in BMPs and construction controls.

- **Public Agency Activities** (Part 4, Section F, pages 47-54 ~~52 to 59~~): Includes explicit requirements to control the discharge of trash to the MS4. It explicitly requires municipal departments to comply with the same development planning and development construction standards that municipalities impose on private development.

- **Illicit Connections and Discharges** (Part 4, Section G, pages 54-56 ~~60 to 62~~): Requires the Principal Permittee to take more responsibility for tracking illicit discharges and connections, and upgrades passive field screening activities (during regularly scheduled maintenance) to a proactive field screening program.

4. **Monitoring (Attachment T):** Adds mass emissions monitoring on the Santa Clara River and Dominguez Channel, and requirements to conduct a biomonitoring assessment with a minimum of 20 stations. Reduces the suite of monitoring

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parameters that are not conventional and not priority pollutants. Enhances toxicity testing. Facilitates participation in regional research and special studies.

5. **Reporting: (Attachment U):** Includes a standard reporting form to elicit information on implementation and status of progress for the various requirements in the permit.

6. **Enforcement:** Deletes the Notice to Meet and Confer provision in the existing permit, and instead relies upon the State's policy of progressive enforcement.

Permittees have not provided specific estimates of additional costs that they might be incurred by the requirements highlighted above. The Los Angeles Economic Council cites a Caltrans report that the cost of compliance may exceed $50 billion. Permittees have provided estimates of their 2000/01 and 2001/2002 budget allocations for storm water programs. These amounts aggregate to $142 million and $145 million respectively, and are reproduced in the tables 3 and 4 [3] on pages ~~22-28~~ A 25- A 30.

Critical Issues

Since receiving the application for renewal, on January 31, 2001, staff have dedicated significant time and effort to involving the public in the renewal process, and have been responsive to public comment. However, some critical issues have not been resolved to the satisfaction of all parties and are before the Regional Board, as summarized below.

Enforcement: ***Should the new permit contain a safe harbor clause (i.e. a "Notice to Meet and Confer")?***

During the 18-month renewal effort from 1995 to 1996, the Regional Board approved a "Notice to Meet and Confer" (NTMC) provision (existing permit, Part 2, section G). Many of the Permittees strongly advocated for this provision, which they envisioned as an important administrative review process for resolving permit disputes before the Board could take formal enforcement action. It was actually used only once, in 2000, when the Regional Board issued NTMC letters in order to obtain information on permittees' efforts to abate trash in the Los Angeles River and Ballona Creek watersheds. As mentioned above, several Permittees want to invoke the NTMC as an interim step to any penalties the Board might issue for the 1999/00 Annual Program Report violations.

[3] The amounts in the tables 3 and 4 (pages A 25-A30) are self-reported. As permittees may not have compiled their expenditures in a consistent manner, the amounts should be regarded as rough estimates.

Subsequent to renewal of the existing permit, the State developed an enforcement policy (State Board Resolution 96-030) and guidance, which sets forth a progressive strategy that has the goal of ensuring consistent, predicable, and fair enforcement of regulations. This is now a well-established and widely implemented policy throughout the State, and has been successfully implemented in Los Angeles Region. Therefore, staff submits that the NTMC provision should not be included in the renewed permit.

Receiving Water Limitation: ***In structuring a receiving water limitation, has staff correctly complied with State Board direction?***

Some environmentalists contend that the draft permit should contain numerical effluent limitations to protect water quality standards. Permittees, for the most part, believe that they should not be subject to either numerical or narrative receiving water limits, as their SQMP (Storm Water Quality Management Plan) is designed to reduce pollutants in storm water to the maximum extent practicable.[4]

In Part 2 (page 17 ~~16~~) of the ~~draft~~ tentative permit, staff incorporated narrative receiving water language as directed by the State Board in Order No. 99-05 (Attachment 10B-2). Subsections 2.1 and 2.2 slightly modify the State Board language in that: §§ 2.1 separately states that discharges that cause or contribute to the exceedences of water quality standards are prohibited, and §§ 2.2 separately states the discharges shall not cause a condition of nuisance [such as trash]. Some Permittees contend that these modifications exceed State Board Order No. 99-05. However, a review of language in other recent municipal storm water permits issued by the State Board itself and by other Regional Boards, indicates that the subsection language is substantially similar. The State Board upheld receiving water language, such as it appears in the tentative permit before the Board, ~~affirms this structure of the receiving water limits language~~ in its tentative decision *In Re*: Building Industry Association of San Diego County and Western States Petroleum Association (Order No. WQ 2001-15), ~~scheduled to be~~ adopted on November 15, 2001. See also Regional

[4] Regulations do not define what exactly constitutes the Maximum Extent Practicable (MEP) standard. However, the Office of Chief Counsel has issued a memorandum on the matter (dated February 11, 1993). In general, MEP relies on best management practices that emphasize pollution prevention and source control (i.e. the first line of defense), with additional structural controls as needed (an additional line of defense). Municipalities are required to implement technically feasible BMPs to reduce storm water pollutants unless they can show locational impracticability or that the costs outweigh the water quality benefits to be derived.

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Counsel's legal memorandum dated November 9, 2001 (Attachment 10.D)

Some Permittees also contend that the draft language is inconsistent with the U.S. Court of Appeals decision in, *Defenders of Wildlife v. Browner* (9th Cir. 1999). This decision held that the Clean Water Act does not require MS4 discharges to strictly comply with water quality standards. However, the decision also found that the permitting authority can compel compliance with water quality standards, as it deemed necessary. As discussed in State Board's Office of Chief Counsel memorandum (Attachment 10.A-1), States can include such provisions under the Clean Water Act. In any case, the memorandum concluded that the 9th Circuit decision did not contradict State Board Order No. 99-05. See also, *In Re*: Building Industry Association of San Diego County and Western States Petroleum Association (Order No. WQ 2001- 15 ~~**~~)

Inspections: ***Should the Regional Board require Permittees to inspect industrial/commercial facilities?***

Yes. The County of Los Angeles is one of the most urbanized areas in the nation. If the Regional Board is to make significant progress toward cleaning up impaired waters, control of conventional and toxic pollutants from industrialized and commercial activities is critical. Indeed, the federal regulations clearly acknowledge the significance of pollutants from heavy industry, and mandate that municipal permittees have source control programs for facilities in specified industrial sectors. The significance of these industrial activities – plus commercial activities such as automotive repair – was underscored in a critical source identification program that the Principal Permittee undertook per a requirement in the existing permit.[5] Accordingly, staff proposes that the Board upgrade the Permittees' industrial control program to specify inspections of facilities in specified sectors at specified intervals.

In Table 4, staff has compared requirements among the existing permit and various options discussed with Permittees during this

[5] Critical Source Selection and Monitoring Report, County of Los Angeles Department of Public Works (September 3, 1996), in which the Principal Permittee identified high risk activities that pollute storm water in the County. Five of these activities – scrap metals, trucking, chemical, primary metal, metal fabricating – are partly regulated by the State's General Industrial Activities Storm Water Permit for Industrial Activities. The other activity – automotive services – is not subject to the State's General Industrial Activities Storm Water Permit or to USEPA Phase 1 regulations. Also, through industrial waste inspections conducted during the first permit term for sanitation departments, several Permittees identified two additional activities – retail gas outlets (RGOs) and restaurants – as high risk for storm water pollution.

renewal process. Under the existing permit, no inspections are required; rather, the Board has allowed the Permittees and industry 10 years (i.e. the first two permit terms) to educate industrial and commercial facilities through "site visits." Various options have evolved as follows:

First draft (April 13, 2001): Staff took a "top-down" approach to inspections, proposing that Permittees screen databases of tens of thousands of industrial and commercial facilities to identify facilities that should be targeted for an inspection program.

Second draft (June 29, 2001): In response to comments submitted on the first draft, staff attempted to better structure a partnership between the Regional Board and Permittees. The Regional Board would lead efforts to regulate "Phase 1" industrial facilities (which are subject to the State's General Industrial Activities Storm Water Permit[6]), and the Permittees lead efforts to regulate other problem sectors, such as automotive service facilities, restaurants, and RGOs.

Third draft (October 11, 2001) Edited Tentative (December 12, 2001): Staff structured an Option A (pages 33A-39A) (pages 29A-35A in Edited Tentative) to encompass inspections of:

- USEPA mandated facilities (i.e. landfills, Resource Conservation and Recovery facilities, and toxics treatment storage disposal facilities "TSDF"),
- the automotive sector,
- restaurants, and
- retail gasoline outlets.

In Regional Board staff's opinion, such a minimal requirement fails to address other critical industrial sources of pollutants. To address this concern and to ensure that pollutants from other critical sources are controlled, staff recommends that the Board adopt Option B (pages 33B-39B) (pages 29-35 in Edited Tentative). This Option B captures sectors in Option A plus five other priority sectors, which are sources of pollutants that match many of the

[6] For select cities, Table 5 lists the number of facilities currently on record as covered under the State's General Industrial Activities Storm Water Permit. For many of the cities (with the exception of the City of Los Angeles) the number of industrial facilities to be inspected is going to be similar if not the same because these facilities predominate in there jurisdiction.

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causes of impairments to surface waters in Los Angeles County. These five priority sectors:

- scrap recycling,
- automotive dismantling,
- metal fabrication,
- motor freight,
- chemical manufacturing, and
- primary metal products.

Option C (pages 33C-36C) (pages 29C-35C in Edited Tentative) is status quo – it retains the site visit program as required by permits issued by the Regional Board since 1990. It does not recognize what staff believes was the Board's long-term intent to upgrade the site visit program to an inspection-based program.

For a discussion on legal issues related to inspection, please refer to the Regional Counsel's legal brief (Attachment 10.D. at pages 2 and 14).

At the request of certain Permittees, the US EPA facilitated two day-long sessions, on November 9th and 29th, during which discussions among permittees, Regional Board staff, and environmental representatives focused on inspection requirements. Participants made diligent attempts to understand various positions and limitations and, as a result, may have agreed in concept[7] to another option that is outlined in Version A/C. As this A/C option blends elements of the other options previously submitted to the Board and to the public, staff do not believe that they constitute significant changes. Rather, Version A/C provides greater clarity with regard to Regional Boad expectations and responds to Permittees' concerns over funding by better coordinating State (i.e. Regional Board) inspection efforts with those of the Permittees. Please refer to the Executive Officer's letter, dated December 3, 2001, for a summary of the changes.

Development Planning: Does *the extension of SUSMP requirements to cover RGOs, ministerial projects, and environmentally sensitive areas, comply with the State Board's SUSMP decision?*

Yes. The Development Planning subsection (Part 4, Section D, pages 36-44 ~~26-53~~) incorporates SUSMP requirements as upheld by the

[7] As of the morning of December 10, 2001, Regional Board staff are awaiting a decision from participants in that meeting regarding their support for the new Version A/C.

State Board in State Board Order No. 2000-11 "SUSMP Order" (Attachment 10.F.1) and corrects deficiencies that were identified.

The SUSMP Order set aside the applicability of the SUSMP requirements to development projects in environmentally sensitive areas and to ministerial projects, as defined in the California Environmental Quality Act (CEQA), until full and fair consideration by the Regional Board during permit reissuance. The SUSMP Order also set aside the applicability of numerical mitigation criteria to RGOs until the Regional Board provided proper justification and established thresholds. While some commenters have suggested that the proposed permit violates the SUSMP Order by the extension, a memorandum issued by the State Board Chief Counsel identifies these three areas as potential areas for extension of SUSMP requirements by Regional Boards in the future consistent with State Board guidance in its SUSMP Order (Attachment 10.F.1). Staff has prepared technical reports to support the extension of the SUSMP requirements (Attachment 10 B).

It is proper to extend coverage of SUSMP requirements to developments within, adjacent to or discharging directly to environmentally sensitive areas. Development and urbanization especially threaten environmentally sensitive areas, because these areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. A development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. Staff has provided thresholds for developments in environmentally sensitive areas to exclude small developments (less than 2,500 square feet impervious surface) Edited Tentative at page 38 ~~Findings B.6, B.7, and E.4.~~

It is appropriate to apply numerical design criteria for storm water mitigation to new and redeveloped retail gasoline outlet developments. RGOs are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks. RGOs in western States such as Oregon and Washington are already subject to storm water numerical mitigation criteria. As recommended by the State Board in its SUSMP Order, Board staff has established thresholds for the criteria to apply to

RGOs (5,000 square feet or more of impervious surface and projected Average Daily Traffic of 100 vehicles or more) with proper justification. Finding C.6., Edited Tentative at page 39~~Attachment 10.B.~~

It is proper to apply SUSMP requirements to all planning priority project SUSMP categories, including ministerial projects. The California Environmental Quality Act (CEQA) (Cal Pub Resources Code Section 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects (i.e., projects which involve the use of established standards or objective measurements). For purposes of water quality, CEQA distinctions are not germane because it is a procedural statute that provides a public forum for consideration of environmental impacts of governmental decision-making. CEQA is not a statute for water quality protection. Municipalities have multiple ways of ensuring that SUSMP requirements are applied in a consistent manner within SUSMP categories. A municipality may give itself discretionary authority by adopting local ordinance provisions that create decision-making discretion for SUSMP categories. Alternatively, a municipality may establish standards and objective criteria for review of ministerial projects that are in SUSMP categories administratively.

Consistent with the Regional Board's action in the Ventura County municipal storm water permit, the proposed permit includes numerical design criteria for water quality flow in addition to water quality volume.

Development Construction: ***Are new requirements to inspect construction sites 1 acre or greater appropriate, and are they consistent with regulations and other permits?***

Small construction sites (1-5 acres) account for a significant amount of pollution from construction activities, in addition to construction sites five acres or greater. In response to this concern, the Development Construction subsection (starting in Part 4, Section E, Edited Tentative at page 44 ~~48 of the draft permit~~) requires that Permittees inspect all construction projects one acre or greater to ensure compliance with local agency ordinances and model programs to prevent erosion, control sediment, and manage on-site construction wastes.

The existing permit has a similar requirement for construction sites two acres or greater. Staff proposes to lower the threshold to 1 acre

beginning 2003, when USEPA Phase II regulations for small construction sites become effective. Also, the Regional Board has already issued municipal permits with such a requirement, to the City of Long Beach in 1999 and the County of Ventura in 2000.

Total Maximum Daily Loads (TMDLs): ***Should the Board include a provision requiring implementation of TMDL load reductions, without reopening the permit?***

TMDLs are one of the Board's highest priorities. In view of the Region's highly urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions can't be forecast at this time, staff has structured the permit as a vehicle for achieving load reductions (Part 3, Section C).

Public review of TMDLs, which will typically be in the form of an amendment to the Basin Plan, will occur during the TMDL adoption process; and staff does not anticipate that there will be a need for an additional public process for TMDL implementation measures. Therefore, upon approval of a TMDL, implementation of municipal storm water requirements (specified in that TMDL) will become effective and enforceable under the permit. In other words, municipal storm water requirements will be automatically included in this proposed permit upon adoption of a TMDL by the Board, without reopening this permit. This TMDL requirement and structure is consistent with TMDL provisions in the City of Long Beach and County of Ventura permits.

Monitoring: ***In the event that monitoring indicates storm water from a particular municipality as a source of toxicity, should the Regional Board require that Permittee to implement additional BMPs needed to reduce toxicity?***

Per the *Basin Plan*, there should be no toxicity in receiving waters. Per Parts 2 and 3 of the draft permit, Permittees must revise their Storm Water Management Plan (SQMP), as necessary, to meet receiving water limitations, including water quality objectives. Attachment T to the Monitoring and Reporting Program requires the Principal Permittee to monitor for toxicity and, upon finding toxicity, to conduct a "Toxicity Identification Evaluation" (TIE) and submit a "Toxicity Reduction Evaluation" (TRE) to the Regional Board. As a result of the TRE, the affected Permittee would then be responsible for modifying its SQMP to implement BMPs to eliminate toxicity based on the sources of toxicity within its jurisdiction.

Illicit Connections and Discharges: ***Should the Regional Board require the Principal Permittee to better track IC/ID (illicit discharge and illicit connection) problem areas, and should the Regional Board also upgrade Permittees' passive field screening program to better identify and eliminate IC/ID problems?***

During dry weather, much of the flow to the storm drain system consists of illicit discharges.[8] Reporting of these problems, as summarized in the Fact Sheet/Staff Report (pages 26 to 35), shows erratic IC/ID occurrences that bear no relationship to land uses or to estimated expenditures by Permittees. Under current operating practices, the Principal Permittee is unable to track reports of illicit connections and discharges in order to identify problem areas and prioritize corrective action. Many of the Permittees cannot estimate the length of their portion of the storm drain system. Many more of these Permittees are unable to estimate how much of their portion of the storm drain system has been field screened for IC/ID problems over the past 5 years, partly because the Permittees' existing SQMP requires field screening only "during regularly scheduled maintenance."

In the first draft, staff proposed that the Permittees develop a Geographical Information System (GIS) to better track IC/ID problems and, based upon annual evaluations of IC/ID problems, to implement an active screening program in problem areas. Several Permittees objected to this, stating that a GIS was too expensive to develop, and that simpler systems (e.g. pin maps) could suffice. In this draft, staff is proposing that the Principal Permittee – with the cooperation of Permittees – develop a system (type of system unspecified) to track and prioritize IC/ID problems. The Principal Permittee objects to this requirement out of concern over: (a) anticipated difficulties in coordinating with other Permittees, and (b) the cost of a GIS (as the Principal Permittee feels this is the only system that is sophisticated enough to comprehensively track IC/ID occurrences in the storm drain system), which cost could be well in excess of $15 million.

Staff submits that a comprehensive map[9] or system is needed to track and evaluate IC/ID occurrences, that the Principal Permittee is the

[8] Federal regulations (at 40 CFR 122.26 (b). 2.) define an illicit discharge as "...any discharge to an MS4 that is not composed entirely of storm water..." with some exceptions (such as NPDES-permitted discharges and emergency fire fighting flows).

[9] Indeed, basic requirements such as a map demonstrating a basic awareness of the storm drain system, are part of a Permittees' initial application requirements, and should have been met back in 1990 when the permit was first issued.

appropriate entity with adequate control to take on this responsibly, and that other Permittees should be required to undertake active field screening such needs are indicated by better tracking.

Conclusion

Pollutants in dry weather runoff and storm water are the most significant source of impairment to water quality in the Los Angeles Region. For the third 5-year term of the Los Angeles County MS4 permit, staff has tried to carefully and reasonably structure requirements – including specific performance objectives – that are needed to better focus Permittees' storm water management programs in order to more effectively control pollutants in storm water.

Recommendation

Staff proposes that the Regional Board adopt the tentative permit - including Option B in the Industrial/ Commercial Inspection Program (pending concurrence from the Permittees, staff may change its recommendation to Option A/C). Comment letters submitted by the Permittees and interested persons, which were received by November 13, have been provided to the Board in Volumes 2 and 3 of Item 10, and an edited tentative permit (dated December 10, 2001) a change sheet (dated December 4, 2001) and a supplemental change sheet (dated December 10, 2001) should be inserted at the end of Section 10.B. ~~will be compiled and forwarded to the Regional Board no later than November 21.~~

Attachments

Correspondence, dated December 2, 2001, from the Executive Officer to the US EPA regarding the proposed inspection requirement (page A-19 and A-21).

10.B. Tentative Permit Package

1. Tentative Permit Strike-out Version (10/11/01)
2. Fact Sheet/ Staff Report/ Technical Reports (10/11/01)
3. Summary of Comments and Staff Response (10/11/01)
4. Edited Tentative (12/10/01)
5. Change Sheet – Draft (12/04/01)
6. Change Sheet Additions (12/10/01)

10.C. Tentative Permit Clean Copy

10. D. Regional Counsel's Legal Brief (11/09/01)

10. E. Regional Board Order No. 96-054 (07/15/96)

10. F. State Board Water Quality Orders

1. LA SUSMP Order (Order No. WQ 2000-11) (03/08/00)

2. San Diego MS4 Permit Draft Order (Order No. WQ 2001-15~~xx~~) (11/15~~02~~/01)

10.G. Additional Technical Reviews

1. Staff Review of Storm Water Quality Task Force (SWQTF) BMP Guide (11/01)
2. WSPA Technical Report – Review of RGOs: New Development Design Standards (08/06/01)
3. SWQTF RGO BMP Guide (03/1997)

10.H. Response

1. Response to Comments (12/02/01)
2. RGO Technical Report (12/01)
3. Case for Inspection (11/01)

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

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Gray Davis
Governor

December 3, 2001

Mr. Harry Seraydarian
US Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Seraydarian:

MUNICIPAL STORM WATER PERMIT – FOR THE COUNTY OF LOS ANGELES

We would like to thank you for facilitating a second facilitation session on Thursday, November 29th at the Signal Hill Community Center. At that session, staff at the Regional Board committed to rapidly producing another version of the proposed permit requirement for an Industrial/Commercial Facilities Control Program, which blends elements from Options A, B, and C which we are have presented to our Board for possible adoption on December 13, 2001. We have attached this new version, designated Version A/C, for the purpose of discussion. This version blends elements from both Option A and Option C (many of the Permittees' preferred option).

We believe that this new Version A/C reflects the start of a promising partnership among the Regional Board and municipalities. In this new draft, the Regional Board has tried to be responsive to several of the permittees' concerns over funding requirements and a preference, on the part of several permittees, for a program based solely on an education approach. To respond to these concerns, we have modified and clarified the scope of the inspections and clarified our expectation for enforcement on the part of permittees. Specifically, we have:

- Clarified and Reduced the Scope of Inspections.

  - Inspection Frequencies: In general, frequencies have been reduced from once every 24 months to once every 30 months. In addition, we have designated Tier 1 and Tier 2 categories for Phase 1 facilities, and further reduced the frequency of inspections for Tier 2 categories to once every 5 years. Finally, those Tier 2 categories with no exposure of industrial activity to storm water need not be inspected, after the initial determination of no exposure.

  - Phase 1 Categories: We have reduced the categories to be inspected, by eliminating Petroleum Refining.

California Environmental Protection Agency
****The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption****
****For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html****
Recycled Paper
Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Executive Officer) at (213) 576-6618, or Dan Radulescu (Water Resources Control Engineer) at (213) 576-6668. Again, thank you for your significant efforts to assist all of us toward reaching our goal of effectively protecting water quality.

Sincerely,

Dennis A. Dickerson
Executive Officer

attachment

cc: Participants at the Signal Hill meeting of November 29, 2001 (sent via email)

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Recycled Paper

- Duplication of Regional Board and Permittee Inspections: We have added a requirement relieving permittees of the responsibility to inspect those Phase 1 facilities that the Regional Board has inspected within the previous 24 months. We intend to work out a system with the Permittees to efficiently communicate facilities that have been inspected by the Regional Board.

- Level of inspections: We have clarified our expectations regarding minimum Best Management Practices that Permittees' inspectors need to check during inspections.

- Tiered inspections: We have modified the definition of inspections, to allow permittees to conduct inspections of restaurants from the curbside.

➢ Provided a clearer definition of expectations concerning the scope of enforcement.

- Progressive enforcement: We have clarified minimum steps that permittees must take in their progressive efforts to enforce their municipalities' storm water requirements.
- Referrals to the Regional Board: In recognition of some of the permittees' concern regarding the resource intensive efforts needed to elevate enforcement actions, we have added a mechanism by which permittees can refer cases to the Regional Board.
- Accelerated referrals to the Regional Board: For violations of the State's General Permit for Industrial Activities, we have made provision for expedited referrals.
- Complaints: We have clarified the complaints will be referred by the Regional Board staff.
- Support of Regional Board enforcement actions: We have noted that permittees must provide staff for joint inspections with the Regional Board when available.

We have made other minor editorial changes as suggested by participants at the meeting, again to achieve greater clarity.

We are providing this draft to address your underlying concern regarding the cost of implementing program. We also want to acknowledge, as discussed at our meeting, a commitment on our part to support Permittees' efforts to strengthen their storm water ordinances. Toward this end, we are elaborating upon findings in the proposed permit, and we also are prepared to attend City Council meetings and testify on the requirement for storm water ordinances.

With this Version A/C, we hope we have achieved consensus on the requirement for an Industrial/Commercial Facilities Control Program. We believe that this consensus addresses our common interests to protect water quality while optimizing both State (Regional Board) and local resources, without significantly changing requirements in the existing Version A, B, and C. We need the participants at the meeting on November 29th to indicate, as soon as possible (but no later than Monday, December 10th), their consensus on these issues and support for Version A/C. Please do not hesitate to contact me at (213) 576-6605, Wendy Phillips (Acting Assistant

Table 1. Summary of Development Construction Project Reviews and Inspections (July 2000 – June 2001 Annual Program Report)

CITY	# of Projects	# Const. Exempt	% Const. Exempt	# Const. Non-Priority	% Const. Non-Priority	# Priority	% Priority	# Gen. Permit	% Gen. Permit	# of Inspect.	% Violations	% Enforce
Agoura Hills	940	437	46%	482	51%	21	2%	3	0.3%	N/A	2%	10%
Alhambra	591*	19	73%	5	19%	2	8%	0	0%	N/A	0%	0%
Arcadia	3695	1968	53.4%	1723	46.6%	3	0.08%	1	0.02%	N/A	0.46%	N/A
Artesia	346	208	60%	138	40%	0	0%	0	0%	N/A	2%	1%
Azusa	1300	1289	99.02%	7	0.005%	4	0.003%	0	0%	N/A	NONE**	0%
Baldwin Park	545	525	96%	18	3%	6	1%	0	0%	N/A	NONE**	N/A
Bell	616	615	99.8%	0	0%	0	0%	1	0.2%	N/A	0%	2%
Bellflower	445	442	99.3%	2	0.5%	0	0%	1	0.2%	N/A	NONE**	0%
Bell Gardens	327	224	66%	100	33%	3	1%	1	0%	N/A	35%	30%
Beverly Hills	1687	N/A	10%	N/A	85%	0	0%	2	N/A	N/A	75%	60%
Bradbury	42	6	15%	32	75%	4	10%	0	0%	N/A	5%	25%
Burbank	2403	264	11%	2128	88.95%	0	0%	11	0.05%	N/A	0.5%	25%
Calabasas	1679	1166	69%	496	29%	14	1%	3	1%	N/A	1%	0%^
Carson	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0%
Cerritos	1205	1196	99%	7	0.6%	0	0%	2	0.2%	N/A	0%**	90%
Claremont	3400	N/A	97%	N/A	3%	N/A	N/A	6	N/A%	N/A	4%	5%
Commerce	398	54	14%	337	85%	6	>1%	1	>1%	N/A	NONE	0%
Compton	3564	3558	99.9%	4	>1%	1	>1%	1	>1%	N/A	See Doc	0%
Covina	1124	1117	99.4%	4	0.3%	3	0.3%	0	0%	N/A	7%	10%
Cudahy	826	750	89%	70	10%	6	1%	0	0%	N/A	25%	15%
Culver City	820	0	N/A	818	N/A%	2	N/A%	1	N/A%	N/A	10%	0%
Diamond Bar	97	0	0%	97	100%	0	0%	18 ^^	18.50%	N/A	22%	22%
Downey	2097	2049	98%	48	2%	4	0%	2	0%	N/A	3%	3%
Duarte	325	311	311%	14	95.6%	0	0%	0	0%	N/A	NONE	0%
El Monte	891	556	62.4%	93	10.4%	10	1.12%	N/A	N/A	N/A	40%	50%
El Segundo	1325	0	0%	0	0%	1325	100%	0	0%	N/A	0%	%
Gardena	2000	1700	85%	300	15%	0	100%	0	100.0%	N/A	1%	30%
Glendale	337	17	N/A	31	N/A%	270	N/A%	0	0%	N/A	N/A	N/A
Glendora	874	732	84%	132	15%	10	1%	0	0%	N/A	NONE	0%
Hawaiian Gardens	323	235	73%	87	27%	1	0%	0	0%	N/A	10%	0%
Hawthorne	651	567	87.1%	74	11.4%	8	1.2%	2	0.3%	N/A	0%	NONE
Hermosa Beach	283	221	78%	62 E62	22%	0	0%	0	0%	N/A	0%	0%
Hidden Hills	121	12	10%	109	90%	0	0%	0	0%	N/A	0.29%	0%
Huntington Park	1	0	0%	1	100%	0 (0%)	0%	0	0%	N/A	0%	10%
Industry	26	N/A	N/A	6	23%	10	38%	10	38%	N/A	0%	1%
Inglewood	945	0	0%	944	99.9%	1	0.1%	1	0.1%	N/A	0%	100%
Irwindale	53	33	62%	13	25%	3	6%	4	0%	N/A	1%	0%
La Cañada Flintridge	605	293	48%	227	38%	85	14%	0	0%	N/A	50%	45%
La Habra Heights	30	N/A	10%	N/A	10%	N/A	80%	N/A	0%	N/A	5%	0%
Lakewood	792	783	99%	89	1%	0	0%	0	0%	N/A	NONE	0%
La Mirada	673	0	0%	0	0%	1	0.0015%	1	0.0015%	N/A	N/A	N/A
La Puente	14	N/A	0%	N/A	10%	N/A	90%	N/A	10%	N/A	5%	1%
La Verne	587	N/A	N/A	2	0.3%	3	0.1%	1	0.1%	N/A	<1%	1%
Lawndale										N/A		
Lomita	224	184	82%	38	17%	1	1%	0	0%	N/A	N/A	0%
Los Angeles	39,566	25556	64.6%	10851	27.4%	2942	7.4%	217	0.5%	N/A	3.40%	35%
Los Angeles County	12,013	7076	59%	4512	38%	140	1%	285	2%	N/A	~4%	1%
Lynwood	0 (0%)	0	0%	0	0%	0	0%	0	0%	N/A	0 (0%)	1%
Malibu	1329	1156	87%	1329	100%	0	0%	173	13%	N/A	2%	2%
Manhattan Beach	1265	1264	99.9%	1264	99.9%	1	0.1%	0	0%	N/A	0.003%	>1%
Maywood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0%
Monrovia	15^^	0	0%	14	93%	1	7%	0	0%	N/A	0%	0%
Montebello	748	632	84.5%	114	15.2%	1	0.3%	1	0.3%	N/A	NONE	0%
Monterey Park	21	11	52%	10	48%	0	0%	0	0%	N/A	NONE	0%
Norwalk	1770	769	43.4%	978	55.3%	19	1.1%	4	0.2%	N/A	1%	N/A*
Palos Verdes Estates	91	90	N/A	10	N/A%	0	0%	0	0%	N/A	10%	5%
Paramount	553	320	58%	200	36%	33	6%	0	0%	N/A	35%	30%
Pasadena	2668	2657	99.5%	2657	99.5%	11	1%	11	1%	N/A	0%	0%
Pico Rivera	891	450	50%	434	48%	5	0.005%	2	0.002%	N/A	5%	5%

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Redondo Beach	2308	1179	51%	1128	48%	0	0%	1	1%	N/A	1%	0%
Rolling Hills	97	85*	87.6%	9	10%	0	0%	0	0%	N/A	0.02%	0.02%
Rolling Hills Estates	261	2	1%	2	10%	0	0%	0	0%	N/A	5%	0%
Rosemead	509	300	59%	177	35%	32	6%	0	0%	N/A	25%	45%
San Dimas	664	364	N/A	654	98%	10	2%	2	2%	N/A	5%	16%
San Fernando	499	20	4%	478	96%	1	0.2%	0	0%	N/A	20%	10%
San Gabriel	607	600	98.9%	6	>1%	0	0%	1	>1%	N/A	0%	0%
San Marino	607	600	98.9%	6	>1%	0	0%	1	>1%	N/A	0%	0%
Santa Clarita	3096*	143	5%	2351	76%	15	1%	587	18%	N/A	2%	2%
Santa Fe Springs	~700	965	99%	5	1%	0	0%	0	0%	N/A	55%	10%
Santa Monica	1485	1385	93%	0	0%	0	0%	0	0%	N/A	0%	0%
Sierra Madre	193	148	77%	45	23%	0	0%	0	0%	N/A	15%	15%
Signal Hill	349	110	31%	236	68%	0	0%	3	10%	N/A	15%	4%
South El Monte	240	228	95%	12	5%	0	0%	0	0%	N/A	5%	5%
South Gate	3621	3117	86%	3117	86%	2	<1%	1	<1%	N/A	0.6%	0%
South Pasadena	69	65	94%	4	6%	0	0%	0	0%	N/A	25%	5%
Temple City	N/A	N/A	N/A	N/A	N/A%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Torrance	6205	6176	99%	24*	37%	5*	8%	36*	55%	N/A	NONE	NONE
Vernon	1687	1644	97.45%	32	0.189%	3	0.018%	8	0.047%	N/A	0%	0%
Walnut	18	N/A	0%	N/A	10%	N/A	90%	N/A	10%	N/A	5%	1%
West Covina	1380	1377	99.9%	1380	100%	0	0%	0	0%	N/A	0.5%	0%
West Hollywood	697*	689	99%	3	0.4%	3	0.4%	3	0.4%	N/A	3%	2%
Westlake Village	6	4	67%	4	67%	2	33%	6	100%	N/A	8%	0%
Whittier	3057	3035	99%	14	0.46%	6	0.20%	2	0.07%	N/A	NONE**	0%
TOTALS	**125197**	**85447**		**42496**		**5026**		**1363**				

*565Bldg/26Grdg Permits; **Stop Work Action Threat; ^Public Ag. Sites; ^^Grading Permits

Table 2. Comparison of Changes to the Industrial/ Commercial Facilities Program and Options for Consideration in the Tentative Draft

Item	Existing Permit	Second Draft	Tentative Option A	Tentative Option B	Tentative Option C
Focus	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities	Critical sources prioritization (regardless if they are industrial or commercial) based on the critical sources identification study prioritizing 34 categories	Critical sources prioritization (regardless if they are industrial or commercial) based on the critical sources identification study prioritizing 34 categories	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities
Inspection	NO	Restaurants, Automotive Service Facilities	USEPA Mandated: Municipal Landfills, Hazardous Waste Treatment, Disposal and Recovery Facilities, Facilities Subject to SARA Title III (also known as EPCRA), Restaurants (focus on Municipal BMPs), RGOs (focus on Municipal BMPs), Automotive Service Facilities (focus on Municipal BMPs)	**Same as Option A with the addition of** facilities identified as highest ranking in the critical sources evaluation: Wholesale trade (scrap, auto dismantling), Fabricated metal products, Motor freight, Chemical/allied products, Primary metals products	NO
Site Visits	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities	USEPA Phase I facilities	The remaining lower priority categories facility site visits All in the first 24 months, including "no-exposure" facilities. In the second inspection cycle spot check visits at minimum 20% of the remaining total number/per year (excluded facilities deemed "no-exposure")	The remaining lower priority categories facility site visits All in the first 24 months, including "no-exposure" facilities In the second inspection cycle spot check visits at minimum 20% of the remaining total number/per year (excluded facilities deemed "no-exposure")	USEPA Phase I facilities, Restaurants, RGOs, Automotive Service facilities
Frequency	Once every 24 months	Once every 24 months	Once every 24 months	Once every 24 months	Once every 24 months

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

Table 3. Summary of Fiscal Resources Budgeted for FY 2000/2001

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$30 000	$0	$15 000	$100 000	$15 000	$0	$15 000	$175 000
[illegible]	$20 000	$20 000	$7 500	$75 500	$32 507	$0	$20 000	$175 500
Arcadia	$25 000	$5 000	$4 000	$658 195	$22 000	$30 000	$0	$744 195
[illegible]	$0	$0	$0	$0	$0	$0	$0	$0
[illegible]	$14 000	$9 000	$6 000	$211 000	$21 000	$0	$2 000	$263 000
[illegible] Park	$4 000	$2 750	$7 000	$278 383	$21 240	$0	$63 005	$376 378
Bell	$38 000	$1 050	$6 000	$59 700	$9 900	$0	$0	$112 650
Bell Gardens	$12 500	$15 000	$111 000	$307 000	$15 000	$0	$0	$460 500
Bell River	$14 500	$40 000	$5 000	$0 000	$18 000	$0	$11 000	$90 500
Beverly Hills	$602 152	$20 000	$40 000	$65 200	$50 000	$61 000	$179 787	$1 008 939
Bradbury	$6 000	$1 230	$5 000	$7 221	$1 561	$0	$0	$20 700
Burbank	$165 600	$45 100	$154 200	$1 752 893	$76 400	$26 520	$2 880 000	$5 060 320
Calabasas	$60 000	$24 450	$20 000	$428 520	$15 620	$20 000	$350 000	$923 590
Carson	$1 350	$0	$2 400	$344 200	$28 650	$0	$0	$376 615
Cerritos	$6 200	$73 000	$5 200	$288 000	$11 037	$0	$0	$383 400
Claremont	227 550	$24 000	338 900	$518 000	$15 350	$0	$0	$823 705
Commerce	$20 000	$5 000	$5 000	$105 000	$13 000	$0	$326 000	$470 000
Compton	$17 670	$7 150	$6 822	$429 000	$26 957	$0	$0	$497 620
Covina	$46 000	$13 120	$4 695	$178 521	$21 884	$0	$0	$264 110
Cudahy	$3 399	$4 378	$5 426	$61 [illegible]	$15 [illegible]	$0	$0	$90 105

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$16 994	$4 205 859	$30 424	$4 [illegible]	$42 426	$0		$4 319 110
Diamond Bar	$80 367	$30 758	$55 934	$212 344	$24 100	$0	$0	$403 923
[illegible]	$56 012	$4 [illegible]	$97 825	$984 [illegible]	$16 300	$1 [illegible]	$0	$2 765 526
Duarte	$16 000	$16 000	$10 000	$425 400				$471 400
El [illegible]	$38 142	$4 000	$20 549	$80 749	$43 500	$4 [illegible]	$7 [illegible]	$205 863
El Segundo	$15 000	$0 000	$10 000	$98 150	$5 000	$0	$26 950	$166 100
[illegible]	$100 000	$10 600	$2 000	$177 [illegible]	$20 200	$0	$7	$314 300
Glendale	$157 304	$58 676	$19 [illegible] 080	$5 582 825	$1 [illegible] 082	$0	$0	$7 260 812
[illegible]	$50 000	$50 000	$15 300	$1 [illegible] 000	$30 000	$0	$0	$245 000
[illegible] Gardens	$5 000	$3 000	$25 000	$64 000	$7 000	$0	$1	$105 000
[illegible]	$7 432	$7 889	$19 261	$378 393	$27 398	$0	$21 [illegible] 992	$931 445
[illegible] Vista beach	$33 993	$2 [illegible] 416	$11 [illegible] 10	$1 017 837	$23 594	$660	$2 [illegible] 000	$3 867 195
[illegible] Park	$7 350	$7 562	$5 272	$4 [illegible] 20	$3 640	$0	$0	$27 830
Huntington Park	$65 000	$8 150	$40 000	$248 600	$5 250	$5 600	$0	$365 500
[illegible]	$226 000	$62 000	$132 000	$530 000	$[illegible] 50 500	$0	$6 500	$3 [illegible] 000
[illegible]	$88 000	$47 300	$17 600	$1 [illegible] 985 502	$55 000	$6 000	$0	$2 200 030
Irwindale	$25 000	$15 000	$7 500	$50 000	$6 000	$0	$5 [illegible]	$[illegible] 5 500
La Canada Flintridge	$10 000	$5 000	$52 500	$[illegible] 278	$10 000	$10 000	$0	$380 778
La Habra Heights	$2 000	$0	$1 000	$1 [illegible]	$1 [illegible]	$1 000	$0	$4 000
Lakewood	$30 000	$28 [illegible] 00	$15 000	$33 [illegible] 00	$30 000	$0	$105 000	$924 100

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$134 375	$20 375	$67 336	$566 387	$23 700	$0	$0	$862 710
[illegible]	$6 200	$9 500	$4 500	$3 500	$4 000	$1 000	$2 [illegible]	$31 330
[illegible]	$25 000	$8 000	$10 000	$139 400	$38 000	$0	$0	$220 400
[illegible]	$4 600	$0	$0	$157 240	$45 000	$4 000	$15 000	$225 840
[illegible]	$4 000	$2 000	$2 000	$239 000	$0	$0	$30 000	$277 000
[illegible]	$2 036 999	$564 809	$1 551 764	$13 604 741	$7 180 077	$424 952	$206 572	$26 548 030
[illegible]	$1 135 550	$165 000	$179 207	$46 448 000	$4 185 550	$482 751	$84 [illegible]	$[illegible]
[illegible]	$13 000	$2 000	$6 000	$447 000	$12 000	$2 400	$0	$480 400
[illegible]	$35 550	$3 000	$10 000	$221 000	$4 200	$91 000	$0	$364 750
[illegible]	$24 900	$4 000	$3 500	$936 300	$15 500	$2 500	$2 [illegible]	$[illegible]
[illegible]	$5 400	$0	$10 500	$1 03 000	$3 750	$0	$0	$122 650
[illegible]	$21 280	$5 000	$9 [illegible]	$363 [illegible]	$30 386	$0	$0	$428 435
[illegible]	$12 100	$15 100	$8 000	$232 000	$11 000	$22 900	$31 [illegible]	$[illegible]
[illegible]	$20 000	$3 800	$4 400	$445 000	$16 800	$0	$1 [illegible]	$521 [illegible]
[illegible]	$44 500	$5 000	$12 000	$368 [illegible]	$31 [illegible]	$0	$0	$460 810
[illegible]	$10 000	$1 050	$8 000	$55 [illegible]	$8 800	$0	$0	$82 850
[illegible]	$ 2 500	$35 000	$107 000	$107 000	$15 500	$0	$0	$267 000
[illegible]	$45 [illegible]	$20 000	$53 166	$1 [illegible]	$61 200	$61 000	$15 [illegible]	$[illegible]
[illegible]	$31 800	$12 [illegible]	$10 [illegible]	$161 000	$1 [illegible]	$0	$5 000	$241 [illegible]
[illegible]	$1 [illegible]	$4 [illegible]	$1 [illegible]	$31 000	$1 [illegible]	$0	$0	$[illegible]

Program Management

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
[illegible]	$5 009	$4 [illegible]	$19 942	$170 [illegible]	$1 [illegible]	$0	$1 [illegible]	$1 [illegible]
[illegible]	$18 544	$27 662	$37 [illegible]	$714 681	$100 [illegible]	$0	$0	$[illegible]
[illegible]	$25 189	$3 434	$9 009	$600	$2 000	$0	$0	$40 432
[illegible]	$19 654	$10 500	$26 [illegible]	$37 240	$21 935	$0	$65 000	$180 350
[illegible]	$13 500	$20 000	$556 000	$376 000	$21 000	$0	$0	$986 500
[illegible]	$18 865	$9 751	$5 [illegible]	$192 350	$11 300	$6 080	$600	$214 637
[illegible]	$10 515	$4 759	$6 [illegible]	$123 [illegible]	$14 902	$0	$1 [illegible]	$161 060
[illegible]								
[illegible]	$2 800	$600	$600	$59 460	$100	$0	$100	$63 560
[illegible]	$351 964	$68 [illegible]	$215 [illegible]	$789 [illegible]	$268 284	$0	$244 [illegible]	$1 [illegible]
[illegible]	$30 900	$9 200	$11 [illegible]	$68 [illegible]	$35 900	$0	$226 [illegible]	$381 500
[illegible]	$52 000	$96 505	$42 [illegible]	$[illegible] 000	$89 110	$[illegible] 000	$25 000	$1 [illegible]
[illegible]	$3 329	$860	$3 550	$63 370	$6 050	$0	$5 500	$82 659
[illegible]	$17 461	$337 385	$9 463	$109 [illegible]	$15 297	$0	$262 570	$[illegible]
South El Monte	$11 047	$6 496	$7 320	$139 [illegible]	$30 225	$0	$47 580	$243 [illegible]
South Gate	$5 712	$4 305	$10 188	$394 [illegible]		$0	$52 [illegible]	$466 985
South Pasadena	$46 000	$341 695	$133 [illegible]	$542 300	$20 000	$5 [illegible]	$0	$1 087 995
Temple City	$10 640	$1 700	$8 176	$132 216	$9 336	$0	$40 [illegible]	$202 84[illegible]
Torrance	$155 000	$25 000	$20 [illegible]	$[illegible] 000	$55 000	$0	$703 [illegible]	$1 [illegible]
[illegible]	$56 [illegible]	$56 310	$28 434	$473 484	$28 348	$0	$0	$642 [illegible]

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Tota
[illegible]	$5 000	$2 550	$3 500	$4 50[illegible]	$3 500	$1 [illegible]	$2 [illegible]	[illegible]
[illegible]	$190 870	$0	$0	$[illegible]6 290	$0	$0	$0	$[illegible]
[illegible]	$16 889	$22 648	$13 260	$310 100	$56 020	$0	$1 446 [illegible]	$[illegible]
[illegible]	$15 919	$6 946	$6 946	$106 736	$16 760	$2[illegible] 175	$0	$164 [illegible]
[illegible]	$30 000	$60 [illegible]	$5 000	$31 [illegible]	$10 [illegible]	$[illegible]	$40 [illegible]	$[illegible]
GRAND TOTAL	$9,075,904	$9,685,512	$4 507,565	$95 579,268	$9,926,717	$3,029,098	$10,342 220	$142,046 284

Table 4. Summary of Fiscal Resources Budgeted for FY 2001/2002

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Agoura Hills	$30 000	$2 500	$15 000	$100 000	$11,000	$0	$20 000	$178 500
Alhambra	$25 000	$25 000	$10 000	$60 000	$45 000	$0	$100 000	$265 000
Arcadia	$42 300	$6 600	$37 550	$537,873	$33 775	$19 900	$0	$677 998
Artesia	$5 300	$200	$8 400	$1 400	$12 500	$250	$0	$28 050
Azusa	$16,000	$7 000	$7 000	$259,000	$23 000	$0	$2 000	$324 000
Baldwin Park	$4 000	$2 750	$7 000	$278,383	$21 240	$0	$62 005	$375 378
Bell	$55 000	$2 250	$8,000	$131,700	$21 000	$1 000	$0	$218,950
Bell Gardens	$13 000	$20 000	$100 000	$332,000	$7 000	$1 000	$0	$473,000
Bellflower	$14 500	$40 000	$5 000	$2,000	$18 000	$0	$11 000	$90,500
Beverly Hills	$774 749	$20 000	$43 300	$475 000	$50,200	$60 000	$119 790	$1 543 039
Bradbury	$6 000	$5 000	$7 000	$7 000	$2 500	$0	$0	$27 500
Burbank	$211 000	$128 000	$157 000	$1,573 000	$85 000	$4 000	$292 000	$2 450,000
Calabasas	$89 604	$3 000	$20 000	$485,000	$15 600	$25 000	$200,000	$838,204
Carson	$10,000	$5 000	$5 000	$344,200	$28 680	$0	$0	$392 880
Cerritos	$12 000	$11 000	$12 500	$355,000	$12 000	$2 000	$10 000	$414 500
Claremont	$49 039	$22 972	$50 245	$518 000	$11 415	$0	$0	$651 641
Commerce	$20 000	$5 000	$5 000	$105 000	$10 000	$0	$325 000	$470,000
Compton	$17 600	$7 150	$6 820	$429,000	$26 950	$0	$0	$487,520
Covina	$49 470	$13,120	$4 810	$215,950	$20 630	$0	$0	$303,990
Cudahy	$5 000	$2,000	$8,000	$97 500	$4 000	$1,000	$0	$118 500
Culver City	$30 000	$10,000	$5 000	$2,555,000	$34 900	$0	$2 980 000	$5 614,900

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Diamond Bar	$93 061	$32 365	$56 684	$229 171	$29 017	$0	$0	$440 340
Downey	$70,005	$3,524	$75,452	$703 722	$25 000	$0	$0	$877,703
Duarte	$19 000	$15 000	$10 000	$425 100	$0	$0	$0	$469,100
E. Monte	$12,000	$8 000	$5 000	$202 000	$46 500	$0	$0	$271,500
E. Segundo	$10 000	$10 000	$21 000	$95 000	$5 000	$20,000	$10 000	$171 000
Gardena	$100,000	$12,600	$2 000	$177 500	$22,200	$0	$0	$314,300
Glendale	$145 159	$310 819	$682 519	$11 986 176	$243,302	$0	$0	$13,347,975
Glendora	$50,000	$50 000	$15 000	$100 000	$30,000	$0	$0	$245,000
Hawaiian Gardens	$9,000	$3 000	$59 000	$82 500	$4,000	$0	$0	$157,500
Hawthorne	$6,950	$8 000	$11,100	$255 000	$20,025	$0	$38 000	$341,075
Hermosa Beach	$13 600	$5 000	$16 950	$3,112 367	$17 717	$3 500	$16 000	$3 185 129
Hidden Hills	$12 900	$12 700	$12,010	$10 620	$20 080	$0	$0	$68 310
Huntington Park	$105 000	$8 150	$43,000	$249 500	$5,250	$3,600	$77 000	$489 500
Industry	$66 500	$21,000	$122,000	$345 000	$232,000	$0	$3 500	$790 000
Inglewood	$55,000	$120,000	$23,000	$760 000	$38,000	$7,000	$0	$1,023 000
Irwindale	$25 000	$15 000	$7,500	$90 000	$5,000	$0	$5 000	$147 500
La Canada Flintridge	$10 000	$5,000	$77,500	$326 275	$10,000	$30,000	$0	$458 775
La Habra Heights	$2 000	$0	$1,000	$1 000	$1,000	$1,000	$0	$6,000
Lakewood	$35 000	$26,000	$35 000	$391 000	$30 000	$0	$105 000	$624,000
La Mirada	$223,579	$43,975	$250,000	$493 348	$7,500	$0	$0	$1 018 402
La Puente	$3 000	$1,700	$2 200	$3 250	$2,500	$500	$0	$13 150

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
La Verne	$30 000	$8 000	$15 000	$141 400	$27 000	$0	$0	$221 400
Lawndale								
Lomita	$4 000	$2 000	$2 000	$259 000	$0	$0	$30 000	$297 000
Los Angeles	$2 117 609	$954 247	$1 053 915	$13 696 319	$2 645 781	$578 537	$570 520	$21 626 925
County of Los Angeles	$4 694 250	$697 423	$396 320	$48 341 676	$3 832 696	$700 000	$0	$59 662 365
Lynwood	$8 000	$1 000	$2 000	$3 000	$5 000	$2 000	$0	$21 000
Malibu	$93 253	$3 000	$10 000	$212 344	$6 800	$153 000	$0	$478 397
Manhattan Beach	$24 900	$4 000	$3 500	$239 600	$22 450	$1 600	$520 000	$816 050
Maywood	$5 400	$0	$10 500	$103 000	$3 750	$0	$0	$122 650
Monrovia	$21 434	$5 359	$10 339	$264 922	$23 587	$0	$0	$325 641
Montebello	$12 100	$15 100	$8 000	$232 000	$11 000	$22 800	$310 000	$617 000
Monterey Park	$20 000	$3 800	$5 000	$462 901	$20 300	$0	$291 144	$803 145
Norwalk	$65 000	$5 000	$12 000	$387 616	$35 150	$0	$0	$504 766
Palos Verdes Estates	$15 000	$35 000	$17 000	$1 256 000	$8 900	$0	$0	$1 332 900
Paramount	$10 000	$3 000	$230 000	$286 900	$18 000	$25 000	$0	$572 900
Pasadena	$24 000	$94 500	$49 550	$2 118 500	$32 200	$20 000	$230 728	$2 569 478
Pico Rivera	$71 410	$5 710	$20 000	$164 400	$1 750	$0	$37 000	$301 270
Pomona								
Rancho Palos Verdes	$17 270	$4 375	$16 990	$75 972	$14 000	$0	$15 000	$137 507
Redondo Beach	$21 840	$28 915	$42 783	$790 400	$115 454	$47 844	$54 880	$1 102 126
Rolling Hills	$25 993	$3 503	$9 189	$816	$2 040	$0	$0	$41 241

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Rolling Hills Estates	$20 116	$10 500	$35 000	$44 726	$22 245	$0	$0	$132 587
Rosemead	$13 500	$20 000	$456 000	$378 000	$21 000	$0	$0	$888 500
San Dimas	$3 169	$13 387	$5 458	$129 949	$9 117	$0	$488	$161 566
San Fernando	$10 200	$3 500	$3 570	$129 620	$17 170	$0	$2 750	$166 810
San Gabriel	$25 000	$5 000	$10 000	$165 000	$10 000	$0	$400 000	$615 000
San Marino	$2 800	$600	$500	$89 450	$100	$0	$100	$93 550
Santa Clarita	$357 109	$122 328	$242 157	$923 369	$294 123	$0	$502 155	$2 441 241
Santa Fe Springs	$80 000	$10 400	$15 300	$237 500	$222 200	$0	$226 000	$791 400
Santa Monica	$150 000	$100 000	$40 000	$2 250 000	$102 500	$160 000	$50 000	$2 852 500
Sierra Madre	$9 200	$2 750	$5 180	$52 456	$9 120	$0	$0	$78 706
Signal Hill	$15 500	$9 360	$12 840	$137 400	$14 200	$5 000	$269 000	$463 300
South El Monte	$11 000	$9 500	$8 100	$141 000	$30 120	$0	$32 673	$232 393
South Gate	$9 890	$4 600	$16 900	$379 350	$31 610	$0	$407 813	$850 163
South Pasadena	$72 000	$343 700	$190 000	$517 300	$27 500	$5 000	$0	$1 155 500
Temple City	$2 500	$3 500	$0	$127 550	$5 600	$0	$0	$142 150
Torrance								
Vernon	$36 573	$56 310	$28 434	$473 484	$28 348	$0	$0	$623 149
Walnut	$5 000	$3 500	$3 500	$4 500	$3 500	$0	$0	$20 000
West Covina	$197 700	$0	$0	$165 550	$0	$0	$0	$363 250
West Hollywood	$18 688	$22 645	$13 280	$310 100	$56 020	$0	$1 445 852	$1 866 585
Westlake Village	$42 000	$2 600	$5 300	$50 761	$18 625	$27 895	$0	$147 181

SUMMARY OF FISCAL RESOURCES

Permittee	Program Management	IC / ID	Development Planning and Construction	Public Agency Activities	Public Information and Participation	Monitoring Program	Other	Total
Whittier	$40,000	$5,000	$5,000	$128,000	$10,000	$0	$126,000	$324,000
GRAND TOTAL	$10,937,410	$3,673,510	$5,051,045	$104,802,376	$9,050,442	$1,928,426	$9,908,396	$145,351,612

Table 5. Number of Active Facilities Covered under the General Industrial Activities Storm Water Permit in Selected Cities

City	Number of Active Facilities
ARCADIA	3
ARTESIA	3
BELL GARDENS	5
BURBANK	37
CERRITOS	13
COMMERCE	56
COMPTON	54
DOWNEY	19
INDUSTRY	105
LA MIRADA	25
LAKEWOOD	1
LAWNDALE	1
LOS ANGELES	873
MONROVIA	14
MONTEBELLO	26
NORWALK	8
PARAMOUNT	24
PICO RIVERA	14
POMONA	40
ROSEMEAD	4
SAN GABRIEL	2
SANTA FE SPRINGS	130
SIERRA MADRE	1
SIGNAL HILL	4
SOUTH GATE	56
VERNON	63
WALNUT	8
WHITTIER	23
Grand Total	**1,612**

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ADDITIONAL MATERIALS TO BE INCLUDED IN THE AGENDA PACKAGE

ITEM #: 10-H(1), H(2), H(3)

FROM: Xavier Swamikannu PHONE: (213) 576-6654

DATE: Dec. 4, 2001

MESSAGE

Please insert the following attachments in Volume 1 of Item 10, Section H as follows:

H(1). Response to Comments (pgs. H-1 to H-5)
H(2). RGO Technical Report (pgs. H-6 to H-15)
H(3). Case for Inspection (pgs. H-16 to H-40)

Thank you.

TO:
- X ALL BOARD MEMBERS
- _____ DAVID NAHAI
- _____ CHRISTOPHER PAK
- _____ SUSAN M. CLOKE
- _____ BRADLEY MINDLIN
- _____ FRANCINE B. DIAMOND
- _____ ROBERT L. MILLER
- _____ TIMOTHY SHAHEEN
- X MICHAEL LAUFFER
- X OTHER Executive Officers, Counsel, Section Chiefs, Environmental Groups, Lead Staff

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

LOS ANGELES COUNTY MUNICIPAL STORM WATER DISCHARGE PERMIT

Summary of Comments and Regional Board Staff Response
Tentative Draft [October 11, 2001]

The Response here supplements the '*Summary of Comments and Regional Board Staff Response, Second Draft (June 29, 2001)*' (October 2001). In general comments responded to in that document are not revisited here. Legal matters are addressed in Regional Counsel's legal brief, *'Legal Issues Concerning Renewal of Order No. 96-054 as Reflected in Tentative Waste Discharge Requirements Dated October 11, 2001'* (Nov. 9, 2001)

Commentors	Comment	Staff Response
Santa Monica Bay Keeper (SMBK)	1. Completeness of Permit Application Permittees have not complied with storm water permit application requirements at 40 CFR 122.26(d).	The Regional Board issued the first municipal storm water permit consistent with NPDES application requirements in effect in 1990, and processed the reapplications consistent with U.S. EPA policies. Please see also p. 1 in 'Summary of Comments and Regional Board Staff Response' (October 11, 2001), and p. 20 Regional Counsel's legal brief (November 9, 2001)
CAA, CICWQ, LAEDC, BWS, ALH, CAM, COM, ELS, GAR, IND, LAW, LOM, LYN, MOO, SCL, SFS, SIH, SMA, TOR	2. Economic Consideration Give further consideration to economic cost of implementation. Compliance costs will be substantial and projected to exceed $50 billion.	The iterative process to meet receiving water limits explicitly takes into account the economics of compliance. Permittees self-reported budget for implementation of the permit requirements for 2001-2002 is about $145 million, a fraction of the projected cost claimed in the $50 billion. More than likely, Permittees current budget overstates costs because it includes activities being conducted for other than storm water purposes (such as street sweeping and corporation yards maintenance). The Regional Board staff has significantly reduced the scope of the industrial/ commercial inspection program after facilitation by the U.S. EPA mediator.

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Commentors	Comment	Staff Response
CAR, CAA, EAC, CPR, RT, BWP, BCSMW, CUD, CUL, BEH, BEF, BEG, HAW, HIH, LAK, LCF, LMI, PAR, ROS, RWG, SCL, SFE, SGA, SOG, VRN, WEH, WEV	3. Executive Advisory Committee Reinsert into the permit the EAC, which is a representative and coordinating body for Permittees. How will they now coordinate?	The Regional Board cannot create the EAC under any authority. The EAC is the Permittees prerogative to organize. The EAC can continue to perform its role for Permittees and interact with the Regional Board irrespective of whether or not it is recognized in the permit. The Regional Board encourages Permittees to better use the Watershed Management Committees (WMCs) for permit coordination and implementation because the WMC is a functional unit based on common water quality protection interests.
MWD, [City of Los Angeles Department of Water and Power, California Water Service Company, Southern California Water Company,	4. Non-Storm Water Discharges Authorize releases of potable water discharges that are in accordance with an equivalent document to Industry-wide practice guidelines developed by the American Water Works Association (AWWA)	For purposes of standardization, the AWWA whose membership, includes the commentors, should develop guidance (technical bulletins) for potable water discharge releases, if they have not already done so.
BRB, DB, AR, RT, R&T, RWG, BWS, LAC, LA, CPR, EAC	5. Industrial/ Commercial/ Construction Inspections The State should not transfer its responsibility to inspect facilities and construction sites covered under statewide general permits.	The MS4 Permittee has a responsibility to make sure that industrial sites (including construction) comply with local government storm water and urban runoff ordinances. The USEPA clearly contemplates a dual and a cooperative oversight of facilities 'discharging storm water associated with industrial activity', between the permitting authority and the MS4 permittee (55 *Fed. Reg.* 222, 48000; and Storm Water Phase II Compliance Assistance Guide (USEPA 2000), p 4-32 and 5-11). See also, Radulescu (2001), *A Case for Inspection*, and Regional Board Counsel's brief at p. 2. Regional Board staff have considerably reduced the scope of the industrial/ commercial inspection program through the efforts of a U.S. EPA mediator.
CLA DHS	6. Restaurant Inspections Since restaurant inspections will involve health inspectors, reference requirements from the California Uniform Food Facilities Law	The Regional Board is the permitting authority for the CWA and Cal. Water Code. The County of Los Angeles (including the Departments of Public Health and Health Services) are best positioned in deciding on the appropriate changes to the County Code to enforce compliance by restaurants with the Cal. Uniform Food Facilities Law and the Cal. Water Code.

Commentors	Comment	Staff Response
WSPA, RT	7. RGOs RGOs should be exempted from new development requirements because the Regional Board has provided no proper justification.	Proper justification for inclusion of RGOs has been developed and the basis has been specified in the permit. Please see p. 8 in Summary of Comments and Regional Board Staff Response (October 11, 2001), p. 7 in Regional Counsel's legal brief (November 9, 2001), Technical Report - *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts* (Radulescu et al., 2001), *Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets: Review and Comment* (Radulescu, 2001), and *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts: Supplement* (Radulescu and Swamikannu, 2001)
BCSMW , PAS, RPV, BUR, DB, AR, RT, R&T, RWG, BWS, CPR, EAC, BCSMW, BIA, SEM, SOG, WEH,	8. ESAs Allow cities to submit designations for ESAs in addition to the other listed agencies. Reasonableness depends on what is approved by the Regional Board as constituting ESAs.	Regional Board staff has proposed thresholds for ESAs to be responsive to the State Board decision in Order No. WQ 2000-11. In that decision, the State Board set forth types of evidence and criteria necessary for inclusion of ESAs in subsequent permits, including thresholds (See memorandum from Office of Chief Counsel to Regional Board Executive Officers dated December 26, 2000). For a complete discussion of the ESA matter see, Fact Sheet/ Staff Report – Attachment, Technical Report: 'Mitigation of Storm Water Impacts from New Development in Environmentally Sensitive Areas'.
ULARAW	9. Infiltration Concern Infiltration practices can inadvertently contaminate ground water basins.	Permittees may impose restrictions where there is a threat of ground water contamination. Storm water mitigation for new development includes the option to treat, filter, or infiltrate (not just infiltration). Infiltration studies conducted by the USGS and university researchers demonstrate that where conditions for infiltration are favorable, infiltration is effective in removing common pollutants of concern in storm water, and the risk of ground water contamination is minimal. For a discussion, see U.S. EPA Report No./600/R-94/051 (1994); Pitt et al. (1996) *Groundwater Contamination from Storm Water Infiltration*, Ann Arbor Press, 218 pp.; USGS Water Resources Investigation Report No. 93-4140 (1995)
CAA, CLA, LACo	10. Definition of MEP Retain the MEP definition in the current permit instead of the revised definition. MEP definition is contrary to the CWA. It does not require the balancing of other factors.	The definition of MEP references its expression in the CWA, and its interpretation by State Board Senior Staff Counsel in a legal memorandum (Feb. 11, 1993). So long as the memorandum states that multiple interests have to be balanced, the need to make such analyses is incorporated by reference.

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Commentors	Comment	Staff Response
BWS, CPR, LAK, POM, RT, SGA, VRN,	11. Definition of Redevelopment The definition of "redevelopment" is overly broad and should be limited to addition or creation of 5,000 square feet or more of surface area (exclude replacement). U.S. EPA defines the threshold for redevelopment as one acre or more which should be criterion instead of 5,000 sq. ft. Requirement may discourage property improvement.	The definition has been revised to exclude exterior remodeling and replacement of roofs. It is inclusive of the replacement of building footprint. U.S. EPA Phase II guidance do recommend a threshold of 1 acre to trigger requirements for Phase II MS4s. However the Regional Board adopted the 5,000 sq. ft. threshold for redevelopment in the LA SUSMP, an action which was upheld by the State Board (Board Order No. WQ 2000-11). The 5,000 sq. ft. threshold is consistent with thresholds established for redevelopment triggers by other States (such as Washington, Maryland, Virginia, and Florida) for U.S. EPA Phase I MS4 Permittees. Please see also p. 9 in Summary of Comments and Regional Board Staff Response (October 11, 2001), and p. 5 Regional Counsel's legal brief (November 9, 2001).
BCSMW , CUD, CUL, HAG, PAR, PAS, ROS, SOG,	12. Public Agency Activities: Fire Truck Washing Fleet vehicles deserve the same exemption as fire-fighting vehicles for wash-down to the MS4. Why is this wash-down exempt from discharge prohibitions?	The allowance for wash-down of fire trucks at existing fire stations was made because a prohibition would involve taking the trucks off service. The trucks would have had to be sent to a dedicated washing facility, thus compromising their availability to respond to situations of public health and safety.
BCSMW, DIA, CLA, PAS, RPV, SOG, WEH, LACo,	13. Public Agency Activities: Trash Receptacles at Transit Stops Requirement to place trash receptacles at all transit stops is unreasonable and premature	More time has been provided. The provision has been revised to require receptacles at transit stops with rain shelters within 6 months and all other transit stops within a year from permit effective date.
LACo	14. Monitoring: Trash Requirements to monitor trash in watersheds not listed as impaired for trash will cost as much as $5 million.	This monitoring requirement for unimpaired watersheds has been changed to eliminate trash sampling. It now requires photographic documentation after qualifying storm events.
BCSMW, BUR, SEM, SOG, WEH,	15. Reporting Provide Permittees with 180 days to propose an alternative reporting format from the one in the permit.	The purpose in providing a sample reporting form is to assist permittees in collecting information to document compliance with the permit requirements. The reporting format under the existing permit appears deficient because permittees report in multiple ways. Permittees can always develop an equivalent reporting form so long as it provides the same information as that which is requested by the Regional Board in the sample reporting form.

List of Commentors on Draft Permits.

City of Arcadia (ARC)	City of Alhambra (ALH)	City of Baldwin Park (BWP)	City of Bell (BEL)
City of Burbank (BUR)	City of Bellflower (BEF)	City of Bell Gardens (BEG)	City of Beverly Hills (BEH)
City of Calabasas (CAL)	City of Camarrillo (CAM)	City of Carson (CAR)	City of Cerritos (CER)
City of Claremont (CLA)	City of Compton (COP)	City of Covina (COV)	City of Culver City (CUV)
City of Diamond Bar (DIB)	City of Duarte (DUA)	City of El Segundo (ELS)	City of Hawthorne (HAW)
City of Hawaiian Gardens (HAG)	City of Hidden Hills (HIH)	City of Industry (IND)	City of Irwindale (IRW)
City of La Canada Flintridge (LCF)	City of La Mirada (LMI)	City of Lawndale (LAW)	City of Lomita (LOM)
City of Lakewood (LAK)	City of Los Angeles (LAC)	County of Los Angeles (LACO)	City of Lynwood (LYN)
City of Monrovia (MON)	City of Montebello (MOL)	City of Moorpark (MOR)	City of Norwalk (NOR)
City of Paramount (PAR)	City of Pico Rivera (PIR)	City of Rancho Palos Verdes (RPV)	
City of Redondo Beach (REB)	City of Rosemead (ROS)	City of San Gabriel (SGA)	City of San Fernando (SFE)
City of San Marino (SNM)	City of Santa Clarita (SCL)	City of South Gate (SOG)	City of Santa Fe Springs (SFS)
City of Sierra Madre (SMA)	City of Signal Hill (SIH)	City of South El Monte (SEM)	City of South Pasadena (SPA)
City of Temple City (TPL)	City of Torrance (TOR)	City of Vernon (VRN)	City of West Hollywood (WEH)
City of Westlake Village (WEV)	City of Whittier (WHT)		

Ballona Creek/ Santa Monica Watershed (BCSMW) Coalition for Practical Regulation (CPR) Rutan and Tucker (RT)
Richards Watson and Gershon (RWG) Charles Abbott and Assoc. (CAA) Executive Advisory Committee (EAC)
Burke, Williams & Sorensen, LLP (BWS) California Coastal Commission (CCC) State of California Department of Health Services
County Sanitation Districts of Los Angeles County (CDSLAC) County of LA Department of Health Services (CLADHS)
Upper Los Angeles River Area Watermaster (ULARAW) Water Replenishment District (WRD)
City of Los Angeles Department of Water and Power (DWP)
California Water Service Company Central Basin Water Association Southern California Water Company
South Montebello Irrigation District Building Industry Association (BIA) Western States Petroleum Association (WSPA)
So. Ca. Building Industry Assoc. (BIA) Construction Industry Coalition on Water Quality (CICWQ)
Bull Shot System, Inc. (BULSYS) National Association of Industrial and Office Properties (NAIOP) Heal the Bay (HTB)
Natural Resources Defense Council (NRDC) Santa Monica Baykeeper (SMBK)

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RETAIL GASOLINE OUTLETS: NEW DEVELOPMENT DESIGN STANDARDS FOR MITIGATION OF STORM WATER IMPACTS

SUPPLEMENT

(To June 2001 Technical Report)

December 2001

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Introduction

On March 23, 2001, the Western States Petroleum Association (WSPA), a trade association for the petroleum industry in the Western U.S., submitted a petition to the State Water Resources Control Board (State Board) which challenged the inclusion of numerical design standards for Retail Gasoline Outlets (RGOs) in the Municipal Separate Storm Sewer (MS4) permit for San Diego County.[1]

In June 2001, the California Water Quality Control Board, Los Angeles Region (LA Regional Board) and the California Water Quality Control Board, San Diego Region (SD Regional Board) issued a Technical Report, 'Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts' (RGO Technical Report). The Technical Report was prepared in response to the direction provided by the State Board in its decision in, *In Re*: City of Bellflower et al. (Order No. WQ 200-11, hereafter the LA SUSMP Decision) for the inclusion of numerical design standards for RGOs in future MS4 permits. The RGO Technical Report addressed presumptive concerns expressed by the State Water Resources Control Board (State Board) in the LA SUSMP Decision such as, (i) heavily regulated; (ii) limitations of space; (iii) feasibility and safety of treatment; (iv) absence of a threshold relative to RGO size. It also recommends a threshold relative to RGO size as directed by the State Board. WSPA claims that the Regional Board's evidence and findings are not "proper justification" as

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[1] The State Board upheld WSPA's petition on procedural grounds. See *In Re*: Building Industry Association of San Diego and Western States Petroleum Association (Order No. WQ 2001-15)

required by the State Board. In contrast, Regional Board Counsel has determined that the criteria established are lawful and proper.[2]

On August 6, 200, WSPA submitted a critique of the RGO Technical Report in its comment on the second draft of the Los Angeles County MS4 permit. WSPA, in large part, contended that the justification was not proper. The LA Regional Board staff has prepared this Supplement to the RGO Technical Report to clarify issues raised by WSPA in its critique of the RGO Technical Report, and WSPA's comments on applicability of numerical design standards to RGOs in reference to the October 11 tentative draft of the Los Angeles County MS4 permit.[3]

Lack of Specific Analyses by WSPA

We are concerned as to the lack of substantive documentation by WSPA of its assertions that the treatment of storm water to remove pollutants of concern in California is technically not feasible, not safe, and prohibitively costly. WSPA has not technically documented the bases of such claims or conducted any analyses of such conditions at RGOs. Rather WSPA and its consultants appear to misinterpret data from other studies; misstate facts; draw questionable inferences, and gloss over important differences. Regional Board staff on the hand have conducted independent analyses of these factors and facts to ensure "proper justification" for the inclusion of RGOs.

For example contrary to WSPA's claims, (i) WSPA member RGOs in Western Washington and Northern Oregon have been required by their municipalities to utilize tiered treatment since 1992 to remove petroleum hydrocarbons in storm water runoff from the fueling areas and other pollutants such as heavy metals from adjacent areas, and not after "August 2001" (Figure 1);[4] (ii) treatment control BMP pollutant concentrations were higher in the effluent at a Washington State RGO study site only because the parameters were either a component of the treatment media (phosphorous and nitrates) or the influent concentration was low (oil and grease), not because the BMP was ineffective;[5] (iii) treatment control BMPs tested by Caltrans performed as expected but needed more maintenance because of undersizing and no pre-treatment, not because they were ineffective;[6] (iv) space at RGOs for installation of treatment

[2] Regional Board Staff Counsel's Brief (November 9, 2001) at p.7.

[3] See, WSPA Comment Letter on October Draft dated November 13, 2001.

[4] See p 9 where is reproduced the e-mail communication between Mr. Ciuba at Washington Department of Ecology and Dr. Swamikannu (dated Sept. 20, 2001). Mr. Ciuba explains that the criteria applied to RGOs in the State of Washington is "virtually the same as in 1992".

[5] See, Stormwater Sampling – Stormfilter, Performance Results; Burwell/ Straley's Union 76 Station, Bremerton, WA (2000) 7 pp.

[6] *See Performance Evaluation of Structural BMPs: Drain Inlet Inserts and Oil Water Separator,* Othmer, E.F. *et al.* (2001) at p 1 (cited by WSPA)

control BMPs is not constrained to render it infeasible (Table 1)[7], (iv) subsurface treatment control BMPs are safe, as demonstrated by WSPA member RGOs in Washington and Oregon who have installed these systems for some years; and (v) cost of installation of treatment control BMPs (actually a retrofit of existing facilities) tested by Caltrans was well within estimated costs; the larger expense was for monitoring and analysis...not installation.[8]

RGOs are Storm Water Pollutant Hotspots

RGOs are incontrovertible hot spots for pollutants of concern in storm water and have been widely documented as such. The most common pollutants of concern in storm water runoff from RGOs are heavy metals, petroleum hydrocarbons (such as Polycyclic Aromatic Hydrocarbons (PAHs)), and oil and grease.[9] These pollutants have been identified through analyses of: (i) trapped sediments in on-line oil water separators; (ii) particulates removed by treatment control BMPs such as media filters; (iii) simulated runoff; or (iv) storm water runoff leaving RGOs. In studies conducted, since 1970, in relation to automotive related activities and their impact on the quality of storm water runoff, a strong correlation has emerged between the volume and duration of automotive exposure and its impact on water quality and sediment quality criteria. As a result, several areawide storm water management programs already identify RGOs as pollutant hotspots and require the implementation of treatment control BMPs.[10,11,12]

An 18-month study was performed in the Washington Metropolitan area ("Washington Study"), to compare storm water quality with the National Urban Runoff Program (NURP) monitoring results.[13] One of the monitoring locations was situated at a

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[7] Table 1 illustrates that more than two-thirds of the surface area (at a sampling of RGOs in the Los Angeles area) is available for installation for WQF treatment control BMPs (some which are as compact as 50 sq. ft in dimension).

[8] *Ibid.* Footnote 6, ref. at p. 12.

[9] *A Review of Semivolatile and Volatile Organic Compounds in Highway Runoff and Urban Stormwater,* Open-File Report 98-409, U.S. Department of the Interior, U.S. Geological Survey (1998)

[10] *New York Stormwater Design Manual-Draft*, (2001) New York State Dept. of Environmental Conservation.

[11] *Virginia Stormwater Management Handbook*, Volumes 1 and 2, First Edition, (1999).

[12] *Stormwater Management Manual for Western Washington* (2001), Washington State Dept. of Ecology.

[13] *Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use* – F.I. Rabanal and T.J. Grizzard (1995), Proceedings of the 4th Biennial Conference on Stormwater, FL. Note that NURP catchments generally contained both pervious and impervious surfaces, while the study surfaces here were completely impervious, which may account for comparability in some pollutant concentrations.

gasoline station. The Washington Study confirmed NURP findings, i.e., water quality criteria for metals and Chemical Oxygen Demand (COD) are exceeded for storm water runoff from sites exposed to vehicular traffic (such as gasoline stations, parking lots and streets).[14] In the Washington Study the high COD values were attributed to the presence of high concentrations of petroleum hydrocarbons in the runoff from the gasoline station site. In addition, the U.S. General Accounting Office, in its report to Congressional requesters on urban runoff water quality (Report No. GAO-01-679) cites research in Texas that shows PAH concentrations are related to the volume of vehicular traffic.[15] Nationwide studies confirm the increased concentrations of PAHs in sediments deposited by storm water from urban watersheds.[16] A similar link between the duration and volume of automotive exposure at automotive-intensive land uses, including RGOs, demonstrated that, even at moderate duration and volume of automotive exposure, the observed hydrocarbon concentrations in storm water runoff were high.[17] For the Los Angeles area, a number of studies have identified PAHs and heavy metals as pollutants of concern in storm water runoff discharging to Santa Monica Bay.[18,19]

Implementation of Storm Water Quality Task Force (Source Control) BMPs Alone is Inadequate to Control Pollutants in Storm Water

WSPA's total reliance on the Storm Water Quality Task Force RGO BMP Guide (RGO BMP Guide) is misplaced. We have reviewed the RGO BMP Guide[20] and found it to be obsolete.[21] The recommendations of the Task Force for the implementation of default source control BMPs were not an "end all" and ultimate method to control storm water pollution at RGOs. The Task Force itself suggested that these source control

[14] WSPA has never disputed the fact that pollutants in storm water discharges from RGOs often exceed water quality criteria. Their claim has been that it is no worse than the quality of storm water from urban land-uses characterized in the NURP study from the 1970s.

[15] *Urban Sprawl Leaves Its PAH Signature* - P. Van Metre *et al.* (2000), Env. Science Technol., 34 (19).

[16] *Selected Findings and Current Perspective on Urban and Agricultural Water Quality by the National Water-Quality Assessment Program* —USGS FS-047-01 April 2001.

[17] *Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses* – D.L. Shepp, In Watershed ' 96 Conference Proceedings, June 1996, Baltimore, MD.

[18] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994.

[19] *Study of the Impact of Stormwater Discharge on Santa Monica Bay* – Executive Summary – Southern California Coastal Water Research Project – 1999.

[20] *Best Management Practice Guide Retail Gasoline Outlets* - California Stormwater Quality Task Force (1996).

[21] *Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets: Review and Comment*, D. Radulescu (Nov. 2001), California Regional Water Quality Control Board, 5 pp.

BMPs were not the one and only method to address the discharge of pollutants in storm water runoff from RGOs. In fact, the Task Force contemplated the addition of treatment control BMPs in the future to the recommended BMPs menu. The RGO BMP Guide was intended to provide a default menu of source control BMPs as a pre-treatment step, until treatment BMPs were added to the Guide. The RGO BMP Guide has not been updated, and as a result is woefully inadequate for guidance to reduce the discharge of pollutants in storm water to protect the beneficial uses of receiving waters in the Los Angeles Region.[22]

WSPA's contention that the RGO Guide is the 'end all' originates from two unsupported assumptions – that source control BMPs: (i) alone are sufficient to control the discharge of pollutants in storm water runoff from RGOs so that no exceedances of water quality standards will occur, and (ii) are consistently and diligently implemented. A study conducted recently in the Los Angeles Region deflates both assumptions.[23] The results from the study demonstrate that the implementation of source control BMPs alone (similar to those recommended in the RGO BMP Guide) are insufficient to reduce the concentration of pollutants discharged in storm water to meet water quality standards. Treatment control BMPs must be employed to adequately reduce pollutants in storm water to meet water quality standards. Secondly, source control BMPs by their nature are difficult to verify and often are at the operator's discretion. While pollution prevention practices recommended in the RGO BMP Guide are desirable, neither WSPA nor others have demonstrated that the implementation of such practices reduces pollutants successfully to where water quality impacts are eliminated.[24] In fact the opposite evidence now exists.[25]

Implementation of Properly Designed Treatment Control BMPs is Necessary

Treatment control BMPs in order to be effective have to be properly designed based on either the Water Quality Flow (WQF) or Water Quality Volume (WQV) criteria or both. The WQF and WQV criteria developed by the Los Angeles Regional Board are based on characteristics of precipitation in the region. The most common precipitation events are small size storms and extreme events are rare. Consequently, for water quality purposes, the design standards ensure proper design for the treatment of the small more frequent precipitation events.

More than likely a multi-chamber treatment train or a set of treatment control BMPs will be necessary to remove the full suite of pollutants of concern in storm water

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[22] *Ibid.*

[23] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report* – 2000. Part of the critical sources study was conducted at automotive service facilities which have similar traffic volume and duration exposure as RGOs.

[24] See Letter from Professor L.D. Duke at UCLA to Mr. Radulescu dated Nov. 15, 2001, explaining the meaning of his statement on pollution prevention in a report cited by WSPA as proof that source control BMPs are all that are needed.

[25] *Supra.* See Footnote 23

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discharges from RGOs, and regular maintenance of the treatment systems will be necessary to keep it performing optimally. Current approaches to treating runoff from RGOs include isolation of the fuel servicing area to treat VOCs, petroleum hydrocarbons, and oil and grease. The area should not be connected to an infiltration type of BMP because of the potential for soil and groundwater contamination from gasoline. These areas should be connected to the sanitary sewer system with the permission of the sewer agency or to an oil water separator and a basic treatment control BMP (such as a media filter or a biofilter). VOC concentrations in storm water because of their volatility are seldom detectable. Storm water from the general area is separately treated to remove pollutants of concern adhering to particulates. Basic treatment control BMPs being implemented elsewhere in the U.S. include sand filters, vegetated buffers, biofilters, flow-through filter cartridges, and multi-chamber treatment train.[26]

The percent removal efficiencies of treatment control BMPs are highly dependent on the influent concentration of pollutants. The higher the influent concentration the higher the percent removal. For filter media based treatment control BMPs the characteristics of the medium also matter and removal efficiencies vary according to the type of filter material.[27]

Implementation of BMPs is Safe

WSPA contends that the installation of subsurface treatment control BMPs raises safety concerns because gasoline spills would purposely be routed below grade thus presenting a potentially explosive environment. We agree that the fueling area, vehicle maintenance areas, and vehicle traffic areas represent different problems. They require different solutions. To control spills, the fuel-island may be designed with a dead-end sump or spill control separator in compliance with the Uniform Fire Code (UFC); and as a spill containment pad (UFC § 790.18). The canopy should be designed to prevent the entry of rain into the fuel pad area. Storm water collected in the fuel island area may be conveyed to the sanitary sewer system after pre-treatment (if the sewer authority approves) or discharged after passing through a treatment train that includes an oil-water separator and basic treatment BMPs (media filters, biofilters, etc.). Storm water from the vehicle traffic areas may be treated using biofilters, linear sand filters, media filters or similar BMPs.[28] Contrary to WSPA's assertions, it is feasible to minimize safety concerns by designing the fueling area at RGOs consistent with UFC standards to

[26] (i) *Storm Water Management Manual for Western Washington* (2001) Vol. 1, 4-6 to 4-11; Vol. IV 2-19 – 2-21 and Vol. V; (ii) *Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, (1999) Wayne County, MI, (iii) *Multi-Chamber Treatment Train Developed for Storm Water Hotspots*, Technical Note #87, Watershed Protection Techniques 2: 11-13 (1999).

[27] For filter medium performance see, *Catch Basin Inserts to Reduce Pollution from Stormwater.* S.L. Lau *et al* (2001), Water Science and Technol. 44: 23-34.

[28] See Table 4.1, which lists treatment control BMP options, *Storm Water Management Manual for Western Washington* (2001) Vol. 1, at p. 4-11.

control spills, while also incorporating treatment control BMPs to reduce the discharge of storm waters pollutants.

Treatment Control BMPs are Reasonable in Cost

We have previously reviewed the literature on the cost of treatment control BMPs for RGOs and determined them to be reasonable.[29] Biofilters are expected to cost about $6,500 per 5,000 square feet.[30] The multi-chamber treatment train has been estimated to cost between $5,000 and $10,000 per 5,000 square feet of drainage area.[31] Based on the estimated project cost to build a RGO (Table 2), the cost of installation of treatment control BMPs appears to be between 1.75 – 2.3 percent of the project cost. These estimates are consistent with the Regional Board's empirical basis of reasonable cost to meet the mitigation criteria (1-2 percent of the project development cost).[32]

Conclusion

Water quality protection should be no less important for RGO operators in California than they are for their counterparts in other Western states. The RGO BMP Guide which emphasizes pollution prevention practices may be considered as the pre-treatment step that optimizes the cost-effectiveness of treatment control BMPs. Both source control and treatment control BMPs are essential to reduce the discharge the pollutants in storm water effectively and to minimize treatment costs. A suite of treatment control BMPs or a treatment train of BMPs most likely will be needed to remove the range of pollutants of concern in storm water runoff from RGOs. The thresholds established by the Regional Board for the numerical mitigation criteria to apply to RGOs are reasonable and fair, have been properly justified, and have fully met all evidentiary requirements set forth in the LA SUSMP Decision by the State Board for the inclusion of RGOs.

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[29] *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*), Radulescu *et al.*, (June 2001) at p 7.

[30] See, "Cost and Benefits of Storm Water BMPs" in, *Preliminary Data Summary of Urban Storm Water Best Management Practices*, USEPA, No. EPA-821-R-99-012 (1999) pp. 6-1 – 6-44.

[31] *Multi-Chamber Treatment Train Developed for Storm Water Hotspots*, Technical Note #87, Watershed Protection Techniques 2: 11-13 (1999), at p 29.

[32] See State Board Order No. WQ 2000-11 (LA SUSMP Decision) at p. 21, where the State Board finds that this cost basis is reasonable.

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Monday, September 10, 2001 5:36 PM
To: Lynch, Donna
Subject: RE: Manual and Questions

Would you kindly respond to the following two questions:

1. Does a new gas station development that creates 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?
2. Does an existing gas station that replaces 5,000 square feet or more of impervious surface be subject to storm water treatment for post-construction use?

Thanks for your assistance.

Sincerely
Xavier
Storm Water Program
CalEPA- RWQCB Los Angeles"

-----Original Message-----
From: Lynch, Donna
Sent: Wednesday, September 12, 2001 9:42 AM
To: Ciuba, Stan
Subject: FW: Manual and Questions

Stan,
Please answer these gas station questions. Thanks.

>>> "Ciuba, Stan" <sciu461@ECY.WA.GOV> 09/12/01 01:37PM >>>
Xavier, the new manual, which should be published in the next couple of weeks, applies to new and redevelopments. Local governments can also use it for retrofits as they judge necessary. The impervious containment area of the fuel island is considered a pollutant generating source requiring treatment for hydrocarbon pollutants. The 5000 square foot threshold pollutant generating surface applies to the parking area adjacent to the fuel island and includes any convenience store parking area. Hope this helps.
Stan

-----Original Message-----
From: Xavier Swamikannu [mailto:XSWAMI@rb4.swrcb.ca.gov]
Sent: Thursday, September 13, 2001 2:38 PM
To: Ciuba, Stan
Cc: Dan Radulescu
Subject: Re: FW: Manual and Questions

Hello Stan:

Some follow-up questions.
Have these requirements for gas-stations been in effect for certain parts of Western Washington State for some time....for e.g. the Puget Sound Area?
What were the requirements for gas stations in the Stormwater Management Manual for the Puget Sound Basin (1992)?
Xavier

"The answer to your question is that the gas station BMPs in the new Manual (published last week), is virtually the same as in the 1992 Manual. The language has been changed and several items are expressed more directly. The new 2001 Manual applies to Western WA and is offered as technical guidance to local governments and others. However, the BMPs in the new Manual may be incorporated into the various municipal and industrial general NPDES Stormwater Permits. Exactly how and when that will happen has not been determined.
Best regards, Stan

Figure 1. Text of e-mail communications between staff from the Regional Board and Washington Department of Ecology on treatment control BMPs at RGOs (Sept 10 to Sept. 20, 2001).

Table 1. Summary of surface and underground spatial areas of typical structures at a sample of RGOs in the Los Angeles area.

	Mobil Station #18-EDP (Gardena)	United Oil Station #51 (Harbor City)	United Oil Station #4 (Lawndale)	Thrifty Station #1 (Maywood)	Mobil Station #18-L81 (Torrance)
Total Surface Area (sq. ft.)	11,000	12,000	12,000	16,000	24,000
Area of fuel canopy (%)	6	10	14	15	10
Area of building (%)	10	3	4	2	11
Area of subsurface UST* (%)	4	6	14	9	6
Remaining area (sq. ft.)	8,800	9,720	9,360	11,840	17,520
Remaining area (%)	80	81	78	74	73

* UST = Underground Storage Tanks

Table 2. Summary of estimated costs associated with the construction of a new gas station. Costs slightly vary from location to location, and auxiliary activities such as mini-mart, car wash, and vehicle service involve additional facility construction costs (Cost Estimates provided by a commercial land developer in the Los Angeles region).

Gas Station Development Characteristics	
Area (sq. ft.)	40,000
Land Cost ($)	800,000
Buildings and Site Improvement Costs($)	1,000,000
Entitlements (design, permits, etc.) Cost ($)	200,000
Off site Connections (signals, water lines, etc.) Cost ($)	300,000
Total Cost ($M)	2.3
Total Cost/ 5,000 sq. ft	287,500

The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities

A Case for Inspection Activities in the Large and Medium Municipal Separate Storm Sewer System Permits

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California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

November 2001

INTRODUCTION

A question that has been frequently asked during the process to renew the Los Angeles NPDES Municipal Stormwater Permit was if the storm water regulations require municipalities to conduct inspections at industrial or commercial facilities. This requirement establishes municipalities' responsibility to verify the effective implementation of best management practices to control the contribution of pollutants to the municipal storm drain system from industrial or commercial sites.

A second issue raised was the extent of responsibility municipalities have to control the contribution of pollutants from industrial or commercial sites and what is the relationship with the responsibilities that the Regional Board has over the same type of facilities.

This document attempts to answer to those specific questions raised by the Permittees and other stakeholders. The author adds emphases in the text.

I. Federal Mandate

The Federal Water Pollution Control Act Amendments (FWPCA) of 1972 created the framework for addressing critical pollution problems in the Nation's waters. Section 101, "Congressional Declaration of Goals and Policy", concisely summarized the new act. Section 101(a) stated, "The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." This way a strong emphasis was put on the ecological and environmental aspects of protecting water quality. Elaborating on that position, the same section set down two "national goals": (1) eliminating the discharge of pollutants into navigable waters by 1985, and (2) achieving an interim water quality level that would protect fish, shellfish, and wildlife while providing for recreation in and on the water wherever attainable. The 1972 Amendments focused their attention on point sources such as municipal discharges through publicly owned treatment works and direct industrial discharges. The Act also focused the efforts on two categories of pollutants: conventional (BOD, SS, and pH), and what was classified as toxic.

Much of the effort following the enactment of FWPCA was to establish the United States Environmental Protection Agency (U.S. EPA) and the framework of the National **Pollutant Discharge Elimination** System (NPDES) permit program. Many other efforts were initiated in areas of construction of treatment plants, basin planning, treatment technologies development, establishment of effluent standards for toxic pollutants and the creation of appropriate regulations to implement the intent of the Act.

Under the provisions of the Act, the U.S. EPA could delegate NPDES permitting authority to the States. California is a delegated State and has full authority to issue NPDES permits with U.S. EPA's concurrence.

Between 1972 and 1987, the law has been subject to mid-course corrections and a change of name to the Clean Water Act (CWA).

The 1987 amendments, known as the Water Quality Act (WQA) of 1987, were aimed at addressing a number of issues on which progress was deemed to have been unsatisfactory. These issues included toxics, nonpoint sources, storm water, coastal

pollution, and others. States were required to identify waters not meeting designated uses because of toxic pollutants even after the application of technology based controls and to develop strategies for controlling them.

New provisions to permit discharges of storm water from separate storm sewers were also added. Section 402 phases in storm water permits. Originally, the 1972 Act required U.S. EPA to issue a NPDES permit for all point sources of pollution. The Agency interpreted that requirement so that it could issue areawide permits for separate storm sewers, rather than each storm water outfall.

The first phase of the program, commonly referred to as "Phase I", was promulgated on November 16, 1990 (55 FR 47990, 40 CFR 122). Phase I requires NPDES permits for storm water discharge from a large number of priority sources including municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or more and several categories of industrial activity, including construction sites that disturb five or more acres of land.

The second phase of the storm water program, recently promulgated on December 8, 1999 (64 FR 68722) expands the existing program to include discharges of storm water from smaller municipalities in urbanized areas and from construction sites that disturb between one and five acres of land. The new rule allows certain sources to be excluded from the national program based on a demonstrable lack of impact on water quality. The rule also allows other sources not automatically regulated on a national basis to be designated for inclusion based on increased likelihood for localized adverse impact on water quality.

II. Water Quality Concerns

After FWPCA was adopted in 1972, the implementation of end-of-pipe control methods from traditional point sources started to show improvement in the quality of the effluent discharged from Publicly Owned Treatment Works (POTW) and industrial wastewater treatment plants. However, it also become evident that receiving waters still did not attain designated uses, and water quality standards were frequently exceeded. That focused the attention to the other major component contributing to beneficial use impairments of the receiving water quality: pollution from diffuse sources, such as runoff from urban areas, construction sites, agricultural areas, land disposal and resource extraction. Early on, the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA), along with U.S. EPA, conducted a comprehensive study of diffuse pollution sources that resulted in the 1985 report, "America's Clean Water – The States Nonpoint Source Assessment." This report indicated that 38 States reported urban runoff as a major cause of beneficial use impairment. In addition, 21 States reported construction site runoff as a major cause of impairment.

To provide a better understanding of the nature of urban runoff from commercial and residential areas, from 1978 through 1983, U.S. EPA provided funding and guidance to the Nationwide Urban Runoff Program (NURP)[1]. The NURP included 28 projects across the Nation. One focus of the NURP was to characterize the water quality of discharges from separate storm sewers that drain residential, commercial, and light industrial (industrial parks) sites. The majority of samples collected in the study were analyzed for

eight conventional pollutants and three metals. Data collected under the NURP indicated that on an annual loading basis, suspended solids in discharges from separate storm sewers draining runoff from residential, commercial and light industrial areas are around an order of magnitude greater than solids in discharges from municipal secondary sewage treatment plants. In addition the study indicated that the annual loading of chemical oxygen demand (COD) are comparable in magnitude to effluent from secondary sewage treatment plants. When analyzing annual loadings associated with urban runoff, it is important to recognize that discharges of urban runoff are highly intermittent and that the short-term loadings associated with individual events will be high and may have shockloading effects on receiving water, such as low dissolved oxygen levels. NURP data also showed that fecal coliform counts in urban runoff are typically in the tens to hundreds of thousands per 100 ml of runoff during warm weather conditions, (although the study suggested that fecal coliform may not be the most appropriate indicator organism for identifying potential health risks in storm water runoff), with the median for all sites being around 21,000/100 ml. This is generally consistent with studies that found that fecal coliform mean values range from 1,600 coliform fecal units (cfu)/100 ml to 250,000 cfu/100 ml[2]. Makepeace, et al., summarized ranges of contaminants from storm water, including physical contaminants such as total solids (76--36,200 mg/L) and copper (up to 1.41 mg/L); organic chemicals; organic compounds, such as oil and grease (up to 110 mg/L); and microorganisms.

Although NURP did not evaluate oil and grease other studies have demonstrated that urban runoff is an extremely important source of oil pollution to receiving waters, with hydrocarbon levels in urban runoff typically being reported at a range of 2 to 15 mg/l. These hydrocarbons tend to accumulate in bottom sediments where they may persist for long periods of time and exert adverse impacts on benthic organisms.

A portion of the NURP study involved monitoring 120 priority pollutants in storm water discharges from lands used for residential, commercial and light industrial activities. Seventy-seven priority pollutants were detected in samples of storm water discharges, from residential, commercial and light industrial lands taken during the NURP study, including 14 inorganic and 63 organic pollutants. The NURP data also showed a significant number of these samples exceeded various U.S. EPA freshwater water quality criteria. The NURP study provides insight on what can be considered background levels of pollutants for urban runoff, as the study focused primarily on monitoring runoff from residential, commercial and light industrial areas. However, NURP concluded that the quality of urban runoff can be adversely impacted by several sources of pollutants that were not directly evaluated in the study and are generally not reflected in the NURP data, including illicit connections, construction site runoff, **industrial site runoff** and illegal dumping. Other studies showed that storm water from industrial facilities might contain toxics and conventional pollutants when material management practices allow exposure to storm water.

Since the NURP study many other studies and programmatic assessments confirmed the magnitude of the diffuse pollution problem. Data from the NURP study were analyzed further in the U.S. Geological Survey (USGS) Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States survey[3]. The USGS report summarized additional monitoring data compiled during the mid-1980s, covering 717 storm events at 99 sites in 22 metropolitan areas and documented problems associated with metals and sediment concentrations in urban storm water runoff. More recent reports have confirmed the pollutant concentration data collected in the NURP study[4].

Other recent studies have not found significantly different pollutant concentrations in urban runoff when compared to the original NURP data[5].

Storm water runoff from lands modified by human activities can harm surface water resources and, in turn, cause or contribute to an exceedance of water quality standards by changing natural hydrologic patterns, accelerating stream flows, destroying aquatic habitat, and elevating pollutant concentrations and loadings. Such runoff may contain or mobilize high levels of contaminants, such as sediment, suspended solids, nutrients (phosphorous and nitrogen), heavy metals and other toxic pollutants, pathogens, toxins, oxygen-demanding substances (organic material), and floatables[6]. After a rain, storm water runoff carries these pollutants into nearby streams, rivers, lakes, estuaries, wetlands, and oceans. The highest concentrations of these contaminants often are contained in "first flush" discharges, which occur during the first major storm after an extended dry period[7]. Individually and combined, these pollutants impair water quality, threatening designated beneficial uses and causing habitat alteration or destruction. Uncontrolled storm water discharges from areas of urban development and construction activity negatively impact receiving waters by changing the physical, biological, and chemical composition of the water, resulting in an unhealthy environment for aquatic organisms, wildlife, and humans.

Urbanization alters the natural infiltration capability of the land and generates a host of pollutants that are associated with the activities of dense populations, thus causing an increase in storm water runoff volumes and pollutant loadings in storm water discharged to receiving waterbodies[8]. Urban development increases the amount of impervious surface in a watershed as farmland, forests, and meadowlands with natural infiltration characteristics are converted into buildings with rooftops, driveways, sidewalks, roads, and parking lots with virtually no ability to absorb storm water. Storm water and snow-melt runoff wash over these impervious areas, picking up pollutants along the way while gaining speed and volume because of their inability to disperse and filter into the ground. What results are storm water flows that are higher in volume, pollutants, and temperature than the flows in less impervious areas, which have more natural vegetation and soil to filter the runoff[9].

Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters. For example, a study in the Puget Sound lowland ecoregion found that when the level of basin development exceeded 5 percent of the total impervious area, the biological integrity and physical habitat conditions that are necessary to support natural biological diversity and complexity declined precipitously[10]. Research conducted in numerous geographical areas, concentrating on various variables and employing widely different methods, has revealed a similar conclusion: stream degradation occurs at relatively low levels of imperviousness, such as 10 to 20 percent (even as low as 5 to 10 percent according to the findings of the Washington study referenced above)[11]. Furthermore, research has indicated that few, if any, urban streams can support diverse benthic communities at imperviousness levels of 25 percent or more. An area of medium density single family homes can be anywhere from 25 percent to nearly 60 percent impervious, depending on the design of the streets and parking[12].

In addition to impervious areas, urban development creates new pollution sources as population density increases, and brings with it proportionately higher levels of car emissions, car maintenance wastes, pet waste, litter, pesticides, and household

hazardous wastes, which may be washed into receiving waters by storm water or dumped directly into storm drains designed to discharge to receiving waters. More people in less space results in a greater concentration of pollutants that can be mobilized by, or disposed into, storm water discharges from municipal separate storm sewer systems. A modeling system developed for the Chesapeake Bay indicated that contamination of the Bay and its tributaries from runoff is comparable to, if not greater than, contamination from industrial and sewage sources[13].

In addition, the 1996 305(b) Report, provides a national assessment of water quality based on biennial reports submitted by the States as required under CWA section 305(b)[14]. In the CWA 305(b) reports, States, Tribes, and Territories assess their individual water quality control programs by examining the attainment or nonattainment of the designated uses assigned to their rivers, lakes, estuaries, wetlands, and ocean shores. A designated use is the legally applicable use specified in a water quality standard for a watershed, waterbody, or segment of a waterbody. The designated use is the desirable use that the water quality should support. Examples of designated uses include drinking water supply, primary contact recreation (swimming), and aquatic life support. Each CWA 305(b) report indicates the assessed fraction of a State's waters that are fully supporting, partially supporting, or not supporting designated beneficial uses. In their reports, States, Tribes, and Territories first identified and then assigned the sources of water quality impairment for each impaired waterbody using the following categories: industrial, municipal sewage, combined sewer overflows, urban runoff/storm sewers, agricultural, silvicultural, construction, resource extraction, land disposal, hydrologic modification, and habitat modification.

The 1996 Inventory, based on a compilation of 60 individual 305(b) reports submitted by States, Tribes, and Territories, assessed the following percentages of total waters nationwide: 19 percent of river and stream miles; 40 percent of lake, pond, and reservoir acres; 72 percent of estuary square miles; and 6 percent of ocean shoreline waters. The 1996 Inventory indicated that approximately 40 percent of the Nation's assessed rivers, lakes, and estuaries are impaired. Waterbodies deemed as "impaired" are either partially supporting designated uses or not supporting designated uses. The 1996 Inventory also found urban runoff/discharges from storm sewers to be a major source of water quality impairment nationwide. Urban runoff/storm sewers were found to be a source of pollution in 13 percent of impaired rivers; 21 percent of impaired lakes, ponds, and reservoirs; and 45 percent of impaired estuaries (second only to industrial discharges). Additionally, urban runoff was found to be the leading cause of ocean impairment for those ocean miles surveyed.

In addition, a recent USGS study of urban watersheds across the United States has revealed a link between urban development and contamination of local waterbodies. The study found the highest levels of organic contaminants, known as polycyclic aromatic hydrocarbons (PAHs) (products of combustion of wood, grass, and fossil fuels), in the reservoirs of urbanized watersheds[15].

In addition to the large-scale nationwide studies and assessments, a number of local and watershed-based studies from across the country have documented the detrimental effects of urban storm water runoff on water quality. A study of urban streams in Milwaukee County, Wisconsin found local streams to be highly degraded due primarily to urban runoff, while three studies in the Atlanta, Georgia region were characterized as being, "the first documentation in the Southeast of the strong negative relationship

between urbanization and stream quality that has been observed in other ecoregions"[16]. Several other studies, including those performed in Arizona (*Maricopa County*), California (*San Jose's Coyote Creek*), Massachusetts (*Green River*), Virginia (*Tuckahoe Creek*), and Washington (*Puget Sound lowland ecoregion*), all had the same finding: runoff from urban areas greatly impair stream ecology and the health of aquatic life; the more heavily developed the area, the more detrimental the effects[17]. Pitt and others also described the receiving water effects on aquatic organisms associated with urban runoff[18]. In Wisconsin runoff samples were collected from streets, parking lots, roofs, driveways, and lawns. Source areas were broken up into residential, commercial, and industrial. Geometric mean concentration data for residential areas included total solids of about 500-800 mg/L from streets and 600 mg/L from lawns. Fecal coliform data from residential areas ranged from 34,000 to 92,000 cfu/100 mL for streets and driveways. Contaminant concentration data from commercial and industrial source areas were lower for total solids and fecal coliform, but higher for total zinc[19,20]. A number of other studies have indicated that urban roadways often contain significant quantities of metal elements and solids[21].

Automotive service stations have been characterized as potential "hot spots" for hydrocarbon pollutants and heavy metals in urban storm water discharges[22]. In an urban area, **industrial and commercial activities** can also be considered hot spots as sources of pollutants[23]. Urban storm water also can contribute significant amounts of toxicants to receiving waters. Pitt et. al., found heavy metal concentrations in the majority of samples analyzed. Industrial or commercial areas were likely to be the most significant pollutant source areas[24].

Wet weather flows have been recognized as the primary sources of estuarine pollution in coastal communities. Urban storm water runoff, sanitary sewer overflows, and combined sewer overflows have become the largest causes of beach closings in the United States in the past years. Storm water discharges from urban areas not only pose a threat to the ecological environment, they also can substantially affect human health. A survey of coastal and Great Lakes communities reports that in 1998, more than 1,500 beach closings and advisories were associated with storm water runoff[25]. Other reports also document public health, shellfish bed, and habitat impacts from storm water runoff, including more than 823 beach closings/advisories issued in 1995 and more than 407 beach closing/advisories issued in 1996 due to urban runoff[26].

The studies and research performed in the Southern California area, including Los Angeles County, show the similar impacts of polluted urban runoff on the local receiving waters, with significant impacts on the health of the environment and local economy. The "Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay", concluded that there is a 57 percent higher rate of illness in swimmers who swim adjacent to storm drains than in swimmers who swim more than 400 yards away from storm drains[27]. This and other studies document a relationship between gastrointestinal illness in swimmers and water quality, the latter of which can be heavily compromised by polluted storm water discharges. Other impacts on the Santa Monica Bay from the discharge of polluted storm water runoff have been documented[28].

In addition, the situation analysis of the "Los Angeles County Five-Year Public Education Overview" concluded:

Even after a generation of fighting water pollution, studies show the danger of illness to people swimming in waters near urban storm drain outfalls. The urban runoff that drains into the County's storm channels first litters and contaminates neighborhood streets and walks. Litter, fertilizers, pesticides, automobile soot and oil drippings, pet waste, and deteriorating leaves and plant debris not only make our communities unattractive, but also are swept untreated down the storm drains into our waterways...In total, the impacts of stormwater/urban runoff pollution encompass:

- losses to the County's $2 billion a year tourism economy
- health risks associated with swimming in areas near storm drain outfalls
- loss of recreational resources
- dramatic cost increases for cleaning up contaminated sediments
- impaired function and vitality of our natural resources
- losses to Southern California's commercial and sportfishing industry
- contamination to marine life[29].

III. Responsibility of Municipal Operators of Large and Medium Municipal Separate Storm Sewer Systems

The water quality impacts of urban runoff are well documented and identified as a leading cause of receiving water beneficial uses impairments. Many States and Municipalities in cooperation with U.S. EPA moved aggressively to control the sources of pollution within the framework of the NPDES permitting system and through other non-point source programs.

A. Role of Municipal Operator

As early as the promulgation of the 1990 Phase I storm water regulations, U.S. EPA clearly defined the roles and identified the responsibilities of all parties involved in the permitting process. Early on, the agency envisioned a partnership, a cooperative approach between U.S. EPA, States and Municipalities, recognizing that only through a coordinated effort will the difficult and complex issues of diffuse pollution be addressed appropriately. In the preamble to the 1990 Phase I storm water regulations, the agency stated that the:

> ...EPA still believes that municipal operators of large and medium municipal systems have an important role in **source identification** and the **development of pollutant controls for industries** that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because **storm water from industrial facilities may be a major contributor of pollutants** to municipal separate storm sewer systems, **municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program**... EPA believes that the permitting of municipal storm sewer systems and the industrial discharges through them will act in a complimentary manner to

fully control the pollutants in those sewer systems. This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible.

U.S. EPA continued to clarify its intent for:

> "...[t]he permit application requirements for large and medium municipal separate storm sewer systems, discussed in more detail later in today's preamble, **address the responsibilities of the municipal operators of these systems to identify and control pollutants in storm water discharges associated with industrial activity**. Permit applications for large and medium municipal separate storm sewer systems are to identify the location of facilities which discharge storm water associated with industrial activity to the municipal system... In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system... Controls developed in management plans for municipal permits may take a variety of forms. Where necessary, municipal permittees can pursue local remedies to develop **measures to reduce pollutants or halt** storm water discharges with high level of pollutants through municipal storm sewer systems. Some local entities have already implemented ordinances or laws that are designated to reduce the discharge of pollutants to municipal separate storm sewers, while other municipalities have developed a variety of techniques to control pollutants in storm water."

U.S. EPA reconfirmed its position in regard to the role of municipal operators of large and medium MS4s when it issued, in 1993 (58 FR 61146), the notice for the proposed multi-sector stormwater general permit for discharges of storm water associated with industrial activity (multi-sector permit).

In the Fact Sheet for the proposed multi-sector permit, U.S. EPA reiterated its position regarding the complimentary permit approach envisioned to address storm water discharges associated with industrial activity:

> "A second permit issued to the operator of the large or medium municipal storm sewer, establishes the **responsibilities** of the municipal operators in controlling pollutants from storm water associated with industrial activity which discharge through their system... The municipal storm water management programs that will be incorporated into NPDES permits for discharges from MS4s will generally address (in addition to other possible requirements) the following three major components:
>
> - Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers.
> - Reducing pollutants in construction site runoff through municipal separate storm sewers.
> - Identifying and controlling non-storm water discharges to municipal separate storm sewers...

> Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through MS4s **specifically will address municipal responsibilities in controlling pollutants from industrial facilities.**"

Recently, in its Storm Water Phase II Compliance Assistance Guide (Guide)[30], U.S. EPA restated and further clarified its intention regarding the integration of NPDES programs for storm water discharges: "...[t]he Phase I permits for MS4s mostly cover larger cities, and require them to develop a storm water management program, **track and oversee industrial facilities** regulated under the NPDES storm water program, conduct some monitoring, and submit periodic reports."

Furthermore, when referring to integration of NPDES program for construction (which is one of the eleven industrial categories addressed by the storm water program) with NPDES program for MS4s, the Guide specifies:

- "These are two **separate** and **distinct** construction programs.
- A construction operator is subject to requirements under **BOTH** programs if it is located in an NPDES-regulated MS4's jurisdiction."

In addition, the No Exposure Certification Form for Exclusion from NPDES Storm Water Permitting[31], includes in the certification section the following statements:

> "I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that **I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections** to confirm the condition of no exposure and to make such inspection reports publicly available upon request."

Once more, U.S. EPA clearly states its standpoint that NPDES permitting authority responsibilities are intertwined with those of the local agency.

It can be reasonably inferred from the regulatory record and actions that U.S. EPA clearly envisioned a dual coverage and a strong role and clear responsibilities for the municipal operator in controlling pollutants from industrial sites as distinct from the activities required by the NPDES permitting agency. However, activities required by both entities should be coordinated and integrated as much as possible to achieve to common goal of effectively controlling and reducing the discharge of pollutants into the storm water runoff.

B. Legal Authority

40 CFR §122.26(d)(2)(i) ***Adequate legal authority.*** A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:
(A) Control through ordinance, permit, contract, order or similar means, the **contribution of pollutants to the municipal storm sewer by storm water discharges associated**

with industrial activity and the quality of storm water discharged from sites of industrial activity;
(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;
(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;
(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;
(E) Require compliance with conditions in ordinances, permits, contracts or orders; and
(F) **Carry out all inspection, surveillance** and monitoring procedures necessary to determine compliance and noncompliance with permit conditions **including** the prohibition on illicit discharges to the municipal separate storm sewer.

40 CFR §122.26(d)(2)(iv)(A)(*5*) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for **inspections** and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section);

40 CFR §122.26(d)(2)(iv)(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), **and industrial facilities** that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:
(*1*) **Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;**...

In its Guidance Manual[32] U.S. EPA explicitly states on what the municipalities must achieve: "The municipality, as a permittee, is responsible for compliance with its permit and must have the authority to implement the conditions in its permit. To comply with its permit, a municipality must have the authority to **hold dischargers accountable for their contributions** to separate storm sewers."

The Guidance Manual provides more clarification in regard to the extent of facilities that must be addressed and the link that must be made with the potential sources of pollutants: "However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**... [t]he Source Identification component requires the applicant to provide **an inventory of pollutant sources**, organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization

components), but ***are identified as a high priority*** under the proposed management program." It can be concluded that the scheme envisioned by the regulations do not only address industrial sites covered under the definition of storm water discharge associated with industrial activity, but depending on the identified significant sources contributing pollutants to the storm water runoff, other types of industrial facilities, such as commercial, must be addressed in the municipal program to inspect facilities contributing pollutants to the municipal separate storm drain system.

Many existing permits issued by U.S. EPA or authorized States, nationwide, already include these kind of requirements and municipalities are actively implementing them.[33] Regional Boards in California also issued MS4 permits requiring a program for inspections at industrial or commercial facilities.[34] Municipalities used a large spectrum of methods and innovative ways to implement the inspection program, and many local jurisdictions have the adequate required legal authority or have adopted ordinances giving them the necessary legal authority. Even smaller cities, to be covered under Phase II, not required to obtain the legal authorities for inspections as yet, decided to pass ordinances giving them the necessary authority for the implementation of the storm water program, including the authority to inspect industrial or commercial facilities and adopt and impose BMPs.[35]

As early as 1993, U.S. EPA Region 9, clarified the role of municipalities in addressing industrial sources.[36] More recently the same position was restated.[37] Regional Board's position, starting with the 1990 MS4 Permit was that an inspection program was required in the municipal storm water permit and was supported by the legal analysis provided by the State Board's Office of Chief Counsel[38].

C. Source Identification

40 CFR §122.26(d)(2)(ii). Source Identification... *Provide an inventory, organized by watershed of the name and address, and a description (such as SIC Codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.*

A very careful consideration was given to the issue of the pollutant sources in storm water discharges through MS4s and the control of those pollutant sources. The Agency continued to discuss and describe its intent of the elements needed to be addressed by a municipality through the application process in regards to the sources that contribute pollutants to the municipal storm sewers. Under the source identification heading in the preamble to the 1990 Phase I storm water regulations, U.S. EPA stated that, "...**the identification of sources which contribute pollutants** to municipal separate storm sewers is a **critical step** in characterizing **the nature and extent of pollutants in discharges** and in **developing appropriate control measures.**" The agency expands the scope of the source identification concept leaving it general instead of focusing on any particular area, such as industrial, commercial, residential, roadways, etc., but linking it to the existing water quality problems. It is clear that the intent of the agency was to draw the attention of applicants to addressing, in a flexible way, the real issues and focus their limited resources on controlling the most problematic sources:

> "...**source identification** can be useful for providing **an analysis of pollutant source contribution** and for **identifying the relationship between pollutant**

sources and receiving water quality problems. In cases where end-of-pipe controls alone are not practicable, it is essential to identify the source of pollutants into the municipal storm sewer system to support **a targeted approach to control pollutant sources.**"

The agency continues to comment and clarify the provisions under the application requirements of the regulations:

> "...Part 1 of the application will also include: [...]**the location of industrial facilities, open dumps, landfills or RCRA hazardous waste facilities** which discharge storm water to the municipal storm sewer system;...Part 2 of the application will supplement the information reported in part 1 of the application so that,[...]municipal or public entities responsible for and obtaining an NPDES permit will be required to **identify the location of an open dump, sanitary landfill, municipal incinerator or hazardous waste treatment, storage, and disposal facility under RCRA which may discharge storm water to the system as well as all facilities which discharge storm water with industrial activity into a large or medium municipal separate storm sewer system.** Requiring **these source identification measures is supported by the legislative history of section 405 of the WQA**, which instructs that '[i]n writing **any permit for a municipal separate storm sewer, EPA or the State should pay particular attention to the nature and uses of the drainage area and the location of any industrial facility, open dump, landfill, or hazardous waste treatment, storage, or disposal facility which may contribute pollutants to the discharge.**'[39]"

In answering some of the comments regarding the value of source identification information, the agency responded:

> [..]the **source identification** information serves several purposes. It is the first step for **identifying potential sources of pollutants** from which more in depth analysis can be accomplished...The **source identification component** of the municipal application also requires that **municipal applicants identify the industrial activity within the drainage area associated with each major outfall**...[A]pplicants identify the types of industrial facilities operating within the municipality, the municipality is free to use Standard Industrial Classification (SIC) or other systems which identify the principal products or services of the facility.

D. Los Angeles MS4 Permittees Compliance Efforts

The Permittees covered under the Los Angeles MS4 permit addressed the element of source identification and prioritization through compliance with the requirements of the 1996 permit (Board Order No. 96-054). The Critical Source Selection and Monitoring Report (Critical Source Report), identified 30 categories of industrial and commercial activities that may impact the quality of the stormwater runoff discharged to the MS4[40]. The study also ranked the critical sources on the basis of potential impact and proposed a Critical Source/BMP Monitoring program at the five highest ranked facility types: (i)

wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products.

At the same time, the Permittees, under the coordination of the Los Angeles County Department of Public Works, compiled, in 1997, a facilities database for the MS4 program identifying approximately 58,000 facilities that could have been potentially addressed by the public education site visit program. Out of the total universe of 58,000 facilities identified by their SIC Code, 21,000 were food or food related establishments. The 36,000 remaining facilities were in industrial/commercial sectors. An updated review of the potential number of facilities within the LA MS4 area, identified in the 30 industrial/commercial sectors Critical Source Report (not including food establishments), revealed that the number of facilities can be as high as 26,300 sites as of 2001. The survey was performed with the help of the Los Angeles City Stormwater Management Division staff. A significant portion of the total number of facilities, up to 60%, may be located within the City of Los Angeles boundaries. The SIC Code system proved to be inadequate in identifying the correct type of activity performed on-site, and also a significant number of facilities may not have activities or materials exposed to stormwater, which will make the actual number of sites potentially addressed through the municipal stormwater program much smaller than predicted.

The results of the Critical Source/BMP Monitoring program confirmed that the five highest ranking activities indeed contribute significant quantities of pollutants and source control BMPs alone were not effective in reducing the amount of pollutants into the stormwater runoff. The majority of the sampling results were in excess of the Criteria for Priority Toxic Pollutants for the State of California.[41] However, since the implementation of the source control BMPs was voluntary, the study could not determine with certainty that the apparent failure was due to the inefficacy of the BMPs or the lack of proper implementation.[42]

Furthermore, the Research Report on Issues, Pollutants and Materials[43](Research Report) accomplishes a comprehensive analysis of sources of pollutants, generation and receiving water impacts. The Research Report puts in a concise form and creates the link between typical pollutant sources, pollutants found in the County's waterbodies, pollutant of concerns for each Watershed Management Area and pollutants of concerns detected through previous monitoring. The Research Report clearly identifies the targeted pollutants: (i) heavy metals, (ii) oil and grease/PAHs, (iii) sediments, (iv) oxygen demanding substances, (v) litter/trash/debris, (vi) nutrients, (vii) other toxic materials, such as pesticides.[43] The Research Report confirms once again that the urban environment in the Los Angeles area is similar to the other urban areas in the nation when it comes to stormwater runoff characterization and receiving water impacts. The Los Angeles area is probably unique due to the highly industrialized and vast area served by an interconnected storm sewer system unlike any other in the nation. But that makes it even more imperative that significant efforts must be allocated in order to control the discharge of pollutants in the urban runoff.

CONCLUSION

From the record and all the studies referenced in this report it is evident that an inspection program at industrial and commercial facilities is not only required under the storm water

regulations but it is an essential component to control the contribution of pollutants from industrial or commercial facilities into storm water discharges through the municipal storm drain system. This inspection program is separate and in addition to the program administered by the Regional Board, and the municipalities have a clear responsibility to perform them.

The dual coverage is intended in the regulations, in order to maximize the use of limited resources at the State and local level, and assure through active coordination that significant sources of pollutants are not overlooked or missed due to lack of legal authority.

The Permittees under the Los Angeles MS4 Permit have made great strides in preparing the ground work for next phase of implementation: they performed a comprehensive source identification study confirmed by the monitoring results, the Regional Board approved the minimum menu of BMPs presented by the Permittees and they already put facilities on notice and performed the educational part through the site visits effort.

The introduction of the inspection program in the new MS4 permit is not capricious or arbitrary but based on facts. It utilizes tools already developed by Permittees and follows a widespread precedent in MS4 permits nationwide and in California.

Selected References

Requirement	Reference
"Today's rule also requires the municipal storm sewer permittee to describe **a program to address industrial discharges** that are covered under the municipal storm sewer permit. Today's rule requires the municipal applicant to identify such discharges..., provide a description of a program to monitor pollutants in runoff from certain industrial facilities that discharge to the municipal storm sewer system, **identify priorities and procedures for inspections**, and **establish and implement control measures for such discharges.**"	Final Rule (Federal Register, Vol. 55, p. 48056)
Part 2 application requirement: [The applicant must demonstrate that it can control through] Adequate Legal Authority which authorizes or enables at a minimum to: **Control** through **ordinance, permit, contract, order or similar means**, the **contribution of pollutants** to the municipal storm sewer by **storm water discharges associated with industrial activity** and the quality of **storm water discharged from sites of industrial activity**;	40 CFR 122.26(d)(2)(i)(A)
Carry out all inspection, surveillance and **monitoring** procedures necessary to **determine compliance and noncompliance** with **permit conditions *including*** the prohibition on illicit discharges to the municipal separate storm sewer.	40 CFR 122.26(d)(2)(i)(F)
In part 2 of the application, municipal applicants **must demonstrate** that **they now possess adequate legal authority** to: • **Control** construction site and **other industrial discharges** to the MS4;... • **Control potential sources of pollutants from discharges to or from** coapplicants' MS4s, or MS4s that are interconnected or shared with other entities;... • **Carry out inspection, surveillance, and monitoring** procedures.	Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems (Guidance Manual) USEPA 1992 Pag. 3-1
"**Control**"[...] means not only to require disclosure of information, but also to **limit, discourage, or terminate** a storm water discharge to the MS4.	Guidance Manual pag. 3-1
However, a municipality, to satisfy its permit conditions, **may need to impose additional requirements** on **discharges from permitted industrial facilities, as well as discharges from industrial facilities** and construction sites ***not* required to obtain permits**.	Guidance Manual pag. 3-1
In their part 2 applications, municipalities must propose programs to **control** the contributions of pollutants from industrial facilities **and prohibit** illicit discharges. For **both** of these activities, municipalities **must have the legal authority** to **carry out inspection, surveillance, and monitoring** procedures necessary to **determine compliance.**	Guidance Manual pag. 3-3
In their part 2 applications, municipalities should provide documentation of **their authority to enter, sample, inspect, review, and copy records,** etc. as well as demonstrate their authority to require regular reports.	Guidance Manual pag. 3-3
A description of **a program** to **monitor and control pollutants** in storm water discharges to municipal systems from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the**	40 CFR 122.26(d)(2)(iv)(C)

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Requirement	Reference
Superfund Amendments and Reauthorization Act of 1986 (SARA), and ***industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading*** to the municipal storm sewer system. The program **shall:** (1) **Identify priorities and procedures for inspections** and **establishing and implementing control measures** for such discharges;	
NPDES permits for MS4s will establish *responsibilities* for municipal system operators to control pollutants from industrial storm water discharged through their system.	Guidance Manual pag. 6-16
Proposed storm water management programs must address the reduction of pollutants in storm water discharges from **municipal landfills, hazardous waste treatment, disposal and recovery facilities, facilities subject to SARA Title III;** and ***other priority industrial facilities***, as determined by the applicant. **Municipalities should consider** the information gathered for [..] the part 2 application (**particularly the Source Identification and Characterization Data** components) when prioritizing storm water discharges from these sites.	Guidance Manual pag. 6-16
In part 2 application, the Source Identification component requires the applicant to provide **an inventory of pollutant sources,** organized by watershed. This inventory **identifies and describes the products and services** of each industrial facility that may discharge storm water to the MS4. The Source identification component suggests applicants to use standard industrial classification codes (SIC) codes for this description. EPA strongly recommends this information be used to identify priority waste handling sites and industrial facilities. A similar technique could be developed for sites ***that do not meet*** the ***regulatory definition of "storm water discharge associated with industrial activity"*** (i.e. not included in the Source Identification and Discharge Characterization components), but ***are identified as a high priority*** under the proposed management program.	Guidance Manual pag. 6-16 [Commercial Sites]
The municipality is **ultimately responsible** for discharges from their MS4. Consequently, the proposed storm water management program should describe how **the municipality will help** EPA and authorized NPDES States: • **Identify priority industries** discharging to their systems; • **Review. and evaluate storm water pollution prevention plans and other procedures that industrial facilities must develop under general or individual permits;** • **Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them);** and • ***Inspect* and monitor industrial facilities *to verify* that the industries discharging storm water to the municipal systems *are in compliance with their NPDES storm water permit***, if required.	Guidance Manual pag. 6-17
At a minimum, priority facilities include: • Operating and closed municipal landfills; • Hazardous waste treatment, disposal or recovery facilities; and • Facilities subject to SARA Title III.	Guidance Manual pag. 6-17

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Requirement	Reference
Municipalities must identify these **and *other priority industrial facilities* and describe the criteria used to identify them.** For example, information from the Toxics Release Inventory is one source a municipality could use to identify industrial facilities subject to SARA Title III. **Other sources** may include CWA Section 205 or 208 use-attainability studies, other studies that **indicate a site-specific beneficial use impairment immediately downstream of a storm water outfall,** or **records of industrial pretreatment programs or other permit programs that identify facilities that may be the source of a use impairment or a major contribution of pollutants.** The program should also describe procedures for modifying the inventory of priority industries based on **additional evaluation** that occurs throughout the permit term.	
During the term of the permit, as additional information becomes available, **the municipality should target and set priorities for other program elements** that emerge.	Guidance Manual pag. 6-18
As noted above, when identifying priority sites, applicants must consider all the facilities listed in 122.26(d)(2)(iv)(C)(1). When municipalities develop criteria for **identifying additional priority industrial facilities**, they are advised to consider, **at a minimum:** • The **type of industrial activity** (SIC codes can help characterize the type of industrial activity); • The **use and management of chemicals or raw products** at the facility and **the likelihood** that storm water discharge from the site **will be contaminated**; and • The **size and location of the facility in relation to sensitive watersheds.**	Guidance Manual pag. 6-18
The proposed management program **must include procedures for inspecting priority industrial sites.** The results of inspection may be used as a basis for **requiring storm water management controls and enhanced pollution prevention measures.** It should also establish an **inspection schedule** for each priority facility at the time it is identified.	Guidance Manual pag. 6-18
Applicants also should describe a procedure for **conducting follow-up inspections**, where necessary, as part of this program component. For example, follow-up inspections **might be needed to verify the installation of a specific control or implementation of a practice specified** in a negotiated agreement between the municipality and the industrial site. A system-wide approach to establishing priorities for inspection procedures is recommended. The system-wide approach should begin with the evaluation of existing information, followed by the identification and evaluation of new information during the permit term. Therefore, applicants **should link** these procedures with information from the Source Identification and Discharge Characterization components.	Guidance Manual pag. 6-19
A municipality **must consider** if it **should place more stringent controls on discharges associated with industrial activity than are required in an industrial facility's existing NPDES storm water**	Guidance Manual pag. 6-19

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Requirement	Reference
permit.	
Priority industrial facilities should focus on controlling activities such as the use, storage, and handling of toxic chemicals. Standard methods for implementing control measures at different types of facilities should be described. To facilitate this, municipalities **should obtain copies of the pollution prevention plans developed by industrial permittees. Control measures** that the municipality **may suggest include preventing exposure of pollutant sources to precipitation, on-site pretreatment, and oil/water separators.**	Guidance Manual pag. 6-19
The proposed management program **should describe the inspection procedures that will be followed. Storm water inspections can be coupled with inspections for other purposes** (e.g., pretreatment programs, fire and safety). Proposed management **programs should address minimum frequency for routine inspections.** For example, **how often, how much of the site, and how long an inspection may take** are appropriate to explain in this proposed management program component. Applicants should also describe **procedures for conducting inspections and provide an inspector's checklist.** In addition, these inspection procedures should identify the **minimum number of inspectors** that will be employed and **describe the programs to train them.**	Guidance Manual pag. 6-19
Municipalities are **urged to *evaluate* pollution prevention plans and discharge monitoring data collected by the industrial facility to *ensure* that the facility is *in compliance with its NPDES storm water permit. Site inspections* should include (1) *an evaluation of the pollution prevention plan*** and any other pertinent documents, **and (2)** an ***on-site visual inspection of the facility*** to ***evaluate the potential*** **for *discharges of contaminated storm water*** from the site and ***to assess the effectiveness of the pollution prevention plan.***	Guidance Manual pag. 6-20
On November 16, 1990 (55 FR 47990), EPA promulgated a permitting scheme where controls for storm water discharges associated with industrial activity through large and medium municipal separate storm sewer systems may be addressed by two permits issued in a coordinated manner. This complementary permit approach envisions cooperative efforts by the permit issuing agency and municipal operators of large and medium municipal separate storm sewer systems to develop programs that will result in controls on pollutants in storm water discharges associated with industrial activity which discharge through municipal systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Under the complementary permit approach, storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems are required to obtain permit coverage. Permits for these discharges will establish requirements (such as controls or monitoring) for industrial operators of the discharge into the municipal system. In addition, these permits provide a basis for enforcement actions directly against the owner or operator of storm water discharges associated with industrial activity.	Federal Register, Vol. 58, No. 222 pag. 61158
A second permit, issued to the operator of the large or medium municipal separate storm sewer, establishes the responsibilities of the	Federal Register, Vol. 58, No. 222 pag. 61158

Requirement	Reference
municipal operators in controlling pollutants from storm water associated with industrial activity which discharges through their system. The framework for permits for discharges from large and medium municipal separate storm sewer systems has been developed to establish the responsibilities of the municipals systems.	
At the heart of the permit program for discharges from municipal separate storm sewer systems serving a population of 100,000 or more are requirements that municipal applicants develop and implement municipal storm water management programs.	Federal Register, Vol. 58, No. 222 pag. 61158
The municipal storm water management programs that will be incorporated into NPDES permits for discharges from municipal separate storm sewer systems will generally address (in addition to other possible requirements) the following three major components: • Reducing pollutants in storm water discharges from municipal landfills; hazardous waste treatment, storage, and disposal facilities; facilities subject to the Emergency Planning and Community Right-to-Know Act (EPCRA), section 313; and other priority industrial facilities through municipal separate storm sewers. • Reducing pollutants in construction site runoff through municipal separate storm sewers. • Identifying and controlling non-storm water discharges to municipal separate storm sewer systems. These components of a municipal program can initiate the role of the municipality in assisting EPA and authorized NPDES States in implementing controls to reduce pollutants in storm water discharges associated with industrial activity which discharge through large and medium municipal separate storm sewer systems.	Federal Register, Vol. 58, No. 222 pag. 61158
Municipal programs to reduce pollutants in industrial site runoff and construction site runoff through municipal separate storm sewer systems specifically will address municipal responsibilities in controlling pollutants from industrial facilities.	Federal Register, Vol. 58, No. 222 pag. 61158
EPA proposed a permitting scheme that would define the requirement to obtain coverage under an NPDES permit for a storm water discharge associated with industrial activity through a municipal separate storm sewer in terms of the classification of the municipal separate storm sewer. EPA proposed holding municipal operators of large or medium municipal separate storm sewer systems primarily responsible for applying for and obtaining an NPDES permit covering system discharges as well as storm water discharges (including storm water discharges associated with industrial activity) through the system.	Federal Register, Vol. 55, No. 222 pag. 47997-98
Under the proposed approach, operators of storm water discharges associated with industrial activity which discharge through a large or medium municipal separate storm sewer system would generally not be required to obtain permit coverage for their discharge (unless designated as a significant contributor of pollution pursuant to section 402(p)(2)(E)) provided the municipality was notified of: The name, location and type of facility and a certification that the discharge has been tested (if feasible) for non-storm water (including the results of any testing). The	Federal Register, Vol. 55, No. 222 pag. 47998

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Requirement	Reference
notification procedure also required the operator of the storm water discharge associated with industrial activity to determine that: The discharge is composed entirely of storm water, the discharge does not contain hazardous substances in excess of reporting quantities; and the facility is in compliance with applicable provisions of the NPDES permit issued to the municipality for storm water.	
EPA also expressed its belief, based upon an analysis of ordinance controlling construction site runoff in places in certain cities, that municipalities generally possessed legal authority sufficient to control contributions of industrial storm water pollutants to their separate storm sewers to the degree necessary to implement the proposed rule.	Federal Register, Vol. 55, No. 222 pag. 47998
Based on consideration of the comments received on the notice, EPA has decided that it is appropriate to revise the approach in its proposed rule to require direct permit coverage for all storm water discharges associated with industrial activity, including those that discharge through municipal separate storm sewers.	Federal Register, Vol. 55, No. 222 pag. 47998
In response to all of these concerns, EPA has decided to require storm water discharges associated with industrial activity which discharge through municipal separate storm sewers to obtain separate individual or general NPDES permits.	Federal Register, Vol. 55, No. 222 pag. 48000
Although today's rule will require industrial discharges through municipal storm sewers to be covered by a separate permit, EPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate.	Federal Register, Vol. 55, No. 222 pag. 48000
Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program.	Federal Register, Vol. 55, No. 222 pag. 48000
The CWA provides that permits for municipal separate storm sewers shall require municipalities to reduce pollutants to the maximum extent practicable. Permits issued to municipalities for discharges from municipal separate storm sewers will reflect terms, specified controls, and programs that achieve that goal.	Federal Register, Vol. 55, No. 222 pag. 48000
As with all NPDES permits, responsibility and liability is determined by the discharger's compliance with the terms of the permit. A municipality's responsibility for industrial storm water discharged through their system is governed by the terms of the permit issued. If an industrial source discharges storm water through a municipal separate storm sewer in violation of requirements incorporated into a permit for the industrial facility's discharge, that industrial operator of the discharge may be subject to an enforcement action instituted by the Director of the NPDES program.	Federal Register, Vol. 55, No. 222 pag. 48000
Today's rule also requires operators of storm water discharges associated with industrial activity through large and medium municipal	Federal Register, Vol. 55, No. 222 pag. 48000

Requirement	Reference
systems to provide municipal entities of the name, location, and type of facility that is discharging to the municipal system. This information will provide municipalities with a base of information from which management plans can be devised and implemented. This requirement is in addition to any requirements contained in the industrial facility's permit. As in the proposal, the notification process will assist cities in development of their industrial control programs.	
EPA intends for the NPDES program, through requirements in permits for storm water discharges associated with industrial activity, to work in concert with municipalities in the industrial component of their storm water management program efforts. EPA believes that permitting of municipal storm sewer systems and the industrial discharges through them will act in a complementary manner to fully control the pollutants in those sewer systems.	Federal Register, Vol. 55, No. 222 pag. 48000
This will fully implement the intent of Congress to control industrial as well as large and medium municipal storm water discharges as expeditiously and effectively as possible. This approach will also address the concerns of municipalities that they lack sufficient authority and resources to control all industrial contributions to their storm sewers and will be liable for discharges outside of their control.	Federal Register, Vol. 55, No. 222 pag. 48000-01
In addition, municipal applicants will provide a description of a proposed management program to reduce, to the maximum extent practicable, pollutants from storm water discharges associated with industrial activity which discharge to the municipal system.	Federal Register, Vol. 55, No. 222 pag. 48001

Endnotes:

[1] *Results of the Nationwide Urban Runoff Program, Volume 1--Final Report.* Office of Water. U.S. EPA. 1983.

[2] *"Urban Storm Water Quality: Summary of Contaminant Data." Critical Reviews in Environmental Science and Technology 25(2):93-139.* Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995.

[3] *U.S. Geological Survey Urban Storm Water Data Base for 22 Metropolitan Areas Throughout the United States. Report No. 85- 337 USGS.* Driver, N.E., M.H. Mustard, R.B. Rhinesmith, and R.F. Middleburg. *Lakewood, CO.* 1985.

[4] *Evaluation of Pollutant Loads from Urban Nonpoint Sources. Wat. Sci. Tech. 22(10/ 11):23-30* Marsalek, J. 1990.; Makepeace, et al., 1995 (see endnote 2).

[5] See Makepeace, et al., 1995 (endnote 2); Marsalek, 1990(see endnote 4); and Pitt, et al., 1995

[6] *Environmental Impacts of Storm Water Discharges: A National Profile. EPA 841-R-92-001.* Office of Water. Washington, DC. U.S. EPA. 1992.

[7] *First Flush of.Stormwater Pollutants Investigated in Texas." Note 28. Watershed Protection Techniques 1(2).* Schueler, T.R. 1994.

[8] U.S. EPA, 1992 (See endnote 6).

[9] *Urbanization and Streams: Studies of Hydrologic Impacts. EPA 841-R-97- 009.* Office of Water. Washington, DC. U.S. EPA, 1997.

[10] *Quality Indices for Urbanization Effects in Puget Sound Lowland Streams, Technical Report No. 154. University of Washington Water Resources Series.* May, C.W., E.B. Welch, R.R. Horner, J.R. Karr, and B.W. May. 1997.

[11] *The Importance of Imperviousness. Watershed Protection Techniques 1(3).* Schueler, T.R. 1994.; *Effects Of Urbanization On Small Streams In The Puget Sound Lowland Ecoregion. Watershed Protection Techniques 2(4).* May, C., R.R. Horner, J.R. Karr, B.W. Mar, and E.B. Welch. 1997.; *Assessing the Status of Aquatic Life Designated Uses in Urban and Suburban Watersheds. In*

Proceedings: National Conference on Retrofits Opportunities in Urban Environments. EPA 625-R-99-002, Washington, DC. Yoder, C.O., R.J. Miltner, and D. White. 1999.;
Assessing Biological Quality and Limitations to Biological Potential in Urban and Suburban Watersheds in Ohio. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers, Auckland, New Zealand. Yoder, C.O and R.J. Miltner. 1999.

[12] Schueler, T.R. 1994 (See endnote 11).

[13] *Urban Stormwater Runoff Contamination of the Chesapeake Bay: Sources and Mitigation. The Environmental Professional, Vol. 14.* Cohn-Lee, R. and D. Cameron. 1992.

[14] *The National Water Quality Inventory, 1996 Report to Congress. EPA 841-R- 97-008. Office of Water. Washington, DC.* U.S. EPA. 1998.

[15] *Research Reveals Link Between Development and Contamination in Urban Watersheds. USGS news release. USGS National Water-Quality Assessment Program.* U.S. Geological Survey 1998.

[16] *Impacts of Storm Water Runoff on Urban Streams in Milwaukee County, Wisconsin. Paper presented at National Symposium on Water Quality: American Water Resources Association.* Masterson, J. and R. Bannerman. 1994.;
Fish Dynamics in Urban Streams Near Atlanta, Georgia. Technical Note 94. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.

[17] *Selected Chemical Characteristics and Acute Toxicity of Urban Stormwater, Streamflow, and Bed Material, Maricopa County, Arizona. Water Resources Investigations Report 95-4074.* USGS Lopes, T. and K. Fossum. 1995.;
Effects of Urban Runoff on Aquatic Biota." In Handbook of Ecotoxicology. Pitt, R: 1995.;
Ecological Effects of Urban Stormwater Runoff on Benthic Macroinvertebrates Inhabiting the Green River, Massachusetts. Completion Report Project No. A-094. Water Resources Research Center. University of Massachusetts at Amherst. Pratt, J. and R. Coler. 1979.;
Historical Change in a Warmwater Fish Community in an Urbanizing Watershed. Technical Note 93. Watershed Protection Techniques 2(4) Schueler, T.R. 1997.;
May, C., et.al. 1997 (See endnote 11).

[18] *Biological Effects of Urban Runoff Discharges.* Pitt, R.E. 1995. *In Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment,* ed. E.E Herricks, Lewis Publishers; Crunkilton, R., J. Kleist, D. Bierman, J. Ramcheck, and W. DeVita. 1999.;
Importance of Toxicity as a Factor Controlling the Distribution of Aquatic Organisms in an Urban Stream. In Comprehensive Stormwater & Aquatic Ecosystem Management Conference Papers. Auckland, New Zealand.

[19] *Sources of Pollutants in Wisconsin Stormwater. Wat. Sci. Tech. 28(3-5):241-59.* Bannerman, R.T., D.W. Owens, R.B. Dods, and N.J. Hornewer. 1993.

[20] *Basic Data on Urban Storm-Water Quality, Portland, Oregon* – USGS Open File Report 76-594 -1976

[21] *Partitioning and First Flush of Metals in Urban Roadway Storm Water. ASCE Journal of Environmental Engineering 123(2).* Sansalone, J.J. and S.G. Buchberger. 1997;
Physical Characteristics of Urban Roadway Solids Transported During Rain Events. ASCE Journal of Environmental Engineering 124(5). Sansalone, J.J., J.M. Koran, J.A. Smithson, and S.G. Buchberger. 1998.;
Sources of Metals in New York City Wastewater. J. Water Pollution Control Federation 46(12):2653-62. Klein, L.A., M. Lang, N. Nash, and S.L. Kirschner. 1974.;
A Review and Evaluation of Literature Pertaining to the Quantity and Control of Pollution from Highway Runoff and Construction. Research Report 1943-1. Center for Transportation Research, University of Texas, Austin. Barrett, M.E, R.D. Zuber, E.R. Collins, J.F. Malina, R.J. Charbeneau, and G.H Ward., 1993.

[22] *Cars Are Leading Source of Metal Loads in California. Technical Note 13. Watershed Protection Techniques 1(1):28;*
Storm Water Discharges Potentially Addressed by Phase II of the National Pollutant Discharge Elimination System Storm Water Program – Report to Congress. EPA 833-K-94-002;
Innovative Urban Wet-Weather Flow Management Systems. Technomic Publishing Co. Inc. Richard Field et. al. 2000.

[23] *Practical Pollution Prevention Emphasized for Industrial Stormwater. Technical Note 36. Watershed Protection Techniques 1(3):131-132.* L. Donald Duke.;

Santa Clara Valley Nonpoint Source Control Program. Source Identification and Control Report. 1992. Woodward Clyde Consultants;
Critical Source Selection and Monitoring Report prepared for Los Angeles County Department of Public Works. 1996. Woodward Clyde Consultants;
Water Quality of First Flush Runoff from 20 Industrial Sites. Water Environment Research 69 (3):305-310. D.E. Line et. al.;
Comparison of NPDES Program Findings for Selected Cities in United States. USGS Fact Sheet 192-97 January 1998;
Stormwater Runoff for Selected Watersheds in the Edwards Aquifer Recharge Zone, Bexar County USGS Fact Sheet 172-98 March 1999;
Quantity and Quality of Urban Stormwater Runoff from Selected Drainage Basins – Water-Resources Investigations Report 98-4168. 1998 USGS;
Concentrations of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Land Use. Fourth Biennial Stormwater Research Conference, Florida. Rabanal et al. 1995;
Petroleum Hydrocarbon Concentrations Observed in Runoff from Discrete, Urbanized Automotive-Intensive Land Uses. in Watershed '96 Proceedings – Baltimore. David L. Shepp, 1996;
Water Quality Of Storm Runoff And Comparison Of Procedures For Estimating Storm-Runoff Loads, Volume, Event-Mean Concentrations And The Mean Load For A Storm For Selected Properties And Constituents For Colorado Springs, Southeastern Colorado, 1992 – USGS Water-Resources Investigations Report 94-4194, 1995

[24] *Urban stormwater toxic pollutants: assessment, sources, and treatability. Water Environment Research, 67(3):260-75.* Pitt, R., R. Field, M. Lalor, M. Brown 1993.

[25] *A Guide to Water Quality at Vacation Beaches. New York, NY.* Natural Resources Defense Council. 1999.

[26] *Testing the Waters Volume VI: Who Knows What You're Getting Into. New York, NY.* Natural Resources Defense Council. 1996.;
Testing the Waters Volume VII: How Does Your Vacation Beach Rate. New York, NY. NRDC. 1997.;
Draining to the Ocean: The Effects of Stormwater Pollution on Coastal Waters. American Oceans Campaign, Santa Monica, CA. Morton, T. 1997.

[27] *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Final Report prepared for the Santa Monica Bay Restoration Project.* Haile, R.W., et. al. 1996.

[28] *The Santa Monica Bay Restoration Plan – Actions for Bay Restoration* – Santa Monica Bay Restoration Project 1994

[29] *County of Los Angeles Five-Year Stormwater Public Education Plan* 1996

[30] *EPA 833-R-00-002*, March 2000

[31] *NPDES Form 3510-11*

[32] *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* U.S. EPA 1992

[33] Broward County MS4, Palm Beach County MS4, Sarasota County MS4, issued by U.S. EPA Region 4, City of Tulsa MS4, Oklahoma City MS4, City of Corpus Christi MS4, City of Forth Worth MS4 issued by U.S. EPA Region 6, City of Seattle MS4 issued by Washington State Department of Ecology, City of Portland MS4 issued by the Oregon Department of Environmental Quality

[34] County of Santa Clara and co-permittees MS4 (issued 2001), San Diego County and co-permittees MS4 (issued 2001)

[35] *City of Monterey Stormwater Ordinance* 1997

[36] Letter from Eugene Bromley, Stormwater Coordinator U.S. EPA Region 9, to Maryann Jones Storm Water Section, California State Water Resources Control Board December 1993

[37] Letter from Alexis Strauss, Director Water Division, US EPA Region 9 to Dennis A. Dickerson in support of a municipal enforcement program for industrial sites included in the renewed MS4 Permit for LA County - December 2000;
Letter to James DeStefano, Interim City Manager – Diamond Bar, from Alexis Strauss, EPA Region 9 Water Division Director, regarding comments on the letter concerning inspection requirements – May 2001;
Letter from Christine Todd Whitman, U.S. EPA Administrator to The Honorable David Dreier, U.S. House of Representatives - July 2001

[38] Response To Comments Received On The December 18, 1995 Draft NPDES Permit For Municipal Storm Water And Urban Runoff Discharges Within The County Of Los Angeles - March 1996; Memorandum from Jorge A. Leon, Senior Staff Counsel, State Water Resources Control Board to Catheryne Tyrrell, Assistant Executive Officer Regional Board Los Angeles – April 1996

[39] Vol. 133 Cong.Rec. S733-02 (daily ed. Jan. 14, 1987).

[40] *The Critical Source Selection and Monitoring Report.* Woodward-Clyde Consultants prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997.

[41] *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (CTR),* 40 CFR 131.38.

[42] *Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.*

[43] *Research Report on Issues, Pollutants and Materials for the Stormwater/Urban Runoff Public Education Program.* Prepared for the Los Angeles County Department of Public Works and submitted to the Regional Board in July 1997

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ADDITIONAL MATERIALS TO BE INCLUDED IN THE AGENDA PACKAGE

ITEM #: **10 F(2) SD Order**

FROM: Xavier Swamikannu PHONE: (213) 576-6654

DATE: November 28, 2001

MESSAGE

The following attachment replaces Item 10 F(2): San Diego County Order. This is the final draft.

TO:

X	ALL BOARD MEMBERS
	DAVID NAHAI
	CHRISTOPHER PAK
	SUSAN M. CLOKE
	BRADLEY MINDLIN
	FRANCINE B. DIAMOND
	ROBERT L. MILLER
	TIMOTHY SHAHEEN
X	MICHAEL LAUFER
X	OTHER Executive Officers, Counsel, Section Chiefs, Environmental Grps., Lead Staff

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2001-15

In the Matter of the Petitions of

BUILDING INDUSTRY ASSOCIATION OF SAN DIEGO COUNTY
AND
WESTERN STATES PETROLEUM ASSOCIATION

For Review Of Waste Discharge Requirements Order No. 2001-01
for Urban Runoff from San Diego County
[NPDES No. CAS0108758]
Issued by the
California Water Quality Control Board,
San Diego Region

SWRCB/OCC FILES A-1362, A-1362(a)

BY THE BOARD:

On February 21, 2001, the San Diego Regional Water Quality Control Board (Regional Water Board) issued a revised national pollutant discharge elimination system (NPDES) permit in Order No. 2001-01 (permit) to the County of San Diego (County), the 18 incorporated cities within the County, and the San Diego Unified Port District. The permit covers storm water discharges from municipal separate storm sewer systems (MS4) throughout the County. The permit is the second MS4 permit issued for the County, although the first permit was issued more than ten years earlier.[1]

[1] NPDES permits generally expire after five years, but can be extended administratively where the Regional Water Board is unable to issue a new permit prior to the expiration date. As the record in this matter amply demonstrates, the Regional Water Board engaged in an extensive process of issuing draft permits, accepting comments, and holding workshops and hearings since at least 1995.

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The permit includes various programmatic and planning requirements for the permittees, including construction and development controls, controls on municipal activities, controls on runoff from industrial, commercial, and residential sources, and public education. The types of controls and requirements included in the permit are similar to those in other MS4 permits, but also reflect the expansion of the storm water program since the first MS4 permit was adopted for San Diego County 11 years ago.[2]

On March 23, 2001, the State Water Resources Control Board (State Water Board or Board) received petitions for review of the permit from the Building Industry Association of San Diego County (BIA) and from the Western States Petroleum Association (WSPA).[3] The petitions are legally and factually related, and have therefore been consolidated for purposes of review.[4] None of the municipal dischargers subject to the permit filed a petition, nor did they file responses to the petitions.

I. BACKGROUND

MS4 permits are adopted pursuant to Clean Water Act section 402(p). This federal law sets forth specific requirements for permits for discharges from municipal storm sewers. One of the requirements is that permits "shall require controls to reduce the discharge of pollutants to the maximum

[2] For a discussion of the evolution of the storm water program, consistent with guidance from the United States Environmental Protection Agency (U.S. EPA), see Board Order WQ 2000-11.

[3] On March 23, the State Water Board also received brief letters from the Ramona Chamber of Commerce, the North San Diego County Association of Realtors, the San Diego County Apartment Association, the National Association of Industrial and Office Properties, and the California Building Industry Association. All of these letters state that they are "joining in" the petition filed by BIA. None of the letters contain any of the required information for petitions, which is listed at Cal. Code of Regs., tit. 23, section 2050. These letters will be treated as comments on the BIA petition. To the extent the authors intended the letters be considered petitions, they are dismissed.

[4] Cal. Code of Regs., tit. 23, section 2054.

extent practicable [MEP]." States establish appropriate requirements for the control of pollutants in the permits.

This Board very recently reviewed the need for controls on urban runoff in MS4 permits, the emphasis on best management practices (BMPs) in lieu of numeric effluent limitations, and the expectation that the level of effort to control urban runoff will increase over time.[5] We pointed out that urban runoff is a significant contributor of impairment to waters throughout the state, and that additional controls are needed. Specifically, in Board Order WQ 2000-11 (hereinafter, LA SUSMP order), we concluded that the Los Angeles Regional Water Board acted appropriately in determining that numeric standards for the design of BMPs to control runoff from new construction and redevelopment constituted controls to the MEP.[6]

The San Diego permit incorporates numeric design standards for runoff from new construction and redevelopment similar to those considered in the LA SUSMP order.[7] In addition, the permit addresses programmatic requirements in other areas. The LA SUSMP order was a precedential decision,[8] and we will not reiterate our findings and conclusions from that decision.[9]

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[5] Board Order WQ 2000-11.

[6] As explained in that Order, numeric design standards are not the same as numeric effluent limitations. While BIA contends that the permit under review includes numeric effluent limitations, it does not. A numeric design standard only tells the dischargers how much runoff must be treated or infiltrated; it does not establish numeric effluent limitations proscribing the quality of effluent that can be discharged following infiltration or treatment.

[7] The San Diego permit also includes provisions that are different from those approved in the LA SUSMP Order, but which were not the subject of either petition. Such provisions include the inclusion of non-discretionary projects. We do not make any ruling in this Order on matters that were not addressed in either petition.

[8] Government Code section 11425.60; State Board Order WR 96-1 (Lagunitas Creek), at footnote 11.

[9] BIA restates some of the issues this Board considered in the LA SUSMP order. For instance, BIA contends that it is inappropriate for the permit to regulate erosion control. While this argument was not specifically addressed in our prior Order, it is obvious that the most serious concern with runoff from construction is the potential for increased erosion. It is absurd to contend that the permit should have ignored this impact from urban runoff.

The petitioners make numerous contentions, mostly concerning requirements that they claim the dischargers will not be able to, or should not be required to, comply with. We note that none of the dischargers has joined in these contentions. We further note that BIA raises contentions that were already addressed in the LA SUSMP order. In this Order, we have attempted to glean from the petition issues that are not already fully addressed in Board Order Board Order WQ 2000-11, and which may have some impact on BIA and its members. WSPA restated the contentions it made in the petition it filed challenging the LA SUSMP order. We will not address those contentions again.[10] But we will address whether the Regional Water Board followed the precedent established there as it relates to retail gasoline outlets.[11]

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[10] On November 8, 2001, following the October 31 workshop meeting that was held to discuss the draft order, BIA submitted a "supplemental brief" that includes many new contentions raised for the first time. (Interested persons who were not petitioners filed comments on the draft order asking the State Water Board to address some of these.) The State Water Board will not address these contentions, as they were not timely raised. (Wat. Code § 13320; Cal. Code of Regs., tit. 23, § 2050(a).) Specific contentions that are not properly subject to review under Water Code section 13320 are objections to findings 16, 17, and 38 of the permit, the contention that permit provisions constitute illegal unfunded mandates, challenges to the permit's inspection and enforcement provisions, objections to permit provisions regarding construction sites, the contention that post-construction requirements should be limited to "discretionary" approvals, the challenge to the provisions regarding local government compliance with the California Environmental Quality Act, and contentions regarding the term "discharge" in the permit. BIA did not meet the legal requirements for seeking review of these portions of the permit.

[11] On November 8, 2001, the State Water Board received eight boxes of documents from BIA, along with a "Request for Entry of Documents into the Administrative Record." BIA failed to comply with Cal. Code of Regs., tit. 23, section 2066(b), which requires such requests be made "prior to or during the workshop meeting." The workshop meeting was held on October 31, 2001. The request will therefore not be considered. BIA also objected in this submittal that the Regional Water Board did not include these documents in its record. The Regional Water Board's record was created at the time the permit was adopted, and was submitted to the State Water Board on June 11, 2001. BIA's objection is not timely.

II. CONTENTIONS AND FINDINGS[12]

Contention: BIA contends that the discharge prohibitions contained in the permit are "absolute" and "inflexible," are not consistent with the standard of "maximum extent practicable" (MEP), and financially cannot be met.

Finding: The gist of BIA's contention concerns Discharge Prohibition A.2, concerning exceedance of water quality objectives for receiving waters: "Discharges from MS4s which cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited." BIA generally contends that this prohibition amounts to an inflexible "zero contribution" requirement.

BIA advances numerous arguments regarding the alleged inability of the dischargers to comply with this prohibition and the impropriety of requiring compliance with water quality standards in municipal storm water permits. These arguments mirror arguments made in earlier petitions that required compliance with water quality objectives by municipal storm water permittees. (See, e.g., Board Orders WQ 91-03, WQ 98-01, and WQ 99-05.) This Board has already considered and upheld the requirement that municipal storm water discharges must not cause or contribute to exceedances of water quality objectives in the receiving water. We adopted an iterative procedure for complying with this requirement, wherein municipalities must report instances where they cause or contribute to exceedances, and then must review and improve BMPs so as to protect the receiving

[12] This Order does not address all of the issues raised by the petitioners. The Board finds that the issues that are not addressed are insubstantial and not appropriate for State Water Board review. (See *People v. Barry* (1987) 194 Cal.App.3d 158 [239 Cal.Rptr. 349]; Cal. Code Regs., tit. 23, § 2052.) We make no determination as to whether we will address the same or similar issues when raised in future petitions.

waters. The language in the permit in Receiving Water Limitation C.1 and 2 is consistent with the language required in Board Order WQ 99-05, our most recent direction on this issue.[13]

While the issue of the propriety of requiring compliance with water quality objectives has been addressed before in several orders, BIA does raise one new issue that was not addressed previously. In 1999, the Ninth Circuit Court of Appeals issued an opinion addressing whether municipal storm water permits must require "strict compliance" with water quality standards.[14] (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.) The court in *Browner* held that the Clean Water Act provisions regarding storm water permits do not require that municipal storm-sewer discharge permits ensure strict compliance with water quality standards, unlike other permits.[15] The court determined that: "Instead, [the provision for municipal storm water permits] *replaces* the requirements of [section 301] with the requirement that municipal storm-sewer dischargers 'reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator . . . determines appropriate for the control of such pollutants'." (191 F.3d at 1165.) The court further held that the Clean Water Act does grant the permitting agency discretion to determine what pollution controls are appropriate for municipal storm water discharges. (*Id.* at 1166.) Specifically, the court stated that U.S.

[13] In addition to Discharge Prohibition A.2, quoted above, the permit includes Receiving Water Limitation C.1, with almost identical language: "Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited." Receiving Water Limitation C.2 sets forth the iterative process for compliance with C.1, as required by Board Order WQ 99-05.

[14] "Water quality objectives" generally refers to criteria adopted by the state, while "water quality standards" generally refers to criteria adopted or approved for the state by the U.S. EPA. Those terms are used interchangeably for purposes of this Order.

[15] Clean Water Act § 301(b)(1)(C) requires that most NPDES permits require strict compliance with quality standards.

EPA had the authority either to require "strict compliance" with water quality standards through the imposition of numeric effluent limitations, or to employ an iterative approach toward compliance with water quality standards, by requiring improved BMPs over time. (*Id.*) The court in *Browner* upheld the EPA permit language, which included an iterative, BMP-based approach comparable to the language endorsed by this Board in Order WQ 99-05.

In reviewing the language in this permit, and that in Board Order WQ 99-05, we point out that our language, similar to U.S. EPA's permit language discussed in the *Browner* case, does not require strict compliance with water quality standards. Our language requires that storm water management plans be designed to achieve compliance with water quality standards. Compliance is to be achieved over time, through an iterative approach requiring improved BMPs. As pointed out by the *Browner* court, there is nothing inconsistent between this approach and the determination that the Clean Water Act does not mandate strict compliance with water quality standards. Instead, the iterative approach is consistent with U.S. EPA's general approach to storm water regulation, which relies on BMPs instead of numeric effluent limitations.

It is true that the holding in *Browner* allows the issuance of municipal storm water permits that limit their provisions to BMPs that control pollutants to the maximum extent practicable (MEP), and which do not require compliance with water quality standards. For the reasons discussed below, we decline to adopt that approach. The evidence in the record before us is consistent with records in previous municipal permits we have considered, and with the data we have in our records, including data supporting our list prepared pursuant to Clean Water Act section 303(d). Urban runoff is causing and contributing to impacts on receiving waters throughout the state and impairing their

beneficial uses. In order to protect beneficial uses and to achieve compliance with water quality objectives in our streams, rivers, lakes, and the ocean, we must look to controls on urban runoff. It is not enough simply to apply the technology-based standards of controlling discharges of pollutants to the MEP; where urban runoff is causing or contributing to exceedances of water quality standards, it is appropriate to require improvements to BMPs that address those exceedances.

While we will continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvement of BMPs, is appropriate. We will generally not require "strict compliance" with water quality standards through numeric effluent limitations and we will continue to follow an iterative approach, which seeks compliance over time.[16] The iterative approach is protective of water quality, but at the same time considers the difficulties of achieving full compliance through BMPs that must be enforced throughout large and medium municipal storm sewer systems.[17]

We have reviewed the language in the permit, and compared it to the model language in Board Order WQ 99-05. The language in the Receiving Water Limitations is virtually identical to the language in Board Order WQ 99-05. It sets a limitation on discharges that cause or contribute to violation of water quality standards, and then it establishes an iterative approach to complying with the limitation. We are concerned, however, with the language in Discharge Prohibition A.2, which is

[16] Exceptions to this general rule are appropriate where site-specific conditions warrant. For example, the Basin Plan for the Lake Tahoe basin, which protects an outstanding national resource water, includes numeric effluent limitations for storm water discharges.

[17] While BIA argues that the permit requires "zero contribution" of pollutants in runoff, and "in effect" contains numeric effluent limitations, this is simply not true. The permit is clearly BMP-based, and there are no numeric effluent limitations. BIA also claims that the permit will require the construction of treatment plants for storm water similar to the publicly-owned treatment works for sanitary sewage. There is no basis for this contention; there is no requirement in the permit to treat all storm water. The emphasis is on BMPs.

challenged by BIA. This discharge prohibition is similar to the Receiving Water Limitation, prohibiting discharges that cause or contribute to exceedance of water quality objectives. The difficulty with this language, however, is that it is not modified by the iterative process. To clarify that this prohibition also must be complied with through the iterative process, Receiving Water Limitation C.2 must state that it is also applicable to Discharge Prohibition A.2. The permit, in Discharge Prohibition A.5, also incorporates a list of Basin Plan prohibitions, one of which also prohibits discharges that are not in compliance with water quality objectives. (See, Attachment A, prohibition 5.) Language clarifying that the iterative approach applies to that prohibition is also necessary.[18]

BIA also objects to Discharge Prohibition A.3, which appears to require that treatment and control of discharges must always occur prior to entry into the MS4: "Discharges into and from MS4s containing pollutants which have not been reduced to the [MEP] are prohibited."[19] An NPDES permit is properly issued for "discharge of a pollutant" to waters of the United States.[20] (Clean Water Act § 402(a).) The Clean Water Act defines "discharge of a pollutant" as an "addition" of a pollutant to waters of the United States from a point source. (Clean Water Act section 502(12).) Section 402(p)(3)(B) authorizes the issuance of permits for discharges "from municipal storm sewers."

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[18] The iterative approach is not necessary for all Discharge Prohibitions. For example, a prohibition against pollution, contamination or nuisance should generally be complied with at all times. (See, Discharge Prohibition A.1.) Also, there may be discharge prohibitions for particularly sensitive water bodies, such as the prohibition in the Ocean Plan applicable to Areas of Special Biological Significance.

[19] Discharge Prohibition A.1 also refers to discharges into the MS4, but it only prohibits pollution, contamination, or nuisance that occurs "in waters of the state." Therefore, it is interpreted to apply only to discharges to receiving waters.

[20] Since NPDES permits are adopted as waste discharge requirements in California, they can more broadly protect "waters of the state," rather than being limited to "waters of the United States." In general, the inclusion of "waters of the state" allows the protection of groundwater, which is generally not considered to be "waters of the United States."

We find that the permit language is overly broad because it applies the MEP standard not only to discharges "from" MS4s, but also to discharges "into" MS4s. It is certainly true that in most instances it is more practical and effective to prevent and control pollution at its source. We also agree with the Regional Water Board's concern, stated in its response, that there may be instances where MS4s use "waters of the United States" as part of their sewer system, and that the Board is charged with protecting all such waters. Nonetheless, the specific language in this prohibition too broadly restricts all discharges "into" an MS4, and does not

allow flexibility to use regional solutions, where they could be applied in a manner that fully protects receiving waters.[21] It is important to emphasize that dischargers into MS4s continue to be required to implement a full range of BMPs, including source control. In particular, dischargers subject to industrial and construction permits must comply with all conditions in those permits prior to discharging storm water into MS4s.

Contention: State law requires the adoption of wet weather water quality standards, and the permit improperly enforces water quality standards that were not specifically adopted for wet weather discharges.

Finding: This contention is clearly without merit. There is no provision in state or federal law that mandates adoption of separate water quality standards for wet weather conditions. In arguing that the permit violates state law, BIA states that because the permit applies the water quality

[21] There are other provisions in the permit that refer to restrictions "into" the MS4. (See, e.g., Legal Authority D.1.) Those provisions are appropriate because they do not apply the MEP standard to the permittees, but instead require the permittees to demand appropriate controls for discharges into their system. For example, the federal regulations require that MS4s have a program "to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system . . . ." (40 C.F.R. § 122.26(d)(2)(iv)(D).)

objectives that were adopted in its Basin Plan, and those objectives were not specifically adopted for wet weather conditions only, the Regional Water Board violated Water Code section 13241. These allegations appear to challenge water quality objectives that were adopted years ago. Such a challenge is clearly inappropriate as both untimely, and because Basin Plan provisions cannot be challenged through the water quality petition process. (See Wat. Code § 13320.) Moreover, there is nothing in section 13241 that supports the claim that Regional Water Boards must adopt separate wet weather water quality objectives. Instead, the Regional Water Board's response indicates that the water quality objectives were based on all water conditions in the area. There is nothing in the record to support the claim that the Regional Water Board did not in fact consider wet weather conditions when it adopted its Basin Plan. Finally, Water Code section 13263 mandates the Regional Water Board to implement its Basin Plan when adopting waste discharge requirements. The Regional Water Board acted properly in doing so.

BIA points to certain federal policy documents that authorize states to promulgate water quality standards specific to wet-weather conditions.[22] Each Regional Water Board considers revisions to its Basin Plan in a triennial review. That would be the appropriate forum for BIA to make these comments.

Contention: BIA contends that the permit improperly classifies urban runoff as "waste" within the meaning of the Water Code.

[22] These documents do not support the claim that U.S. EPA and the Clinton Administration indicated that the absence of such regulations "is a major problem that needs to be addressed," as claimed in BIA's Points and Authorities, at page 18.

Finding: BIA challenges Finding 2, which states that urban runoff is a waste, as defined in the Water Code, and that it is a "discharge of pollutants from a point source" under the federal Clean Water Act. BIA contends that the legislative history of section 13050(d) supports its position that "waste" should be interpreted to exclude urban runoff. The Final Report of the Study Panel to the California State Water Resources Control Board (March, 1969) is the definitive document describing the legislative intent of the Porter-Cologne Water Quality Control Act. In discussing the definition of "waste," this document discusses its broad application to "current drainage, flow, or seepage into waters of the state of harmful concentrations" of materials, including eroded earth and garbage.

As we stated in Board Order WQ 95-2, the requirement to adopt permits for urban runoff is undisputed, and Regional Water Boards are not required to obtain any information on the impacts of runoff prior to issuing a permit. (At page 3.) It is also undisputed that urban runoff contains "waste" within the meaning of Water Code section 13050(d), and that the federal regulations define "discharge of a pollutant" to include "additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man." (40 C.F.R. § 122.2.) But it is the waste or pollutants in the runoff that meet these definitions of "waste" and "pollutant," and not the runoff itself.[23] The finding does create some confusion, since there are discharge prohibitions that have been incorporated into the permit that broadly prohibit the discharge of "waste" in certain circumstances.

[23] The Regional Water Board is appropriately concerned not only with pollutants in runoff but also the volume of runoff, since the volume of runoff can affect the discharge of pollutants in the runoff. (See Board Order WQ 2000-11, at page 5.)

(See Attachment A to the permit.) The finding will therefore be amended to state that urban runoff contains waste and pollutants.

Contention: BIA contends that the Regional Water Board violated California Environmental Quality Act (CEQA).

Finding: As we have stated in several prior orders, the provisions of CEQA requiring adoption of environmental documents do not apply to NPDES permits.[24] BIA contends that the exemption from CEQA contained in section 13389 applies only to the extent that the specific provisions of the permit are required by the federal Clean Water Act. This contention is easily rejected without addressing whether federal law mandated all of the permit provisions. The plain language of section 13389 broadly exempts the Regional Water Board from the requirements of CEQA to prepare environmental documents when adopting "any waste discharge requirement" pursuant to Chapter 5.5 (§§ 13370 et seq., which applies to NPDES permits).[25] BIA cites the decision in *Committee for a Progressive Gilroy v. State Water Resources Control Board* (1987) 192 Cal.App.3d 847. That case upheld the State Water Board's view that section 13389 applies only to NPDES permits, and not to waste discharge requirements that are adopted pursuant only to state law. The case did not concern an NPDES permit, and does not support BIA's argument.

Contention: WSPA contends that the Regional Water Board did not follow this Board's precedent for retail gasoline outlets (RGOs) established in the LA SUSMP order.

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[24] Water Code section 13389; see, e.g., Board Order WQ 2000-11.

[25] The exemption does have an exception for permits for "new sources" as defined in the Clean Water Act, which is not applicable here.

Finding: In the LA SUSMP order, this Board concluded that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. We also noted that, in light of the small size of many RGOs and the proximity to underground tanks, it might not always be feasible or safe to employ treatment methodologies. We directed the Los Angeles Regional Water Board to mandate that RGOs employ the BMPs listed in a publication of the California Storm Water Quality Task Force. (*Best Management Practice Guide – Retail Gasoline Outlets* (March 1997).) We also concluded that RGOs should not be subject to the BMP design standards at this time. Instead, we recommended that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor. The LA SUSMP order did not preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued.

The permit adopted by the Regional Water Board did not comply with the directions we set forth in the LA SUSMP order for the regulation of RGOs. The permit contains no findings specific to the issues discussed in our prior order regarding RGOs, and includes no threshold for inclusion of RGOs in SUSMPs. Instead, the permit requires the dischargers to develop and implement SUSMPs within one year that include requirements for "Priority Development Project Categories," including "retail gasoline outlets." While other priority categories have thresholds for their inclusion in SUSMPs, the permit states: "Retail Gasoline Outlet is defined as any facility engaged in selling gasoline."[26]

[26] Permit at F.1.b(2)(a)(x).

The Regional Water Board responded that it did follow the directions in the LA SUSMP order. First, it points to findings that vehicles and pollutants they generate impact receiving water quality. But the only finding that even mentions RGOs is finding 4, which simply lists RGOs among the other priority development project categories as land uses that generate more pollutants. The Regional Water Board staff also did state some justifications for the inclusion of RGOs in two documents. The Draft Fact Sheet explains that RGOs contribute pollutants to runoff, and opines that there are appropriate BMPs for RGOs. The staff also prepared another document after the public hearing, which was distributed to Board Members prior to their vote on the permit, and which includes similar justifications and references to studies.[27] The LA SUSMP order called for some type of threshold for inclusion of RGOs in SUSMPs. The permit does not do so. Also, justifications for permit provisions should be stated in the permit findings or the final fact sheet, and should be subject to public review and debate.[28] The discussion in the document submitted after the hearing did not meet these criteria. There was some justification in the "Draft Fact Sheet," but the fact sheet has not been finalized.[29] In light of our concerns over whether SUSMP sizing criteria should apply to RGOs, it was incumbent on the Regional Water Board to justify the inclusion of RGOs in the permit findings or in a final fact sheet, and to consider an appropriate threshold, addressing the concerns we stated. The Regional Water Board also responded that when the dischargers develop the SUSMPs, the dischargers

[27] See "Comparison Between Tentative Order No. 2001-01 SUSMP Requirements and LARWQCB SUSMP Requirements (as Supported by SWRCB Order WQ 2000-11)."

[28] See 40 C.F.R. sections 124.6(e) and 124.8.

[29] U.S. EPA regulations require that there be a fact sheet accompanying the permit. (40 C.F.R. § 124.8.) The record contains only a draft fact sheet, which was never published or distributed in final form. The Regional Water Board should finalize the fact sheet, accounting for any revisions made in the final permit, and publish it on its web site as a final document.

might add specific BMPs and a threshold as directed in the LA SUSMP order. But the order specifically directed that any threshold, and the justification therefore, should be included in the permit. The Regional Water Board did not comply with these directions.

III. CONCLUSIONS

Based on the discussion above, the Board concludes that:

1. The Regional Water Board appropriately required compliance with water quality standards and included requirements to achieve reduction of pollutants to the maximum extent practicable. The permit must be clarified so that the reference to the iterative process for achieving compliance applies not only to the receiving water limitation, but also to the discharge prohibitions that require compliance with water quality standards. The permit should also be revised so that it requires that MEP be achieved for discharges "from" the municipal sewer system, and for discharges "to" waters of the United States, but not for discharges "into" the sewer system.

2. The Regional Water Board was not required to adopt wet-weather specific water quality objectives.

3. The Regional Water Board inappropriately defined urban runoff as "waste."

4. The Regional Water Board did not violate the California Environmental Quality Act.

5. The permit will be revised to delete retail gasoline outlets from the Priority Development Project Categories for Standard Urban Storm Water Mitigation Plans. The Regional Water Board may consider adding retail gasoline outlets, upon inclusion of appropriate findings and a threshold describing which outlets are included in the requirements.

IV. ORDER

IT IS HEREBY ORDERED that the Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems in San Diego County (Order No. 2001-01) are revised as follows:

1. Part A.3: The words "into and" are deleted.

2. Part C.2: Throughout the first paragraph, the words ", Part A.2, and Part A.5 as it applies to Prohibition 5 in Attachment A" shall be inserted following "Part C.1."

3. Finding 2: Revise the finding to read: **URBAN RUNOFF CONTAINS "WASTE" AND "POLLUTANTS"**: Urban runoff contains waste, as defined in the California Water Code, and pollutants, as defined in the federal Clean Water Act, and adversely affects the quality of the waters of the State.

4. Part F.1.b(2)(a): Delete section "x."

In all other respects the petitions are dismissed.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 15, 2001.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz

NO:

ABSENT:

ABSTAIN:

/s/

Maureen Marché
Clerk to the Board

Thursday, December 13,2001 – 448th Regular Board Meeting
CA Regional Water Quality Control Board – Los Angeles Region
AGENDA ITEM #10: Municipal Storm Water NPDES Permit Renewal for Los Angeles County and unincorporated cities therein, except the City of Long Beach .

Good morning Board Members, my name is Jacqueline Lambrichts, representing **Friends of the San Gabriel River, P.O. Box 3725, South El Monte CA 91733.** Friends of the San Gabriel River supports the efforts of the Natural Resources Defense Council, the Santa Monica Baykeeper, and Heal the Bay in their efforts to convince the Los Angeles Regional Water Quality Control Board to approve a strong Municipal Storm Water Permit for Los Angeles County.

Mr. Dennis Dickerson, Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. 4th Street
Los Angeles, CA 90013

Mr. Dennis Dickerson,

Please pass a stormwater permit that protects our rivers, bays and beaches from polluted runoff.

I urge the Board to include these crucial items in the water quality standards for the new County Stormwater Permit. Please require mandatory inspections and tough treatment requirements for all new and redevelopment sites, housing complexes, restaurants, automotive repair facilities and gas stations. The Board must develop monitoring programs that will identify the impacts of polluted runoff on aquatic life.

We can't afford five more years of inaction!

The Regional Board must implement and enforce tough stormwater permits to protect public health and our aquatic resources. Please don't back down!

Sincerely,

Annette L. Lazare

Ms. Annette L. Lazare
Los Angeles, CA

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Letters to the LA MS4 Permit 12/13/01 Board Meeting

Last Name	First Name	M.I.	Address	City	State	Zip
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Ahrens	William	B	3402 S Centinela Ave #A	Los Angeles	CA	900066
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Amadio	Polina	I			CA	
Anawatt	Anna	A.	6988 Wildlife Rd	Malibu	CA	90265
Andrews	Mark			Los Angeles	CA	
Armer	John			Santa Monica	CA	
Astin	Alexander	W.	2681 Cordelia Rd	Los Angeles	CA	90049
Astin	Helen	S.	2682 Cordelia Rd	Los Angeles	CA	90050
Avcollie	Sam			Palm Desert	CA	
Avedon	Harriet	L.	17160 Avenida De Sta	Pacific Palisades	CA	90272
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Bailey	Mark	D.	1013 Camino Real	Redondo Beach	CA	90277
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Bohm	Lazy			Hecienda Heights	CA	
Bonz	Rodey	P.	24445 Hawthorne Blvd, #105	Torrance	CA	90505
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Brown	Frank and Doris			Malibu	CA	
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Coombs	Thelma		P.O Box 1616	Manhattan Bch	CA	90268
Cooperstein	Elihu and Judith		13221-A Admiral Ave	Marina Del Rey	CA	90292
Cooperstein	Joan	M.	663 Marine St #A	Santa Monica	CA	90405-5644
Crane	Anne			Burbank	CA	
Cunningham	Furrokh			Los Angeles	CA	
Curran	David		1801 Manzawita Lane	Manhattan Beach	CA	90013

Dastur	Beth		1802 Manzawita Lane	Manhattan Beach	CA	90014
Davis	Agnes		2321 Hidaleo Ave	Los Angeles	CA	90039
Davis	Daniel			Palos Verdes Estat	CA	
Dawson	Martin and Susan			Hollywood	CA	
Deforest	Neil	F.	3413 Poinsettia Ave	Manhattan Beach	CA	90266
Dilger	Diane		351 N 11th St	Grover Beach	CA	93733
Dipprey	Tad		16525 W Sunset Blvs, # 4	Pacific Palisades	CA	90272-4903
Dolden	David and Theresa		1205 Del Oro Ave	Santa Barbra	CA	93109
Dollase	Claire		21540 Paseo Serra	Malibu	CA	90265
Dolotta	Julie	M.	235 19th St	Santa Monica	CA	90402
Douglas	Martha	W.	934 Las Pulgas Rd	Pacific Palisades	CA	90272
Dounthat	Eileen		11613 Clover Que	Los Angeles	CA	90066
Dresher	Andrew	H.	727 Greentree Rd	Pacific Palisades	CA	90272
Drutz	Richard	J.	11260Wilbur Ave, #304	North Ridge	CA	91326-2449
Duncan	Phyliss			Studio City	CA	
Early	Erik	A.		Los Angeles	CA	
Eckler	Todd			Culver City	CA	
Eff	Judith		5625 Green Valley Cir, Apt304	Culver City	CA	90230-7164
Eichenberger	Susan	R.	26329 Plata Ln	Calabasas	CA	91302-2612
Eiswerth	Pat	A.	2621 Hyperion Ave #A	Los Angeles	CA	90027
Ellis	Mary	M.		Los Angeles	CA	
Emery	Jane	H.		Los Angeles	CA	
Emi	Cetha	W.	2461 Silverstand Ave	Hermosa Beach	CA	90254-2664
Enger	Mia			San Clemente	CA	
Ericson	David and Olive			Manhattan Beach	CA	
Evans	Carla		1718 Gillette Crescent	South Pasadena	CA	91030
Evans	Sharon			Venice	CA	
Fallberg	Elizabeth	T.		Van Nuys	CA	
Faris	Susan			Valley Village	CA	
Farrar	Renee			Santa Clarita	CA	
Feinstein	Mark	J.	3915 Carnavon Way	Los Angeles	CA	90027
Fekete	Mark			Studio City	CA	
Feldman	Craig and Sachsa		900 Euclid St, Apt302	Santa Monica	CA	90403-3058
Felsot	Todd	D.	850 2nd St,#212	Santa Monica	CA	90403
Ferguson	Bonnie		143311 11th St, #6	Santa Monica	CA	90401
Flora	Melissa			Santa Monica	CA	
Foote	Donald and Marilynn			Hermosa Beach	CA	
Forman	Bart	R.	9561 India Well Cir	Huntington Beach	CA	92646
Foss	Rose		515 Ocean Ave#701 N	Santa Monica	CA	90402
Fourticq	Ronald	R.		Beverly Hills	CA	
Freeman	Cynthia	J.		Glendale	CA	
Freeman	Tom and Liana		2039 Midvale Ave	Los Angeles	CA	90025
Freiner	Henry		228 3rd St	Manhattan Bch	CA	90266
French	Evelyn		229 3rd St	Manhattan Bch	CA	90267
Frew	Phil		701 Loma Rd	Hermosa Beach	CA	90254-4656
Freys	Tomas		12401 W Olympic Blvd	Los Angeles	CA	90064-1022
Freys	Lenore		2401 Century Hill	Los Angeles	CA	90067
Friedl	Stefan		3610 Beethoven St	Los Angeles	CA	90066-3041
Fuller	Irma		4037 Moore St	Los Angeles	CA	90066
Furman	David			Santa Monica	CA	
Furst	Christopher	J.	1322 2nd St, #28	Santa Monica	CA	90401
Gallegos	Ryan	M.	661 11th St	Manhattan Bch	CA	90266
Gardner	Evelyn	G.		Los Angeles	CA	
Gary	Carol	D	736 10th St	Manhattan Bch	CA	90266
Gates	Mary	R.	906 Fiske St	Pacific Palisades	CA	90272
Gendelman	Robert	A.	907 Fiske St	Pacific Palisades	CA	90273
Gentry	Tom		2612 Rohland Ave	Redondo Beach	CA	90278
Georges	Patricia			Malibu	CA	
Georges	Natasha		24510 Park St	Torrance	CA	90505-6539
Gilbson	Joseph	L.	570 Stassi Ln	Santa Monica	CA	90402-1338
Glaser	Judith	G.	571 Stassi Ln	Santa Monica	CA	90402-1339
Gogin	Fred	E.	450 N Roxbury Dr	Beverly Hills	CA	90210-4222
Golden	Herts	L.	451 N Roxbury Dr	Beverly Hills	CA	90210-4223
Golden	Roslyn		601 N Arden Dr	Beverely Hills	CA	90210-3509
Goldring	Abner	D.	602 N Arden Dr	Beverely Hills	CA	90210-3510
Goldring	Harry		4236 Michale Ave	Los Angeles	CA	90066-5618
Goldstine	Penny		1406 W 37th St	San Pedro	CA	90731-6015
Goldstine	Malcolm		2801 Glendower Ave	Los Angeles	CA	90027-1118

Golowen	Irving and Dorothy			Los Angeles	CA	
Good	Jeffrey	B.	41 Vicente Ter	Santa Monica	CA	90401
Gordon	Elizerbeth	B.	42 Vicente Ter	Santa Monica	CA	90402
Gordon	Terence	G	719 Superba Ave	Venice	CA	90291
Graham	Douglas	M.		Redondo Beach	CA	
Graham	Gloria	R.	2048 Fox Hills Dr	Los Angeles	CA	90025-6046
Graig	Sarah			Long Beach	CA	
Green	Oren			Long Beach	CA	
Greenleigh	Roxanne		1446 Donhill Dr	Beverly Hills	CA	90210
Grossi	Hubert		1447 Donhill Dr	Beverly Hills	CA	90211
Grossi	Daniel			Santa Monica	CA	
Guez	Gregory			Los Angeles	CA	
Guez	Gail			Manhattan Beach	CA	
Guggenheim	Charles	E.	21257 Entrada Rd	Topanga	CA	90290
Hamman	Kurt		11705 Laramie Way	Agua Dulce	CA	91390
Hansen	Melonie		11706 Laramie Way	Agua Dulce	CA	91391
Hanson	Sarah	M.	1768 S. Cresent Heights	Los Angeles	CA	90035
Hayden	Dennis	R.	939 Marco Place	Venice	CA	90292
Hayden	Marjorie		1747 Barry Ave	Los Angeles	CA	90025
Hays	Myles	E.		Los Angeles	CA	
Hicks	Ann			Santa Monica	CA	
Hinds	John	T.	1906 Olas Dr	San Pedro	CA	90732
Hirsch	Cheryl	L.	8005 Hannum Ave	Culver City	CA	90230-6167
Hirsch	Jon		13211 Haney Place	Los Angeles	CA	90049
Hobus	Jon		1413 2nd St,	Santa Monica	CA	90401
Holder	Russell	L.		Pacific Palisades	CA	
Hookstratten	Elisa	B.		Pacific Palisades	CA	
Hopp	Robert			Topanga	CA	
Hunziker	Joe	E.		Pacific Palisades	CA	
Hunziker	Martha	B.		Redondo Beach	CA	
Husser	Ron			Redondo Beach	CA	
hutshing	Alex		204 Bicknell Ave	Santa Monica	CA	90405
Huyette	Alfred		3486 Wade St	Los Angeles	CA	90066-1534
Iacopucci	Mathal		3487 Wade St	Los Angeles	CA	90066-1535
Iglesias	Charla	B.	1660 Ard Eevin Ave	Glendale	CA	91202-1224
Immella	Jean	D.		Los Angeles	CA	
Immella	Beatrice	L.		Los Angeles	CA	
Janecek	Irene			Los Angeles	CA	
Jefferds	Stanley	M.	151 Crescent Bay Dr	Laguana Beach	CA	92651
Johnstone	Stanley	D.	152 Crescent Bay Dr	Laguana Beach	CA	92652
Joseph	Charles		773 Latimer Rd	Santa Monica	CA	90402
Kaplan	Joanm		774 Latimer Rd	Santa Monica	CA	90403
Kaplan	Jason			Manhattan Bch	CA	
Kaplan	Dennis	N	1315 San Remo Dr	Pacific Palisades	CA	90272
Kaplan	Mark	R.		Pacific Palisades	CA	
Keller	Jennifer			Marina Del Rey	CA	
Kelly	Barry		7640 Mulholland Dr	Los Angeles	CA	90046
Kelsey	Maggie		7641 Mulholland Dr	Los Angeles	CA	90047
Kelton	James	S.	16620 Linda Ter	Pacific Palisades	CA	90272-2835
Kemp	Jean	A.	16621 Linda Ter	Pacific Palisades	CA	90272-2836
Kemp	Albert	S.	20759 Pacific Coast Hwy	Malibu	CA	90265-5404
Kerr	John	S.	P.O Box 756	Sunset Beach	CA	90742-0756
Kerr	Stefan			Santa Monica	CA	
Kian	Michael		17350 Sunset Blvd, Apt 5	Pacific Palisades	CA	90272
Killian	Stanley	H.	1822 Floumoy Rd	Manhattan Bch	CA	90266
Kirchanski	Stephen	I.		Malibu	CA	
Kirrene	Ramona			Oak Park	CA	
Klein	Robert		645 Paseo De La Playa	Redondo Beach	CA	90277-6572
Klein	Josh		16501 Ventura Blvd, #300	Encico	CA	91436
Kline	Ann	E.	19154 P.C.H	Malibu	CA	90245
Koch	Faye	H.		Playa Del Rey	CA	
Kriteman	Jan		1262 N. Flores St	Los Angeles	CA	90069-2904
Kronen	Tomi			Los Angeles	CA	
Ku	Charlotte		601 Califonia Ave	Santa Monica	CA	90403-3917
Kunesh	Robert			Los Angeles	CA	
Kuwayama	Donald	G.		Santa Monica	CA	
Kuzins	Cindy			Malibu	CA	
Laemmle	Joseph	S.	28116 Pacific Coast Hwy	Malibu	CA	90265

Lahr	Timothy		1713 Elm Ave	M
Landon	Dale	R.		S
Lang	Frank	Jr.		M
Lappen	Annette			L
Laster	Lina		7541 Stewart Ave	L
Lavac	Margaret		14627 Valley Vista	G
Lazare	Karen			M
Lee	Mel	P.		G
Legg	Dominique	K.	831 Georgina Ave	S
Leigh	Kimberly	E.	2515 Wilshire Blvd	M
Lesser	Jerome			S
Lett	Gomon			S
Lewand	Tim		2075 Harbor Blvd.	C
Lewis	Sigmund	G.	621 Midvale Ave, Apt2	L
Lewis	Nicolle		1700 Valleuto Dr	S
Lewis	Lawrence	D.	20524 Wayne Ave	T
Libowitz	John	W.		P
Lincir	David		1656 2nd St	M
Lincoln	Louis	G.		W
Lindley	Alejandro		11081 Roe Ave	L
Lloyd	Monika		11985 Wood Ranch Rd	G
Long	Dennis			L
Lucas	John	E.		P
Lutz	Melissa			G
Lynn	Barry			G
Mack	Jon		9257 Horward St	B
Magnes	Stephen		2432 Clement Ave	V
Magnes	Georjien		2433 Clement Ave	V
Magras	Melanie	J.		M
Magrath	Patrick	P.		P
Magrath	Bruno			S
Maguire	Patricia			R
Maloney	Anthony		302 Parkrose Ave	M
Marcotulli	Dorothy		301 Parkrose Ave	M
Margolis	David		1849 Sawtelle Blvd, #520	L
Mark	Alice		1850 Sawtelle Blvd, #520	L
Mark	George	M.	14000 Palawan Way, Studio E	M
Markman	Niranjian	D	1444 15th St, #6	S
Markman	Carole	R.		L
Marlowe	Jon	C.		L
Martin	Daniel		131 Outrigger Mall	M
Martin	Thomas	D.	1601 N Sepulvada Blvd	M
Martin	Barbra	A.	2411 Prospect Ave,#210	H
Maski	Donna		318 11th St	S
Mason	Mary	B.	11285 Brookheaven Ave	Los A
McAleer	Kathryn	A.	444 N Sirre Bonita Ave,Apr16	Los A
McCann	Kristen	F.		Pacif
McCarthy	Douglas	E.		Pacifi
MccCullough	Bonnie Colleen			Sher
McCormick	Mary	E.		Long
McCormick	Tom		4640 Admiralty Way, #500	Mar
McFarlin	Nancy			M
McInerny	Michale	R.	P.O Box 968	Si
McMahon	Brett		133 E. La Guerra PMB#277	S
Meck	Michelle			M
Mendoza	Hiroko	J.	21725 Y barra Rd	W
Menth	Chris			St
Meobius	Richard	J.	907 18th St, #B	S
Meyer	Marcella	M.	1311 Goucher St	P
Meyer	Gertrude	L.	247 S Barrington Ave	L
Michaelsen	Kent		13214 Magonlia Blvd	Sl
Miller	Robert		520 Washinton Blvd, #250	M
Miller	Massao			V
Minault	Paul			S
Mitchell	Michael		4643 Rosemont Ave	L
Miyashiro	Ruth		1201 San Vicente Blvd	S
Morrow	James		1202 San Vicente Blvd	S
Moseman	H	S.		M

Mount	Ken		242 Bennett Ave.	Long Beach	CA	90803
Mount	Daniel	C.		Santa Monica	CA	
Mudie	George			Malibu	CA	
Mullen	Geraldine	O.	720 Chapala Dr	Pacific Palisades	CA	90272-3707
Murcia	Chris	P.		Harbor City	CA	
Murgatroyd	Charles Roger			Los Angeles	CA	
Murphy	Kyle		359 B Oak St	MTN View	CA	94041
Murphy	Dency	L.	2415 Silverstrand Ave	Hermosa Beach	CA	90254
Nance	Moria	L.	2416 Silverstrand Ave	Hermosa Beach	CA	90254
Naydo	Ronald			Venice	CA	
Nelson	Michael		722 Kensington Rd	Santa Monica	CA	90405
Nelson	Robert			Los Aegeles	CA	
Nelson	Stephanie			Los Aegeles	CA	
Newcomb	Thomas and Ann			Pacific Palisades	CA	
Newman	Scott	M.		Torrance	CA	
Newman	James			Santa Monica	CA	
Newman	Sofie			Santa Monica	CA	
Newton	Jean-Luc			Newbury Park	CA	
Newton Howard	Lillian	M.	1621 Amalfi Dr	Pacific Palisades	CA	90272
Newton Howard	Charles	B.	3257 Tilden Ave	Los Angeles	CA	90034-3030
Noiray	Theresa	M.	3258 Tilden Ave	Los Angeles	CA	90034-3031
Norton	Carrie			Los Angeles	CA	
O' Conor	Ethel			Los Aegeles	CA	
O' Conor	Tamara			Glendale	CA	
O'Brien	Sean	D		Santa Monica	CA	
Oderberg	Tom			Beverly Hills	CA	
Ogden	Jeff			Newport Beach	CA	
O'Keefe	Lynn	B.	27 Arcadia Terr	Santa Monica	CA	90401
Oksner	Jeffery			Hermosa Beach	CA	
Onderko	William	R	2809 Pacific View Trl	Los Angeles	CA	90068
Or	Charlene		2810 Pacific View Trl	Los Angeles	CA	90069
P.	Tom		911 Amoroso Place	Venice	CA	90291
Palmer	Eileen			Marina Del Rey	CA	
Palmer	Ruth	S.	1601 Oak St	Santa Monica	CA	90405-4801
Paris	Linda			Malibu	CA	
Paris	Alisa			Venice	CA	
Parkison	Solomon		920 Harding Ave	Venice	CA	90292
Pascotto	Frazier		919 Harding Ave	Venice	CA	90291
Pasternack	Donna	B.		Redondo Beach	CA	
Pat	Sharon		210 San Juan Ave	Venice	CA	90291-3730
Pat	James				CA	
Pattillo	Gordon	M.		La Crescenta	CA	
Patton	Booker		11661 San Vicente Blvd, #710	Los Angeles	CA	90049
Paul	Ralph			Pasadena	CA	
Pearson	Cynthia			Los Angeles	CA	
Pearson	Katherine	L	3118 Urban Ave	Santa Monica	CA	90404
Perry	Thomas	W.	3119 Urban Ave	Santa Monica	CA	90405
Peters	Jerami	G.	3382 Crossland St	Thousand Oaks	CA	91362-4941
Pomatti	Kevin		3383 Crossland St	Thousand Oaks	CA	91362-4942
Pomatti	Linda			Marina Del Rey	CA	
Prendiville	Ella	Y		Los Angeles	CA	
Prendiville	Dorrit		3855 Fredonia Dr	Hollywood	CA	90068
Pullman	Stephanie		1230 Chautaugua Blvd	Pacific Palisades	CA	90272
Quan	Jack			Pasadena	CA	
Ragosine	Kevin	P.	10000 Santa Monica Blvd	Los Angeles	CA	90067
Ramer	Douglas	W.	1211 Sunside St	San Pedro	CA	90732
Ray	Guido	A.	1640 W. 28th St,	Torrance	CA	90501
Reilly	Stanley			Redondo Beach	CA	
Reyes	Gene	C.		Santa Monica	CA	
Rietdijk	Matthew		1823 Armour Ln, Apt4	Redondo Beach	CA	90278
Rigney	Kevin	C.	907 11th St	Santa Monica	CA	90405
Rink	Jefferey		5431 Kenilworth Dr	Huntington Beach	CA	92649-4528
Risk	Vallerie		5432 Kenilworth Dr	Huntington Beach	CA	92649-4529
Robert	Carol		24211 Adolph Ave	Torrance	CA	90505-6418
Roeder	David		24212 Adolph Ave	Torrance	CA	90505-6419
Roeder	Dennis		1741 Van Horne Ln	Redondo Beach	CA	90278
Roelen	Ellen	W.	506 N. Mansfeild Ave	Los Angeles	CA	90036
Roelen	Anatoly		46 Rose Ave	Venice	CA	90291

Rose	Crosby	D.		Los Angeles	CA	
Rosen	Karen	A.		Santa Monica	CA	
Rosinsky	George	C.	660 Haverford Ave	Pacific Palisades	CA	90273
Ross	Samuel	L.		Pacific Palisades	CA	
Ross	Steven	D.		Santa Monica	CA	
Roux	Loring		12100 Wilshire Blvd, #300	Los Angeles	CA	90025
Rubin	Chris			Long Beach	CA	
Rubin	Margaret	E.	1047 Hart Ell St	Pacific Palisades	CA	90272
Rutt	Robert		22663 MacFarlane Dr	Woodland Hills	CA	91364-1320
Samuelson	Barbara		22664 MacFarlane Dr	Woodland Hills	CA	91364-1321
Savage	Dale	R.		Hermosa Beach	CA	
Scheibel	John			Los Angeles	CA	
Scheibel	Dorothy			Los Angeles	CA	
Schirman	Mary		610 Santa Monica Blvd, #209	Santa Monica	CA	90401
Schwarz	James			Anaheim	CA	
Schwarz	Robert	S.	6465 Kanan Dune Rd	Malibu	CA	90265
Schwinn	Kirby		617 1/2 San Juan Ave	Venice	CA	90291
Selby	Henry		5922 Wrightcrest Dr	Culver City	CA	90232
Seltzer	Mariam	B.	5923 Wrightcrest Dr	Culver City	CA	90233
Shanklin	Dale			Redondo Beach	CA	
Shapiro	David			Granada Hills	CA	
Shapiro	Paul	M.D.	743 Almar Ave	Pacific Palisades	CA	90272
Shero	Alicia	M.	744 Almar Ave	Pacific Palisades	CA	90273
Silber	Daniel			Los Angeles	CA	
Silka	Mary			Redondo Beach	CA	
Silka	Betty		757 Galaxy Heights Dr	La Canada	CA	91011
Silver, M.D.	Nori		758 Galaxy Heights Dr	La Canada	CA	91012
Simun	Joseph	M.	23825 Anza Ave #144	Torrance	CA	90505
Sirri	Jack		43 Cambria Drive	Corona del Mar	CA	92625
Sirri	Don		115 Belday Rd	Pasadena	CA	91105
Skelley	Kathy			Hermosa Beach	CA	
Sklansky	Amy	L	9358 W Olympic Blvd,#214	Beverely Hills	CA	90212
Slavik	Ronald	J.		Pacific Palisades	CA	
Sliff	Stephen	T.		Hermosa Beach	CA	
Smart	Thomas	W.		Santa Clarita	CA	
Smerling	Ken	D.	651 S. Orchard Dr	Burbank	CA	91506
Smetana	Lauren		912 Amoroso Place	Venice	CA	90292
Smith	Roger			Los Angeles	CA	
Smith	Greg	D.		Los Angeles	CA	
Smith	Florence	M.	406 Susana Ave	Redondo Beach	CA	90277-3950
Smith	Susan		5960 AbernathyDr	Westchester	CA	90045-1622
Smith	Douglas	J.	5959 AbernathyDr	Westchester	CA	90045-1621
Smith	Michael	J.	265 Tavistock Ave	Los Angeles	CA	90049
Smith	Agnes	B.		South Pasadena	CA	
Smith	Alice	M	237 Sherman Canal	Venice	CA	90291-4514
Sopher	Evelyn			Los Angeles	CA	
Southam	Lawrence		600 Paseo Miramar	Pacific Palisades	CA	90272
Spear	Rosemary		601 Paseo Miramar	Pacific Palisades	CA	90273
Stek	Karen	E.	4661 Camino Del Robles	Santa Barbra	CA	93110-1929
Stern	Clyde and Bonnie		1905 Via Estudillo	Palos Verdes Estat	CA	90274
Stewart	Wendy	B.		Venice	CA	
Stewart	Greg			Santa Monica	CA	
Still	Marianne			Santa Monica	CA	
Stuhlmacher	Kiko		2504 Beverly Ave	Santa Monica	CA	90405
Svitil	Arty		223 43rd St	Manhattan Beach	CA	90266
Sweel	Alfred		1288 Town Grove Dr	Beverly Hills	CA	90210
Sweel	Rosemary	S.		Manhattan Beach	CA	
Sweeney	Barbara	G.	16546 Chale Terrace	Pacific Palisades	CA	90272-2344
Tan	Cheryl	A.	402 N Iuucis St	Redondo Beach	CA	91303
Tatasciore	Gerald	P.	403 N Iuucis St	Redondo Beach	CA	91304
Taylor	Peter		1640 5th St, #208	Santa Monica	CA	90401
Taylor	Rowald	H.		Marina Del Rey	CA	
Tchir	Michale		24009 Venture Blvd,#240	Calabasas	CA	91302-1423
Tchir	Phyliss and Amanda			Santa Monica	CA	
Te Paske	Lucinda	A.	3020 Del Preisente Ave #7	San Clemente	CA	92672
Tener	Joan			Culver City	CA	
Teruya	Carrie	S.	2159 La Mesa Dr	Santa Monica	CA	90402
Theodore	Peter	C.	2160 La Mesa Dr	Santa Monica	CA	90403

Thomas	Pat			Los Angeles	CA	
Thompson	Egbert and Betty			Los Angeles	CA	
Thompson	Steve			Los Angeles	CA	
Tilton	Sharon	M.	406 Avenue E	Redondo Beach	CA	90277
Tilton	Debra	F.	266 Tavistock Ave	Los Angeles	CA	90050
Tobias	Carole	C.		Playa Del Rey	CA	
Tse	Paul	S.	23428 Canzonet St	Woodland Hills	CA	91367
Veenstra	Rich			Long Beach	CA	
Verduzco	Harold and Betty	D	12055 Mound View Place	Studio City	CA	91604
Vilinsky	Timothy and Debbie		5175 Via Del Valley	La Vern	CA	91750
Waller	Diana	L.	612 21st St	Hermosa Beach	CA	90254
Waller	Alex			Venice	CA	
Walton	William and Sharon		5001 Carolyn Way	Glendale	CA	91214-1061
Watkins	Carole			Santa Monica	CA	
Watkins	Dennis	M.	586 33rd St	Manhattan Bch	CA	90266
Watson	Barbara		659 Haverford Ave	Pacific Palisades	CA	90272
Weinstein	Andew	K.		Playa del Rey	CA	
Weisman	Brest		P.O Box 18462	Beverly Hills	CA	90210
Weiss	Linda		631 Strand St Apt4	Santa Monica	CA	90405
White	Karen			Hermosa Beach	CA	
Wickham	Parker		328 S Marengo Ave	Alhambra	CA	91803
Wicks	Woody		808 N Linden Dr	Beverely Hills	CA	90211
Williams	Robin	J.	330 Washington Blvd#507	Marina Del Rey	CA	90292
Wilson	Randall	L.	20461 14th St, Apt11	Santa Monica	CA	90405-1641
Wolfe	Donald		P.O Box 6707	Malibu	CA	90251
Wondries	Genie		2608 Pine Ave	Manhattan Beach	CA	90266
Woods	Clif	W.	2608 Pine Ave	Manhattan Beach	CA	90266
Yanes	Jessica		901 10th St., #401	Santa Monica	CA	90403
Ziglar	Bradley		16833 Glynn Drive	Pacific Palisades	CA	90272
Zinman	Ann Holiday			Los Angeles	CA	
Zirbel	Roberta		515 Ocean Avenue #508S	Santa Monica	CA	90402
Zirbel	Beatrice	J.	3238 Faust Avenue	Long Beach	CA	90808

Coalition for Practical Regulation

Arcadia
Artesia
Baldwin Park
Bellflower
Bell Gardens
Cerritos
Commerce
Compton
Diamond Bar
Downey
Hawaiian Gardens
Industry
Irwindale
La Mirada
Lakewood
Lawndale
Monrovia
Montebello
Norwalk
Palos Verdes Estates
Paramount
Pico Rivera
Pomona
Rancho Palos Verdes
Rosemead
Santa Fe Springs
San Gabriel
Sierra Madre
Signal Hill
South Gate
South Pasadena
Temple City
Vernon
Walnut
Whittier

Statement by Larry Forester
Mayor, City of Signal Hill
Coalition for Practical Regulation
December 13, 2001

Good morning Chairman Nahai and members of the Board. Thank you for the opportunity to comment on the NPDES Permit. My comments will be brief and focused on four issues. The Coalition wants to thank Dennis Dickerson and his staff for the time spent in the Mediation Sessions. We felt the Mediation Sessions were productive. We also wanted to thank the US EPA for their assistance in conducting Mediation. We believe that the time spent in Mediation clarifying the Permit makes for better use of State and local resources in the long run.

Storm Water Inspection Programs

The Mediation Sessions focused on an alternative inspection program. This inspection program is more sensitive to the resource constraints raised by the cities, than Versions A & B. The alternative makes significant changes to address resource concerns. There are two resource questions the Board can help clarify. The Permit directs cities to inspect State Permitted facilities. Mr. Dickerson indicated that

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the State will inspect 2/3 of the State Permitted facilities. He is requesting that the cities inspect the remaining 1/3 of the State Permitted facilities.

The cities requested two clarifications. First, that the Board forward to the cities the inspection fees for the State permitted facilities that the cities are being asked to inspect. The Board is collecting an inspection fee, but not performing the inspection. It only seems fair that the cities should not be financially penalized for picking up the State inspections. It also seems fair that we not "double fee" the business community, by charging both a State and local inspection fee of State permitted facilities.

Second – the cities requested that the State's responsibility for the State Permitted inspections be specified in the Permit. What happens if the State budget reductions impact your inspection program? Will the cities now be responsible for 50% of the State's inspections? We are requesting a list of the categories of State permitted facilities that you are committed to inspecting. There are some facilities, such as airports, railroad yards or regional transit facilities, where the Board has the resources and background to continue these inspections. The draft Permit is now "open ended", with no reasonable limit on the number of inspections the cities may be ordered to undertake. One suggestion is that the Board direct staff to enter into an Memorandum of Understanding with the permittees to clarify these issues,

similar to the MOU between the San Francisco Bay Regional Board and the Alameda County permittees.

Permit Time Schedules

During the November 29th Mediation Session we presented a list of the Permit's new or revised programs, in chronological form. There are 44 new or revised programs, from increased street sweeping, to installing trash receptacles at all transit stops in the County. Thirty-four of the new programs are required in the first year of the Permit. Twenty-five programs are required in the first six months. This is an extremely aggressive and excessive number of first year programs, considering that our communities are facing revenue reductions brought by the economic recession, home land security demands after the September 11th incidents and the looming State budget crisis.

The Permit originally required that the cities complete a dry weather diversion report in the first six months. We want to thank the staff for moving this deadline to July of 2003. Seventy-seven of the cities will need the assistance of the Sanitation Districts in order to complete these reports, which will require resources from the cities, the Flood Control District and the Sanitation Districts. We understand that the Sanitation Districts will complete a report on 40 storm drains in coastal communities, as part of an environmental special project for the Board. This prioritization makes sense.

This is one example of working with the cities on moderating the resource intensive programs required in the first year of the Permit. There are a series of other expensive reports and programs all required in the first year – a numeric criteria study, an illicit connection program, storm water ordinances and technical manuals for the BMP's, and the list goes on. The Mediation Session ended abruptly without our ability to address the resource problems presented by requiring the cities to implement 34 programs in the first year of the Permit. All of our city budgets are synchronized with the State's budget and must be adopted by July 1st. The cities are currently in mid-budget and will begin preparing new budgets in January. This is the time to design new programs, estimate their financial impact, search for funding and balance the new programs with other critical services. The Permit does not recognize the time constraints and financial burdens it imposes on the Cities. We ask that the Permit be modified to address funding sources from the State, and to reduce the number of burdensome programs being imposed on the Permittees.

Receiving Waters – Legal Safe Harbor and Regional Solutions

There has been much discussion about the Legal Safe Harbor for the cities. It is a complex issue. On one hand the Board wants to retain enforcement ability over cities who do not comply. The environmental community wants to monitor both the State and the Permittees, with the threat of third-party lawsuits. Cities who are acting in good faith do not want to be subjected to fines and third-party litigation, while they are implementing expensive and untested programs. Everyone recognizes that the process is progressive and educational, where certain programs may work, and others may not. The process assumes there will be some programs that will fail. The Permittees should not be subject to enforcement action for experimental programs that are ineffective.

The experience of the City of Laguna Niguel is a case example for the necessity of a legal safe harbor. In 1997 the city volunteered to participate in a study to develop new strategies to reduce bacteria levels in storm water discharges. They volunteered one of their storm drains, serving 1,400 homes. They then began the study. Without prior warning or notice, the San Diego Regional Water Quality Control Board issued a Clean-up and Abatement Order.

The Abatement Order was open-ended – providing no guidance or information on what bacteria level was acceptable and what programs the Board would accept. During the last two years the City of Laguna Niguel has invested over $550,000 implementing a series of "iterative measures" to reduce bacteria, including a $150,000 grant. They have completed extensive investigations, installed low flow diversion to the regional sewage plant, increased street sweeping and catch basin cleaning in the watershed. They have conducted extensive public education programs and instituted a program of water conservation. In the Spring of this year they installed an end-of-pipe filtration/ultra-violet treatment system.

The benefits from all of these efforts are uncertain, at best. The diversion/treatment projects have had minimal impact on the water quality and the REC-2 water quality objective is still not consistently met. After four years, the Regional Board still has not provided direction to the City on how they can comply with the Clean-Up and Abatement Order.

The National Academy of Sciences recently reported to Congress on the problems created by holding cities legal accountable to achieve storm water standards where the science and clean-up technologies are imperfect.

This study is part of your Administrative record and we hope that you have had an opportunity to review it.

The Permit contains a section discussing regional solutions, which are widely recognized as the most cost-effective means of dealing with storm water clean-up. Perhaps the City of Laguna Niguel would benefit from a regional solution. In our opinion, the regional solution language in the Permit does not go far enough, but our alterative language was rejected by staff.

We suggest that the Board modify the Regional Solution provisions and the Receiving Waters Limitations language to provide a "legal safe" harbor to cities that implement, design and fund regional solutions. Since regional solutions would take additional time to coordinate with the various entities, extending the "safe harbor" both for regional solutions and for good faith compliance with the MEP standard would make sense.

Timing of Permit Approval

My final comment is based on your tentative action today to approve the NPDES Permit. This is an especially bad time of the year to approve such a controversial Permit of this magnitude. Many city council's will not meet until the second week in January, due to the holiday season. Many meetings have been rescheduled, since they fall on both Christmas and New Year's Day (both

holidays fall on Tuesdays this year). We have sent several letters to Mr. Dickerson outlining this concern. We believe that your adoption today will not permit the cities sufficient time to study the merits of the Permit, and the numerous changes that have been made. You may trigger more appeals to the State Board by your premature action today. Clearly there are problems with this permit.

We believe that the proper Board action today is to continue the hearing on the NPDES Permit and to direct staff to continue with the US EPA Mediation Sessions. US EPA has indicated that they will devote the necessary resources to complete Mediation. The Coalition is committed to mediation. Board Member Cloke asked a very good question at the workshop on July 26th, – why can't the cities work with the Board? We took that comment to heart and worked hard with our Congressional delegation to have US EPA mediate. We have shown our ability to work with the Board – with the revised inspection program, with the permit time schedules, the proposed MOU's, regional solutions and other improvements. The question before you now is – will you work with the cities?

Thank you Chairman Nahai and members of the Board.

STATE OF CALIFORNIA

REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

The Metropolitan Water District of Southern California
Board Room
700 North Alameda Street
Los Angeles, California
Thursday, December 13, 2001

ITEM 10

(Reporter's Transcript of Proceedings)

ITEM 10: Consideration of a proposed renewal of the municipal storm water permit for the County of Los Angeles and incorporated cities therein, except the City of Long Beach.

REPORTED BY:
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LOS ANGELES, CALIFORNIA; THURSDAY, DECEMBER 13, 2001

ITEM 10

CHAIRMAN NAHAI: With that, I think we can move on to Item 10. Could we have the opening state, please.

MS. HARRIS: This is a public hearing to consider adoption by this board in accordance with state and federal legislation and the National Pollutant Discharge Elimination System for discharges into navigable waters or tributaries thereto.

A notice of this hearing and of the Board's intent to prescribe waste discharge requirements was published in a daily newspaper of general circulation within the geographical area of the discharge as prescribed by law.

Copies of the proposed renewal of the Municipal Storm Water Permit was sent to the dischargers, the Environmental Protection Agency, and other interested agencies, persons, and organizations.

The order of presentation of testimony at this hearing will be Board staff, public agencies, and other interested agencies and groups. Mr. Chairman, will you now open the hearing and administer the oath.

CHAIRMAN NAHAI: I shall. Will all those who are

going to give testimony in connection with this matter, please rise. I mean, everybody who wants to come up to the podium and give a comment, please rise at this time. Repeat after me: I do solemnly swear.

STANDING AUDIENCE: I do solemnly swear.

CHAIRMAN NAHAI: That the testimony I am about to give.

STANDING AUDIENCE: That the testimony I am about to give.

CHAIRMAN NAHAI: Will be the truth.

STANDING AUDIENCE: Will be the truth.

CHAIRMAN NAHAI: The whole truth.

STANDING AUDIENCE: The whole truth.

CHAIRMAN NAHAI: And nothing but the truth.

STANDING AUDIENCE: And nothing but the truth.

CHAIRMAN NAHAI: Under penalty of perjury.

STANDING AUDIENCE: Under penalty of perjury.

CHAIRMAN NAHAI: Thank you.

WENDY PHILLIPS,

MS. PHILLIPS: Good morning, members of the Board, interested parties. My name is Wendy Phillips, and I am an acting assistant executive officer at the Regional Board.

Under consideration is the storm water permit for municipalities in the County of Los Angeles.

After listening to a summary of our staff report and legal analysis, you will have an opportunity to hear comments from permittees, from trade organizations, environmentalists, and other interested parties.

Following these comments, we will ask that the Board take action to adopt or renew the Municipal Storm Water Permit -- we call them MS4 permits -- for the County of Los Angeles and 84 municipalities. Not included in these municipalities is the City of Long Beach, which has its own storm water permit, and the City of Avalon on Catalina Island which obviously is not a part of the county's mainland storm drain system.

The storm drain system we're permitting drains to the coastal slope of the transverse ranges, from the San Gabriel Mountains to the northeast, to the Santa Monica Mountains along the northwest. In general, water flows through the two inland valleys -- I don't have my pointer, but I think you know where the San Gabriel and San Fernando Valleys are -- and then across the coastal plane to our world-class beaches.

As I can best determine, this is the largest storm water permit in the nation. It's the largest in terms of aerial extent, covering almost 3,000 square miles. It's the largest in terms of vertical drop, from the crest of the San Gabriel Mountains, down to our beaches which

constitutes a drop of over one mile over a very short distance. It's also the largest in terms of the number of co-permittees: 84 municipalities, in addition to the County of Los Angeles and our principal permittee, the L.A. County Flood Control District.

Physical assets: there are 4,300 miles of underground pipes of a diameter of, I believe, 36 inches or greater, 500 miles of open channels, over 100,000 catch basins. And these numbers represent just a portion of the entire storm drain system as it is not completely mapped.

Our board issued L.A. County's first MS4 permit in 1990. This was just before the new municipal storm water regulations took effect which established rigorous application requirements. So with this first permit, permittees had flexibility for meeting the new storm water regulations. And under the permit, permittees were required to implement 13 best management practices such as public education, street sweeping, and construction site best management practices or BMPs. None of these BMPs have substantive performance measures put in the permit.

In 1996 after an arduous renewal process lasting one and a half years, the Board issued Order No. 96-54, our existing permit today. And over the past five and a half years, permittees have raised public

awareness of storm water problems through a strong public education program.

The challenge over the next term of the permit will be to assess how effectively public behavior has indeed changed as a result of this increased awareness. Also, during the past five and a half year term of this permit, permittees have been educating business, that is, visiting certain categories of commercial facilities such as gas stations and restaurants and also heavy industrial facilities to educate them about storm water problems and requirements.

This educational approach to industry and commercial facilities was perhaps the most contentious item before the Board back in 1996. Many of us thought the permittees should have more rigorous programs that included inspections. But in 1996, the Board determined that it was appropriate to allow the permittees to start with an educational approach. Our expectation was that this would be upgraded to an inspection program.

In 1999 following litigation and negotiation of a settlement, we split off the City of Long Beach from the county-wide permit by issuing the city its own storm water permit. And then in January 2000, the Board approved Standard Urban Storm Water Mitigation Plans, or SUSMPS, with the requirement that certain categories of new

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development and redevelopment incorporate designs to capture and/or treat the first three-quarter-inch of precipitation in every storm.

This Regional Board, 34 permittees who petitioned this action, environmental groups, and the State Board invested a significant effort throughout 2000 in a petition to resolve the issues raised by the 34 permittees.

In October 2000, the State Board largely upheld the Regional Board's original action as set forth in State Board Order 2000-11. That's in section 10.F of your binder. However, there were certain requirements in the SUSMP that were not upheld by the State Board order. These pertained to applying the three-quarter capture requirement to retail gasoline outlets, RGOs, and environmentally sensitive areas, or ESAs, ministerial projects.

We believe that the tentative permit before you today along with the staff report and technical report supplements address State Board concerns as Dr. Xavier Swamikannu will explain in a moment.

The tentative permit before you today has been in the renewal process for almost a year. The permittees submitted their application for renewal -- we refer to that as a Report of Waste Discharge -- in February. And since that time, we've worked very hard on this permit. We've issued three drafts and provided for a

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public comment period of one month on each draft.

We've also had two workshops, and most recently we delayed or continued adoption of this permit to allow for a special EPA-facilitated session of two days made at the request of the Coalition for Practical Regulation and State Senator Bob Margett.

The first staff we've had working on this have been available for countless meetings, phone discussions, E-mail communications. And at this point, I do want to recognize the exceptional effort by my colleagues.

Dr. Xavier Swamikannu is renown throughout the nation for his storm water expertise. He's led our team, key players on this team: Megan Fisher and Dan Radulescu. The associate-level staff have done an excellent job on this.

Weindy Abarquez, our secretary, has done wonders keeping us organized and getting all of this paper out. Dennis Dickerson has been a strong member of this team. He has gotten us over quite a few rough patches. And Carlos Urrunaga, who is not here today, because Carlos is covering for us making a presentation to the L.A. County Unified School District.

Now, I also want to mention that we're grateful to the USEPA, Laura Gentile, who is here today,

and Harry Saledarian (phonetic) have set aside a lot of their time to make this permit a priority.

One of the ways in which EPA contributed to our process was to facilitate two days of discussion, mostly on inspections which Dennis will cover later. And although we're disappointed that the permittees wouldn't meet us at a point that we felt was halfway, I do want to express on behalf of our team here, our gratitude for the permittees' efforts. We've been able to make this a better permit as a result of some, not all of their comments.

I also want to explain that we've tried to be responsive to all reasonable concerns up until the last minute. This is also by way of an apology. This has led unfortunately to three sets of change sheets. Most of the changes are in response to permittees' concerns for clarity and requests for editing.

Now, on the overhead there I show a change sheet dated December 4th that's on page B-438 of the agenda, and also a second change sheet dated December 10th which is on B-455. The changes on both these change sheets have already been incorporated into a version that I'm going to call the "edited tentative draft" dated December 10th. And that starts on page 276. So I would recommend that as we're working with the permit today, that you use that edited tentative draft dated December 10th.

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CHAIRMAN NAHAI: It's B-276.

MS. PHILLIPS: Thank you. It's B-276. Now, that edited tentative draft which is dated December 10th does not include some changes that we made late yesterday. Those are in a third change sheet which was handed out to you this morning, and that change sheet is dated December 12th. I believe it's just one page, front and back.

I also want to make it clear that we've brought numerous handouts to this. I think there have been plenty of edited tentative versions of the draft permit available for the public. I see a large stack of them still at the front on that blue table. And the third change sheet is also available as a handout.

Also, this morning I did slip in several late letters which I asked you to place at the front of Volume II. And I'll be glad to highlight issues raised in those letters if you would like. However, most of the comments are similar to comments made in other letters and will have similar responses.

Before going into the tentative permit, I do want to highlight particular accomplishments under the existing permit. Again, I'd like to mention a very good strong public education program, and we do believe that public awareness of storm water issues has increased. The

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question remains: Has behavior changed?

The permittees have also established a good regional base for storm water and watershed-based monitoring leveraging up of monitoring efforts by other permittees along the coast of Southern California and coordinating through SCCWRP.

And even though the permittees didn't inspect industrial and commercial facilities, they have completed five and a half years of educating them. So business in L.A. County should be educated with regard to storm water.

The permittees' efforts are guided by a Storm Water Quality Management Plan. You see that referred to as the SQMP throughout the permit. This establishes numerous management programs and best management practices that permittees can use depending upon the pollutant, the source, the site, the cost.

Our strategy in renewing this permit has been to try to eliminate ambiguous language in the prior permit and in the Storm Water Quality Management Plan, and add very specific and clear performance measures in critical areas of their management plan, such as an inspection program for certain industrial and commercial sectors, such as a program to eliminate illicit connections and discharges. This has been upgraded to match the

requirements that the Board now has in place for the Long Beach permit.

On construction sites, we have a requirement in there to increase field presence. What we've done is we lowered the threshold for inspection down to one acre. These are key changes between the existing permit and the tentative that we're proposing you adopt.

Other key changes are in the area of development planning. As Xavier will explain, we've expanded our SUSMP to gas stations, environmentally sensitive areas, ministerial projects.

We've added a TMDL, total maximum daily load provision. As we're all aware, TMDLs are one of this board's highest priorities. As the storm water permit will be a mechanism for implementing load reductions in the TMDLs, this provision will allow TMDLs, upon approval, to be implemented through this permit without actually re-opening the permit. In other words, there will be a single public process for a TMDL. And this provision in our tentative permit is consistent with the Long Beach permit and the Ventura permit.

Finally, enforcement. During the renewal process in 1996, the Board agreed to a Notice to Meet and Confer process. This was envisioned as an administrative review process for resolving permit disputes before the

Board could take enforcement action. Subsequently, the State Board adopted an enforcement policy which sets forth a progressive enforcement process with the goal of ensuring consistent, predictable, and fair enforcement. This is now a well-established and widely-implemented policy throughout the state, including our region. So with this policy of progressive enforcement, we do not believe another Notice to Meet and Confer process is appropriate, and we have eliminated that.

In specifying programs and performance measures, I want to remind you what we're trying to accomplish. We have three objectives. First, we want the permittees to prohibit, that is, eliminate all nonstorm water discharges or dry weather flow that is such a significant source of impairment to beneficial uses such as swimming.

Second, we want permittees to ensure that pollutants are reduced through BMPs that will prevent or treat pollutants. Thirdly, we want permittees to use monitoring results to indicate where or which BMPs need to be upgraded to meet all water quality objectives.

And at this point, I'm going to let Xavier Swamikannu take you through the permit.

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XAVIER SWAMIKANNU,

DR. SWAMIKANNU: For the record, my name is Xavier Swamikannu. I'm on Regional Board staff.

The standard of compliance for municipalities under the Storm Water Program is a tierred approach. At the bottom of the slide are a list of statutory authorities, precedential decisions, and legal opinions that support the language in the tentative permit.

The basic standard is a performance one to reduce the discharge of pollutants in storm water to the maximum extent practicable. However, where receiving water objectives are being exceeded or conditions of nuisance are being created, the permittees will be required to eliminate such exceedences and nuisance conditions through an iterative process of more and better BMPs.

Most recently, the State Board upheld the receiving water limitations language in the San Diego County Municipal Storm Water Permit which is identical to the one in the tentative L.A. County Storm Water Permit.

In the next few slides, I will provide an overview of the Storm Water Quality Management Program elements in the tentative permit. As Wendy indicated, all reference in the slides are to page numbers in the agenda binder.

First, under the Public Information and

Participation Program, the tentative permit augments the current requirements of general outreach to the public and business. Included now are specific outreach programs some of which are voluntary to corporate managers, businesses, and residents in watersheds that have been identified as impaired by particular types of storm water pollutants such as pathogens and heavy metals.

For new development, the tentative permit requires the implementation of criteria to control peak discharges so as to prevent downstream erosion and habitat modification. In addition, the numerical mitigation criteria had been extended to cover ministerial, that is, nondiscretionary projects, projects in environmentally sensitive areas, and gas stations.

These areas were set aside by the State Board in its L.A. SUSMP decision previously to be reconsidered by this Regional Board after due process and proper justification during permit re-issuance. This is what we are doing today.

Staff also recommends easing of the application of the numerical criteria to hillside homes to be consistent with how developments on flatland are treated. There appears to be no defensible basis for the distinction. The statement that the criteria do not apply to routine maintenance activities is simply a clarification

sought by some permittees.

For industrial/commercial developments, we have lowered the application criteria from about 100,000 square feet -- that's two and a half acres -- to one acre beginning 2003 to be consistent with USEPA Phase II regulations.

We have also clarified that the definition of "redevelopment" includes replacement of building footprints, which was our original intent. Some permittees have contended that the term only applies to additions and extensions. Under such an interpretation, as communities replace themselves over generations, storm water quality will never get any better, only less worse (sic).

In addition, we have required notice to the Regional Board as an interested party when general plans are updated to ensure that municipalities incorporate storm water quality policy considerations. And we have incorporated water quality flow criteria to be consistent with the advancement of storm water science and to be consistent with the Ventura County Municipal Storm Water Permit that was adopted by this Regional Board in 1999. In order to assist the development community, we have required the development of a technical guidance document.

The State Board's L.A. SUSMP decision was precedential for the entire state. The central issue of

controversy then was whether municipalities under the new development element should require new developments to implement post-construction treatment controls that are designed based on water quality numerical mitigation criteria. The State Board said yes.

The State Board set aside certain applications of a numerical mitigation criteria adopted by this Regional Board at that time because of concerns of lack of due process or that sufficient justification was lacking. In Regional Board staff's opinion, which is supported by staff counsel in his brief, agenda binder on page D-4 through D-7, we have remedied the articulated deficiencies. This time they're meeting the criteria set forth by the State Board for future inclusion at permit re-issuance.

In this slide, we identify reference pages in the agenda binder wherein we specifically address the justifications required by the State Board for the inclusion of ministerial projects, projects in environmentally sensitive areas, and gas stations. Several technical papers have been prepared, and they are included in the agenda binder as well. Also listed are provisions supported by the State Board in its L.A. SUSMP decision such as regional solutions and mitigation banking.

The next component of the Storm Water

Quality Management Program is a construction program. Essentially, here we require some basic controls that are required at all construction sites regardless of size. These include managing construction waste and sediment in a manner that does not contaminate storm water.

In addition to the basic controls for construction sites that are between one and five acres, we require verification of coverage under the State Storm Water Program beginning the year 2003 pursuant to federal regulations promulgated in 1999. A record of grading permits issued to these construction sites are to be kept for tracking purposes.

For construction sites five acres and greater, the verification for coverage under the state's Construction Storm Water Permit takes effect from permit effective date.

Next is a public agency activities program component. The tentative permit explicitly requires that public agency activities conform to the same requirements that municipalities impose on private development planning and construction. Also included are special measures to control trash because of its significance in impairing certain watersheds in the Los Angeles region.

The principal emphasis of the Illicit Connection/Illicit Discharge Elimination Program component

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is to advance from the current passive program of responding to complaints, to one that also includes searching out proactively for illicit connections and illicit discharges.

To this end, we require a listing of connections, a mapping of illicit discharges and connections, and a schedule to priority screen the storm drain system over the five-year permit term.

Next, we move to the objectives of the Storm Water Monitoring Program which are multifaceted. We continue to advance our understanding of storm water impacts on receiving waters from a Southern California perspective. In the tentative permit, we advocate that permittees participate in regional monitoring initiatives such as those conducted under the Southern California Monitoring Coalition and the Southern California Coastal Water Research Project.

Specific monitoring enhancements include a whole variety from tracking improvements in water quality as a result of program implementation, to effectiveness of particular best management practices in the Southern California environment, to assessment of biocommunities as to the quality of the aquatic environment, to getting a more comprehensive picture by adding mass emission and tributary stations.

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In order to promote more consistent and comparable reporting, we have included a model reporting form to assist permittees in their self-reporting on permit compliance. Further, we have required permittees to utilize the results of the monitoring program in modifying their Storm Water Quality Management Program to control problem pollutants causing receiving water exceedences or conditions of nuisance.

Listed here are advancements included in the tentative permit from the current permit. The current permit is referenced to 1996. I will not go over what Ms. Phillips has already done.

We have included the receiving water limitations language. Then next, as was covered by Ms. Phillips, we have gone from a site education program to an inspection-based one. And we have lowered the threshold at the construction sites from two to one acres.

Other changes include the extension of SUSMP requirements, a proactive Illicit Connection/Illicit Discharge Elimination Program, catch basin cleaning and street sweeping to control trash, and requiring evaluation to reduce toxicity based on monitoring results.

Next, I wish to walk you through the nonmaterial changes in the edited tentative you have before you. These changes are mostly requested by permittees for

purposes of clarity. Additional references have been included in the findings section. A receiving water limits compliance report is being requested only after determination that exceedences are occurring in the receiving waters.

The budget breakdown reporting for program implementation and public information participation program implementation have been made more flexible at the request of the principal permittee. Staff has also included the USEPA facilitated Version A/C in addition to Versions A, B, and C in the tentative permit.

In response to the Western States Petroleum Association's concern that municipalities may mandate BMPs at gas stations that pose a safety hazard, language has been included to state that such BMPs are inappropriate at those sites.

At the request of the City of Los Angeles, language has been included to clarify the terms of "refer" for construction projects that are also covered under the state's General Construction Storm Water Permit.

Under public agency activities, it's here intended to provide clear distinctions and avoid ambiguities. In Los Angeles County, less than 1 percent of streets are not curbed and often difficult to clean as a result. But it's a small percentage.

Next, the edits in the definitions section -- The edits in the definition section were requested by permittees for purposes of clarification and to avoid ambiguities. The edits in the monitoring section were requested by Los Angeles County which is a major entity implementing the monitoring program.

The time line extension in the edited tentative are largely due to requests by the city manager for Signal Hill and CPR Chairman, Mr. Farfsing, and the County of Los Angeles.

And, finally, before Dennis takes over, I wish to recognize the committed contribution of my co-colleagues to this process. In addition to Ms. Phillips and Mr. Dickerson, they include Mr. Radulescu, Ms. Fisher, Ms. Abarquez, ably supported by Mr. Soloman, Mr. Yeager, and Mr. Urrunaga, Ms. Martinez, and Ms. Sumara (phonetic). What a team. Thank you.

DENNIS DICKERSON,

MR. DICKERSON: Thank you, Dr. Swamikannu, I appreciate that. I'd like to turn the Board's attention to the inspection program. This has been one of the most controversial of the items that the Board has before it. And I will, hopefully, walk you through and give you a good understanding of what the inspection program, as we're

proposing it, is all about.

The current permit, which was adopted in 1996, does not have an inspection program, even though an inspection program is encouraged by USEPA. The current permit has an emphasis on education conducted through site visitations. These site visits occur once every 24 months and are identified as covering Phase I facilities, automotive service facilities, gas stations, and restaurants. Now, I want to draw your attention to the fact that these activities are required already to have this kind of site visitation. Next.

Why inspections are appropriate: the permittees themselves have identified various critical sources which are contributing disproportionately to storm water pollution. It's important for us to tackle this problem to address storm water pollution at these sites.

The NPDES permit itself envisions a partnership between the permittees and the Regional Board. We are conducting inspections, but we simply cannot get out to every possible facility. And education is simply not enough. As our own experience has identified, education can take permittees and some of these critical services part of the way, but certainly not all the way that's necessary.

This photograph gives you an example of I

would say not untypical site of the kind that we're talking about. And you can imagine this being the back of a service station, an auto service warehouse area, a body shop. It's an outdoor area where you have a lot of potential for storm water pollutants to migrate off site. This particular site, an example, of course, is one that is not practicing the best possible best management practices. Next.

The inspection options that are before you today, there are actually four options. Three options were considered and included in the third draft of the permit. Version A we consider to be a modest inspection program. Version B is a more comprehensive program. Version C is the current site program that is in the '96 permit.

A fourth option is available for you today to consider. That is version, as it's designated, A/C. It's a modified version that is really the outcome of a mediation process that we entered into with the cities.

Now, I want to emphasize that that particular version is not one which has been endorsed widely by permittees. In fact, we don't have any formal endorsement at all. But as a result of that discussion that we had, we started out, in essence, with a reformatted Version B. We listened carefully to the comments of the various cities and the county. And we included a lot of

their recommendations, and we modified substantially. So you do have this modified version which is actually a better version of that particular permit. It is in your packet. And we don't consider it to be a --

CHAIRMAN NAHAI: Let me just point out to the Board, the Version A/C is at page B-324 in the edited revised.

MR. MINDLIN: This is the one that came up on the 10th?

CHAIRMAN NAHAI: Yes.

MR. DICKERSON: Thank you, Mr. Chairman.

And it is to be considered, from our point of view, within the scope of an insignificant change. We've been mostly moving the language around.

Now, the inspection universe that we're talking about is quite significant. We have federally-mandated facilities where permittees have the lead. We have Phase I facilities where the Regional Board is the lead. And Phase I facilities are those facilities which are required to have a General Industrial Storm Water Permit. Critical sources have been identified by the county and the cities much earlier in this process. They include restaurants, auto service facilities, and gas stations.

Now, the Version A/C, I'd like to walk you

through just the basic provisions. One element of that is frequency of inspections. For restaurants we're looking at an inspection twice in five years; auto service facilities, twice in five years; retail gas outlets and auto dealers, also, twice in five years.

For those same facilities, the level or intensity of inspection is to, in essence, confirm that best management practices are being used and the best approach to using that would be to have a checklist where you visit the site, simply quickly observe the site, go through the checklist, check "yes" or "no" whether or not the inspector feels that they're meeting the various best management practices. And that's really the case for all three of these restaurants, auto service, and retail gas and auto dealers.

With regard to the other group of sites, the frequency of inspections, Phase I facilities, they're broken out in two tiers. I have a couple of slides, and, in fact, on your handouts there should be a complete list. We'll come up to that momentarily.

Phase I facilities include general industrial storm water permittees and selected critical sources. These are the critical sources identified by the cities. Tier 1, twice in five years inspection visit; Tier 2, twice in five years. But for those Tier 2

facilities, no additional inspections are required if there is no risk of exposure that's been identified, and once every five years if 20 percent of all Tier 2 facilities are inspected in any given year. It's really a way to cut down the workload substantially on the part of the permittees.

Now, facilities that may be inspected by Regional Board staff are not required to be re-inspected by the permittees. It basically counts for one of those particular permit inspection visits.

Now, the Tier 1 categories, in the back of your handout you have a handout of all the slides. The very back gives you a table or a list, I should say, of the Tier 1 and Tier 2 categories. That's just for your information.

Now, the inspection scope or level of intensity of inspections for Phase I facilities is to confirm that a Notice of intent -- that's coverage under the General Industrial Storm Water Permit -- has been submitted to the State Board, and that they have a Storm Water Pollution Prevention Plan in place. We do ask that they simply confirm that best management practices are being used. To the extent that they can go beyond that and determine efficiency and effectiveness, so much the better. Federally-mandated facilities confirm that the NOI, the

Notice of Intent, is submitted and the Storm Water Pollution Prevention Plan is in place and, again, confirm BMPs and their effectiveness. Next, please.

To summarize, we believe at staff that there is a more aggressive approach necessary to effect behavioral changes that are required to protect water quality. We believe that inspections are needed to address BMPs to prevent pollution, to ensure that they are being utilized, and not just to wait for an illicit discharge to occur. Additionally, we believe that there is an incremental workload between educational site visits and the new inspection program. We believe that the difference in work level effort is minimal.

Also, we believe that there is a shared responsibility for inspections between Regional Board and the permittees intended to optimize scarce state resources and local resources toward a better state and local partnership.

Now, I do want to mention that I have added a few additional slides -- not slides for the presentation, they are part of your packet. It's a couple of comparison tables. It's intended to give you a very quick overview to be able to compare between the various options, and we also provided you some information regarding the number of facilities that are covered by the General Industrial Storm

Water Permit for selected cities in the area. Next line, please.

To conclude, staff has responded to the board direction given at our workshop that was held in July. We believe the permit that's before you conforms to a floor that was established by the Long Beach Permit. The permit is incrementally improved. It's added various requirements, and we believe that it is a substantial improvement over previous permits, and it's advancing the cause of storm water protection. And staff has diligently -- and I have to emphasize this -- we have made extensive efforts to reach out to the various permittees to incorporate as many comments as we possible could and to keep the integrity of the program that is before you today.

And I would like to conclude, once again, by thanking all of the staff who have participated in this effort. Their names have already been mentioned, but obviously the level of effort by them has been nothing less than exceptional in my opinion, and I thank them very much.

So with that, I would like to recommend to the Board the adoption of the tentative permit. I would like to strongly recommend that you consider Version A/C as one of the preferred options for the inspection program.

We do believe it is a -- I had intended to recommend B, but the language in A/C does include various

comments from the cities that they wanted to have included, and it does read quite a bit better than Version B that is in your permit currently. Thank you very much.

CHAIRMAN NAHAI: Thank you. I'd like to first before going on to hear from the County of L.A. and the Coalition for Practical Regulation, I'd like to call on Ms. Laura Gentile from the USEPA to speak to us.

LAURA GENTILE,

MS. GENTILE: Good morning, Chairman Nahai, and board members. I'd like to start by acknowledging the efforts of the Regional Board, the permittees, and the environmental groups for their participation in the recent mediation sessions that we had.

Through their efforts, everyone was made to work together constructively, and significant progress was made resulting in major improvements to this draft permit, specifically the language regarding the draft inspection permit for industrial and commercial facilities.

The Regional Board, in particular, went to great lengths during this mediation process to try to find solutions to the concerns raised by the permittees. In response to the concerns, the Regional Board developed the fourth option as described by Mr. Dickerson earlier, A/C.

EPA strongly supports this mediated solution

option A/C for the following reasons: this option more efficiently utilizes state and local resources. This option has various wide-stated permit goals and also clarifies rules and expectations of the Regional Board and of the cities. This option goes very far towards addressing the concerns identified by many of the cities regarding the cost of program implementation. This option very easily meets EPA expectations and requirements.

In assisting the Regional Board with the various mediation sessions that we had, our intent was to help the permittees and the Regional Board as well as the environmental groups to get to a point where they could work collaboratively together to find creative and constructive solutions to some of the problems they had been expressing. While significant progress was made during these sessions, we realized that not all of the issues were resolved to the satisfaction of all the parties.

Of the various ways that exist to resolve these ongoing concerns, we considered several options, including the option of enrolling into this permit only those cities that are in agreement with the mediation solution that we came up with during our sessions. With this option, the cities still in disagreement would have to apply to the Regional Board for an individual permit.

In general, the feedback that we got on the mediation sessions was quite good. Most parties indicated to us that this was a step in the right direction towards improving communication between all of the parties.

Following permit adoption, if the Regional Board chooses to continue the dialogue with the permittees and with the environmental groups to work out any remaining issues that they would like to do so, EPA will do whatever we can to be of assistance in this area.

In conclusion, we would like to recommend that the Regional Board adopt this very much improved draft permit with mediated solution option A/C as the Industrial and Commercial Inspection Control Program, and we look forward to re-issuance of this permit so that Regional Board and MS4 staff can start redirecting our resources from permit negotiations towards permit implementation. Thank you, very much.

CHAIRMAN NAHAI: Thank you very much. With that, I'm going to -- the cards have been arranged for me, so I'm just going to read them out. I understand that we're going to provide a total of 45 minutes to the County of Los Angeles, County of L.A. Department of Public Works, and the Coalition for Practical Regulation. After that, we will hear from the environmental groups for a joint presentation, and then we'll go to the speaker cards. And

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depending on time, we'll provide either three or four minutes per speaker. And I think -- Are you worried about lunch?

MS. CLOKE: You're the man who never has to get off the podium for any reason.

CHAIRMAN NAHAI: I just don't like to -- I want to accommodate everybody who is here. Let's go until one o'clock. I think by then we should conclude the hearing from the county and the coalition, and then we'll break for lunch at that time.

The first card that I have is from Mr. Adam Ariki. I'm sorry, I can't read it very well.

MR. ARIKI: It's Ariki.

CHAIRMAN NAHAI: Of course. I apologize.

ADAM ARIKI,

MR. ARIKI: That's fine. My name is Adam Ariki, storm water manager from Los Angeles County Department of Public Works, Flood Control District.

Mr. Chairman of the Board, Board members, again, I already stated my name and what I do. I would like to thank you for the opportunity to express our concerns and thank the Board staff for the time they spent with the permittee discussing permit requirements.

While the principal permittee is in general

agreement with the permit and strongly supports the storm water pollution prevention, we have different opinions on how some of the permit requirements should be structured. I will present some of these defenses and how to reconcile these differences on behalf of the principal permittee. And Ms. Carolina Trevizo will present additional concerns on behalf of the County of Los Angeles as a permittee.

The first concern that we have, and you've heard a lot about it in the second draft and again here this morning, is the receiving water limitation. I heard Dr. Swamikannu stating that where receiving water quality standards are violated, what the Board intends is to have the permittee implement iterative process of best management practices.

We are not asking you to change that. What we're asking here is if that's the Board's intent, then let's add language to clarify that. And the language we are proposing to clarify is in the proposed change. The format of the presentation goes like: requirements, the concerns, and the proposed language for the permit.

We would propose that you add a sentence at the end that states that so long as the permittee has complied with the procedures set forth which is the iterative process, and is implementing the revised SQMP, the Storm Water Quality Management Plan, and its

components, the permittee is in compliance with this order. I think that line would go a long way, and it will clear any future disputes about that.

The second concern that we have is the inspection of state-permitted facilities. The issue here that we have with this is a legal one. We believe that state-permitted facilities, facilities that are issued a state permit, are the responsibility of the state and not the permittees. Again, we proposed a change to the language under the section where it says "Proposed Changed Language" to reflect that.

The third issue that I'm going to go over, and I'm going to turn it over to Ms. Trevizo, is the responsibility of the principal permittee. This is a major issue to the principal permittee. The permit as it states requires that the principal permittee identify municipalities that have jurisdiction over the source of pollutants identified by the water quality permit requirements, and also to ensure that watershed-based integrated reports be prepared as part of the annual reports.

The principal permittee has always voluntarily agreed to do administrative tasks, such as organizing the reports, compiling the data, and passing this information to the Water Quality Control Board. We

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will continue to do that. We'll even further agree to continue to work with the Board in forming some sort of an ad hoc committee to be responsible for that watershed-based integrated report. But the principal permittee cannot and must not take that responsibility. We're in no position to take that responsibility. We cannot tell the cities what to do politically or otherwise.

So, again, we propose a modification to the existing language, a very minor modification, that an ad hoc committee chaired by a Regional Water Quality Control Board staff be formed, and we will work with them very collaboratively to ensure that such a report is accomplished. Thank you for your time, and I'm going to turn it over to Mr. Trevizo.

CAROLINA TREVIZO,

MS. TREVIZO: Thank you. Good afternoon, Mr. Chairman, members of the Board. For the record, my name is Carolina Trevizo, and I am a storm water engineer for the Los Angeles County Department of Public Works.

I would like to thank you for the opportunity to express the additional concerns of the County of Los Angeles regarding the MS4 permit. I would like to join my colleague, Mr. Ariki, in thanking the Regional Board staff and Mr. Dickerson for their efforts.

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I would now like to continue with remaining concerns.

Here we have the definition of "maximum extent practicable." Originally, we were prepared to make a comment on this definition. We now understand that a change to the permit language has been made and has been issued in the most current change sheet as Item No. 6. This item appears to address our concern with this issue. So I am going to defer this. I again state that we feel that the change sheet issued today in Item No. 6 reflects this issue for us.

Our presentation was prepared before today's recent change sheets, excuse us. The next item is the definition of "environmentally sensitive areas." In this, the permittees are required to prepare an ESA delineation map for the determination of SUSMP application. The map is to be based on the definition of ESAs which includes Los Angeles County Regional Planning, Department of Fish & Game, and the Basin Plan designations.

Our concern is that we feel areas which are not field-verified should not be used for any planning or regulatory purpose in this permit, such as the area designated as a significant natural area by the Department of Fish & Game.

Again, we understand that an editorial change has been made in Item No. 5 of your most current

change sheet, and we feel that this partially addresses our concern. However, we would like the change to apply to all elements of the definition. Therefore, we would like the addition to be moved as in the following example: areas subject to storm water mitigation requirements are -- using Regional Board staff language -- provided the area had been field-verified areas designated as significant ecological areas as defined in and so on and so forth.

So in this case, we would just like that that addition be moved up in the definition. Thank you, and thank you for your time.

CHAIRMAN NAHAI: Thank you very much. The next card I have next in order is Mr. Shahram Kharaghani.

SHAHRAM KHARAGHANI,

MR. KHARAGHANI: Good afternoon, Mr. Chairman, Board members. My name is Shahram Kharaghani. I am the Watershed Protection Division manager for the City of Los Angeles.

I would like to take this opportunity to thank Mr. Dickerson and his staff for working very closely with myself and my staff for the past eight months to resolve most of our outstanding issues.

As a result of that, there remain only two issues to be discussed today before your board. Issue

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No. 1 has to do with receiving water limitations. This section prohibits a violation of water quality standards for water quality objectives from MS4 discharges to the receiving water of the Los Angeles County.

While we support the intent of this section, we believe the way the section currently reads it could place the city in increased risk and liability. Section also includes an iterative process by which water quality standards and objectives can be sought. However, compliance with strict numerical limits is a daunting task to overcome over such a short period of time due to the current conditions of the region's receiving waters and the magnitude and the number of pollutants of concern.

While we support the intent of this section, we need to have a "safe harbor" language to protect the city as we are implementing in good faith the best management practices to comply with the permit requirements. That's Item No. 1.

Item No. 2 is state-permitted facilities, currently the Regional Board issues general activity permits for certain industrial and commercial facilities and construction sites. The Board collects fees to perform certain tasks. The new permit is passing on to the city the inspection function of these permitted facilities that is currently being done by the Regional Board.

We respectfully ask the Regional Board to continue to perform the inspection function for their permitted facilities or alternatively provide monetary compensation to the city if they want us to perform that function on their behalf.

I would also like to submit a letter that I have from Mayor Hahn to Mr. Chairman, that was written yesterday and signed, to the record. And I'd also like to ask that the change sheet that was prepared today to also be submitted to the record. Last but not least, I strongly support the Version A/C of the industrial and commercial facilities inspection.

Thank you so much. I would like to ask now Ms. Katharine Wagner, our legal counsel, to elaborate on legal aspects of the receiving water limitations. Thank you.

CHAIRMAN NAHAI: Thank you.

KATHARINE WAGNER,

MS. WAGNER: Good afternoon. I'm Katharine Wagner of the law firm Downey, Brand, Seymour, and Rohwer in Sacramento representing the City of Los Angeles and just adding comments on very limited subjects here.

The gist of our comments simply go to the receiving water limitations and one addition to the

definition of "water quality standards" that was made in the December 10th changes.

I also have a text of what I'm going to say about the receiving water limitations entitled "Addition of Title 22" in the December 10th changes that I would simply ask to submit so that you have the text of the change that we're proposing, and it will be the statement we're submitting...

You have heard about the receiving water limitations already, so I won't plan to belabor the point. The city has previously submitted written comments on the language in Part 2, specifically Part 2.1 through 2.3, and has suggested specific changes that would indicate that the permittees shall not be in violation of receiving water limitation Part 2.1 and 2.2 as long as the permittee has timely implemented the specified control measures, making a change to the first sentence of Part 2.3.

That is in the previous comments which also pointed out there was some precedent in the State Board's adoption of the general permit for aquatic pesticide applications, just showing that from a point of view of federal and state legality that language could be used.

However, if the Regional Board chooses not to -- Oh, and I wanted to comment since I heard the change suggested by the county that we may be in accord on that

language if you prefer that language. I have not seen it, but it sounded very similar to what we proposed.

If the Regional Board chooses not to make the changes the city has proposed or similar changes, the city requests that findings be included in the permit clarifying the intent of the receiving water limitation language. These findings can be entirely consistent with and drawn directly from statements made recently in the San Diego County permit appealed decision by the State Water Resources Control Board. This decision was mentioned by staff.

Specifically, we suggest that findings be added with phrasing drawn from the wording on page 8 of the San Diego order as follows: the receiving water limitations of this permit do not require strict compliance with water quality standards. These limitations require that storm water management plans be designed to achieve compliance with water quality standards. Compliance is to be achieved over time through an iterative approach requiring improved BMPs.

Again, our preference would be a very strong preference to have the clarifying language in the provisions. However, we did note this specific language in the State Board order which we think would also be appropriate to include in findings.

I think everyone senses there's a bit of grasping to simply document what everybody understands to be the intent of these provisions. We also had a comment originally on the "maximum extent practicable" definition which we feel was taken care of, the changes to the maximum extent practicable definition in the third draft, and we believe that was taken care of by the striking of the sentence in Item 6 of the staff's additions to supplemental change sheet which we would support.

Finally, on the definition of "water quality standards," this is in Part 5 of the permit, and it's on page B-361 of the package according to the version of the permit I picked up at the front of the room. This came from proposed change No. 21 in the Additions to Draft Change Sheet issued December 10th. And in that change, what staff did was insert the phrase "Title 22 of the California Water Code" inside the definition of "water quality standards" and "water quality objectives."

I see that they have made a late change to change Title 22 of the Water Code to Code of Regulations because, of course, it was not part of the Water Code which was our first point. However, it still refers to an entire title of the Code of Regulations which was passed for entirely different reasons than the adoption of water quality objectives and standards in the technical and

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formal and important legal sense.

Therefore, reference to inserting the phrase "Title 22 of the California Water Code" or "Title 22 of the Code of Regulations" is simply incorrect. I think for anybody who has looked at this really closely, this will make sense. It sounds rather like a technicality, but it is important as it plays out.

As you know, water quality objectives and criteria are actually things that are adopted into water quality control plans. This is specifically provided for in 13241 of the Water Code which refers to adopting water quality objectives in water quality control plans.

You may be familiar with the fact that basin plans and water quality control plans on occasion make reference to specific parts of Title 22, and that would not be the point here. If they do and to the extent that they do, you don't need that insert. You already have in the definition reference to the water quality control plans themselves, and this simply is a technical incorrectness which doesn't really achieve anything beneficial and causes confusion and it's erroneous.

Of course, 13241 outlines how you adopt objectives, and that process wasn't followed in the issuance of Title 22 regulations. So you already have reference in your definition to -- references to criteria

contained in the Basin Plan. If the Basin Plan has criteria cross-referencing Title 22, you don't need this new language to be inserted.

So proposed change No. 21 should not be adopted. The phrase "Title 22 of the California Water Code" should not be inserted into the definition of "water quality standards."

That's the conclusion of my testimony. If you have any questions... Thank you very much.

CHAIRMAN NAHAI: We're going to keep our questions until the end of the presentation. But I have just one quick question to ask you. As part of our agenda package, we've been given a certain something called "Summary of Fiscal Resources" for the year 2001 and 2002. And part of that is the city's projections of costs on its storm water program. I have some questions on that. Should I pose those questions to Mr. Kharaghani?

MS. WAGNER: Yes. Mr. Kharaghani would be the appropriate person.

CHAIRMAN NAHAI: Well, I just wanted to make sure that we have somebody here who is competent to respond to those questions.

MS. WAGNER: Yes.

CHAIRMAN NAHAI: Thank you.

MS. WAGNER: Thank you.

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CHAIRMAN NAHAI: The next card I have is from the Mayor of the City of Signal Hill, the Honorable Larry Forester.

MAYOR LARRY FORESTER,

MAYOR FORESTER: Thank you, Chairman Nahai, and Board. I appreciate the time you've given for me to speak as Mayor of the City of Signal Hill, but also as chair of the Coalition for Practical Regulation representing 35 cities in the L.A. basin.

First of all, I realize that I was answering a phone call from City Hall when they swore people, so I'm not sworn in. So does somebody want to swear me in?

CHAIRMAN NAHAI: Yes, I'll do that. Repeat after me: I do solemnly swear.

MAYOR FORESTER: I do solemnly swear.

CHAIRMAN NAHAI: That the testimony I am about to give.

MAYOR FORESTER: That the testimony I am about to give.

CHAIRMAN NAHAI: Will be the truth.

MAYOR FORESTER: Will be the truth.

CHAIRMAN NAHAI: The whole truth.

MAYOR FORESTER: The whole truth.

CHAIRMAN NAHAI: And nothing but the truth.

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MAYOR FORESTER: And nothing but the truth.

CHAIRMAN NAHAI: Under penalty of perjury.

MAYOR FORESTER: Under penalty of perjury. Thank you.

Well, thank you for, again, allowing me the time to be here. My comments will hopefully be brief, and I want to focus on four issues. I want to thank Dennis Dickerson and staff for the time spent in mediation. I also would be remiss if I didn't thank Congressman Dreier and Congressman Horn for their hard work with EPA Washington D.C. in conjunction with EPA Region 9 in getting us the mediation setups put together. And I really appreciate both congressmen coming to our help in that area and working with the D.C. office and with Region 9 office. So I really appreciate that. Really, the time spent in mediation clarifying the permit makes a better state and local resources to be used in the long run.

My first issue: Storm Water Inspection Program. The mediation session focused on an alternative inspection program. This inspection program is more sensitive to the resource constraints by cities of the Version A and B.

Now, I will note that some changes here were not received in time for me to make, meaning, what was put in your packet. And I realize the recommendation of A/C is

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in the packet. But one of our concerns is the resources that are needed for those inspection programs.

There were two resource questions the Board can help clarify. The permit directs cities to inspect state-permitted facilities. Mr. Dickerson indicated the state will inspect two-thirds of the state-permitted facilities. He was requesting the cities to inspect the remaining one-third of the state-permitted facilities.

The cities request two clarifications. First, the Board forward to the cities the inspection fees for the state-permitted facilities that the cities are being asked to inspect.

The Board is collecting an inspection fee, but not performing the inspection. It only seems fair that the city should not be financially penalized for picking up the state inspections. It also seems fair that we not double-fee the business community by charging both a state and local inspection fee for state-permitted facilities.

Second, the city is requesting the state's responsibility for state-permitted inspection be specified in the permit. What happens if the state budget reductions impact your inspection program? Will the cities now be responsible for 50 percent of the state's inspections? We are requesting a list of categories of state-permitted facilities that you are committed to inspecting.

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There are some facilities such as airports, railroad yards, or regional transit facilities where the Board has the resources and the background to continue these inspections.

The draft permit now is open-ended with no reasonable limit on the number of inspections the cities may be ordered to undertake, although I did see some clarification in Mr. Dickerson's slide to you. So if that's appropriately modified, so be it.

We're looking at particularly a memorandum of understanding of what is to be inspected and not inspected, very similar to the one that the San Francisco Regional Board and the Alameda County permittees signed.

My issue No. 2: permit time schedule. In the packet I just passed out to the Board was a letter to Mr. Dickerson dated December 10th showing a year time schedule that we have some problems with, although I did understand from Mr. Dickerson's comments that he has made some modifications which I have not seen on that. But I will go through with my comments.

During the November 29th mediation session, we presented a list of permit's new or revised programs in chronological order. There are 44 new or revised programs from increased street sweeping, to installing trash receptacles at all transit stops in the county.

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34 of the new programs are required in the first year of the permit. That might be modified; I haven't seen the changes. 25 programs are required in the first 6 months. This is an extremely aggressive and excessive number of first-year programs, considering that our communities are facing revenue reductions brought by the economic recession, homeland security issues, and the demands of September 11th on all of us from many regions of budget cutting or budget tightening.

The permit originally required that the cities complete a dry-weather diversion report in the first six months. I appreciate and I did get that update that that has now been moved out to, I believe, the year 2003 if I'm not mistaken. I want to thank the staff for moving it to 2003.

77 of the cities will need assistance from the Sanitation District in order to complete these reports which will require resources from cities, the Flood Control District, and the Sanitation District. We understand that the Sanitation District will complete a report on 40 storm drains in coastal communities as part of an environmental special project for the Board. This prioritization makes sense. This is one example of working with the cities on moderating the resource-intensive programs required in the first year of the permit.

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There are a series of other expensive reports and programs that are required in the first year: again, numeric criteria study, illicit connection program, storm water ordinances, and technical manuals for BMPs, and the list goes on.

The mediation session ended abruptly without our ability to address the resource problems presented by requiring the cities to implement 34 programs in the first year of the permit. All of our city budgets are synchronized with the state budget and must be adopted by July 1.

The cities are currently in mid-budget and will begin preparing new budgets in January. This is the time to design new programs, estimate their financial impact, search for funding, and balance the new programs with other critical services.

The permit does not recognize the time constraints and the financial burdens it imposes on the cities. We ask that the permit be modified to address funding sources from the state and to reduce the number of burdensome programs being imposed on the permittees.

Issue No. 3: receiving waters, legal "safe harbor" and regional solutions. There has been much discussion about the legal "safe harbor" for the cities. It's a complex issue. On the one hand, the Board wants to

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retain enforcement ability over the cities who do not comply. The environmental community wants to monitor both state and permittees and has a threat of third-party lawsuits allowed by the EPA Clean Water Act.

Cities who are acting in good faith do not want to be subject to fines and third-party litigation while they implement expensive and untested programs. Everyone recognizes that the process is progressive and educational where certain programs may work and others may not. The process assumes there will be some programs that will fail. The permittees should not be subject to enforcement action for experimental programs that are ineffective.

I cite a case: the City of Laguna Niguel. In 1997 the city volunteered to participate to study development new strategies to reduce bacterial level in storm water discharges. They volunteered one of their storm drains serving 1,400 homes. They began the study.

Without prior warning or notice, the San Diego Regional Water Quality Control Board issued a cleanup and abatement order. The abatement order was open-ended, providing no guidance or information on what bacterial level was acceptable and what programs the Board would accept.

During the last two years, the City of

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Laguna Niguel has invested over a half a million dollars implementing a series of iterative measures to reduce bacteria. They did have a grant for $150,000 for part of it.

They have completed extensive investigations and installed low flow diversions to the regional sewage plant, increased street sweeping and catch basin cleaning in the watershed. They have conducted extensive public education programs and instituted a program of water conservation. In the spring of this year they installed an end-of-pipe filtration and ultraviolet treatment system. The benefits from all of these are uncertain at best. The diversion/treatment projects had minimal impact on water quality, and the REC-2 water quality objective is still not consistently met.

After four years the Regional Board still has not provided direction to the city on how they can comply with the cleanup and abatement order. And I emphasize, the National Academy of Sciences recently reported to congress on the problems created by holding cities legally accountable to achieve storm water standards where the science and cleanup technologies are imperfect. This study is part of the administrative record, and we hope that you had an opportunity to review it.

The permit contains a section discussing

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regional solutions which are widely recognized as the most cost effective means of dealing with storm water cleanup. Perhaps the City of Laguna Niguel could have benefitted from a regional solution in our opinion.

The regional solution language in the permit does not go far enough, but our alternative language that was submitted to you in a previous meeting was rejected by staff. We suggest that the Board modify the regional solution provisions and the receiving water limitation language to provide a legal "safe harbor" to cities that implement, design, and fund regional solutions.

Since regional solutions would take time to coordinate with various entities, extending this "safe harbor" both for regional solutions and for good-faith compliance with MEP standards would make sense.

Item No. 4/Issue No. 4: timing of approval. My final comment is based on your tentative action today to approve the NPDES permit. This is an essentially bad time of year for such a controversial permit of this magnitude. Many cities will not meet until the second week in January due to the holiday season. Many meetings had to be rescheduled since they fall on Christmas and New Years, both holidays fall on Tuesdays, and most of us meet on Tuesdays in the Southern California area.

We have sent several letters to

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Mr. Dickerson outlining this concern. We believe that your adoption today will not permit the cities sufficient time to study the merits of the permit and the numerous changes that have been made. You may trigger more appeals to the State Board by your premature action today.

Clearly there are problems with the permit. We believe the Board action today is to continue -- We believe the Board action today should be to continue the NPDES permit and to direct staff to continue with us EPA mediation sessions. USEPA has indicated that they would devote the necessary resources to complete mediation. The coalition is committed to mediation.

Board Member Cloke asked a very good question at a workshop on July 26th: Why can't the cities work with the Board? We took that comment to heart and worked hard with our congressional delegation to have USEPA mediate. We've shown our ability to work with the Board with the revised inspection program and with the permit schedules, the proposed MEUs, regional solutions, and other improvements. The question before you now: Will you work with the cities?

Thank you for your time. I appreciate it. I know that you're going to have questions at the end. As many of you know, I'm suffering from a virus that causes me to take 22 pills a day. Right now and on certain days

those don't kick in real well. So I'm leaving right after we're finished here. If you have any questions for me, I'll take them now or you might refer them to me later. But I appreciate your time.

CHAIRMAN NAHAI: How long will you be with us before you leave?

MAYOR FORESTER: I'm leaving at 1 o'clock. I shouldn't really be here today with the reaction I'm having with the drugs I'm on right now. But that's a chance I take, and I felt it was my responsibility as chair of the coalition to be here to represent both the city and the 35 members of the coalition.

CHAIRMAN NAHAI: Are there any other members of the coalition present to whom we could address questions?

MAYOR FORESTER: There's staff here that can answer some of the questions. The Public Works director from the City of Signal Hill who is working with the coalition probably could answer some of those questions for you. So I leave that open for you, unless somebody had a particular question for me with the statements I've just made.

CHAIRMAN NAHAI: Okay. I had some questions about costs and so on, but I wanted to keep those until...

MAYOR FORESTER: I believe that the county can answer some of those. I believe that a statement made to the press by Nate Holden and myself in a press conference

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held two days ago had some clarifications on those and where those estimates came from.

And one study was done by the State of California, and had it researched. And I think it's the one that everyone keeps referencing, $53 billion. It was also mentioned of a $75 million cost to the City of Los Angeles. Those I think can be answered by people that are here today.

CHAIRMAN NAHAI: So they'll stay, because I do have questions about that.

MAYOR FORESTER: Yeah. I have to go. I apologize, but it's just one of those circumstances that when I get on these pills, sometimes the reaction is not the best in the world. So thank you very much.

CHAIRMAN NAHAI: Thank you for coming. The next card is from Mr. Montevideo. We had provided until, I thought, one o'clock which is about 10 minutes away, and I still have three more cards in this section. So I hope that you'll be brief. Mr. Montevideo followed by Mr. Alvarez, followed by Mr. Young. Time is passing.

RICHARD MONTEVIDEO,

MR. MONTEVIDEO: Good afternoon, Mr. Chair, and members of the Board. Thank you for the time today. My name is Richard Montevideo. I'm here on behalf of the

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35 cities who are part of the coalition, an ad hoc coalition under the Coalition for Practical Regulation.

On behalf of the coalition, we have already submitted extensive comments on the various drafts of the permit. And I presume that those comments are already part of the administrative record, so I will not address each of the points, the legal issues that are set forth therein.

I would note that there are a number of concerns that we have raised in our comment papers that have not yet been addressed by the third or now the fourth draft of this permit. I would also note that procedurally there were a number of changes that were made on December 4th and December 10th and even today, some of which in our minds are significant. There are changes made to Findings 4 and 5, for example, and some references to some authority and some reports that were conducted.

We have not really had an opportunity to look at all those reports and to perform a full evaluation of these changes. The changes in our mind were significant in number and were significant in substance. For that reason, we would submit that the permit under the federal regulations would need to be re-circulated and the public given an additional 30 days to review these significant changes.

In terms of the merits of what's before you

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today, I want to first say that the coalition is not alone in its various objections to the numerous provisions of this permit. An example is raised by the petition that was brought to the State Board on the San Diego permit that was actually adopted by the San Diego board in February.

You should know that there a number of other permits that are in the works, draft permits, workshops that are being conducted up and down the state, hearings that are presently scheduled, and permittees in those other regions similar to these permittees have similar, if not identical, concerns and objections to the language that has been proposed in those other permits.

These objections include the appropriateness of the expansion of the MEP standard, maximum extent practicable standard. The lack of a "safe harbor" and the variance of the receiving water limitation language from 99-05 and Water Board Order 2001-12.

The breadth and cost of the inspection program and the transfer of responsibility for that program, the infringement on local land use authority is a significant issue to many municipalities up and down the state. The unknown benefits, frankly, and the propriety of the SUSMP program remain at issue for many municipalities.

And, in general, whether the benefits of the numerous programs that are outlined in the discussion and

handout that Mr. Forester was referring to -- actually, I have a copy of that here which I can pass out for the Board. It was a letter to Mr. Dickerson within the last week or so. Whether those benefits, frankly, outweigh the cost of the various programs that are being imposed upon the permittees. These are frankly the core issues. There are many others, but these are the core issues that we have concerns with that we believe cause the present permit before you to be re-evaluated, reconsidered, and maybe revised.

Part of the problem from our perspective, frankly, is the lack of understanding of the affairs of municipal government, that is, what it takes to run the city, the numerous public services that a municipality offers on a daily basis, things such as police, fire, emergency services, paramedic services, libraries, public parks, community service centers, senior citizen centers, streets, public roads, all sorts of different public projects. In our minds, we have an obligation to maintain and provide those services in addition to working with the Regional Board to address water quality issues

It appears from the permit that in your minds, as municipalities, we have an obligation to effectively control and eliminate -- I heard that word earlier today in staff's presentation -- eliminate

pollutants in storm water from all of our citizens, apparently before it even enters our storm drain system; that this obligation, apparently, is to be imposed upon us regardless of the cost to actually implement this program.

In our minds, yes, we have an obligation when it comes to clean water, and everyone supports clean water. But that obligation is set forth under the Clean Water Act, and it's an obligation to work to the maximum extent practicable. That's the standard to reduce discharges of pollutants from our municipal separate storm sewer system.

Cities must provide all these resources with, frankly, limited budgets even more so these days, limited staff and limited resources. The Regional Board as a public body is charged with protecting the quality of the waters of the state. In that charge, they must take direction from the State Board and obviously must act in accordance with the Porter-Cologne Act and the Clean Water Act.

And the Clean Water Act is very specific in terms of permits that are to be issued to municipalities. Those are permits to be issued to address pollutants discharged from an MS4, and those discharges of pollutants should be reduced to the maximum extent practicable.

When you review the Clean Water Act and the

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regulations, it's apparent that the MEP standard is a standard. That's been adopted, in part, recognizing that municipalities are not the generators of the pollutants in the waste. We're not the culprits, so to speak, of the pollutants at issue. We're simply the ones at the end of the day holding the bag. We think the Clean Water Act recognizes that with the MEP standard.

We also think the Clean Water Act recognizes that municipalities have other responsibilities, including land use responsibilities and overseeing development. Yet the very first sentence of your definition of MEP says that we're required to reduce pollutants in storm water as opposed to reducing discharges from MS4s to the maximum extent practicable. This clearly is a liberty and exceeds the standard under the Clean Water Act.

The 9th Circuit recently recognized in "Defenders of Wildlife vs. Browner" that the Clean Water Act -- I'm quoting-- generally prohibits the discharge of any pollutants from a point source into navigable waters of the United States. An entity can, however, obtain an NPDES permit that allows for the discharge of some pollutants, close quote.

The whole purpose of the permit process under the Clean Water Act is to allow for the discharge of pollutants to the MS4. And when it comes to

municipalities, the controls that are to be placed upon them and the controls that they are to place upon the regulated community are controls to the maximum extent practicable.

The divergence from the MEP standard, frankly, is a fundamental point of disagreement and changes the entire scope of the permit that's before you. Clearly the standard that you have proposed spills over into all sorts of provisions within the permit. Things such as the broad inspection program, the cost of the inspection program, the transfer of responsibility that we've heard of today, all that comes from a tweaking or an expansion of the MEP standard, the SUSMP provisions, the provisions in the permit dealing with land use and tweaking and interfering with our land use obligations, interfering with our CEQA jurisdiction, the receiving water limitations, and so on and so forth.

These are all expansions of the MEP standard. Even the language within the Clean Water Act itself, frankly, recognizes that municipalities, local governments have primary responsibility for regulating land uses and for overseeing development within their respective jurisdictions. And what you've done with the various provisions, in our estimation, conflicts with the Clean Water Act and, specifically, the MEP standard.

State law similarly recognizes that a municipality has land use authority and recognizes the general jurisdiction of the municipality. There is a reason that CEQA and the state general plan provisions, and, frankly, Water Code Section 13360 gives cities the discretion and authority to review and approve development and redevelopment projects and to regulate land uses.

These unique municipal issues are within our jurisdiction. It's our view that your jurisdiction is water quality. Under the law, it is our job, not the Regional Board's, to regulate land uses within the city's jurisdiction, including imposing general plan amendments. Under the law, it is our job, not the Regional Board's, to review development projects under CEQA and to come up with appropriate mitigation measures to assure protection of the environment. And that includes issuing and requiring SUSMPs.

Under the law, it is our job and not the Regional Board's to determine whether and to what extent a project may go forward within an environmentally sensitive area. With the exception of the area being sensitive because of water quality, it's our job to determine how that project is to be conditioned.

Under the law, it is our job and not the Regional Board's to determine whether a particular

commercial or industrial facility is complying with our storm water ordinance and whether and when and who to inspect.

And, finally, under the law it is our job and not the Regional Board's to determine whether or not to place trash receptacles at bus stops. The Regional Board is charged with the responsibility of protecting the quality of the waters of the state; we are charged with the responsibility of providing a vast array of public services to the community. Clearly we need to work together to address all of these issues.

Yet in working together, we must recognize and honor our respective jurisdictions and act in accordance with the bounds of the law. We ask that you work with us to address the issues of water quality envisioned by the Clean Water Act. At the same time, please respect the importance of these other public services that we have to provide to our community.

We are willing to work with you to help you do your job, but you need to allow us to do our job. Thank you.

CHAIRMAN NAHAI: I have, again, within this 45-minute segment, there are also two more cards from Mr. Alvarez and from Mr. Young. How much time were you each going to take?

MR. YOUNG: There I was safely in the back of the room with my coat off. I'm Rufus Young. I am not part of CPR's presentation, so I'd like to be deferred until a later point in the proceedings.

CHAIRMAN NAHAI: Since you're at the -- I thought I had deja vu looking through these cards here because there are no less than seven from you.

MR. YOUNG: Well, that's, if I may, because I didn't submit them on behalf of three other cities which we also represent because one of them has a representative, in fact, an elected official, a councilmember who will be speaking, and that's Councilmember Kellar for the City of Santa Clarita. And the two other cities are in Ventura County, and they can be deferred until a later proceeding. I will be making presentations on behalf of seven other co-permittees.

CHAIRMAN NAHAI: You know very well that when it comes to -- you know, we have a rule of four minutes per speaker, not four minutes per city, or four minutes per association, or four minutes, you know, per capita of people we might think we represent.

So when it comes to it, I'll make an accommodation for you and provide you with some additional time given the cities that you represent, but I'm not going to provide you with a 35-minute block.

MR. YOUNG: Deja vu also comes to mind, Mr. Chair. I made a similar objection previously suggesting that it's the right of the co-permittee to have adequate time, whether that co-permittee is represented by the same lawyer as another co-permittee.

CHAIRMAN NAHAI: I understand that, Mr. Young. What I'm asking you to do is in the spirit of cooperation to think during the lunch break how much time you realistically need in order to make your point to us.

MR. YOUNG: I would be pleased to do that.

CHAIRMAN NAHAI: I don't think that 35 minutes is a reasonable request.

MR. YOUNG: Nor did I enter the room expecting I'd ever get anywhere near 35 minutes. Thank you, though.

CHAIRMAN NAHAI: Then why give me seven cards? Never mind.

MR. YOUNG: To underscore the point, and I think it's a very serious one, that it's the right of the co-permittee to have adequate time. Thank you very much, and I will ponder that request over the lunch break, which I hope is coming soon, and will reduce the time significantly. Thank you.

CHAIRMAN NAHAI: So the gentleman who was going to speak on behalf of Mr. Alvarez, can we hear from you now, please?

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HECTOR BORDAS (PHONETIC),

MR. BORDAS: Good afternoon, Chair, Board. My name is Hector Bordas. I am with the City of Downey. Mr. Alvarez is my boss. He unfortunately had to step out, and I'll be reading his statement on his behalf.

"I would like to thank the Board and their staff for their hard work and effort in working with all parties in developing the draft permit. Additionally, I would like to thank the environmental organizations and all the parties that have played an active role in addressing issues regarding the draft permit.

"A continued cooperative effort and dialogue by all parties can lead to a permit that's in the best interest of Los Angeles County. The mediations conducted by the USEPA have shown that with more time, we can come to a permit that will improve water quality in an effective way.

"The draft before you is not quite there yet. And we request that you not adopt it today, and instead have your staff work with the permittees and environmental groups on a version that we can all agree on. The areas that we still need to address are as follows: the first point is receiving water limitations language." Evidently,

this has been changed so I'll skip this.

"Monitoring requirements: the permit requirements for water quality toxicity, shoreline monitoring, estuary sampling, and bioassessments are well-intended. However, it has not been shown how these requirements will result in determining the effectiveness of implementing specific control measures and other actions in accordance with the Storm Water Quality Management Plan.

"Monitoring and data collection programs should be developed and implemented that better target the specific measures and actions. The responsibilty of the principal permittee to assess permit compliance: the monitoring and reporting program for the permit proposes that a principal permittee assess the effectiveness of the SQMP and the level of effort of the permittees. This is not the role of the principal permittees. The concept of a principal permittee is for the administrative convenience of the Board staff. The principal permittee has agreed to organize the data and compile your five annual reports.

"Coordination of permit activities: the permit establishes six watershed management committees to develop programs within each

watershed. However, the permit is issued for all watersheds and does not differentiate among them. It is beneficial to have one group coordinate the efforts of the committees and to serve as a primary contact for the Board regarding the permit requirements. The permit still does not recognize that this role has been met by the L.A. County Storm Water Program Executive Advisory Committee.

"Inspection of facilities: it's the Board's responsibility to inspect facilities subject to the General Industrial Storm Water Permit and the General Construction Activities Storm Water Permit for the purpose of enforcement with the GISP and the GCASP. It appears that it is the intent of the permit to transfer this responsibility and the responsibility for commercial establishments to the permittees. This is a costly and unfunded mandate that cannot be transferred to the permittees. And we encourage you to adopt Version C for inspection.

"Development planning: the permit changes recently adopted State Board SUSMP requirements. These requirements have been in effect for a short while in the development community, and permittees are just becoming comfortable with them. These requirements are effective in reducing the impact

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of development and redevelopment in our communities (sic.) For these reasons, it is not appropriate to expand the SUSMP requirements at this time. Additionally, the requirement to control peak flow is unwarranted. This is not the only solution to prevent stream erosion and to protect stream habitat.

"In closing, it's important that the implementation schedule for the permit requirements be realistic and acceptable to all parties, and, additionally, that the Board strongly consider my comments and those of other parties before making any decision on the current draft permit. Therefore, I request that the Board not consider the permit at this time, but a later date when comments are clearly addressed. Thank you for your time."

CHAIRMAN NAHAI: Thank you very much. At this time we'll take a break for lunch, and we'll be back by two o'clock.

(Whereupon, a recess was taken.)

CHAIRMAN NAHAI: We're going to start, everyone. Please sit down. Please take your seats, everybody. Sit down so we can continue. We are going to continue the testimony now by hearing from the environmental groups.

Take your seats.

I would like to ask Mr. David Beckman to come to the podium, please.

DAVID BECKMAN,

MR. BECKMAN: Thank you, Mr. Chairman, and members of the Board. I am David Beckman, a senior attorney with the Natural Resources Defense Council in Los Angeles, and I'm going to be leading off comments today from environmental organizations, in addition to NRDC, the Santa Monica Baykeeper and Heal the Bay. I wanted to welcome on behalf of all of us Mr. McDonald to the Board. Congratulations on your appointment.

MR. McDONALD: Thank you very much.

MR. BECKMAN: It's nice to see almost a full board, I guess, for the first time in many years.

For some of the newer members of the Board, I wanted to start out by giving you the perspective that illuminates a lot of our comments. NRDC, for those of you who don't know, is a nonprofit environmental organization. We have over half a million members in the United States and other countries. We have 100,000 members in California. And we've been working to protect the environment including our water resources, but not just water resources, since the early 1970s.

In fact, NRDC was working on clean water issues before there was a federal Clean Water Act. And it was due in a large part, if not directly, to NRDC prodding of EPA and ultimately litigation against EPA that storm water is even regulated under the Clean Water Act. In the '70s and '80s it was not. It took litigation in order to get EPA and then, subsequently, in 1987, congress, to treat urban runoff and storm water as something worthy of permitting under the system that you administer.

NRDC has been working on these issues locally since the early 1990s. And that's the background to some of our comments and some of our concern about the pace at which we are working toward clean water issues, toward achieving clean water in Southern California.

I have prepared remarks, but I wanted to respond, Mr. Chairman, to a few comments that have been made if that's okay with you. And if you're not interested in these responses as I go, you can tell me and I'll move on.

One comment about staff's presentation, Xavier I think said that the nuisance prohibition is subject to the iterative process, at least that's my recollection of what he said. That is not the case. And, in fact, the San Diego decision by the State Board, Footnote 16, expressly addresses this issue and says that

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generally speaking the nuisance prohibitions should be met at all times by permittees. So to the extent that that is part of the permit, we'd hope that you make that clarification, page 8 of the order, Footnote 16. Actually, it's not Footnote 16. Page 9 of the order, Footnote 18, addresses this issue.

The receiving water language issue, the request by permittees to put in a "safe harbor," also directly addressed just last month by the State Water Board. The exact arguments that you heard today were made by some of the same lawyers or law firms, the Building Industry Association, and permittees in San Diego. They wanted language just like they're asking you to insert in the permit, and the State Board refused to do that.

In fact, the State Board -- it's not reflected in the order, but I participated in those proceedings -- they clearly wanted to make it evident to the cities that a violation of the permit includes a failure to design the storm water program to meet water quality standards. Therefore, if it's not simply enough to be part of an iterative process, there's some discretion left with the Regional Board to consider it to be a violation of the permit if, in fact, there's been a failure to design the program to meet water quality standards.

So, again, that issue has been resolved. If

this was a court, it would be somewhat frivolous to raise it again. We're not in a court, but I still think that the argument is somewhat frivolous since, again, it's just been dealt with by the State Water Board on a municipal storm water permit last month.

We object to a change that was made recently to make the ESA provisions of the SUSMP conditional upon some inspection of the resource, presumably so that the county or some city can decide whether in their judgment the resources is deserving of protection.

These resources are called out in the Basin Plan for the most part, and we should take the presumption or operate with the presumption that the Basin Plan is a duly, lawfully-enacted regulation. And until and unless somebody changes it or shows you that it's wrong, it should govern. It would be like saying that water quality standards don't apply until and unless the county goes out and does a test and decides whether they think it's still valid, and that's not the way the system works.

It wouldn't be right for us to say, the environmental community, that we want to consider anything we think to be an environmentally sensitive area to be subject to that provision, and it's not right for the cities to seek that kind of discretion. So we hope that you would not include that in the permit.

And then, finally, Richard Montevideo's comments about the MEP standard and this supposed expansion and the way in which this affects the whole permit. I simply don't understand what Mr. Montevideo is arguing. I would just point out to you that all of the provisions with municipal inspections and the whole litany that your staff explained to you in terms of the scope of the permit come right out of the federal regulations directly. They've been there for 10 years.

There's no -- First of all, the MEP standard as you're articulating is not flawed. And, second, there's no taint that's occurring here with respect to the breadth of the permit. It's directly supported by the federal regulations. If you have any questions, EPA representatives here today, I'm sure, can tell you the same thing. So that's by way of just some of the things we heard today.

My comments are brief, but what I wanted to tell you is that I think the thing that you should be thinking about as you consider the permit is that you're addressing the region's No. 1 source of water pollution, by far the most significant source of pollution that we're dealing with in Southern California.

This is the issue. You're a regional water board. You are vested with the responsibility to protect

regional water resources. This is the No. 1 threat, and this should be your No. 1 concern as a consequence. It just seems logical.

Local studies -- forget the scientific literature. Local studies by USC and UCLA and SCCWRP and others demonstrate that storm water is acutely toxic in the marine ecosystem even when it's diluted 10 to 1. We all know that storm water carries pathogens, viruses, and bacteria that have been demonstrated to make people sick, to our beaches during the winter and during the dry season.

We also know that sediment in storm water interferes with the photosynthetic process, and that storm water is associated with nutrient blooms, with red tides off the Ventura coast. This is a very serious water pollution problem that has public health impacts and environmental impacts. And even though this is a permit that applies to cities that supposedly would like to think represent the public and the public interest, you didn't hear one comment today, not one that expressed any real concern about these issues. And I think that's really regrettable.

One of the primary reasons we have the problem we do, unfortunately, is because of the attitude, often a recalcitrant attitude, of many of the permittees. Now, there's some exceptions to this: the City of

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Santa Monica and to some extent the County of Los Angeles and some others. But many permittees seem to be more interested in creating a cottage industry to fight the Regional Board with an ever-increasing flotilla of attorneys and consultants and other hangers-on who seem more interested in creating new coalitions, like the Coalition for Practical Regulation, than really getting down to the job at hand, really getting down to tackling the problem.

They seek to negotiate every word in the permit, and they want your permission now to go back and engage in more negotiations. Well, if you don't know, they couldn't even -- this coalition could not even agree on one small aspect of the permit when we engaged in over two days of negotiations with them. It's a complete waste of time.

If you're in business or in any other endeavor in life, you don't negotiate with a party that can't deliver a deal. And these 80-some cities cannot deliver a deal, and, therefore, to engage in further negotiations is a waste of time and nearly an abrogation of your responsibility, in my judgment, to move this program forward.

One of the other things which I think is important to keep in mind and perhaps essential depending on your perspective is that beyond the public health and

the environmental degradation issues, there is a rich coastal economy that is protected or not protected depending on what you do and what these cities do in terms of urban runoff.

The L.A. Convention & Visitors Bureau in 2000 noted that $13.6 billion was spent by tourists in Southern California; in fact, in L.A. County, not in Southern California. And according to the Visitors Bureau, the stated purpose of 1 in 6 of these trips was to visit the beach, 15 percent roughly.

Now, if you just do the math and you ignore all of the related multiplier effects, all of the local expenditures, all of the ways that the coast affects real estate, that's $2 billion with a "B" every year, $10 billion in current dollars over the course of this five-year permit directly related to tourism, directly related to the beach.

So would you spend a dollar to make ten? Would you spend $10 to make $100? Would you spend $50 million to make a billion? Those are conservative ways to look at the local economy. And spending money may be necessary, but it's going to make the region money and it's going to protect an engine of the local economy.

Would Santa Monica be like Santa Monica if it were in the Central Valley? Would Laguna Beach be like

Laguna Beach if it were at the top of the Sacramento Valley? No, the answer is obvious. Yet all we hear from cities like Downey and Signal Hill is it's too expensive. Well, frankly, you don't need to be an environmentalist, you don't need to have any expertise in these issues to recognize that that is an economically absurd argument. And it's a one-sided argument that really is not fitting to representatives of local governments that have an obligation to look at the costs, certainly, but they have an obligation to look at the benefits, also.

NRDC and the environmental community have asked you to put more stringent provisions in the permit than you have, numerous more stringent provisions including numeric effluent limits which we think would not only provide accountability, but would provide a real answer to the problem.

And so I want it to be clear that when you hear all these complaints about this provision and that provision, that there's two sides to the equation, that we in the environmental community are hardly getting everything that we think is appropriate as we begin the third five-year permit term. This is the beginning of Decade II in addressing this problem, and it would be hard to say that there has been significant progress, if any real progress, unfortunately, in addressing storm water

pollution because whatever progress we make can be canceled out by growth. That was the whole SUSMP debate.

Nevertheless, this permit is a significant improvement over the past efforts of this Board. And with all due credit to the Board and to Dennis and his staff, if you adopt the permit with the strong municipal inspection program that Mr. Dickerson recommends, all of you will have done more in that vote than all of the previous boards in this region to address the storm water problem. For that reason, we think it's a significant step forward, if not what we would have you do, and we strongly support passage today.

Before I turn it over to Steve, I just want to make one final comment. And that is for all of you to hopefully realize that the beginning of your responsibility really is with the adoption of the permit; that the implementation of this permit or the lack of implementation will make the difference. You can have a long permit and you can have a lot of paper, but if it's not implemented, it will do nobody any good. And I hope that you will send a message today to the cities that you intend to vigorously enforce the permit, and that you intend at this time with this permit that something actually be done one way or the other.

They had 10 years to do it their way, and it

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hasn't worked. And we respectfully submit to you that this time one way or the other we need to make meaningful progress in addressing the region's No. 1 source of water pollution. Thank you very much.

CHAIRMAN NAHAI: Mr. Fleischli, please.

STEVE FLEISCHLI,

MR. FLEISCHLI: Good afternoon, members of the Board, Mr. Chairman. I'm Steve Fleischli, executive director of the Santa Monica Baykeeper. I just want to follow up with some of the comments David made. Obviously, the environmental community is in agreement in terms of where we should be going with this.

And I want to steal something from Richard Montevideo. Hopefully, I won't be prosecuted for this. But his phrase "under the law," he made lots of references of what the law is and what you can and cannot do. I want to remind this board, not that you need reminding, that under the law is this Board's responsibility to clean up our waterways. That's one thing that Mr. Montevideo did not point out in his comments of what the law is and what the law is supposedly not.

Mr. Montevideo also pointed out that the purpose of the permitting process under the Clean Water Act is to, quote, allow for the discharge of pollutants,

unquote, into waters of the United States. Well, unfortunately, you're only hearing half of the story. What Mr. Montevideo and others seem to ignore is that there are other purposes in the Clean Water Act which are enumerated right at the very beginning, which is to eliminate pollution to our waterways and to make our waters fishable and swimmable by 1983.

I know every time I say that people chuckle and laugh because we obviously haven't gotten there. But that still is part of the law. And the permitting process was really put in place to sort of wean people off the idea of putting pollutants into our waterways, not to give them a permit to pollute and move forward in that regard.

As Mr. Beckman pointed out, we are pleased with many aspects of this permit. I did want to commend Mr. Dickerson and his staff. I do think they put a lot of time into this effort. And we can see it in the environmental community, and I think even the cities can see it in terms of some of the comments they made.

We're starting to see the puzzle come together in terms of where we're going and what it looks like for clean water in Los Angeles. We need to move forward, though, in those efforts. The receiving water limitations that have been talked about a lot today are absolutely critical. As David pointed out, numeric

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effluent limits would certainly be preferable to the environmental community, but we continue to move forward towards this idea.

Certainly, the Defenders of Wildlife case gives you the discretion to move in that direction. That said that while you're not required to put in numeric effluent limits, you have the discretion to essentially do what you feel you need to do in order to protect water quality.

The receiving water limitations, as you are aware, are not a new advent in this permit. The language is almost identical to language that has been appealed various times in the past on second generation permits. The Environmental Health Coalition case that went up to the State Board in 1998 was the first permit to contain the iterative language.

Long Beach you might remember and the negotiated settlement in that case had receiving water language on a second generation permit in the Los Angeles region with the iterative standards. Ventura has very similar language. As Mr. Beckman pointed out, the San Diego permit that was appealed to the State Water Board, although I think the dischargers expected a lot more in terms of language in their favor on that, the State Water Board did reject many of their arguments. And you

can see the order, and it speaks for itself, I think.

David did point out that nuisance -- discharges that cause or contribute to nuisances are not necessarily or generally should not be subject to the iterative process. I would strongly agree with that. I think common law principals would be consistent with that.

Actually, in terms of the data as well, there are a variety of studies that we talked about. I did want to submit a study that Santa Monica Baykeeper has just completed our Beachkeeper Storm Drain Monitoring Report of water samples we've collected along Santa Monica Bay from 342 drains that discharge into Santa Monica Bay. I just want to make that a part of the record at some point.

I'm not here to berate the Board even though we feel that we could have a stronger permit, but I feel that there are pieces of the puzzle that are still missing. And, really, I think it comes down to the fact that we're very troubled in the environmental community by the willingness and the ability of the cities to recognize that this is the way things need to be and that we need to move forward towards cleaner water.

My comments -- and you've probably seen my comment letter -- focuses on the application requirements for getting a municipal storm water permit. You might say

to yourself, well, how is that really relevant given the fact that the first application came in sometime in 1990, and here we are in 2001, almost at the end of it, and Mr. Fleischli is raising all these application issues? And I think the failure to be firm in terms of what's required in the application process has led to a lot of the problems that we see here today and a lot of the resistance that we see from the cities.

You might recall that the 1996 permit was really the product of consensus between a lot of different entities, including one environmental group that was part of that process. It was not, though, focused on compliance with the law.

In terms of the application requirements, there's a litany of them that I believe have been violated and I have highlighted in the letter. But there's only really a couple I want to focus on today in terms of my presentation. I want to put them into perspective as to why these are important and why they lead to a breakdown in the process of regulating to achieve clean water.

Many of these requirements have never been met, and the way the regulations are set up is before you get a permit from an NPDES-delegated authority, you need to provide certain information to that authority to assure them that your permit is going to be up to snuff,

essentially.

The ones I want to focus on today are the industrial inspections, the mapping requirements, and estimates of load reductions from implementation of the Storm Water Management Plan. Again, these may seem trivial, but it fits into the overall process of the Clean Water Act and the scheme that congress wanted to put down, not that necessarily EPA wanted to put down.

In terms of industrial inspections, you've heard an awful lot today about disagreement from the cities about the provisions in the permit regarding industrial inspections and also with regard to the costs of industrial inspections. And with anywhere between 2,500 and 25,000 industrial facilities in the Los Angeles area, it's very important that we address this in this venue. Certainly, the Regional Water Board by itself cannot deal with these problems.

I would like the Regional Board to try to deal with as many as they can, and we certainly made progress in the last couple of years on that front. But I think it's very reasonable for the regional boards to look for the municipalities to supplement those efforts for industrial facilities in their jurisdictions.

Unfortunately, as you can tell, many of the cities are opposed to this. And yet I ask you why are we

even having this debate? Because the federal regulations are very, very clear that in the application process before you give a permit to these municipalities, they are supposed to demonstrate to you that they have the authority to conduct necessary inspections to control runoff from industrial facilities and to implement the ordinances that supposedly they have provided to you to demonstrate that they have the legal authority to control discharges within their jurisdictions. Instead, what the municipalities want is they want you to for some reason justify to them why this is necessary or prudent in this regard, and it should be the other way around.

In terms of the compromised language, the A/C language that has been put forth for you, we do agree with that language. We can live with that language. Both myself and Mark Gold participated in that mediation process for two days. And we thought -- although we went in reluctantly -- we thought it was productive for a time. But what happened is we were essentially negotiating against ourselves.

And at the end -- it did end abruptly because what happened was the cities came back after we made concessions on restaurants, for example, suggesting -- and the language is now in this draft permit -- that restaurants could be inspected from the curb to see if

people are hosing things down because a lot of the municipalities felt that they couldn't actually get on site. And I said, well, the Baykeeper can see if restaurants are illegally discharging from the curb, so I'm willing to tolerate that.

We make these concessions, and the cities come back at the last minute and say, you know what, we talked about it and we have serious concerns about the cost of this whole thing, and we really don't think we can get on board with this. We'll talk about it with our counsels and such, but can't make any assurances.

So in essence, we spent two days, and I commend Mr. Dickerson for being as polite as he was in the meeting. I likely would not have been as constrained as he was, but then, again, I'm not the executive officer of the Water Board. He did do a very good job there, but I do feel that it was a fruitless process.

If any cities are suggesting that this is -- actually, you heard one city stand up today and say that they would support after that process, it was very meaningful and it was great and let's do more of this. Oh, by the way, we support C. It's like, well, if it was such a great process, why are you supporting C when we spent two days talking about this stuff? Where did it get us? I would say it didn't get us anywhere. If the cities feel

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that there is a substantial change for that, I would suggest that you simply go with B and move on with it.

In terms of mapping requirements, the federal regulations are also very, very clear that municipalities are supposed to provide in their applications maps of the various locations of their discharges to waters of the United States.

You heard Wendy Phillips this morning say that it's not completely mapped. So we don't have all of that information. In the staff report page A-16, Footnote 9, there was a statement from staff, indeed, basic requirements such as a map demonstrating the basic awareness of the storm drain system are part of the permit's initial application requirements, and should have been met back in 1990 when the permit was first issued.

Very troubling, why do we need to know where the drains are at all? I think it's pretty obvious that it's helpful to know where the drains are. But if you look long term in terms of TMDL development and other regulations that this board has to deal with, if you don't know where the discharges are coming from, you're not going to know how to allocate loads to those sources. You're not going know the potential impacts from those sources. If we don't have a map of the drains that are discharging to our waters, we don't have an understanding of what's happening

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here. And I think staff has even recognized that, and that's problematic for me.

In terms of the GIS discussion that I know nobody has brought up yet today, the GIS and the GPS issues, in terms of how we map drains, or perhaps more importantly for this context the Illicit Connection/Illicit Discharge Program. There was a lot of discussion last time we had the workshop on how are we going map this. What's required? I will acknowledge that the federal regulations do not mandate what type of mapping system you need to have. They don't say you have to have a GIS system.

I saw in the comments statements that it might cost upwards of $15 million or, actually, in excess of $15 million to do a GIS mapping of illicit connections and illicit discharges in the municipalities. It's rather startling to me.

GIS to me is a critical mapping tool that many, many people use. The Baykeeper even uses it, and we're tiny. But thanks to the help of the Water Board, we've been able to use this technology. We have GPS equipment, and we can go out in the field. We've been borrowing some from the Water Board for quite some time. But we now have our own, and we can go out on the field. And I know Heal the Bay has the same equipment. And we take readings about where these things are, and then we can

put them in a computer, and it will map it out nice and pretty for us.

It's a very accurate way to do it. In terms of the other methodologies that might be proposed, I don't see how you're going to be able to use them as effectively and that information in a computer system. That certainly is the way -- most things are done this way. The 305(b) reports by the State Board also require information to be submitted in GIS format.

I just wanted to put up a map for you of what a GIS looks like. This is a map that we did with help from Regional Board staff in the presentation of our Beachkeeper Report. The section of coastline, you can see the red dots are just storm drains along the coast that we went out in the field with and took our little GPS unit out, and then we came back to the Water Board and they helped us put it into their computer.

Just to show you what it looks like. You can actually use this data, though. It's better than having a little map with pins on it. It's better than having some of the maps that I've seen in the cities where it's just a paper map, and maybe half the drains aren't even on there. Malibu, I've seen their maps and I would say that maybe 10 percent of the drains are mapped, and the rest of them aren't even on there. But you can actually

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use this, you can add to it and things like that.

In terms of the cost issue, I wanted to break it down. The idea of it costing $15 million -- and I think this goes to some of the larger issues about the cost estimates that you're hearing, and, unfortunately, David left the room. But hopefully if you talk about the Caltrans cost information, you'll recognize that all of that information is the subject of litigation right now between NRDC, Baykeeper, and Caltrans that we've been in for five years with them. And until those reports go final, they should not be relied upon.

But in terms of this context for $15 million, I counted up the illicit connections and illicit discharges in the staff report that were totaled in there, and there was somewhere on the order of 5,875 illicit connections and illicit discharges. $15 million, if you broke it down for that, it's about $2,500 per drain or illicit connection or illicit discharge.

It's rather absurd. When the Baykeeper did this report, we mapped 640 or so drains on the bay in GIS format. It probably took us about 120 hours to do it which for a nonprofit runs about $2,500. We can double that for expenses and overhead and all that. It's about $5,000 to do 600, and then about 30 hours of help from the Regional Water Board.

So however generous you want to be, 600 drains GPSed, maybe $10,000. Under their calculations, it would have cost us $1.5 million to just map our little drains.

And I would submit to them that if they want to pay me $15 million to go out and take little readings of 6,000 drains, I'd be more than happy to do it. I'd be a very, very rich man.

In some of these cities it's, in fact, a complete and utter joke. And I can hear people laughing a little bit, but it gets even more funny. Signal Hill, for example, recorded 13 illicit discharges and no illicit connections in their city according to the staff report. 13 I would submit to you, you can probably do a GIS of 13 drains in an afternoon. It's not a very expensive endeavor at all.

In terms of the next category and the last category I wanted to talk about is the load reduction requirements in the applications. In these storm water application requirements there's supposed to be an estimation and an assessment of the efficacy of pollution reductions as a result of the Storm Water Quality Management Plan. They have not provided that information to you, and yet at the same time they criticize you for imposing programs on them that they do not know the

benefits of.

So to me it's very troubling because it should, again, be the other way around. They should be demonstrating to you that the things that they want to do are going to improve water quality, and yet they keep telling you the law says that you cannot impose these types of regulations on you, when really the law says let's clean up our waterways and move forward.

Lastly, I just want to say that I would definitely support the idea of the environmentally sensitive areas. Removing that language for field verification, I think that is very troubling and problematic. These areas have been designated for a reason. Why should we have to go back and do additional studies? What's the purpose of the original designations? My apologies.

In terms of the delay that is caused by all this, it's their gamesmanship that's led to delay. It's been 11 years. We need to move forward. Thank you.

CHAIRMAN NAHAI: Thank you, Mr. Fleischli. Mark Gold?

DR. MARK GOLD,

DR. GOLD: Mark Gold representing Heal the Bay. First, I'd like to in the time left over to praise Board

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staff individually because I think they have done a very exceptional job. And that's Xavier Swamikannu, Wendy Phyllis, Carlos Urrunaga, Megan Fisher, Dan Radulescu, and, of course, Dennis Dickerson.

And they've put an extraordinary amount of effort into this, and I'm sure I forgot somebody. If I did, I apologize. But the comparison between the level of effort on this permit and the previous two is really no comparison. I've worked on both the '90 permit and the 1996 permit. And 11 years of nearly a complete lack of progress must come to an end, and I think this permit really moves us in that direction.

Quickly addressing a budgetary issue that we heard quite a bit earlier, I think what wasn't taken into account on the cost side was that there's a lot of stuff within this permit where the Regional Board did indeed take into account costs, in everything from SUSMP standards, which deal with the three-quarter-inch storm rather than, say, the five-year storm; or a monitoring program that surely would be if it was commensurate in scope with what you see from the sewage treatment plants, it would probably be a $2 million program rather than a $400,000 program, and on and on and on.

The iterative process is another example of clearly where that language was put in to save the

co-permittees money. So to say that cost has not been taken into consideration is definitely false.

On a broad issue on the watershed approach, which keeps getting talked about, is what we need to do... What I'm going to do is in the limited time left is sort of give the actual pages of where I think changes need to be made rather than giving you the discussion because I don't think I have time to do that. So 3.A. page 18, we think right up front suggested language for the watershed issues --

MS. CLOKE: Say where you're going.

DR. GOLD: Sorry. I will get cut off, though. The big one, December 10th draft, page 18, 3.A. suggested language right up front. And there will be, like, nine of these so bear with me.

MR. MINDLIN: Did you say page 18?

CHAIRMAN NAHAI: It will be page B-295.

DR. GOLD: Unfortunately, I didn't do the B dash stuff so... All right. So the suggested language should be, "Permittees must implement --" I'm sorry, "For discharges to the MS4 that cause or contribute to water quality impairments, by 2003 permittees must implement watershed-specific BMPs. The implementation strategy including BMPs and the rationale for implementing the chosen BMPs must be included as part of the 2002 annual

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report, and progress on BMP implementation and the efficacy of the BMPs shall be summarized in subsequent annual reports."

That's specific language from our comments as well.

On the receiving water limit issue --

MR. MINDLIN: Mark, I didn't follow you on that one.

MS. DIAMOND: Can you point to where on that page?

DR. GOLD: It would go right up front.

MR. MINDLIN: You're on 3.A.?

DR. MARK: 3.A. right up front.

MS. CLOKE: I don't think we're on the same version of the permit.

DR. GOLD: We're not?

CHAIRMAN NAHAI: We're not on the same page with you, Dr. Gold.

DR. GOLD: Storm Water Quality Management Program implementation general requirements.

CHAIRMAN NAHAI: There is A.1., 2., 3., 4. --

DR. GOLD: Page 18, 3.A. So it would be under "general requirements." It would be to insert that language to deal with the watershed-specific issue.

CHAIRMAN NAHAI: So you're asking for the language that you just read to be inserted?

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DR. GOLD: Correct.

CHAIRMAN NAHAI: You're not reading from what is here already?

DR. GOLD: Correct.

CHAIRMAN NAHAI: The reason why you are unable to follow him is because he's reading language that he's requesting to be inserted by you.

DR. GOLD: Because the watershed-specific stuff should be right up front. I'm sorry for sort of rushing it. By rushing it, I've slown things down quite a bit.

CHAIRMAN NAHAI: Go ahead.

DR. GOLD: Moving along, on receiving water limits, in Section 2.3.(d) what we'd like to -- and this isn't specific language -- so what we're stating is that for the revised SQMP and for the monitoring program, what we'd like to see is the following: to implement the revised SQMP and the monitoring program according to their approved schedule, to submit a report detailing changes to the SQMP and monitoring results to the Regional Board. If the monitoring does not show abatement of the exceedence, steps 3.(a) through 3.(d) shall be repeated until monitoring show the exceedence has been abated.

Right now in the current language the way it's written it's open-ended. And so really what that is is to make sure that there's still going to be a best-faith

effort to continue trying to make sure that water quality standards are met. So that's what that clarification is in regards to on receiving water limits.

On the issues in regards to environmentally sensitive areas and retail gasoline outlets and the whole SUSMP provision, one very, very small change. On page A-6 in the revised agenda item description, there was a report in that front report and it said that there was going to be the change from 100,000 square feet to 1 acre for commercial and industrial for the SUSMP in the year 2003, but there's no language to that effect.

So for the Phase II implementation, it was going to move from 100,000 square feet for commercial industrial, down to 1 acre by 2003 to coincide with the Phase II requirements, and I could not find any language on page 37 D.3.(c)(2) to back that up. So that was something that was up front in the latest report for what the permit was about.

(Whereupon, Board Member Buckner-Levy joins the board meeting.)

On the inspection issue, I think Steve summarized that very, very well on the hypocrisy of what happened with the Coalition for Practical Regulation. It was very, very frustrating. So we support that.

The one thing I would like to say is on the

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restaurant curbside inspection, there needs to be a definition of "curbside inspection." To me that implies literally you're going to drive by and do this. And I assume the assumption is that somebody is actually going to go out, walk the perimeter, and at least provide the educational materials to the people who own and operate the restaurant, and that has not been clarified.

On illicit connections and illicit discharges, on page 55 on the open channels, that they should be screened annually; just a very, very brief change. That's G.2.(a)(1)(i) on a clarification. It should just say "and annually thereafter" because the channels are already required to be cleaned annually. So looking for illicit connections and illicit discharges annually while they're already doing cleaning shouldn't be that much of a burden. I think that was the intent of your staff.

On sediments, strengthening language, and this is specifically for the development construction program only, for Section 4.E.1.(a) we feel that the language -- and that's on page 44 -- that the language should be added that sediments -- there's a modification of 4.E.1.(a) -- which is sediments shall not be discharged to the MS4 or receiving waters.

And then a follow-up to that on 4.E.1.(b):

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no construction-related materials, wastes, spills, or residues shall be discharged from the project site to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff. And the point there is just to make it clear that discharge of construction-related sediment should be prohibited. And right now it's pretty squishy language, and that was something that we felt needed to be changed. And corresponding with that under the legal authority section is that there should be a sediment discharge prohibition added for construction and grading activities.

Under sewage spills, and we have submitted this comment as well. Unfortunately, the response to comments didn't come, and so specifically this was, I guess, written by us in frustration after the City of L.A. spill issue. And the language that we wanted to see inserted on page 47, 4.F.1. to augment what's already there is, "When a sewage spill or leak results in a beach closure or closures by the Department of Health Services, the responsible permittees must notify the public immediately. Notification must include, at a minimum, appropriate sign placement at beaches within two daylight hours of beach closure determination, indicating the reason for the beach closure and the health risk of water contact, telephone calls and electronic mail messages to relevant public

agencies and nonprofit organizations within two hours of the closure and press releases to major newspapers, radio stations, and TV stations including nonEnglish language papers and stations within two hours of the closure."

And that's something that needs to occur to protect public health because when those spills go to the MS4, this becomes an MS4 storm water issue.

Finally, in relation to that or right after that is: "...where storm drains contribute to chronic water quality problems at beaches, the permittee must conduct a sanitary survey to investigate potential illegal discharges, illicit connections, or leaky sewer lines. Also, the permittee must revise the SQMP and implement appropriate BMPs to abate the water quality problems as quickly as possible." Right now that's not occurring, so basically notification is the best you're going to get the way that language is written.

On the monitoring program, we want to commend staff for doing an excellent job on putting together the program. Our remaining major concern is the lack of benthic monitoring in estuaries on more than a once-every-five-year basis. We realize that in light of where the discussions ended up, that won't be changed here in the permit, but we strongly recommend for this Regional Board to look into if there is indeed a fine, a

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supplemental environmental project of some sort, that this is something very worthwhile to increase the monitoring frequency, especially for the L.A. River, Dominguez Channel, and Ballona Creek. And so I strongly encourage you to do that.

Then there was a brand new amendment on Toxicity Identification Evaluation Change Sheet 12-4, Section 11.B. on page 14-3(A), the change sheet on 12-4. It's tough for me to do this because there's so many change sheets.

MS. PHILLIPS: That change should already be in the edited tentative version.

DR. GOLD: Well, no, it's not because what I'm suggesting is what needs to be new language. It's for clarification.

CHAIRMAN NAHAI: Hold on just a second. Wendy, can you show us where Dr. Gold is in relation to our agenda package.

MR. MINDLIN: Dr. Gold, do you have any things written down where we can see them? Dr. Gold, do you have these written down in some way that we can see them? Because we're hearing what you're saying, but we're having a hard time following you, actually.

DR. GOLD: Yeah. Normally things aren't this complex, as you know. But it's tough to make a typical

comment. The TIA language...

AUDIENCE MEMBER: It's B-378.

DR. GOLD: But that's not the brand new TIA language.

AUDIENCE MEMBER: Yeah, it is.

DR. GOLD: Okay. Page B-378 under TRE 3.(a), I should have used the Bs rather than the change sheet. All right. What language to clarify the new amendments, because unfortunately the language you're going to see on 378 isn't the new language. That, of course, is in the change sheet.

AUDIENCE MEMBER: No, this draft reflects that.

DR. GOLD: That does? Okay. So what it is is: "When a toxicity identification evaluation identifies a class of pollutants as causing over 50 percent of runoff toxicity on three separate occasions at a given site, further TIE shall be conducted to determine which individual pollutants are responsible for the majority of the toxicity. And then toxicity reduction evaluations shall be focused on those individual pollutants in order to be most effective."

And so what that paragraph is that I just read would clarify what's already written right now to the best of my understanding. If you want to ask staff whether there's a significant modification, that would be fine.

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But it's very unclear right now when you do further analysis of a toxicity identification evaluation and when a TRE truly kicks in based on that further analysis under TIE. And so what that language is is to basically clarify that.

CHAIRMAN NAHAI: You've seen the changed language that we're looking at already? You've seen that?

DR. GOLD: Yes.

CHAIRMAN NAHAI: Okay.

DR. GOLD: Okay. Under storm drain management -- and I'm going to get in the same trouble -- it's under change sheet 12-10. That one is not reflected; right? December 10th?

MS. PHILLIPS: Yeah, the December 10th changes are in here.

DR. GOLD: Are in that latest permit. That's the one you handed out today?

MS. PHILLIPS: Yes. This doesn't have the December 12th changes. It has everything but December 12th.

DR. GOLD: I don't think so on that particular issue. All right. Well, let me talk about what -- this is the catch basin cleaning.

CHAIRMAN NAHAI: Are we about to wrap up?

DR. GOLD: Yeah, I'm almost there.

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CHAIRMAN NAHAI: Because we're running over here.

DR. GOLD: Then I'll do it without giving you all the things, and I'll just give you the background on what they are.

On the catch basin cleaning issues on A, B, and C, right now there's the TMDL language which is completely separated from the other catch basin cleaning language, the tierred approach of A, B and C. There's a couple of problems. One, there is no definition of what A, B, and C is. It just says low priority, high priority, medium priority. We strongly recommend that Priority A basins should be those that are half full every three months. Priority B basins should be those that are half full every six months. Priority C should be everything else.

And as for the whole differentiation between the TMDL and the rest of the catch basins, that doesn't really make much sense in light of the TMDL for trash probably will be held up in litigation for quite some time. There's not an implementation plan in place right now. And so at a minimum, it should default on the same frequency for Tier A, Tier B, Tier C that's already written there in addition to the tracking and monitoring requirements that are put up front. So that needs to be clarified. And, again, the fact that you're in a highly-polluted watershed

that needs a TMDL shouldn't be an excuse to do less. And I don't think that's what staff intended, but I think one can easily read it that way.

And then, finally, on reporting, there needs to be an additional of a section on structural BMPs implemented, the location of those structural BMPs, the pollutants targeted by these structural BMPs, and the expected pollutant removal efficacy of these BMPs. And related to that -- to reiterate what Mr. Fleischli said -- is that there needs to be a section for the permittee and the co-permittees to assess the efficacy of the SQMP, including reductions in pollutant loadings, toxicity, et cetera.

Because right now if you look at that 40-page form that needs to be filled out on an annual basis, really determining how well the SQMP is implemented and whether or not the BMPs are being effective, that is one of the few things that were omitted in that 40 pages and needed to be added.

So that wraps up a complicated set of detailed comments. And if you have any questions later, obviously I'll be here to answer them.

MS. CLOKE: Could you give a copy of what you just said to...

CHAIRMAN NAHAI: Let's move on, please.

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MR. MINDLIN: Dr. Gold, do you have a copy of your November 13th letter here?

DR. GOLD: Yeah.

MR. MINDLIN: Can you give it to staff, please.

CHAIRMAN NAHAI: Could we hear from Ms. Lambrichts, please. All right. With that, I'm going to move on to the -- I'd like to hear from Mr. Rufus Young. Is he here? Come on down.

Mr. Young, you indicated to staff that six minutes would be sufficient time for you to make your presentation to us?

MR. YOUNG: I indicated that that was my best estimate. If I'm close to being finished, I would appreciate being given an opportunity to finish up.

CHAIRMAN NAHAI: Sure.

MR. YOUNG: But I'd also like to not start just yet. One of the cities that our firm is proud to represent is the City of Santa Clarita. There is an elected official, Councilmember Kellar, here who protocol requires that a member of the law firm that represents the city defer to...

CHAIRMAN NAHAI: No problem. We'd be more than happy to hear from the councilmember first.

MR. YOUNG: Thank you.

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BOB KELLAR,

MR. KELLAR: Mr. Chairman, Board members, thank you very much for permitting me to come before you. My name is Bob Kellar. I'm a city councilman with the City of Santa Clarita.

We have a great sense of pride for and a commitment to the protection of our quality of life. One of the things that we care most deeply for in our valley is the Santa Clara River, one of the last natural rivers in Southern California and a constant reminder of the importance of water quality.

Great strides have been made with the current Los Angeles County NPDES permit, and our city looks forward to accomplishing more with the implementation of the anticipated new NPDES permit. However, although Santa Clarita generally supports the water quality changes that the tentative draft proposes to address, we are greatly concerned with our ability to implement some of the proposed requirements, from both a fiscal and a land use perspective.

As noted in our written comments on the tentative draft that were submitted on November 9th, the city is particularly concerned with the following areas: receiving water limitations. The language, as currently written, creates significant potential liability for the

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city. As written, we are directly responsible for discharges that cause or contribute to the violation of water quality objectives regardless of the source of the discharge and regardless of the controls implemented to prohibit the discharge. It is fiscally irresponsible for the Board to adopt the permit with this language because it will expose the city to costly third-party litigation for implementing untested and unproven new programs.

Industrial and commercial facilities programs: the city of Santa Clarita does not have the legal authority nor the personnel or monetary resources to assume regular responsibility for the inspection of industrial and commercial facilities. We believe that Version C is the most feasible and realistic to implement and strongly urge the Board to adopt this version.

Standard urban storm water mitigation plans: the city is concerned with the proposed expansion of the applicability of the SUSMPs because it infringes on local land use authority, and it is likely to jeopardize essential redevelopment activity. We firmly believe that we should continue to implement SUSMPs based on the State Board 2000-11 water quality order. And the Board should direct staff to modify all references to SUSMPs in the tentative draft to reflect the State Board 2000-11 water quality order.

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In conclusion, I urge you to carefully consider the cost implications on the permittees for the implementation of all of the new programs proposed in the tentative draft of the permit. As a governing body, you must consider and give weight to the public benefit to be obtained through the implementation of these programs and requirements.

I want to emphasize that water quality and the preservation of our Santa Clara River are very important to our community and central to maintaining our high quality of life. However, as policymakers, we must strive to balance all the essential needs of our communities: public safety, education and schools, economic development, roads and transportation, and parks and open space.

Adoption of the tentative draft today as currently written does not support a balanced approach and, in fact, undermines our ability to develop and maintain sustainable, livable communities. Please give careful consideration to the comments offered to you from the permittees that reflect our willingness and interest to cooperate and collaborate.

Our comments and suggestions provide an avenue for us to work together to accomplish our mutual goal of protecting and preserving water quality. Based on

the revisions recently submitted, and in particular the recommended Version A/C inspection period, we request, as have other concerned communities, additional time for responsible review. Thus, I request that you delay approval of the permit today until such time as all parties can agree.

On behalf of the 155,000 citizens of Santa Clarita, I thank you and I urge you to listen, respect, and consider all that's been brought forward to you by the various cities relevant to this very, very important matter. Have a good day.

CHAIRMAN NAHAI: Thank you very much. Thank you, Councilman. Mr. Young, go ahead, please.

RUFUS YOUNG,

MR. YOUNG: Thank you very much, Chairman Nahai. For the record, my name is Rufus C. Young, Jr. I'm with the Law Firm of Burke, Williams, and Sorensen, and we're proud to represent a number of cities here. I'd like to start by inviting your attention to the mortal words of Clint Eastwood's character, the philosopher/inspector, "Dirty" Harry Callahan. "Dirty" Harry said, "A man's got to know his limitations."

I am here to respectfully suggest that there are limitations imposed by the Congress of the United

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States, state law, and the EPA through its regulations, on just what and how the Board goes about carrying out its obligations.

In that regard, let me invite your attention, if I may, to comment letters submitted by our firm dated November 12th. It's toward the back of Volume II in the legal comments. Although I suggested that the comment letter should not be considered the comments of Burke, Williams & Sorensen because my partners have not taken a position on this storm water permit, those are comments of the city and should have been listed as such. But that's a different issue.

There are three issues that I'd like to focus and then three other points that I'd like to make. The first issue is cost of compliance and economics. On page 2 of our comment letter of November 12th, I reiterate that comment letters dated November 6th and November 8th we submitted for the Board staff and the Board's consideration three economic studies, three of which were prepared by Brown & Caldwell, one by Stanley R. Hop (phonetic) & Associates, all four of which -- excuse me, one was a staff report by SCAG. Those, too, are in the materials that have been provided to you, I'm assured.

Those singularly and in combination reached the same conclusion, that the cost of compliance of storm

water programs for the Los Angeles region will exceed $50 billion. I won't belabor the point that the Clean Water Act and the Water Code require consideration of economic considerations and costs. I'll simply comment that the response to comments dated December 3rd, comment No. 2, acknowledged the submission of those studies, acknowledged the dollar figure: $50 billion. But it did not come to grips with those studies, did not meet them head-on, and did not address what's good and what's bad. Are the studies valid? Are there other studies that rebut those? In fact, my examination of the record of this matter is that there are no studies that rebut the four studies I referred to a minute ago.

What we ask is that the permit adoption be continued, that those studies be squarely addressed -- I mean, we're talking $50 billion here -- and that once addressed, the matter be brought back to the Board for its consideration. This would also provide an opportunity to address, for example, Dr. Gold's comments of several minutes ago, which I have a hard time following and others perhaps had the same problem.

The second point I'd like to address -- and this is on page 4 of our comment letter of November 12th -- our land use and redevelopment issues. I point out in our comment letter that the tentative draft fact sheet and the

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otherwise excellent Fisher/Swamikannu technical report do not address the statutory and constitutional limitations on the authority of the Board.

There is one statement that I think is telling, and that is EPA has said -- and this appears on page 5 -- EPA has said that EPA recognizes that land use planning is within the authority of local governments. We suggest to you that for a storm water permit to impose conditions on the exercise of land use authority by local governments in whether or not they're to approve a land owner or developer's project is the exercise of land use control. EPA says it can't go there. You're acting pursuant to a delegation of authority from the USEPA. I suggest that the EPA's restrictions -- and it's in the very first section of the Clean Water Act -- are equally binding on you. In that regard, the response to comments, and this is the December 3rd response to comment No. 11, and councilmember at Section B-4 on page 5, again, failed to come to grips with those issues, the constitutional statutory and regulatory limitations on the authority of the Board.

And with that, I will conclude my presentation with the invitation to you to again revisit the comment letters that we've submitted. In that regard, I would point out that we submitted not only comment

letters on November 12th, November 6th, and November 8th, but multiple E-mails, prior comment letters, all of which -- and I'm building up to something here -- all of which Dr. Swamikannu and others on the staff, including the executive officer, I'm convinced have read them because when I discussed them with them, which was a delight to be able to do, they were knowledgeable about them. They understood them. They didn't always agree with them. And I didn't want to be the only person making a presentation here this afternoon who failed to commend their excellent staff work. I know good staff work when I see it. Theirs is good, not quite as thorough as I'd like on a couple of the points that I raised here this afternoon.

With that, I'll thank you very much, but conclude with the observation that the speaker cards, all seven of them submitted, note that I'm speaking in favor of adoption of the storm water permit as modified as suggested in our several comments letters.

CHAIRMAN NAHAI: Thank you very much.

MR. YOUNG: Thank you very much.

CHAIRMAN NAHAI: With that, we'll move now to the remainder of the cards. There are about 15 of them here.

We will restrict each speaker to three minutes only. There is a timer right there, and it will go to yellow and then to red. And when it starts flashing

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red, please stop so I don't have to stop you. And if your testimony is going to be duplicative of what others have said, you might want to consider refraining from saying it. It doesn't do any good for us to hear the same points over and over again.

MR. MINDLIN: Mr. Chair, I think we also have a paddle today, too, to lift up when the time is up.

CHAIRMAN NAHAI: Great, thank you. We also have a paddle. And if that doesn't do it, we have a gavel, and various other types of weapons. First, Mr. Brian Wall, please.

I'm going to read two or three names in a row so you will be prepared to come down. And if we can come down a little bit more quickly, that would be helpful. Following Mr. Wall, I'd like to hear from Captain Angus Alexander. Following Captain Angus Alexander is Sergeant Heineman. Go ahead, please, three minutes.

BRIAN WALL,

MR. WALL: Thank you. Good afternoon, Mr. Chairman, and members of the Board. For the record, my name is Brian Wall with Mayer, Brown & Platt. Address is 350 South Grand Avenue, 25th Floor in Los Angeles.

I'm here today representing the Western States Petroleum Association. My comments specifically

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relate to retail gasoline outlets or RGOs. Last year the State Board concluded that RGOs should be excluded from the structural treatment requirements until proper justification is shown.

In June, staff issued a technical report purporting to provide this justification. And on August 6th WSPA submitted our assessment and some critiques of that report. Just last week a supplement to that report that cites significant new arguments and cites significant new documents was issued with additional changes just a few days ago. WSPA objects to the late issuance of the supplemental report that purports to provide additional justification in that we haven't had time to review it, we haven't had time to review the reports that it is based on, and we feel that it is inappropriate to issue it so close to the hearing without an opportunity to comment, and that it must be re-circulated before adoption of this permit.

Although it's not possible for me to fully comment on that report in the three minutes provided, I would like to make a couple of points. First, WSPA pointed out that one of the studies staff relies on is showing that these devices are effective at RGOs. It failed to disclose that for two constituents, nutrients and oil and grease, the concentrations actually went up.

Staff's response to that was, well, one,

that's the type of media used for the nutrients. But these are the same devices and media that have been advocated by staff. And, second, it said that low concentrations of these devices are less effective -- or higher concentrations result in higher removal efficiencies. Therefore, the corollary is true: lower concentrations result in lower efficiencies. And that's kind of our point.

The task force BMPs are designed to significantly reduce pollutants at RGOs. In doing that, it renders -- in our belief it renders these devices ineffective despite the significant cost of maintaining these devices.

So where does that leave us? We have some new safety concerns where they have included a safety exclusion because subsurface structures provide an opportunity for gas and air to mix. We have infiltration devices that are found to be inappropriate for RGOs, and we have these other treatment devices that when lower concentrations are involved, the efficiencies are lower.

We respectfully assert that these devices are not effective at RGOs that are implementing the task force BMPs for that very reason, and we urge this Board to comply with the decision of the State Board that proper justification be shown, and we believe that hasn't been

done. Sorry I had to rush through that. I have a little more to say, but I'm trying to keep with your time.

CHAIRMAN NAHAI: Thank you. But you've made all the points that you wish to make?

MR. WALL: Well, I think the main point is just that given the unique characteristics of RGOs and the risk of fuel being spilled into these devices, these devices are not practicable and at low concentrations that would result from use of the task force BMPs which is already required, they're not that effective.

CHAIRMAN NAHAI: Thank you very much. Captain Alexander, please. Sergeant Heineman?

SERGEANT STEVE HEINEMAN,

SGT. HEINEMAN: Good afternoon. I believe that Captain Angus Alexander isn't here yet, so I'll speak if that's okay.

My name is Steve Heineman, Sergeant Steve Heineman, Santa Monica Police Department. And I currently supervisor our harbor patrol division. I'd like to thank the gentleman who spoke a little while ago from Burke, Williams & Sorensen for quoting such an esteemed member of our law enforcement profession, Harry Callahan. It's interesting that part of his name is also "dirty" which is something that we're talking about here, dirty water.

Currently, I supervise 17 nonsworn individuals all of whom are certified divers. Many of our functions in and around the pier and the beach areas regard the breakwater, the buoys, open-water rescues. And the quality of the water -- we're right near the Pico storm drain -- is a strong issue with us. It affects our ability to train effectively because we don't go in at certain times if the water quality is a certain level.

Part of their duties as divers are maintaining the buoys and the pilings under the pier. It requires them to be under water for significant periods of time. And we've had people who -- members of my staff have been adversely affected. While we can't directly attribute it to the quality of the water, a lot of concerns expressed by them are the fact of the water quality.

So I have a tremendous respect for your mission here today, and I thank you for the attention you're showing to this. And I appreciate anything you can do to safeguard the water and safeguard the individuals that are under my command. Thank you very much.

CHAIRMAN NAHAI: Thank you. Thank you for coming. The next three speakers will be Mr. Brian Smith, Mr. John Harris, and Mr. Matthew Spies. Mr. Brian Smith, please. Calling once, twice.

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RAY TAHIR,

MR. TAHIR: Actually, Mr. Smith from the City of Bellflower has instructed me to use his three minutes as part of my presentation which will only be six minutes. And there's another city, the City of Monterey Park who wants me to do the same thing. I won't abuse my time; I'll be in and out, I mean, real quick.

CHAIRMAN NAHAI: Do you want to speak now?

MR. TAHIR: Yeah, please.

CHAIRMAN NAHAI: Can you make it five minutes?

MR. TAHIR: How about six, but I'll strive for five.

CHAIRMAN NAHAI: Try for five.

MR. TAHIR: You know we're going to be out of here early.

CHAIRMAN NAHAI: We're not. There are a bunch of other items to go on after this.

MR. TAHIR: Mr. Chairman, members of the Board, staff, good afternoon. It's a pleasure to be here before you once again. The cities that I represent thank the Regional Board truly --

CHAIRMAN NAHAI: Could you repeat your name.

MR. TAHIR: I'm sorry. I'm so nervous I forgot to mention my name. My name is Ray Tahir, and I represent a number of cities' storm water management matters in

Los Angeles County. And today I'm speaking on behalf of the City of Bellflower and Monterey Park and a few others.

Anyway, once again, I'd like to -- the cities, that is, would like to thank the Regional Board staff for crafting a draft permit that is a substantial improvement over the current one in terms of clarity and consistency. This permit does not contain contradictory and confusing language, thank God.

Still, unfortunately, the cities cannot support the draft permit because it contains several unacceptable provisions. Most of them you're aware of. These include, but are not limited to, the Industrial/Commercial Pollution Control Program, enforcement of the General Construction Storm Water Activity Permit, receiving water limitation language, and the Standard Urban Storm Water Mitigation Plan which is a subset of the Development Planning Program.

With regard to the Industrial/Commercial Pollution Control Program, the cities have no objections to inspecting commercial facilities, critical source facilities; namely, gas stations, restaurants, and automotive repair shops. Nor do the cities object to enforcing pollution reduction control requirements to these facilities.

However, the cities strenuously object to

having to inspect industrial facilities for enforcement purposes for the following reasons: by right these facilities should be inspected by the Regional Board because they require coverage under a state-issued General Industrial Storm Water Permit which is issued by the State Water Resources Control Board and is supposed to be inspected by the Regional Board or enforced by the Regional Board.

The cities understand the Regional Board does not have the resources to perform this regulatory task; however, the statement poses a $250-per-year fee on such facilities to cover inspection. Further, the Regional Board could generate additional fees if it were to notify the several thousands of noncompliant facilities that exist in Los Angeles County of the need to obtain coverage. This, by the way, could be done cheaply by mail, for example.

Beyond that, facilities that aren't covered under the general permit cannot be regulated by the municipalities because of exemption. It is understood that cities would not be enforcing permit requirements, per say, but instead would be required to establish legal authority to do things such as copy records on site, impose best management practices, and take other enforcement actions. However, the industrial facilities are allowed under the general permit to select BMPs based on iterative

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self-evaluations.

The language in the general permit even says that minor violations should be tolerated. Further, the cities don't believe that such industrial facilities would take too kindly to being regulated by the state and local government on the same issue.

Three, the Regional Board has on several occasions insisted that municipalities have a duty and responsibility to improve water quality. It seems only right and fair that the Regional Board enforce a general permit on such industrial facilities, thereby meeting one of its most important responsibilities that should improve water quality.

It is important to note that congress has determined that these subject industrial facilities, also referred to as Phase I facilities, are significant contributors of receiving water pollution as specified in the Code of Federal Regulations.

Nevertheless, the cities will be willing to compromise with the Regional Board on this matter in exchange for certain concessions. The cities would be willing to conduct noninvasive site inspections on behalf of the Regional Board so long as it is not required to enforce the general permit. So this is a distinction between enforcing and inspecting.

In terms of adopting additional codes that resemble regulatory language contained in them: a more detailed description of this proposition is attached herewith and will be submitted as part of the public record. I'm almost finished.

In terms of receiving water limitation language, the proposed RWL language is unacceptable because it would place cities into instant noncompliance. In the event of exceedence for trash, for example, for the San Gabriel and Dominguez Channel, this would trigger -- well, cause an exceedence which would require cities to do something about that exceedence which could include the Regional Board requiring vortex separation systems. Regional Board staff has indicated that this would not be their intention, however. But the cities just as a matter of being prudent operate on a principal not judging intentions, but judging capabilities.

Therefore, the city suggests that Regional Board revise receiving water limitation language based on the Riverside Municipal NPDES Permit which is now being considered by the Santa Ana Regional Board.

In terms of the SUSMP -- I'm almost through -- the SUSMP is more stringent in the proposed permit because the special approval has been eliminated. Essentially, all subject developments and redevelopment

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projects would be required to install various post-construction pollution mitigation controls, including infiltration and treatment controls.

The cities understand the Regional Board eliminated discretionary approval because some cities were using it as a loophole to evade any kind of post-construction control for such projects. The cities believe that this is not necessary, however. The cities would be made to require the use of specific controls for projects; for example, canopies for gas station regardless of discretionary approval.

However, if the project is subject to discretionary approval, infiltration treatment controls would be required only if a chemical constituent is expected to be transported into receiving water from a completed project that is listed on the 303(d) list as a special pollutant for that water body. Thus this requirement would be beneficial-use-driven as opposed to being willy-nilly. If the Regional Board doesn't want to do this, it should consider using the equivalent SUSMP requirements that are found in the Riverside Municipal Permit.

There are other permit issues of concern that the cities have, but all the affected parties would be better served by continuing the USEPA sponsored mediation

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to resolve, and perhaps we can postpone adoption of this permit pending results of mediation. Thank you very much for bearing with me. I think I was five minutes.

CHAIRMAN NAHAI: I thought we timed you for seven minutes. Next is Mr. John Harris.

JOHN HARRIS,

MR. HARRIS: Good afternoon, Chairman Nahai, and members of the Board. My name is John Harris. I'm with the law firm of Richards, Watson & Gershon, and I'm here representing the cities of Agoura Hills, Artesia, Beverly Hills, Carson, La Mirada, Monrovia, Norwalk, Rancho Palos Verdes, San Fernando, San Marino, and Westlake Village. I'm not asking for three minutes each.

Three minutes, and the reason for it is we have submitted comments on each of the drafts of the permit, and they are in the record so there's no need for me to reiterate those comments. I did want to at least point out and make a clarification with respect to the comments as to the "safe harbor" provisions that were in the 1996 permit with respect to the discharge prohibitions and the receiving water limitations.

It's been characterized that our request for a "safe harbor" provision is somehow watering down the receiving water limitations. In fact, that's not the case

at all. We recognize that the Board is bound by water quality Orders 98-01 and 99-05 setting forth receiving water limitations.

What we're asking is to bring back the "safe harbor" provisions because the State Board has specifically held the "safe harbor" provisions are complementary of the receiving water limitations. It's important to bear in mind that our receiving water limitations come from the State Board's Order 98-01. They were modified in 99-05, but otherwise 99-05 specifically affirmed the Board's prior order.

In that prior order the State Board was considering, as I recall, the Santa Ana permit, and that that very language, the "safe harbor" provision, and in a form very much similar to what the county has outlined was specifically dealt with and specifically approved by the State Board. Contrary to the comments of other people, that "safe harbor" provision has never been rejected by the State Board. As a matter of fact, there's at least two decisions specifically affirming that.

So the point is that the State Board and I think this Board recognizes that we are involved in an iterative process. And in order to make that iterative process work, it's important that the cities don't have the sword hanging over them constantly if they are in good

faith implementing the clean water programs that are dictated by this permit. And that's all we're asking for, those cities, those permittees, like any other permittee under the Clean Water Act, to the extent they are complying with the permit, they ought to have the protections of the Clean Water Act.

Lastly, on a separate matter I've been asked by the City of Norwalk to express its support for the positions presented by the City of Los Angeles, the County of Los Angeles, and the Coalition for Practical Regulation. Thank you.

CHAIRMAN NAHAI: Thank you. Mr. Matthew Spies, and following Mr. Spies I'd like to hear from Mr. Wally Baker, Ms. Susannah Mitchell, followed by Mr. Jose Saez.

MATTHEW SPIES,

MR. SPIES: Good afternoon. I'm Matt Spies. I am representing the Los Angeles County Superintendent of Schools. I apologize for our late involvement in your process here, but we just recently became aware of what's been going on here.

Our message is a little different than what you've been hearing today, but we think it's an important statement for you to hear. We're concerned that the

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adoption of the proposed language will delay construction and increase the cost of schools that are needed in L.A. County.

We represent 81 school districts in L.A. County. Most of the districts have an enrollment that exceeds the capacity of their existing facilities, and they're looking at constructing new schools and expanding or modernizing older ones. The funding source for this is inadequate. It's the State of California it's through state bonds.

We feel that placing additional requirements will delay construction and exacerbate our problem of educating and housing students in L.A. County. Just this week we spoke to two representatives from the Water Board, and we got statements that what you're considering does apply to school construction and it does not apply to school construction.

With that in mind, we respectfully request that you delay your decision until representatives from your agency and our agency can talk about the impact on school construction. I have a letter that states most of this, and I will give it to you when I leave. Thank you very much.

CHAIRMAN NAHAI: Thank you. Mr. Spies, will you stay around or...

MR. SPIES: Yes, I'll be here.

CHAIRMAN NAHAI: Okay. Thank you. Mr. Baker?

WALLY BAKER,

MR. BAKER: Nice to see you again.

CHAIRMAN NAHAI: Nice to see you again.

MR. BAKER: I will be very brief. You have our comments through Burke, Williams & Sorensen and other cities, but I did want to talk to you very briefly about what we're doing to the cities. We're concerned that in the whole government structure, there's a deficit. And Jack Kaiser, our chief economist, said that we're in a recession and it's going to be there a while. That's definitely not a misprint. That's what's going to happen.

We think that's something that you're capable of understanding and taking into consideration along with everything else that is on your plate as it relates to this permit. But we would ask you to consider that. Certainly, the cost benefit analysis of this has to be considered. We didn't really hear much about that.

I'm very familiar with the fact that Caltrans has done a number of studies, and the $50 billion one has not really been challenged and it is not under litigation according to Caltrans. So we think that that's worthy of a further look by the Board. We would encourage

you to do that.

The injustice of it, in our opinion, is that the minority businesses, little businesses, they're going to be more impacted by a recession, but they're also going to be more impacted by this permit. And we would like to find a way to deal with that. We believe that redevelopment -- which is going to be necessary, and we work hard at redeveloping Brownfields -- and remediating land is going to be even more difficult with the way the permits are structured.

So we see that as a problem. And we believe that, yes, it will discourage job growth. And construction is typically the industry that you will see take off first when the economy starts recovering. And you'll see that six months later after construction is really going, that you'll come out of a recession. Partly that's because it has so many jobs that are impacted to build or do something, and we see this permit as, again, having a negative economic impact.

So in summary, we would like you to consider this further from the economic perspective, and, of course, anything that we can do to be of assistance we would be more than happy to do. And we would recommend that you look at this further from the economic perspective based upon the kind of times that we're in right now. Thank you

very much.

CHAIRMAN NAHAI: Thank you so much. Ms. Susannah Mitchell is the next card followed by Mr. Jose Saez and followed by Mr. Louis Celaya.

SUSANNAH MITCHELL,

MS. MITCHELL: Good afternoon, Mr. Chairman, and members of the Board. My name is Susannah Mitchell. I'm with Manatt, Phelps & Phillips, a law firm here in Los Angeles. And we're speaking to you on behalf of an ad hoc coalition of trade industries in the Southern California region.

Some of our members are the Building Industry Association of Southern California, certain chapters; the National Association of Industry and Office Property, Southern California Chapter; and the California Association of Community Managers.

Like the school district, we're not necessarily new to the storm water game, but we are new to the L.A. permit and we just wanted to get some comments on the record. We appreciate all the work that's been done by the Board and its staff. And from the previous drafts and what we've come to see, we realize that a lot of work has been done on this permit.

But we still, like the previous speaker,

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believe that the permit as written is going to have a negative impact on the economy of the Southern California region. And in particular, we're concerned that the permit will result in fewer, but more expensive development projects due to the additional costs and restrictions involved in complying with these regulations, and that this, in turn, will compromise job growth, housing production, the ability of residents to obtain affordable housing, commercial real estate development, and the ability of businesses to grow and succeed in the Southern California region.

I want to be brief, so I basically would just like to incorporate by reference the written and oral comments provided to you by the Coalition for Practical Regulation. We support many of their comments, and we believe that there's still issues that need to be determined like the no "safe harbor" in the receiving water limitations, the possible infringement on the municipalities land use and planning authority based on some of the language in the permit, and we feel that it needs to be made clear that the practicability standard is the standard that should be qualifying all of the issues in the permit so that permittees aren't required to implement BMPs and other permit programs that aren't economically or technologically feasible.

And, finally, I just have two quick comments. There have been comments by staff and the environmental community that the State Board decision supports the receiving water limitation language that's in this permit. And while it may make that language allowable, it doesn't necessarily make it necessary. And, in fact, the Santa Ana Regional Board has modified its receiving water limitation language with some of the comments that I've heard here today, so that it is not so vague and does not basically put permittees out of compliance from day one.

And, finally, just another comment about the State Board order, there was a lot of evidence and comments that were submitted by interested parties and the petitioners in that case that were rejected by the State Board as untimely. So I do feel that there is additional evidence out there that supports these comments here even if the State Board didn't listen to that or did not accept that evidence. And I guess I'm out of time, I'm sorry. Thank you.

CHAIRMAN NAHAI: Thank you very much. Mr. Saez followed by Mr. Celaya, followed by Mr. Tim Piasky, please.

JOSE SAEZ,

MR. SAEZ: Good afternoon, Chairman, and Board

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members. My name is Jose Saez, and I want to thank you for the opportunity to provide you these brief comments. I work with the Sanitation Districts of L.A. County.

We have submitted a number of letters on the different drafts of this MS4 permit. I just want to focus on two specific issues very short. The first one is the treatment feasibility study that is mentioned in the permit. It's on page 349 of the latest draft. And we basically want to mention that the districts have committed to cooperate and help with the dry weather diversion study that is being proposed in the permit, and to help also with the cities and the different agencies involved in coordinating this effort even though we're not a permittee, per say. But we're mentioned in the permit.

And we also are happy that the deadline to submit the priority list to the Regional Board has been extended to July of 2003 because this is a very monumental task for us to comply with. So we thank you for that, and personally I want to thank you because it will affect me in my duties.

The second brief comment I want to make also is in relation to a previous comment made by Ms. Wagner who was representing the City of L.A., and it had to do with the definitions of water quality standards and applicability. She pointed quite well that it is

unnecessary to bring up Title 22 as a reference of water quality standards since it's already applicable, you know, at least the corrected portions of it in the Basin Plan. Basically, the Basin Plan references the appropriate portions of Title 22.

So we agree with this recommendation because it will help also avoid confusion. And such recommendation not only applies to the particular section that she pointed out, but also on page 374, Item 6, and there may be some other items in there. So I wanted to just bring that to your attention. We want to further submit to you that we believe that by just referencing the Basin Plan, that by itself that document which is really what governs the waters of the region references the correct and the appropriate regulations such as Title 22, the Ocean Plan, and other regulations that are applicable. So that's it. Thank you.

CHAIRMAN NAHAI: Thank you very much. Mr. Celaya?

LOUIS CELAYA,

MR. CELAYA: Good afternoon, Chairman Nahai, and members of the Regional Water Quality Control Board. My name is Louis Celaya. I am with the City of Monrovia, Department of Public Works. Before I begin this letter from our mayor, I'd like to commend Dennis Dickerson and

his staff on their development of the permit.

"Dear Chairman Nahai, and members of the Regional Water Quality Control Board, on behalf of the City of Monrovia and the city council of the City of Monrovia, I would like to express the city's concern regarding pending adoption of the County of Los Angeles Municipal Storm Water NPDES Permit.

"Our staff has indicated that the tentative draft will be costly with respect to the programs being requested under the new NPDES permit. If the permit is adopted today, the City of Monrovia will be challenged to continue to meet all of its requirements while still endeavoring to provide other important city services.

"Like many of the other co-permittees under this permit, we concur with the points raised by the County of Los Angeles, the Executive Advisory Committee, and the Coalition for Practical Regulation, and would like to go again on record as objecting to the receiving water limitations language and its removal of the legal "safe harbor" for the municipalities, the new inspection element associated with the Industrial and Commercial Facilities Control Program, and its requirement to

inspect state-permitted facilities, the unknown cost and difficult time frames for various program implementation, the revised SUSMP development regulations, storm water diversion studies, illicit storm drain connection inspections, changes to the CEQA and the general plan program associated with the permit, and the elimination of the Executive Advisory Committee.

"We hope the Regional Board will postpone or continue the adoption of the tentative NPDES permit until the discussions between the Regional Quality Control Board staff, the USEPA, the permittees, and other stakeholders to resolve outstanding permit issues are completed.

"Like many municipalities covered under this permit, the City of Monrovia is committed to keeping the water quality of the state's tributaries free of pollutants to the maximum extent practicable. Through a cooperative effort between the Regional Board and the permittees, this goal can be achieved. Thank you for your consideration. Respectfully, Lara L. Blakely, Mayor of the City of Monrovia."

I'd like to submit this letter for the record.

CHAIRMAN NAHAI: Thank you, Mr. Celaya. Next is Mr. Piasky, please, followed by Mr. Jason Wen and then by Ms. Maryann Gonzalez.

TIM PIASKY,

MR. PIASKY: Good afternoon, Chairman Nahai, and members of the Board. My name is Tim Piasky with the Construction Industry Coalition on Water Quality. You know, we've had a lot of talk today about the cost of this program. I think it's time to step back, actually, and say, okay, we know that this program is going to have huge costs. We know it's going to impact housing. We know it's going to impact the economy. But what are we getting for it? I think we really need to look at the benefits.

If we look back over the last 11 years, I think it's safe to say that there's probably been close to $1 billion spent on this program because I know the budget just for this year, just for the municipalities for program management was close to $150 million. That was just for one year and just for the municipalities. So I think if you take that over 10 years and add in the industry as well, we're probably looking at a billion dollar cost just for the last 11 years.

I haven't really seen anybody stand up here and tell me what the benefits have been on this program

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we've been doing for the last 11 years. And now we have a program that's coming up for the next 5 years that we're looking at spending -- you know, obviously we're hearing these numbers out here, maybe $55 billion on this next program. And what are we going to get out of it? I know you look at the SUSMP, and you're looking at putting these restrictions onto residential property, 10-plus homes or more. And the monitoring data shows that the residential properties are not a huge concern for the pollutants of concern. Yet we're requiring these things to go in on 10-plus homes. It just doesn't balance, the cost benefit.

You also have, you know, Mark Gold bringing up these proposed changes to the construction program. I think, No. 1, I haven't had a chance to take a look at any of those, but it sounds to me like they're trying to put a zero discharge limit on sediment. Well, it's not too hard to understand that the sediment itself coming off of natural property is not going to be zero. So does it make sense to put a zero discharge limit on developed property? I don't think so.

I think what it is is we need to stick to implementing BMPs to the maximum extent practicable, and we need to keep in mind that the greatest threat to clean and safe beaches that we've seen coming out of some studies is coming from broken sewer lines, sewage from boats, natural

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pollution from animal waste and wetlands.

So we may talk about urban runoff being a big problem and it is, but I think we need to step back and say, well, urban runoff, that's kind of huge. What portions of the urban runoff are the problem? What are the real sources of the problem? And then let's start getting at those. And I think that's where we look at the watersheds and we look at doing more of the regional-type programs. Thank you.

CHAIRMAN NAHAI: Thank you, Mr. Piasky. Dr. Jason Wen? Ms. Maryann Gonzalez?

MARYANN GONZALEZ,

MS. GONZALEZ: Good afternoon, Mr. Chairman, and Board members. My name is Maryann Gonzalez, and I am here today representing BP. BP owns and operates numerous retail gasoline outlets, or RGOs, in the State of California and operates under the brand name of ARCO.

Firstly, I would like to state that BP supports comments provided by WSPA here today. We support the adoption and implementation of the task force BMPs for RGOs in place of the structural treatment requirements proposed in the SUSMP guidelines.

The task force BMPs I refer to were developed and finalized by the Storm Water Quality Task

Force back in March of 1997. This work group was comprised of representatives from the State Water Board, the L.A. Regional Board, industry, and municipalities.

The State Board recently directed that the task force BMPs for RGOs should be required and may meet the maximum extent practicable standard. Despite this finding and without any supporting information, the L.A. Regional Board staff has summarily rejected them as ineffective. Notably, the exact opposite finding was made in the Long Beach permit.

We are unaware of any field activities where the effectiveness of the task force BMPs for RGOs have been measured. We also believe that the structural treatment devices being proposed have questionable effectiveness in addition to potentially presenting adverse safety and environmental impacts to RGO operations.

We submit that the task force BMPs for RGOs be adopted and required as the first step towards the control of storm water from RGOs. We also submit that the effectiveness of these BMPs be measured and assessed before moving to structural treatment requirements. Thank you.

CHAIRMAN NAHAI: Thank you, Ms. Gonzalez. The final card I have is from Mr. Michael Lewis. Whenever I say the final card, Ronji always produces yet another one. If I call this the final card, then she'll bring me another one.

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MICHAEL LEWIS,

MR. LEWIS: Thank you. On behalf of the Construction Industry Coalition on Water Quality I want to thank you for the three minutes we've been given to educate you on the devastating impacts that this regulation is going to have on the 350,000 working men and women in construction in Southern California.

I think we all recognize that much of today's exercise is merely window-dressing to create the appearance of some concern on the part of the district, and we're willing to play our role in that exercise, that charade, I guess, if it will move this to an appeal in a timely fashion.

Our industry has submitted 50 pages of comments on this rule. We've had the obligatory and perfunctory meetings with the staff, and it hasn't resulted in a single comma's change in the document. This by the way, from some folks who most of them haven't been on a construction site, have never built a BMP, have no idea what those things cost, and who are not going to lose a single day's pay with the adoption of this regulation; unlike our employees who are being asked to forego five months of income in order to comply with this rule.

All of this has been an exercise in futility. This is a case of some very ill-informed

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bureaucrats being supervised by some unaccountable and disinterested public officials. This rule is too vague. It is contradictory. In most sections it is unenforceable. It represents the most expensive compliance costs of any regulation in the history of government in this state. No one will be able to comply with 100 percent of its provisions.

But I can assume that that is the intent because 99 percent isn't going to be good enough. That 1 percent leaves you open to interpretation and violation, and that's probably what this is really all about. This is not about water quality. The staff has already said that they're not going to see any significant improvement for at least a couple of generations. It's not about public benefit because the surfers who go surfing in the rain are still going to get sick when they do. And it's not about measurable and achievable goals because you haven't taken the time to define the problem so that you can measure the solution.

No, I think this is about something else. I think it's about allowing some environmental groups the opportunity to start filing lawsuits so they can get rich. It's about spending the next 20 years paying off environmentalists and their lawyers because you can't do the 1 percent. It's about taking money out of the pockets

of construction laborers and putting it in the hands of some white liberal well-to-do minority who want to dictate how and where the rest of us should live and work.

It's been very clear to us that nothing we've had to say on this subject matters at this agency. But I'd like to ask you to prove at least one thing, that you've heard at least one thing that we've said. When you vote today, I'd like you to call the roll because I want you to prove that you have the huevos to put your name on your handiwork just like our contractors have to do every single day.

And I want you to call the roll so when we go to Sacramento and the State Board asks us who did this when they're staring at a room full of hundreds of angry construction workers, we can point to those names and show them who did this. And I want our labor leaders and the operating engineers and the laborers' unions and the cement masons and the carpenters when they have their visit with the governor to ask why it is that their members have to give up five months of income in order to implement this rule, they're going to be able to point to those names and say, "Here's the people that did this. There are the names, every one of them."

So please do us that favor and call the roll, thanks.

CHAIRMAN NAHAI: Thank you, Mr. Lewis. I do need to point out to you -- Sir, please come back to the podium. I will say this, that in -- what is it now? -- four or five years of serving on this Board, I have never heard testimony so offensive as what I've just listened to you. But thank you for it, and it will be part of the record, and I'm sure it will be considered in due course and in the full bloom of time.

MR. LEWIS: You're more than welcome.

CHAIRMAN NAHAI: The last card I have is from Ms. Brittany Burk.

BRITTANY BURK,

MS. BURK: Hi, I'm Brittany Burk. I'm not on any boards, I'm not representing any municipalities, but I thought you guys might like to hear the voice of a 16-year-old just on the issue of what's going on. So here we go.

One of nature's most brilliant creations is being destroyed. She's being poisoned by the humans who were put here on earth to work together in a balance with nature. It is our poisonous wastes that collects here every day from small gutters to large streets that pull together to drain into her pure waters. I'm talking about our mother ocean.

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As a rower, surfer, and diver, salt water is the blood that flows through my veins. I have a connection with the ocean. To see her in pain hurts me. I'm a competitive rower, and I workout several hours each day of the week with a rowing club in Marina Del Rey after attending school in Hancock Park.

Whenever it rains in Los Angeles County, all the gutters drain to Ballona Creek and the marina which then opens up to the ocean. No longer can I sit on the dock staring into the horizon. No longer can I smell the salt air and feel the salt breeze on my body. No, now I am choked by the smell of toxic waste flowing into its pure water.

It's come to the point where it's unsafe. Rain is now a threat to our practicing on the water for fear of excess runoff, increasing the chances of hepatitis, gardia, and many other harmful diseases we had to sign a release for removing the liabilities.

Living an hour inland from the ocean, I get noxious driving through the innercity when I do the drive every day. I see people finish a canned drink and miss the trash can, letting the material waste drop to the street. It is accompanied by wrappers, empty bottles, toilet paper, plastic bags, and oil from cars which all collect in the gutter and the street.

When people curb their dogs, those feces do not disappear into thin air. Many people fail to realize that when your waste is out of sight, it's not out of mind. People need to realize it all has to go somewhere, and I happen to be the one a couple of hours later in the day once I drive to the coast to be rowing in it, pulling my oar through the once water and now thick brown, warm waste.

When rowing in the marina, we fear getting splashed by the oar in front of us infecting us with exposure to the diseases it carries. I'm appalled after it rains even off the water, especially after going on six-mile runs but losing the bike path because there's a layer of trash covering the beach. You would realize as well that something has to be done.

Crunching through this trash on the beach I wonder how it's come to this. I ponder over it every day, what we've done and what we can do to fix what we've broken. I believe this problem needs to be stopped at the source. No matter how many beach cleanups we organize, the trash is going to keep on coming.

I firmly believe that the No. 1 solution is awareness. How is someone to know that his or her actions an hour from the ocean will be affecting his or her health? I think it's a good tactic in getting people to realize the potential that can be caused that maybe instead of drawing

a fish's skeleton, such as a few posted, more realistic pictures might be shown of the animals whose fate lie in the hands of these polluters.

I also know that the filter for the creek cannot handle all of the trash when the rain rushes in in masses. I see that it works some of the time when the water level is low. But most of the problems occur when the water level is at its highest.

These are the times at which trash coats the top of the water. It troubles me to think that this is only the trash that is still floating, and a large amount has probably sunk.

I hope you hear my frustrations. I know I'm not alone in them. I can assure you that the people I get the privilege of sharing this water with feel the same. It shouldn't even be an argument. We're the ones killing nature, and it is our duty to restore her life. Thank you so much for your time.

CHAIRMAN NAHAI: Thank you. Thank you for your testimony. That ends the public comments. We will take now a break of hopefully no more than 10 minutes. And I will ask my fellow board members to provide me with the names of whom they'd like to call back for questions.

(Whereupon, a brief recess was taken.)

CHAIRMAN NAHAI: We're going to have Board

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questions at this time. Then we'll follow that with Board comments and discussion amongst Board members and then proceed to a vote.

There are a number of people that Board members would like to call back up. I'll just state their names, but we won't necessarily call them in this order. The staff members, I think we have questions for Dennis Dickerson, Wendy Phillips, Xavier Swamikannu, and Michael Lauffer. I have a question of Mr. Ariki and Mr. Kharaghani. I also have a question to ask of Dr. Gold. Any others? Oh, and for Mr. Matthew Spies. I did mention Michael Lauffer.

So let's start with -- shall we start with Wendy?

MS. CLOKE: I'd like to start with Michael.

CHAIRMAN NAHAI: Okay. We'll start with Michael.

MR. LAUFFER: You said you wouldn't call us in order.

MS. CLOKE: Mr. Lauffer, the first question I'd like to ask you is one that was raised today by some of the speakers. It had to do with the question of the changes that were discussed today to the permit and issues having to do with due process and notice, and I'd like to hear your thinking on that matter.

MR. LAUFFER: Certainly. Ms. Cloke, whenever we

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look at a matter that the Board will be voting on, obviously we pay particular attention and have extreme sensitivity to issues of due process and notice and whether or not the regulated community and the public at large and the interested persons -- in this case representing the environmental groups -- have had adequate notice of those changes and the opportunity to incorporate them.

Now, part of that goes forward through the ordinary response-to-comment process. Part of that goes forward, actually, at the hearing. The Board's action at a board meeting is designed to conform whatever action is taken by the Board to the evidence presented.

Now, as staff revealed various change sheets to me over the last couple of days, we've been careful to step back and analyze whether or not any of the changes being proposed by staff rise to a level that would trigger concerns with respect to due process, and whether or not the Board would have to re-notice the permit.

All along the conclusion has been mine that so far the changes are insignificant. As you look at them, there are a number of pages of change sheets. However, most of that paper is taken up by trying to document very clearly so it's clear what action the Board is considering, what pages are being changed, what paragraphs are being changed, what text is being stricken, and what text is

being added. In that respect, there are very small changes in these change sheets.

From a substantive standpoint, all of them are logical outgrowths of what was originally noticed out by the Board. All of these changes are fairly minor. Now, whether or not they rise to a cumulative change that would trigger a due process concern, I think they certainly don't cross that threshold either because they are not, for example, cumulatively adding requirements to the dischargers.

I think the issue that staff asked me to look at most carefully yesterday was the issue of preferring and proposing to you today the amalgam of options A and C. And in reaching a conclusion that the Board could go forward without re-noticing the permit, I thought it was appropriate to look at the fact that there are three different versions of the Industrial/Commercial Facilities Inspection Program that had been noticed.

I think that was a very pragmatic step on staff's part because it allowed the regulated community, the environmental community, and the interested public to look at the full panoply of options, and to comment as to which provisions they thought were most appropriate.

What has happened as a result of the USEPA facilitated process -- I'm not going to call it a mediation

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because I don't think we should be mediating over permits -- but as a result of that process, it was realized by staff that you could combine A and C without having any real significant change. And, in fact, in many respects A and C combined is less stringent than the most stringent option that had been noticed by staff, Provision B.

All that said, from a due process perspective, you have a fair notice to the community as to the actions the Board was going to take or consider taking. Anyone who was interested had an opportunity to be present today at the hearing to provide comments. The staff prepared a staff report that included a new preference of an amalgam of A and C that was within the scope of what was originally noticed. And it is certainly no less stringent than the most stringent option available for consideration.

And to that extent, looking at all of the factors, we're very sensitive to the due process issues, but we do not see a need at -- or my conclusion at this point in time is in conformance with Title 40 Code of Federal Regulations which requires it has provisions governing the re-noticing of permits, we did not trigger any requirement to re-notice there. And in light of sound administrative procedure and public policy, the changes are not so significant that the Board would need to re-notice the permit. Instead, they just reflect minor changes in

response to comments to make for a tighter permit and in many cases, to accommodate the concerns of the commentors.

MS. CLOKE: Thank you very much. I have a couple more questions. Should I just complete my list?

CHAIRMAN NAHAI: Yes, go ahead, please.

MS. CLOKE: I believe it was Mr. Ariki who said that there were issues around designating a principal permittee. And that is certainly the way this permit is organized, and I would just like to also hear your thoughts on or your response to that comment by him and others.

MR. LAUFFER: Certainly. The Code of Federal Regulations, Ms. Cloke, provide the opportunity for there to be multiple applicants on a municipal separate storm sewer system permit. That's the process that's been adopted here.

It is certainly within the discretionary authority of the permitting authority -- in this case, the Regional Water Quality Control Board -- to designate a principal permittee to serve as a coordinating and facilitating entity for all of the other applicants.

Los Angeles County, through its Flood Control District, has that designation in this particular iteration of the permit. That has not historically been the case. My understanding, and I think Ms. Phillips and Dr. Swamikannu would be more able to discuss this point,

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but it seems like L.A. County has stepped in quite ably to fill that position.

And we don't feel that there are any additional obligations being put upon them because they're in that position. They happen to own a substantial portion of the MS4 system, so it is appropriate that they take a lead role.

MS. CLOKE: My next question has to do with the comments that were made on whether or not we're usurping the local government land use authorities. When I think of land use authorities, I think of zoning and planning regulations and building development regulations having to do with building envelope and design issues and so on. So it doesn't seem to me that we are stepping outside of our rightful role. But I did want to hear your counsel response.

MR. LAUFFER: Certainly. And I appreciate Rufus Young's comments on that matter. I think he always addresses issues quite ably for his clients.

For the most part, I encourage you to look back -- and I'm sure you've had an opportunity to review it in the last couple of weeks -- the legal analysis that I prepared for Board staff on this issue.

Mr. Young is correct that in its most essence the Clean Water Act federal and state laws assume

that local agencies will carry out land use and make land use decisions. The analysis that I put forward in my memo concedes that point. That is absolutely true. This permit in our view, however, does not go beyond that traditional dichotomy.

The state is, through the Regional Water Quality Control Board in carrying out the obligations under the Federal Clean Water Act and the Porter-Cologne Water Quality Control Act, establishing various mitigation requirements, SUSMPs, that have been proposed initially by many of the permittees to address storm water impacts.

And it is not, in essence, making land use decisions. However, the language I use in my memo is the fact that the Regional Board through the MS4 permit is providing some of the contours that will shape land use planning and decisions ultimately made by the local agencies, the municipalities.

They still have their full spectrum of land use authority. However, when they carry out decisions about siting, or when they authorize projects of a certain size meeting certain characteristics, they have to take into account the storm water issues related to those projects and mitigate them in conformance with the SUSMP provisions.

MS. CLOKE: That would be similar to other

environmental issues that every project has to meet. Everybody has to go through their checklist and so on, and those also shape plans and decisions...

MR. LAUFFER: Correct. It's much like -- The analogy I prefer is that the state does not make land use decisions with respect to general planning law. However, the state's general planning law identifies certain characteristics and certain land uses that cities need to account for. The storm water permit supplements that and augments that in conformance within the Federal Clean Water Act and the Porter-Cologne Water Quality Control Act.

MS. CLOKE: Another issue that was raised was the "safe harbor" issue.

MR. LAUFFER: Okay. Fairly open-ended question. The receiving water language has been the subject of much dispute. And what we look to is the decisions of the State Water Resources Control Board and how they crafted out the provisions with respect to receiving water limitations.

The most recent permit adopted or affirmed by the State Water Resources Control Board is the San Diego SUSMP order from literally one month ago. I think it was adopted on November 15th. I remember that because it's my birthday. And in there the State Board went through a couple of iterations. And I think Mr. Beckman has actually done the best job today, perhaps even a better job than I

can do, in explaining the evolution of that adopted order because he was intimately involved. And I think there were other attorneys who were intimately involved in it.

And I think one point that he made today that I think is important for the Board to understand is there was a provision, an interim draft, if you will, of that State Water Resources Control Board order that tried to flush out in greater detail the "safe harbor" provisions, tried to make it more explicit, tried to indicate the Regional Board should refrain.

Ultimately, the State Board did not adopt that language. It was stricken from the interim draft. And it is because the State Board has stepped back, looked at the receiving water limitation language, language that is almost identical to what the Regional Board staff is advocating in the tentative order, and concluded, one, that that language affirmed the iterative process.

There was an exchange in the July workshop between Chairman Nahai and myself about what the receiving water limitation means. And because that iterative language is in there, it must serve some purpose. And what it serves to underscore is that the iterative process is the preferred approach.

However, trying to go any further and put in a specific protection above and beyond the iterative

process protection that's already delineated in the receiving water language, we'd just see too much enforcement responsibility from the Regional Board when dischargers, for example, are not developing their individual SQMPs to reflect the necessary receiving water standards that they need to achieve ultimately.

So our view is that the existing receiving water language -- and this is a collective staff view -- is in conformance with the State Water Resources Control Board's order, underscores the fact that the iterative process is a necessary component at this time of MS4 permitting for achieving receiving water limitations, and still preserves for the Regional Board the necessary enforcement discretion in cases where dischargers do not fully either develop their Storm Water Quality Management Plan or consider and adopt BMPs.

MS. CLOKE: My last question has to do with the question of the issue that was raised by the man from the school district and what the jurisdictional relationship is there.

MR. LAUFFER: I actually may have been one of the people that was alluded to in that call. I received a call yesterday from a Mr. Magneson (phonetic) who is with the L.A. County School District. I'm not sure which school district. And I tried to walk him through the overall

permitting approach.

Schools as an entity are not segregated out. There are specific SUSMP provisions that may apply to schools, certain classes or projects that may need to implement SUSMPs. And those in certain instances, for example, if they cross the 25 parking spot threshold, would be subject to SUSMP provisions.

Now, it's entirely possible that schools may or may not fall into that provision. You know, a larger high school that may be accommodating students who can drive may cross over that threshold, and other schools may not. It's going to be a fact-specific inquiry, but it is to the same extent that it is for any other development. And that's the same under the existing SUSMP provisions that this Board has already affirmed and the State Board upheld last year.

MS. CLOKE: Thank you very much. That's all I have.

CHAIRMAN NAHAI: Any other questions of Mr. Lauffer?

MS. DIAMOND: I just had one. Did you have one, Chris?

CHAIRMAN NAHAI: He keeps saying he doesn't have a question.

MS. DIAMOND: Sorry. In regard to the testimony of Katharine Wagner on behalf of the City of Los Angeles --

she's from the Downey branch -- she mentioned that Title 22 of the California Water Code should not apply in discussions about the definition of water quality standards, and I wanted to give you an opportunity to respond to that.

MR. LAUFFER: Actually, I've already gone one step further. I've recommended to staff that the reference to Title 22 -- and we were going to try to combine all of our recommendations at the end -- that that reference to Title 22 that was proposed first in the December 10th draft and then corrected in the December 13th errata sheet, that that reference to Title 22 be eliminated. Because what happens is the Basin Plan, as Ms. Wagner correctly points out, already includes certain references to Title 22. That definition of water quality standards that exists in the tentative order already references the Basin Plan. So from our perspective, water quality standards and water quality objectives are already defined by the Basin Plan. So we're going to recommend accepting Ms. Wagner's change.

MS. DIAMOND: Thank you.

CHAIRMAN NAHAI: Any other questions for Mr. Lauffer at this point? In that case, Wendy, would you like to come up.

MS. PHILLIPS: Good afternoon. For the record, Wendy Phillips, Regional Board staff.

CHAIRMAN NAHAI: Does anybody have a lead-off question? I have a couple of questions to ask you. Could you turn to page A-5 of the staff report, if you have it there. I'm looking at the fourth paragraph, and it says halfway through the page -- and I'm going to read from this -- it says, quote, Example, 74 municipalities reported less than 5 percent of construction project approvals were being read and reviewed for storm water controls. Three municipalities did not report at all. Several municipalities reported that zero percent of projects were reviewed or inspected for construction controls because they were either considered exempt or were nonpriority.

On the other hand, other municipalities recorded that 100 percent of projects were reviewed because they were all but considered priority. The three municipalities that didn't report at all, do you know which municipalities those are? Well, if you don't have that --

MS. PHILLIPS: We have a table toward the back of that section.

DR. SWAMIKANNU: A-21, chairman.

CHAIRMAN NAHAI: I see it. All right. Let me then ask you -- if you could go to Table 4, it reads "Summary of fiscal resources budgeted for fiscal year 2001, 2002."

MS. PHILLIPS: Okay.

CHAIRMAN NAHAI: This was compiled from what the

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municipalities and the county have provided?

MS. PHILLIPS: Correct. These are self-reported.

CHAIRMAN NAHAI: This is the municipalities' projections --

MS. PHILLIPS: Correct.

CHAIRMAN NAHAI: -- of the administration of the MS4 permit for the coming year?

MS. PHILLIPS: Yes, it is.

CHAIRMAN NAHAI: Well, $145 million is a far cry from $50 billion. Do you have any explanation for that discrepancy?

MS. PHILLIPS: I would like to address several of the comments that you've heard this morning and this afternoon about the negative economic impact of this proposed storm water permit.

What I would like to suggest is that this is, actually, an investment in water quality, that is, good water quality that helps drive our economy. And the first point I want to make is that I think many of the costs that you've been looking at may be inflated.

Let me start with the Caltrans report that you heard a bit about this morning. In that report, Caltrans estimated $50 billion in capital improvement costs. Now, I want to show you why I think these are inflated. If you look into those numbers, $6 billion of

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that is in land acquisition costs. And here they're assuming 14,000 acres at a cost of $435,000 per acre.

Now, another example of why we think the costs may be inflated, permittees estimate their storm water costs under the existing permit are almost $150 million a year. But if you look on page B-194 in the staff report, we took a special look at the program to eliminate illicit discharges and connections. And here we found numbers that were all over the map.

Some cities reported zero dollars budgeted or expended for elimination of illicit discharges and connections. And, indeed, some cities do not own or operate a storm drain system. But on the other hand, we had one city reporting up to $4.2 million. That was Culver City.

So if you took that average using those raw numbers, that's an average of $114,000 a year spent on ICID. But if you throw out the outliers, the average is $32,500, one-fourth of what you might think it is if you just looked at the raw numbers.

Now, I want to make one more point, and that is that, again, we strongly believe that the storm water program is an investment needed to support the economy. In L.A. County our gross metropolitan product, that's the value of our goods and services -- it's a similar concept

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to gross domestic product -- is about $350 billion. It makes us the 16th largest economy in the world when you compare it to other nations.

We would submit, staff would submit that our investment in protecting water quality, especially from nonpoint source pollutants, is necessary and, indeed, contributes to the success of the county's economy.

If you assume that the permittees' numbers that I talked about a minute ago, that is, expenditures for storm water on the order of $150 million a year are indeed correct, then this $150 million cost for storm water is .0004 of our gross metropolitan product. That's four ten-thousandths or .04 percent.

Now I take the numbers that David Beckman mentioned this morning. I think he said that our tourist economy related to our beaches is on the order of $10 billion. Again, using the permittees' budgeted estimates, $150 million, that's about for every one and a half cents we spend on storm water, we're generating a dollar in tourist revenues. So I hope that sheds some light on the economics here.

MR. MINDLIN: With that $150 million, am I understanding that's going to be every year where it's going to increase or decrease?

MS. PHILLIPS: The changes that we put in this new

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permit are incremental. We don't think that the cities are going to have to go out and hire armies of inspectors. They've got inspectors, building inspectors, for example, who can very easily go out and look at storm water issues, too. The same with restaurant inspectors.

The building code enforcement officials, as Dennis Dickerson mentioned this morning, they ought to be able to incrementally assume some of the responsibilities of the industrial and commercial facility inspections.

MS. DIAMOND: I have a couple of questions, Wendy. One is in regard to the catch basins. Given the various -- the permits that we've seen over the last two weeks, including the one of December 10th, I wanted you to tell me or to tell the Board how specific or how defined are Priority A and Priority B, and, also, what kind of recordkeeping and reporting is being required of the permittees on the catch basins?

MS. PHILLIPS: I'm going to ask Xavier, my colleague, to respond to that question.

CHAIRMAN NAHAI: Let's finish because I've got a whole host of Xavier questions. Questions regarding the technical aspects of the permit I think are more proper.

MS. CLOKE: I have two questions, one of which I'd like you to speak to. Another issue that was brought up by many of the speakers today was the request for a

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continuance. And I would just like you to say for the record, because I know this to be a fact, how many times we have responded to requests for a continuance in the meetings and so on and so forth. I just want to make sure that people understand this is not the first time this issue has been before us and so on.

MS. PHILLIPS: When we started this process at the beginning of the year, we made a very serious intent to do this in a professional, organized manner to make sure that the permittees, the environmentalists, and other interested parties all had appropriate input into this.

So the past year has been very intensive. We put out three separate drafts of this permit. We've made sure that on each draft the public, the permittees have at least a month to submit comments on that. We've taken those comments. We've been very diligent about incorporating those comments in issuing subsequent drafts.

We had two workshops, most recently the July workshop before the Board which lasted an entire day. We had a previous workshop back in April where we spent half a day with the permittees and with the public. And then I can't begin to count the meetings we've had with all parties, the telephone calls, the E-mails. We have done -- we have truly tried to reach out to the permittees and to the public here.

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MS. CLOKE: I know you have because I've been hearing about it continuously. I just thought it was important to have this both said to the people in the room today who might not be aware of it, and also to have it on the record.

My other question is a question about the mapping systems, and I don't know whether you want me to save that for...

MS. PHILLIPS: No, go ahead and ask me about that.

MS. CLOKE: Okay. It seems to me that even to reasonably run a system, you would want to have it mapped. I don't know how you can understand what was a legal and what wasn't a illegal discharge if you didn't know where your legal outfalls were.

So I don't understand why mapping and knowing your pathway is not necessary, not for us but just for the operation and the maintenance of your own system. And yet we've heard a lot of people today seem to indicate that this mapping is both expensive and also not necessary. And I would like to ask you to talk about that a little bit and help me understand that a little better.

MS. PHILLIPS: As we started to look at the issues of illicit connections and illicit discharges, it became very apparent to us that a comprehensive map was needed.

Now, there is not one comprehensive map that

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captures 100 percent of the storm drain system at this point. The map as presently constituted I think will capture 85, maybe 90 percent of it. And I have yet to see it at an appropriate scale.

But we started out, just as you've said, thinking that you need a map. And in our very first drafted permit, we included a requirement for that. In fact, we got specific. We said you need a geographic information system. The permittees objected to that on the basis of cost, and also they thought we were dictating the manner in which they comply.

What we've ended up with here is -- and I'm looking at page B-349 -- is an agreement that permittees will map at a scale and in a format specified by the principal permittee all illicit connections and discharges on their baseline maps, and shall transmit this to the permittee. And within one year of adoption of the order, the permittee will use the results of this information and the baseline priority screening for illicit connections to start an annual evaluation of patterns and trends of illicit connections and discharges.

That is our ultimate objective. So even though we still don't today have the map that we think we need at the scale, I think we're working toward that. More importantly, we've got a means in place to fix the problem

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of illicit connections and discharges.

MS. CLOKE: So you're satisfied with the language on B-349?

MS. PHILLIPS: Yes.

MS. CLOKE: Okay.

CHAIRMAN NAHAI: Any other questions for Wendy? In that case, thank you. Xavier, will you come up, please.

MS. DIAMOND: Xavier, I'll repeat the question that I had asked before about catch basins. How specific is the final draft with the change sheet on the Priority A and Priority B, and what recordkeeping and reporting requirements are there for catch basin cleanup?

DR. SWAMIKANNU: Ms. Diamond, if you look at the change sheet that was handed out today dated December 13th, and if you look at Item 3, we attempted to provide a clarification for what constitutes Priority A catch basins.

Essentially, what it says is these are catch basins that are at least 40 percent full of trash and debris. That threshold goes to 25 percent beginning the year 2003. What we have not identified at this time is what constitutes Priority B and Priority C. Those have been left to the discretion of the permittees to propose as they report annually.

MS. DIAMOND: As far as the requirements to report, what kind of requirements are there to report, and what

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kind of recordkeeping must they keep?

DR. SWAMIKANNU: Go to B-427. You basically have questions in the annual report as to how many times these priority basins were cleaned, "attach a record of all catch basins in the jurisdiction." So that's how we try to illicit information on records.

I think the issue is that these records are being retained at the office, meaning, not our office but at the municipality. So that when we do review their programs, we have that information available.

MS. DIAMOND: So it's adequate for your needs?

DR. SWAMIKANNU: At this point, yes.

MS. DIAMOND: I wanted to ask you a question about the illicit connections and illicit discharges. The same kind of question: is there required reporting of these, and is there and how soon? How soon after an illicit discharge is found must the permittee report it?

DR. SWAMIKANNU: I'll let Wendy answer that question because she is familiar with that section.

MS. PHILLIPS: I'm going to slip in an overall comment here, and that is that I think one of the values that we've realized in upgrading this permit is that we switched this program from a passive program, whereby in the past they've been inspecting for illicit connections during regularly-scheduled maintenance, to a more active

one.

And if you look on page B-350, you'll see that permittees are required to report to the principal permittee, and then there's a long list of information: location, length of open channels, pipes, what's been screened, and the status of suspected, confirmed, and terminated illicit connections. And there's some reporting detail back in the section of the permit that specifies "reporting details." That's page B-432 and 433.

MS. DIAMOND: Let me just ask you this, on that page B-350, "Determination of Illicit Connections," it says the permittee shall ensure termination of a connection within 180 days. It seems like it's a long time. I'd just like you to comment about that.

MS. PHILLIPS: The long termination period there -- and we did have some discussions. I'm quickly trying to recollect what was behind that. First of all, I think the county was looking at their typical field experience, and we were pushing them, of course, to expedite that.

But they're looking at sending crews out I believe on the order of once every week, once every two weeks. In the past, I think it's been once every three or four weeks. Once they find the suspected illicit connections, then they need to confirm that. And the confirmation process can be long. They might need to do

smoke tests. They might need to do some videotaping of the connection itself.

Then after you confirm that this is, indeed, an illicit connection, you've got some enforcement action that needs to take place. And the enforcement process on the part of the municipalities requires time also. And so that's why we ended up with the six-month period.

MS. DIAMOND: One last question on ESAs. Mr. Beckman talked about the cities having the discretion to condition ESAs upon their inspection. Do you remember that conversation? And I wanted to know your response to that.

DR. SWAMIKANNU: The manner in which we have structured the ESA definition right now is ESAs essentially are either designated by the State Board or the State Resources Agency or the County of Los Angeles. That is the basis. I recall that many of the permittees requested that they be given permission to designate without going through this public process because the other designations formerly involved the public process.

And so that is how we have structured it. I don't think anywhere we have provided the discretion of cities to pick ESAs based on their own designations. I think the comment probably was more towards an issue that was brought up by the county where we have said where --

particularly ESA, especially one called "significant natural areas" designated by the resources agency where it has not been field verified, it's difficult to know the boundaries. And in that situation, they're not required to consider that as an ESA unless it has been field-verified by the state agency.

CHAIRMAN NAHAI: Just looking at the change sheet, just for clarification, that would be the California Department of Fish & Game?

DR. SWAMIKANNU: That is correct.

CHAIRMAN NAHAI: But would we need to add here "...provided that the area has been field-verified by the Department of Fish & Game," or is that obvious?

DR. SWAMIKANNU: If you are asking that question, it's not obvious. So I think it is a valuable clarification.

MR. NAHAI: Any other questions for Xavier?

MS. CLOKE: I just wanted to -- he pointed to the area on mitigation banking with John. Can you point it to me? Can you tell me where it is? Mitigation banking, somebody referred to it and I just wanted to check something.

CHAIRMAN NAHAI: Xavier, can you refer us to the --

DR. SWAMIKANNU: Yes, B-337.

CHAIRMAN NAHAI: While you're looking at that, let

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me pose my questions so we can try to move forward.

Xavier, there were a number of people who testified, who said that they were new to this process and new to the storm water issue and the SUSMP issue, and they voiced concern about the effect of what we were doing on the economy.

I think for their benefit, I would like to -- I mean, I was here when we adopted the SUSMPs in January of 2000 and, you know, we were presented with evidence that similar requirements had been adopted in Florida, in Massachusetts, and in Delaware, and here locally in Santa Monica, and Calabasas, and that the real estate industry had gone on to do very well, and that no economic catastrophe had occurred as a result.

Could you just respond to that? Since these people said that they were new, I think it's worth it for you to respond to them on that issue of the effect as we've seen it on the economy of adopting SUSMPs and these regulations.

DR. SWAMIKANNU: First, let's put it in the context of where the SUSMP or the new development requirements really are based on the State Board decision. As applied presently, they only include discretionary actions and they exclude retail gas stations. They include residential house developments, and they include industrial/commercial

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developments and parking lots.

There is a body of evidence on the effectiveness of BMPs. The fact that some of them or many of them have not been tested in the arid climate is not reason in itself that they do not work. For example, the American Society of Civil Engineers has a database of BMPs that are appropriate for these kind of land uses. In fact, if you look at the implementation of these treatment BMPs in Florida, it started as early as probably 1980s, early 1980s; similarly in Washington, Western Washington, probably mid-'80s. And so at least in those areas on the Pacific Coast these have been tested and found to be effective.

Similarly, in the northeast in the states of Virginia and Maryland and now even New York, these treatment BMPs are being implemented. When we were looking at the SUSMP requirements and we looked at the cost basis, we determined that it was no more than 1 to 2 percent of the project cost. And so we did go through the economic analysis, though not in the detail that some permittees might want. But we did take economic impacts into consideration at that time.

CHAIRMAN NAHAI: We are, in fact, not legally required to do a cost benefit analysis.

DR. SWAMIKANNU: That is correct.

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CHAIRMAN NAHAI: But we nevertheless considered the cost implications and determined that we're talking about a cost of 1 to 2 percent of the project cost in order to implement these provisions.

DR. SWAMIKANNU: That's correct.

CHAIRMAN NAHAI: Okay. Xavier, there was an issue raised about whether the permit itself calls for the 100,000-square-foot threshold to become 1 acre come 2003. And I thought that I saw that provision at B-335 in Section 6. So I wonder if you can tell me whether I read this correctly.

DR. SWAMIKANNU: Yes, Mr. Chairman, that comment was made by Dr. Gold, and I did point out to him that we did~~n't~~ include that provision. And he has agreed that he did not see it, and that was the reason that he brought that up. But it does occur in the permit at the location that he talked about.

CHAIRMAN NAHAI: Thank you. The next question that I have is with respect to impervious surface, for instance, for the 100,000-square-foot criteria, and it says 100,000 square feet of impervious surface, is it your interpretation that a roof would be counted as part of that impervious surface?

MS. CLOKE: It better be.

DR. SWAMIKANNU: I think under the roof is a floor,

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and so that would be considered an impervious surface not because of the roof but because of the floor that's underneath it.

CHAIRMAN NAHAI: You're saying because the footprint would necessarily include the roof.

DR. SWAMIKANNU: Right. Because the real issue under the new development requirements is really the disturbance of land. So when you're replacing a roof, you would not be triggered into these requirements. But when you dig up the footprint of a building, then you would be subject. And so under that definition, the roof itself is not a factor, it's the footprint.

And I think that addresses some of the concerns that the State Board expressed about exterior remodeling when land is not being disturbed to impose a requirement. That interpretation is consistent with USEPA's determination of what constitutes redevelopment at an existing site.

CHAIRMAN NAHAI: All right. I can see Chris Pak's mind just going with all kinds of designs.

DR. SWAMIKANNU: Do they agree or not agree with me? I am not an architect.

MR. PAK: Well, I can see why, because when the rain falls it goes on the roof, and it gets collected in the gutter, and then on to the storm drain, it goes onto

the curb, or it goes onto the parking lot, and it drains somewhere.

But I guess my question is how much of that, you know, adds to the overall pollution of the water, that runoff water, compared to some of the other bigger issues that we have. And, also, when you look at residential areas, apartment buildings, really, the impervious surface of an apartment complex whether it's 100 units or maybe 200 units, it's really the roof under your definition because the rest of it is landscape that we take the setbacks.

And at what point do we sort of regulate land use? Because we have very loosely-interpreted wording here that we can ask for maximized impervious surface. So I guess some of the concerns of the -- whether we overstep the land use issue is how do we determine what's maximized? Every city in their land use has setback requirements. When do we say we're going to need to increase that setback?

DR. SWAMIKANNU: Can I handle Mr. Pak's question? Basically, there are two issues we're talking about here. The first one is application of the treatment requirements, the numerical mitigation criteria, and that's where the roof discussion came in.

On the issue of where you talk about directing rainfall runoff to pervious areas, that's a

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narrative requirement, and that's in the Standard Urban Storm Water Mitigation Plan and applies to all the categories that we have listed. So there are two different issues.

As to the question of how is roof runoff contaminated, I think there are some studies in Southern California which definitely tell you that aerial deposition accumulates on the roof, and there's some concentrations of pollutants that we ought to be concerned about depending on where we are. That's one side of it.

The other thing is a lot of storm water contamination is from just human activity, and that is what we are trying to treat at the site. So the roof in some cases can contribute, especially in industrial areas. But the larger contamination around land uses is human road vehicular activity, in fact, which is why we talk about parking lots and gas stations and other areas.

MR. PAK: I understand that. I guess the cost analysis, you said 1 to 2 percent.

DR. SWAMIKANNU: Yes.

MR. PAK: How did you derive at that basis? Did you actually cost out what...

DR. SWAMIKANNU: Thank you for that question. We basically before we developed the requirements, we used the City of Los Angeles Planning Department to go through an

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analysis that they had, an actual project that came in. And we looked at the costs of the project construction and whatever, and how much it would take to mitigate this storm water runoff from that facility. There's an industrial site somewhere in Los Angeles. And based on that calculation, it was 1 to 2 percent.

And that's been consistently shown and it's a rule of thumb. It's a formula that's used by many of the other states as well. Florida uses a slightly different version. They use up to 10 percent of the land acquisition cost. That's not the formula we applied. We simply looked at how much the treatment would cost and how is that related to project cost.

CHAIRMAN NAHAI: Thank you. Just to get back to the impervious issue for a second, I just did want to note that at one point there was a rooftop exemption in the permit, and that that was taken out, and that the elimination of the rooftop exemption from the permit was actually upheld by the State Board.

DR. SWAMIKANNU: Let me explain that because that's a slightly different issue than what you asked me before. The rooftop exemption originally was suggested by the permittees because they wanted credit for an impervious area. They basically said, take the rooftop area out of your calculation because it's not contributing to

pollution.

And so if the roof was 50 percent of your site, you would be only required to treat runoff from the other 50 percent ignoring the roof part of it. And based on discussions before this Board and the concerns about contamination on rooftops or potential pollutants, we took the rooftop exemption out. That's from new sites.

CHAIRMAN NAHAI: I want to push ahead. Any more further questions for Dr. Swamikannu? Thank you very much.

DR. SWAMIKANNU: Thank you.

CHAIRMAN NAHAI: Did anybody have a question for Dennis?

MS. CLOKE: I had a question, but I've had it answered.

CHAIRMAN NAHAI: Okay. Keith, you had a question for Dennis?

MR. McDONALD: Dennis, we've heard from legal counsel, staff, and I've heard from both sides saying pros and cons how more negotiation would bring about a better permit. Could you speak to that issue as the executive director of the Board?

MR. DICKERSON: Yes. Thank you, Mr. McDonald. The issue of additional mediation or discussion as to whether or not that would be productive at this point in the permit, we have spent a huge amount of time, as already has

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been outlined, in various workshops responding to comments and so forth.

At the last two mediation sessions that we had -- and one was an extraordinary session which took place at the board meeting that this item was actually scheduled to be heard -- we thought we were making some fairly good progress with regard to Version A/C which is the inspection program. We really focused on that particular issue.

While on the one hand I thought we were making progress on the actual details of the language, it was also quite clear that there was not going to be consensus, there was not going to be strong recommendations coming to the Board as a result of that mediation process and specifically on that version. We've heard today some, I think, modest support for it, but certainly not the ringing endorsement that we were hoping to achieve.

My experience out of that mediation session was that it was quite clear that the challenges that were being raised -- or I should say not so much challenges, but issues that were yet being raised at the end of what I thought was a very productive session, just made it impossible, really, to go forward to have productive, meaningful mediation that would end up in a resolution as it's been conveyed by many people here that we would

achieve consensus. I'm really quite confident that we did not achieve consensus.

CHAIRMAN NAHAI: Thank you very much. Any more questions of Mr. Dickerson? Could we have Dr. Gold back, please? Dr. Gold, I wanted to call you back because we were trying at breakneck speed to follow the suggestions that you were making. And I think --

DR. GOLD: I have a comment on that after further review, if that's okay. First of all, I apologize for bringing up -- really, I think it was overly-ambitious the changes that Heal the Bay was attempting to achieve in such a short period of time with the complexity of the changes.

And I think the reason that we went for a lot of the complex changes that we did is because, in all honesty, the permit is a very good permit. And, really, I don't want it to be lost with all the other comments that we were making to try to further strengthen a few ambiguous sections of the permit that could use additional strengthening and clarification.

I don't want it to be lost the fact that, really, this is a permit that needs to pass and needs to pass as soon as possible, hopefully in the next 15 or 20 minutes which I'm sure you'd all prefer.

CHAIRMAN NAHAI: Thank you very much.

DR. GOLD: So that being said, there are a couple

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of issues.

CHAIRMAN NAHAI: You're not going to let go of your ambition altogether?

DR. GOLD: No, I never will. But the one thing I do want to bring up is there are a couple of issues, and I'll narrow them very, very much. One of the things I'm going to bring up will make it much easier to deal with is that from the standpoint of modifications to the reporting requirements to make sure that BMP efficacy is dealt with as well as SQMP effectiveness, and, in addition, the monitoring program changes on toxicity identification evaluation which is a pretty complex issue.

You well know, Chairman Nahai, those are issues that could occur outside the course of this vote today. And so what I'm suggesting for the Regional Board to do is that Heal the Bay is more than willing to sit down with the permittee as well as the Regional Board staff to try to further rectify those particular issues. And so that's one particular instance that I think could be dealt with outside of the vote in the next few minutes.

But one issue that I can't defer is the whole issue on catch basin maintenance. And, really, the environmental community is very concerned about the precedent that this particularly sets, and that the Regional Board should not distinguish between requirements

for dischargers based upon whether or not there's an adopted implementation plan for a TMDL.

That particular issue we feel really should be addressed in this permit right now from the standpoint of really differentiating between what's going on in Ballona and what's going on in the L.A. River watersheds and saying that that's different than what's going on in the rest of L.A. County.

We don't particularly agree with it at all. And we think that, really, the definitions that are here already for how frequently Priority A, B, and C basins should be cleaned up is really what the default should be until there is a new implementation plan that's approved and being implemented under the TMDL. But anything different from that is completely premature.

So in the interest of time, I'll drop the rest of the issues. But that one in particular I think really needs to be addressed tonight.

CHAIRMAN NAHAI: I understand.

DR. GOLD: Any questions? No, you want me out. All right.

MS. CLOKE: I'm ready to have the chairman make a motion.

CHAIRMAN NAHAI: All right. I'm being told that I must. All right. I'll put a motion out, and I'll forego

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the other questions that I had.

You know, before doing that, though, I think I must congratulate our staff: Wendy, Xavier, the whole team, Dennis. The amount of work that has gone into this permit really shows, and the permittees for all of their time that they put in and all of the comments that they provided, thank you very much. But I really would like to add congratulations, I'm sure, on behalf of all of the Board to staff.

Let me also say that I think there is no doubt that urban runoff is now the major threat to our waters in Southern California, and I believe this permit really is a decisive step in the right direction for dealing with the problem.

So having said that, I am very pleased to move adoption of staff's recommendation subject to the change sheet that we received today with the following changes: the deletion of the reference to Title 22 which was mentioned; the addition of a reference to the Department of Fish & Game in connection with the field-verified language that was added in the change sheet we received today.

MS. CLOKE: So we're taking out field verification?

CHAIRMAN NAHAI: No. It would be saying provided the area has been field-verified by the California

Department of Fish & Game.

MS. CLOKE: Is that who puts it in our Basin Plan is the Department of Fish & Game?

CHAIRMAN NAHAI: What this is is this, it reads "an area designated as a significant natural area by the California Department of Fish & Game's Significant Natural Areas Program."

And staff's testimony to us is that that area is not clear unless it's been field-verified. And we just want to make sure that it's not field-verified by the municipalities, it's field-verified by the Department of Fish & Game. So I suggest that we add that.

And I'm happy to have some discussion on Dr. Gold's suggestion regarding the deletion of the distinction between whether a TMDL program is in place or isn't in place with respect to catch basin clean out and maintenance. To be honest, the distinction does not make a great deal of sense to me.

We have catch basins, and we're adopting regulations for their clean out, and whether that's, you know, in an area for which a TMDL has been adopted or hasn't been adopted I don't think should be the determining factor. But I'm happy to listen to discussion on that issue.

My recommendation would be that the

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distinction be eliminated, but, Xavier, go ahead and respond.

DR. SWAMIKANNU: Can I just comment on the background of that so you have some...

Let me give you some context of that change so that it facilitates your discussion. Basically, some of the municipalities were concerned about that after the implementation of certain measures for trash controls which augments our current program, that they might choose different measures because they are then subject to a TMDL at the different locations, and all the resources that go into these original measures might be wasted because they probably will get a more aggressive schedule.

So one manner to address it might be to have a default here if by the time no plan is in place, then the same requirements as those that apply to nonTMDL cities now does apply at that point. I think Dr. Gold's concern was what happens if we go into litigation and the TMDL plan is not approved, then we have nothing to fall back to.

CHAIRMAN NAHAI: I think it's a bigger issue than that. We should have regular -- well, let me stop. So what is your suggestion again then?

DR. SWAMIKANNU: There is currently, at least in the TMDL program, a certain year by which the permittees are required to submit a TMDL plan for implementation, and

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I forget the year. It might be 2003.

So if by 2003 there's no plan implemented for these TMDL cities, then we fall back on the requirement that applies to all cities at this point, to the other cities at this point.

CHAIRMAN NAHAI: All right. Well, I understand what you're saying. How would that -- how would it work in terms of the language here on B-345?

MR. PAK: What was the number again?

CHAIRMAN NAHAI: B-345.

MR. SWAMIKANNU: John is trying to check the date when the implementation plan is due. So you would include language that says something like if the TMDL implementation plan is not effective by a certain date -- and John is providing that date -- then the requirements in this order as applicable to the other permittees shall take effect. It's under B.

CHAIRMAN NAHAI: Let me ask you this, in B-2, that has already been amended by the change sheet to say that in July of 2003 that number has to go from 40 percent to 25 percent; correct?

MR. SWAMIKANNU: That's right.

CHAIRMAN NAHAI: I think the issue is does this mean -- does the interplay of B and C mean that an entity for which a trash TMDL has been adopted, but which hasn't

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taken effect because of appeals, will therefore be in a position of having less stringent requirements than an entity for which no TMDL has been adopted?

I think that's the issue. And maybe the change in No. 2 from 40 percent to 25 percent in 2003, maybe that goes a long way to equalizing the situation. I'm not sure, though.

MR. SWAMIKANNU: That probably does, but I think the issue also is that these -- the additional measures, for example, like for all permittees to be required that shelters have waste receptacles. Now, if that is the purpose -- it's an additional requirement compared to where we are presently.

So if, for example, a huge city has to invest in trash receptacles, but then comes up three years from now with a treatment of -- a capture system because that's how they meet the TMDL, the cost in implementing these shelters is an unnecessary expense.

CHAIRMAN NAHAI: Okay. I understand. Let me listen again to your proposal because I want to get beyond it.

MR. SWAMIKANNU: Okay.

CHAIRMAN NAHAI: Xavier, was it your proposal that we would add language that would say that in the event permittees -- that in the event TMDL implementation

measures are not adopted prior to March of 2003, the permittees shall comply with the requirements of --

MR. SWAMIKANNU: Under section, whatever.

CHAIRMAN NAHAI: -- C-1? Is that what we're proposing?

MR. SWAMIKANNU: That would be one way to structure it, right.

CHAIRMAN NAHAI: Okay. I understand. Do people who are noting this understand it? Because I want to make it part of my motion, then.

I'll make that part of my motion, and I will also just direct that staff meet with Heal the Bay with respect to the monitoring issues that were brought up. And I understand that the executive officer would have the authority of implementing additional monitoring requirements if the executive officer deems appropriate. Is that correct?

MR. LAUFFER: That's correct. However, because of the number of change sheets that are out there, which I think are very crystal clear as to what changes are being proposed, I want to make crystal clear what the proposed motion is here.

CHAIRMAN NAHAI: Do we have a second?

MS. DIAMOND: Second.

MS. CLOKE: I think that we should put in the time

that we notify when there's a spill and the beaches are closed. Dr. Gold suggested a notification time. I'd like to add that.

CHAIRMAN NAHAI: I'm just concerned about whether that would now start to rise to the level of a material change, especially with respect to a two-hour time limit which could have a significant effect.

MS. CLOKE: Then let's hold off on that one, something we can discuss in the future.

CHAIRMAN NAHAI: I think Dr. Gold will hear what it is that he's concerned about.

MR. LAUFFER: Now, if I can, Mr. Nahai, what I'd like to do is just quickly walk through the three elements of your -- the three proposed amendments. The first is on page B-361 of the permit of the edited tentative draft for the definition of water quality standards and water quality objectives, the two change sheets over the last -- the course of the last week have reference to Title 22 of the Water Code. That amendment would be stricken so that now the definition of water quality standards and water quality objectives would read, "Water quality standards and water quality objectives means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally-approved surface water quality plans. Such plans

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are used by the Regional Board to regulate all discharges including storm water discharges."

The second element of your motion would have been with respect -- I've lost my notes -- would have been with respect to the Department of Fish & Game and field verification.

CHAIRMAN NAHAI: Right.

MR. LAUFFER: And that is in the definition of environmentally sensitive areas.

CHAIRMAN NAHAI: Right.

MR. LAUFFER: And I'm not going to bother reading out the entire definition again.

CHAIRMAN NAHAI: No, and I'll tell you, it is contained in the change sheet we received today entitled "Additions to Supplemental Change Sheet." It is in paragraph 5 of that change sheet and in the third line from the bottom of that entire paragraph after the word "verified," we would insert the words "by California Department of Fish & Game."

MR. LAUFFER: I think that's clear for the record. The third element of your motion, I would prefer that you walk through because I am not entirely clear at this point in time. I know it involves page 345 concerning catch basins. But if you can indicate the specific changes because I think that's what's been lacking from the

characterization of the motion so far.

CHAIRMAN NAHAI: Give me a minute, and I'll do it. What we would do is at the very end of Subsection B on page B-345, we would add language to the effect, and it would be, I think, to the following effect: that with respect to permittees subject to a trash TMDL, comma, in the event TMDL implementation measures have not been adopted by -- you know, what did we say? -- March of 2003, comma, that such permittees shall be subject to the requirements set forth in Subsection C, ditto, and then we can add until such TMDL implementation measures are adopted in which event the subject permittees shall implement programs in conformance with the TMDL implementation schedule.

MS. SMITH: Mr. Chairman, similar to the introduction to part B of the permit, you mentioned permittees subject to the trash TMDL. I will propose that you also include the programs for those two watersheds.

CHAIRMAN NAHAI: The Los Angeles River and Ballona Creek?

MS. SMITH: There may be future trash TMDLs. They're on a different schedule.

CHAIRMAN NAHAI: Okay, done. So that would be that. There is one other element to my motion which is the adoption of alternative A/C as far as inspections are

concerned. So is that motion clear enough, counsel?

MR. LAUFFER: I believe so, yes.

CHAIRMAN NAHAI: So that's my motion.

MS. DIAMOND: Second.

CHAIRMAN NAHAI: All in favor?

(All board members respond "aye" with the exception of Ms. Buckner-Levy who abstained.)

MS. DIAMOND: Any opposed? Hearing none, it's carried.

MS. CLOKE: You know I have to leave.

CHAIRMAN NAHAI: Thank you very much for staying.

(Whereupon, Item 10 was concluded.)

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REPORTER'S CERTIFICATE

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)

COUNTY OF LOS ANGELES)

I, Grace A. Verhoeven, a Certified Shorthand Reporter within the County of Los Angeles, State of California, do hereby certify:

That the said hearing was taken down by me in shorthand at the time and place therein stated and was thereafter reduced to print by Computer-Aided Transcription under my direction;

I further certify that I am not of counsel or attorney for either of the parties hereto or in any way interested in the event of this cause and that I am not related to either of the parties thereto.

Witness my hand this 15th day of January, 2002

GRACE A. VERHOEVEN

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

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Governor

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County of Los Angeles Department of Public Works
900 South Freemont Avenue
Alhambra, CA 91803-1331

Dear Mr. Wolfe:

INSPECTION OF FACILITIES COVERED UNDER THE CALIFORNIA GENERAL INDUSTRIAL ACTIVITIES STORM WATER GENERAL PERMIT (GENERAL PERMIT)

During the last several months, staff from the County of Los Angeles and the Regional Board met a number of times and worked together in an effort to develop a contract proposal with the County to inspect facilities covered under the General Permit. These efforts were an attempt to further the partnership between the Regional Board and local agencies in the arena of storm water management in the region. They were also an attempt to tap into the County's staff expertise in an efficient way in order to thoroughly and expeditiously address the challenging task of overseeing a large number of industrial sites covered under the General Permit and identifying the significant number of facilities that have not yet obtained coverage.

Your staff worked diligently and was very helpful and cooperative during the whole process.

Unfortunately, we are unable to proceed in further developing this proposal at this time. I hope that in the future the opportunity to renew our discussion will present itself.

Should you have any questions regarding this matter, please do not hesitate to contact me at (213) 576-6605, or Dan Radulescu at (213) 576-6668.

Sincerely,

Dennis A. Dickerson
Executive Officer

cc: Mr. Carl Sjoberg, County of Los Angeles Department of Public Works
Mr. John Youngerman, Stormwater Section, State Water Resources Control Board

R0007972

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

Gray Davis

December 21, 2001

James A. Noyes
Director of Public Works
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra CA 91803

Dear Mr. Noyes:

REQUIREMENTS FOR BASELINE MONITORING OF TRASH IN THE LOS ANGELES RIVER AND BALLONA CREEK AND WETLAND; TO BE REGULATED IN THE LOS ANGELES COUNTY STORMWATER NPDES PERMIT (PERMIT NO. CAS004001, ORDER NO. 01-182).

On September 19, 2001, the Los Angeles Regional Water Quality Control Board adopted amendments to the Water Quality Control Plan for the Los Angeles Region to incorporate Total Maximum Daily Loads (TMDLs) for Trash in the Los Angeles River Watershed, and the Ballona Creek and Wetland. These TMDLs were developed in accordance with the Federal Clean Water Act; specifically Sections 303(d)(1)(A) and 303(d)(1)(C), which direct the Regional Water Quality Control Board (Regional Board) to establish TMDLs for impairing pollutants in water bodies within its region. Trash was determined to be impairing the beneficial uses of the Los Angeles River, and the Ballona Creek and Wetland, hence the need for this amendment.

Section 13267 of the California Water Code authorizes the Regional Board to require dischargers to furnish technical or monitoring program reports. As the Executive Officer of the California Regional Water Quality Control Board – Los Angeles Region, I hereby require the Los Angeles County Department of Public Works (LADPW) and its [municipal storm water] co-permittees to provide data necessary to determine representative trash discharge rates for various land uses across the watersheds of the Los Angeles River and Ballona Creek and Wetland. These data will be used to refine the default baseline Waste Load Allocations for trash provided in the TMDL Staff Reports. This request is made under the authority of the Porter-Cologne Water Quality Control Act, and does not rely on the trash TMDL being in effect. However, the information developed as a result of this letter shall be used in implementing the TMDL.

Regional Board staff have met with the staff of LADPW, regarding the baseline monitoring requirements, on a number of occasions since May 2001. LADPW staff have presented and discussed drafts of proposed baseline monitoring plans at these meetings. Based on the interactions between the staff of both agencies, the Regional Board is confident that LADPW is prepared to meet the deadline for submission of the final plan.

The general monitoring requirements, methodology, and reporting requirements for the above request are listed below.

A. Baseline Monitoring Plan General Requirements

The following general requirements are required for the trash monitoring plan.

- The plan should provide representative monitoring sites for the following land uses across the watershed:
  - High density residential,
  - Low density residential,
  - Commercial and services,
  - Industrial, and
  - Open space and recreation.

- City and County streets within each land use shall be included in the monitoring plan.

- Each proposed monitoring site shall have at least 2 (two) alternative monitoring locations, and maps of the drainage area, and storm drain data for these proposed and alternative locations shall be provided.

- The LADPW and its co-permittees shall provide the Regional Board with a list of municipal, state, or federal entities located within their boundaries that are not subject to the LADPW or its co-permitees' jurisdiction.

- Baseline data shall be collected from over a period of at least two years. Monitoring shall include dates in both rainy and dry seasons. The LADPW shall have the option of continuing the monitoring program for an additional two years in the event that precipitation is below normal during this period.

- Any and all data generated shall be reported in units of measurement that are easily reproducible and that can subsequently be compared to data collected during compliance.

- The proposed monitoring plan shall be subject to review and approval by the Regional Board's Executive Officer.

B. Baseline Monitoring Plan Methodology

Pursuant to California Water Code section 13267, LADPW and its co-permittees under the municipal storm water permit are hereby directed to conduct two years (from January 2002 to December 2003) of baseline trash monitoring. To ensure the quality, reliability, and comparability of the information collected, the following are the minimum standards for data collection, analysis, and reporting.

- Trash monitoring shall be conducted using partial- or full-capture trash collection devices at all the monitoring sites listed in the approved monitoring plan.

- In the areas where full-capture devices are installed, all the catch basins upstream of them shall be fitted with partial-capture devices. The full-capture devices shall be used as a reference to determine the relative effectiveness of the partial capture devices.

- During wet weather, trash shall be removed from collection devices and measured within 72 (seventy-two) hours of each rain event of 0.25 inch or more.

- Every 3 (three) months during dry weather trash collection devices shall be cleaned out in order to measure and record the devices' content.

- The permittees may exclude vegetation from their reported discharge except where there is evidence that the vegetation is as a result of the illegal discharge of yard waste. All monitoring data shall be reported consistently – either with or without vegetation.

- Trash collected during the monitoring program shall be disposed of in accordance with all applicable laws and regulations.

The units of measurement and the composition (with or without vegetation) of the waste reported during baseline monitoring shall be maintained during implementation and compliance.

C. Baseline Monitoring Reporting Requirements

The schedule of requirements for the baseline monitoring program is summarized below.

Requirement	Due date
Submittal of Baseline Monitoring Plan(s)	February 1, 2002
Submittal of list of facilities that are outside the permittee's jurisdiction but drain to a portion of the permittees storm drain system, which discharges to the Los Angeles River or Ballona Creek and Wetland.	May 30, 2002
Collection of Baseline data	January 2002 - December 2003 (optional extension by permittee to December 2005)
Submittal of Final Baseline Monitoring Report	February 15, 2004

- The final baseline monitoring report under this program is due to this Regional Board on February 15, 2004. These analytical results shall be provided in both electronic- (available as a Microsoft Excel Spreadsheet) and paper-format.

- In the event that any deadline provided in the above table cannot be met, the Regional Board would be willing to entertain an extension of the due date provided that adequate justification is provide by the permittee

- Please forward all monitoring data and the report to the Regional Board, Attn: Ginachi Amah, TMDL Unit.

Pursuant to section 13268 of the California Water Code, failure to conduct the required monitoring and/or to provide the required information in a timely manner may result in civil liability imposed by the Regional Board in an amount not to exceed one thousand dollars ($1000) for each day the information is not received.

If you have any other questions, please contact Melinda Becker, TMDL Unit Chief, at (213) 576-6681.

Sincerely,

Dennis A. Dickerson
Executive Officer

R0007976

California Regional Water Quality Control Board

Los Angeles Region

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Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.swrcb.ca.gov/rwqcb4

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

January 3, 2002

Mr. Donald Wolfe, Assistant Director
Department of Public Works
County of Los Angeles
900 South Fremont Avenue
Alhambra, CA 91803-1331

And

Directors of Public Works/City Engineers
Los Angeles County Municipal Co-Permittees

TRANSMITTAL OF THE LOS ANGELES COUNTY MUNICIPAL STORM WATER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (BOARD ORDER 01-182; NPDES PERMIT No. CAS004001)

R0007977

Dear Mr. Wolfe, et al:

We are pleased to transmit to you a copy of the municipal storm water permit for the County of Los Angeles (LA Storm Water Permit) that was adopted by the Regional Water Quality Control Board at its meeting on December 13, 2001 pursuant to Division 7 of the California Water Code. Board Order 01-182 serves as the permit under the National Pollutant Discharge Elimination System (NPDES), for storm water discharges and urban runoff within the County of Los Angeles, and will expire on December 13, 2006. We thank you and your staff for your tireless efforts to help develop workable language that helps the County and the Cities provide the services that they are known for while also being more protective of the environment. The renewal process was long and at times contentious, but we look forward to a positive working relationship between County, City, and State staff as we move to implementation of the 2001 LA Storm Water Permit.

The Permit requires the Los Angeles County Flood Control District, herein referred to as the Principal Permittee, and all Co-Permittee Cities to implement the requirements of the NPDES Permit. To summarize, the requirements include: Monitoring and Reporting Program, Receiving Water Limitations (which clarifies that discharges must meet water quality objectives); Public Information and Participation Program; Industrial/Commercial Facilities Control Program (upgrades the existing site visit program to an inspection program of select industrial/commercial sectors); Development Planning Program (lowers the threshold of industrial/commercial development that is subject to Standard Urban Storm Water Mitigation Plan (SUSMP) requirements from 100,000 square feet to one acre beginning in 2003; and expands SUSMPs to cover: environmentally sensitive areas, ministerial and discretionary projects, and retail gasoline outlets); Development Construction Program; Public Agency

Activities Program (includes explicit requirements to control the discharge of trash to the MS4); and Illicit Connections and Illicit Discharges Elimination Program (requires the tracking of illicit discharges and connections, and upgrades passive field screening activities (during regularly scheduled maintenance) to a more proactive field screening program).

For your use and public dissemination, an electronic copy of the LA Storm Water Permit may be downloaded from our website at http://www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/la_ms4_final.html . We would greatly appreciate your staff directing other staff and interested parties to the website for further information on storm water management updates as necessary.

Again, thank you very much for your interest and participation during the development and adoption of the Permit. Should you have any comments or questions please do not hesitate to call me directly at (213) 576-6605, or Dr. Xavier Swamikannu at (213) 576-6654.

Sincerely,

Dennis A. Dickerson
Executive Officer

cc: Mr. Bruce Fujimoto, Storm Water Unit, State Water Resources Control Board
Ms. Laura Gentile, United States Environmental Protection Agency, Region 9
Mr. Daniel Weese, United States Environmental Protection Agency, Headquarters
Municipal Permittees

Attachments

California Environmental Protection Agency

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
For a list of simple ways to reduce demand and cut your energy costs, see the tips at: http://www.swrcb.ca.gov/news/echallenge.html

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Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

COUNTY OF LOS ANGELES
MUNICIPAL STORM WATER NPDES PERMIT
PERMITEE DISTRIBUTION LIST

County of LA, DPW	Adam	Ariki	Watershed Manager
City of Agoura Hills	James	Thorsen	Department of Public Works/City Engineer
City of Alhambra	Mike	Holmes	Deputy Director of Utilities
City of Arcadia	Patrick	Malloy	Public Works Services Director
City of Artesia	Maria	Dadian	City Manager
City of Azusa	Nasser	Abbaszadeh	City Engineer
City of Baldwin Park	Shafique	Naiyer	Director of Public Works/ City Engineer
City of Bell	Carlos	Alvarado	City of Engineer
City of Bell Gardens	Bill	Pagett	City Engineer
City of Bellflower	Brian	Smith	Dept. of Community Development Director
City of Beverly Hills	David	Gustavson	City Engineer
City of Bradbury	Dan	Heil	City Engineer
City of Brea	Bill	Higgins	Maintenance Services Manager
City of Burbank	Bonnie	Teaford	City Engineer
City of Burbank	Robert	Ovrom	City Manager
City of Calabasas	Charles	Mink	Interim City Engineer
City of Calabasas	Heather	Merenda	Storm Water Program Manager
City of Carson	Ken	Boyce	Director of Public Works
City of Carson	Jerome	Groomes	City Manager
City of Cerritos	Vince	Brar	Director of Public Works/City Engineer
City of Cerritos	Erin	Alvarez	Asst. Civil Engineer
City of Claremont	Craig	Bradshaw	City Engineer
City of Commerce	Linda	Olivieri	City Clerk
City of Compton	John	Johnson	City Manager
City of Compton	Dante	Segundo	Director of Public Works
City of Covina	Vince	Mastrosimone	Director of Public Works
City of Covina	Charles	Redden	Sr. Mgmt. Analyst
City of Cudahy	Bill	Pagett	City Engineer
City of Cudahy	James	Guerra	City Engineer
City of Culver City	Jim	Davis	Director of Public Works/City Engineer
City of Diamond Bar	Terry	Belanger	City Manager
City of Diamond Bar	David	Liu, P.E.	Director of Public Works
City of Downey	Desi	Alvarez	Director of Public Works/City Engineer
City of Duarte	Rafael	Casillas	Asst. Civil Engineer
City of El Monte	Kev	Tcharkhoutian	City Engineer
City of El Segundo	Bellur	Devaraj	City Engineer
City of Gardena	Woody	Natsuhara	City Engineer
City of Glendale	Carlos	Santos	NPDES Storm Water Specialist
City of Glendale	Lou	LeBlanc	City Engineer
City of Glendale	Jake	Amar	Sr. Environmental Engineer
City of Glendora	Richard	Cantwell	Director of Public Works/City Engineer
City of Hawaiian Gardens	Dan	Heil	City Engineer
City of Hawthorne	Charles	Herbertson	Director of Public Works/City Engineer
City of Hermosa Beach	Stephen	Burrell	City Manager
City of Hidden Hills	Bob	Draper	City Engineer
City of Huntington Park	Pat	Fu	City Engineer
City of Industry	John	Ballas	City Engineer

City of Inglewood	Hermanita	Harris	City Clerk
City of Irwindale	Rod	Posada, P.E.	Director of Public Works
City of Irwindale	Robert	Griego	City Manager/City Clerk
City of La Canada Flintridge	Elroy	Kiepke, P.E.	Deputy City Engineer
City of La Canada Flintridge	Steve	Castellanos	Director of Public Works
City of La Habra Heights	Sheryl	Lindsey	City Manager/City Clerk
City of La Mirada	Steve	Forster	Director of Public Works
City of La Mirada	Gary	Sloan	City Manager
City of La Puente	Robert	Gutierrez	City Manager
City of La Verne	L.D.	Johnson	Maintenance Operations Superintendent
City of La Verne	Martin	Lomeli	City Manager
City of Lakewood	Scott	Pomrehn	Sr. Mgmt. Analyst
City of Lawndale	Vangie	Schock	City Manager
City of Lomita	Dawn	Tomita	City Clerk
City of Los Angeles	Shahram	Kharaghani	Storm Water Program Manager
City of Lynwood	Joseph	Wang, P.E.	Director of Environmental Services
City of Malibu	Rick	Morgan	City Engineer
City of Manhattan Beach	Aven	Yam	Management Analyst
City of Manhattan Beach	Neil	Miller	Director of Public Works
City of Maywood	Bill	Pagett	City Engineer
City of Maywood	David	Mango	Dept. of Building and Planning
City of Monrovia	Louis	Celaya, Jr.	Management Analyst
City of Monrovia	David	Fike	Director of Public Works
City of Monrovia	Don	Hopper	City Manager
City of Montebello	Ted	Spaseff	Director of Public Works
City of Montebello	Richard	Chen	City Engineer
City of Monterey Park	Laura	Channell	Principal Mgmt. Analyst
City of Monterey Park	Ronald	Merry	City Engineer/Director of Public Works
City of Norwalk	Jim	Devoy	Maintenance Supervisor
City of Norwalk	Jerry	Stock	City Engineer
City of Norwalk	Chris	Davis	Management Asst.
City of Palos Verdes Estates	James	Hendrickson	City Manager
City of Paramount	Bill	Pagett	City Engineer
City of Pasadena	Jim	Valentine	Principal Engineer, DPW
City of Pasadena	Dan	Rix	City Engineer
City of Pico Rivera	Enrique	Acevedo	City Engineer
City of Pico Rivera	Michael	Moore	Administrative Analyst
City of Pomona	Yvette	Mullenaux	Dept. of Public Works/Projects Coordinator
City of Rancho Palos Verdes	Dean	Allison	Director of Public Works
City of Redondo Beach	Steve	Huang	City Engineer
City of Redondo Beach	Michael	Shay	Civil Engineer
City of Rolling Hills	Craig	Nealis	City Manager/City Clerk
City of Rolling Hills Estates	Douglas	Prichard	City Manager/City Clerk
City of Rosemead	Ken	Rukavina	City Engineer
City of San Dimas	Kym	O'Leary	Administrative Assistant
City of San Dimas	John	Garcia	Director of Public Works
City of San Fernando	Wilmas	Miller	City Clerk
City of San Gabriel	P. Michael	Paules	City Manager
City of San Gabriel	Bruce	Mattern	City Engineer
City of San Marino	Carlos	Alvarado	City Engineer
City of Santa Clarita	Jill	Fosselman	Environmental Services Manager
City of Santa Clarita	Travis	Lange	Environmental Analyst
City of Santa Clarita	George	Caravalho	City Manager
City of Santa Fe Springs	John	Price	Director of Public Works/City Engineer

City of Santa Monica	Anthony	Antich	City Engineer
City of Sierra Madre	Bruce	Inman	Director of Public Works
City of Signal Hill	Larry	Forester	Mayor
City of Signal Hill	Ed	Schroder	Director of Public Works
City of Signal Hill	Kenneth	Farsfing	City Manager
City of South El Monte	George	Envall	Director of Public Works
City of South El Monte	Jim	Harris	City Engineer
City of South Gate	Ed	Mino	City Engineer
City of South Pasadena	Jim	Van Winkle	Director of Public Works/City Engineer
City of Temple City	Charlie	Martin	Interim City Manager
City of Torrance	Wendell	Johnson	Storm Water Program Manager
City of Vernon	Samuel	Wilson	Director of Comm. Services and Water
City of Vernon	Bruce	Malkenhorst	City Administrator/City Clerk
City of Walnut	Jack	Yoshino	Sr. Mgmt. Asst.
City of Walnut	Ronald	Kranzer	City Engineer
City of West Covina	Daniel	Hobbs	City Manager
City of West Hollywood	Sharon	Peristein	City Engineer
City of Westlake Village	John	Knipe	City Engineer
City of Whittier	David	Mochizuki	Director of Public Works
City of Whittier	Stephen	Helvey	City Manager

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

December 13, 2001

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ATTACHMENT B
Critical Sources Categories[1]

Tier 1 Categories

Municipal Landfills (SIC 4953)

Hazardous Waste Treatment, Disposal and Recovery Facilities[2]

Facilities Subject to SARA Title III (also known as EPCRA)[2]

Restaurants[3]

Wholesale trade (scrap, auto dismantling) (SIC 50)

Automotive service facilities[3]

Fabricated metal products (SIC 34)

Motor freight (SIC 42)

Chemical/allied products (SIC 28)

Automotive Dealers/Gas Stations (SIC 55)

Primary Metals Products (SIC 33)

Tier 2 Categories

Electric/Gas/Sanitary (SIC 49)

Air Transportation (SIC 45)

Rubbers/Miscellaneous Plastics (SIC 30)

Local/Suburban Transit (SIC 41)

Railroad Transportation (SIC 40)

Oil & Gas Extraction (SIC 13)

Lumber/Wood Products (SIC 24)

Machinery Manufacturing (SIC 35)

Transportation Equipment (SIC 37)

Stone, Clay, Glass, Concrete (SIC 32)

Leather/Leather Products (SIC 31)

Miscellaneous Manufacturing (SIC 39)

Food and kindred Products (SIC 20)

Mining of Nonmetallic Minerals (SIC 14)

Printing and Publishing (SIC 27)

Electric/Electronic (SIC 36)

---

[1] Italicized categories belong to Phase 1 facilities
[2] Various categories subject to these requirements
[3] See Definition in Part 5. of the permit

R0007984

Paper and Allied Products (SIC 26)

Furniture and Fixtures (SIC 25)

Laundries *(SIC 72)*

Instruments (SIC 38)

Textile Mills Products (SIC 22)

Apparel (SIC 23)

R0007985

ATTACHMENT U-1
LIST OF CONSTITUENTS FOR THE STORM WATER MONITORING PROGRAM AND ASSOCIATED MINIMUM LEVELS (MLs)[1]

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	**mg/L**
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005
pH	0 - 14
Temperature	None
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA	
Total coliform	<20mpn/100ml
Fecal coliform	<20mpn/100ml
Enterococcus (marine waters)	<20mpn/100ml
E. coli (fresh waters)	
GENERAL	**mg/L**
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1umho/cm
Total Hardness	2
MBAS	0.5
Chloride	2
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1

[1] For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. MDLs must be lower than or equal to the ML value. If a particular ML is not attainable in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.

METALS	µg/L
Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Copper	0.5
Hex. Chromium	5
Iron	100
Lead	0.5
Mercury	0.5
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMIVOLATILE ORGANIC COMPOUNDS	**µg/L**
Acids	
2-Chlorophenol	2
2, 4-Dichlorophenol	1
2,4-Dimethylphenol	2
2, 4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
4-Chloro-3-methylphenol	1
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10
BASE/NEUTRAL	**µg/L**
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexl) phthalate	5
4-Bromophenyl phenyl ether	5

Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1
2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	µg/L
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02

beta-Endosulfan	0.01
Endosulfan sulfate	0.05
Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
Polychlorinated Biphenyls	**µg/L**
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	**µg/L**
Chlorpyrifos	0.05
Diazinon	0.01
Prometryn	2
Atrazine	2
Simazine	2
Cyanazine	2
Malathion	1
HERBICIDES	**µg/L**
Glyphosate	5
2,4-D	0.02
2,4,5-TP-SILVEX	0.2

ATTACHMENT U-2
SHORELINE MONITORING STATIONS

Station	Location[1]	Latitude	Longitude
S1	Surfrider Beach, Malibu, 50 yds E. of breech	34.03500	118.67833
S2	Topanga Point, Malibu, seaward of lifeguard station	34.03833	118.58083
S3	Pulga storm drain, Pacific Palisades, 50 yds E. of drain	34.03361	118.53417
S4	Santa Monica Canyon storm drain, Pacific Palisades, 50 yds E. of drain	34.02639	118.51861
S5	Santa Monica Pier, Santa Monica, 50 yds S. of pier	34.00833	118.49667
S6	Pico-Kenter storm drain, Santa Monica, 50 yds S. of drain	34.00583	118.49250
S7	Ashland storm drain, Santa Monica, 50 yds S. of drain	33.99639	118.48472
S8	Windward storm drain, Los Angeles, 50 yds S. of drain	33.98778	118.47750
S9	Marina Del Rey Beach, Marina Del Rey, at lifeguard tower.	33.98139	118.45833
S10	Ballona Creek, Playa Del Rey, 50 yds S. of south jetty	33.96083	118.45611
S11	Culver Blvd., extended, Playa Del Rey, N side of Culver storm drain	33.95639	118.45167
S12	Imperial Hwy. Storm drain, Playa Del Rey, 50 yds S. of drain	33.93028	118.43722
S13	El Porto, Manhattan Beach, 40th St. extended	33.90389	118.42250
S14	Manhattan Beach Pier, Manhattan Beach, 50 yds S. of pier	33.88360	118.41278
S15	Hermosa Beach Pier, Hermosa Beach, 50 yds S. of pier	33.86111	118.40278
S16	Redondo Pier, Redondo Beach, 50 yds S. of pier	33.83833	118.39111
S17	Ave. I storm drain, Redondo Beach, Ave. I extended, 50 yds S. of drain	33.81889	118.39111
S18	Malaga Cove, Palos Verdes Estates, Arroyo Circle extended	33.80500	118.39467

[1] Station locations from *Ocean Water Regulatory & Monitoring Protocol*, County of Los Angeles, Department of Health Services, May 5, 1999.

Attachment U-3
Total Maximum Daily Loads Scheduled for Implementation in Los Angeles County within 10 Years

Watershed	*TMDL*
Malibu	Coliform, Nutrients
Malibu Creek Lakes and Tributaries	Metals
Ballona Creek	Trash, Coliform, Historic Pesticides, Metals, TBT
Dominguez Channel/LA Harbor	Coliform, PAHs, Historic Pesticides, PCBs, DDT, Metals, Nutrients, Trash
Los Angeles River	Trash, Nutrients, Coliform, Chlorpyrifos, Metals
San Gabriel River	Nutrients, Coliform, Metals, Trash
San Gabriel Lakes	Coliform
Santa Monica Bay Beaches	Coliform, Metals, Chlordane, Historic PCBs and Pesticides
Santa Clara River	Historic Pesticides, Chloride, Coliform, Nitrogen, Eutrophication, Trash
Los Cerritos Channel	Metals, Ammonia, Coliform

ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural
Agoura Hills
*Calabasas
Los Angeles County Flood Control
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban
Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates

*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles (City of)
Los Angeles County Flood Control

Los Angeles (County of)
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
*Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
Los Angeles (City of)
Los Angeles County Flood Control
Los Angeles (County of)
Lynwood
Maywood
Monrovia
Montebello
Monterey Park
Paramount

Pasadena
Rosemead
San Fernando
San Gabriel
San Marino
Sierra Madre
Signal Hill
South El Monte
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
*Long Beach[1]
Los Angeles County Flood Control
Los Angeles (County of)
Norwalk
Pomona
Pico Rivera
San Dimas
Santa Fe Springs
Walnut
West Covina
Whittier

Santa Clara River

*Santa Clarita
Los Angeles County Flood Control
Los Angeles (County of)

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles.*

[1] *The City of Long Beach is covered under order No. 99-060*

R0007992

Los Angeles County Municipal Storm Water Permit (Order 01-182)
Individual Annual Report Form
Attachment U-4

This form summarizes the requirements in Order No. 01-182. Each Permittee must complete this form in its entirety, except for those requirements applicable only to the Principal Permittee. Only report activities that were performed during the previous fiscal year. Upon completion, this form shall be submitted to the Principal Permittee, by the date specified by the Principal Permittee, for inclusion in the unified Annual Storm Water Program Report. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) concisely document implementation of the Storm Water Quality Management Program (SQMP) during the past fiscal year; 2) evaluate program results for continuous improvement; 3) to determine compliance with Order 01-182; and 4) to share this information with other Permittees, municipal decision makers, and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED *Do not leave any of the sections blank.*
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

SECTION	PAGE
I. Program Management	2-4
II. Receiving Water Limitations	5
III. SQMP Implementation	5-7
IV. Special Provisions	8
IV.A. Public Information and Participation Program	8-14
IV.B. Industrial/Commercial Facilities Program	15-17
IV.C. Development Planning Program	18-21
IV.D. Development Construction Program	22-23
IV.E. Public Agency Activities Program	24-33
IV.F. IC/ID Elimination Program	34-37
V. Monitoring	38
VI. Assessment of Program Effectiveness	38
VII. Certification	39

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Reporting Year 200__- 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____
Title:
Address:
City: Zip Code:
Phone: Fax:

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete the Table 1.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementing
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Planning (project/SUSMP review and approval)		
9. Trash Collection		

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D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes ☐ No ☐

If no, describe the funding source(s) used to implement the requirements of Order No. 01-182.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes ☐ No ☐

3. Complete Table 2 to the extent that accurate information is available (indicate U in the spaces where the information is unavailable), and report any supplemental dedicated budgets for the same categories on the lines below the table.

4. List any additional state/federally funded projects related to storm water.

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TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Estimated Amount Needed to implement Order 01-182
1. Program management a. Administrative costs b. Capital costs		
2. Public Information and Participation a. Public Outreach/Education b. Employee Training c. Corporate Outreach d. Business Assistance		
3. Industrial/Commercial inspection/ site visit activities		
4. Development Planning		
5. Development Construction a. Construction inspections		
6. Public Agency Activities a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

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II. Receiving Water Limitations (Part 2)

A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes ☐ No ☐

B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes ☐ No ☐

C. If you answered Yes to either of the above questions, you must attach a Receiving Water Limitations (RWL) Compliance Report. The Report must include the following:

1. A description of the pollutants that are in exceedance and an analysis of possible sources;
2. A plan to comply with the RWL (Permit, Part 2);
3. Changes to the SQMP to eliminate water quality exceedances;
4. Enhanced monitoring to demonstrate compliance; and
5. Results of implementation.

III. SQMP Implementation (Part 3)

A. Has your agency implemented the SQMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes ☐ No ☐

B. If your agency has implemented additional or different controls than described in the countywide SQMP, has your agency developed a local SQMP that reflects the conditions in its jurisdiction and specifies activities being implemented under the appropriate elements described in the countywide SQMP? Yes ☐ No ☐

C. Describe the status of developing a local SQMP in the box below.

D. If applicable, describe an additional BMP, in addition to those in the countywide SQMP, that your city has implemented to reduce pollutants in storm water to the maximum extent practicable.

E. Watershed Management Committees (WMCs)

1. Which WMC are you in?
2. Who is your designated representative to the WMC?
3. How many WMC meetings did you participate in last year?
4. Describe specific improvements to your storm water management program as a result of WMC meetings.
5. Attach any comments or suggestions regarding your WMC.

F. Storm Water Ordinance

1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order 01-182? Yes ☐ No ☐
   If not, describe the status of adopting such an ordinance.
2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes ☐ No ☐
   If not, please attach a copy to this Report.

3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes ☐ No ☐
   If yes, attach a copy of amendments to this Report.

G. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

IV. Special Provisions (Part 4)

A. Public Information and Participation (Part 4.B)

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

a) How many storm drain inlets does your agency own?

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by the date required in Order No. 01-182.

2. Reporting Hotline

a) Has your agency established its own hotline for reporting and for general storm water management information? Yes ☐ No ☐

b) If so, what is the number?

c) Is this information listed in the government pages of the telephone book? Yes ☐ No ☐

d) If no, is your agency coordinated with the countywide hotline? Yes ☐ No ☐

e) Do you keep record of the number of calls received and how they were responded to? Yes ☐ No ☐

f) How many calls were received in the last fiscal year?

g) Describe the process used to respond to hotline calls.

h) Have you provided the Principal Permittee with your current reporting contact information? Yes ☐ No ☐

i) Have you compiled a list of the general public reporting contacts for all Permittees and posted it on the www.888CleanLA.com web site *(Principal Permittee only)?* Yes ☐ No ☐

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation. *(Principal Permittee only)*

b) Did the Principal Permittee organize quarterly Public Outreach Strategy meetings that you were aware of? Yes ☐ No ☐

How many Public Outreach Strategy meetings did your agency participate in last year?

Explain why your agency did not attend any or all of the organized meetings.

Identify specific improvements to your storm water education program as a result of these meetings:

List suggestions to increase the usefulness of quarterly meetings:

If quarterly Public Outreach Strategy meetings were not organized, explain why not and when this requirement will be implemented *(Principal Permittee only)*.

c) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

d) Describe efforts your agency made to educate local schools on storm water pollution.

e) Did you provide all schools within each school district in Los Angeles County with materials necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution *(Principal Permittee only)*? Yes ☐ No ☐

If not, explain why.

f) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts *(Principal Permittee only)*.

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

g) What is the behavioral change target that was developed based on sociological data and other studies *(Principal Permittee only)?*

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

4. Pollutant-Specific Outreach

   a) Attach a description of each watershed-specific outreach program that your agency developed *(Principal Permittee only)*. All pollutants listed in Table 1 (Section B.1.d.) must be included.

   b) Did your agency cooperate with the Principal Permittee to develop specific outreach programs to target pollutants in your area? Yes ☐ No ☐

   c) Did your agency help distribute pollutant-specific materials in your city? Yes ☐ No ☐

   d) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc...

5. Businesses Program

   a) Briefly describe the Corporate Outreach Program that has been developed to target gas stations and restaurant chains *(Principal Permittee only)*.

   b) How many corporate managers did your agency *(Principal Permittee only)* reach last year?

   c) What is the total number of corporations to be reached through this program *(Principal Permittee only)*?

   d) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years *(Principal Permittee only)*? Yes ☐ No ☐

   If not, describe measures that will be taken to fully implement this requirement.

e) Has your agency developed and/or implemented a Business Assistance Program? Yes ☐ No ☐

If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes ☐ No ☐

How many media outlets were contacted?

Which newspapers or radio stations ran them?

Who was the audience?

7. Did you supplement the County's media purchase by funding additional media buys? Yes ☐ No ☐

Estimated dollar value/in-kind contribution:

Type of media purchased:

Frequency of the buys:

Did another agency help with the purchase? Yes ☐ No ☐

8. Did you work with local business, the County, or other Permittees to place non-traditional advertising? Yes ☐ No ☐

If so, describe the type of advertising.

9. Did you establish local community partnerships to distribute educational storm water pollution prevention material? Yes ☐ No ☐

Describe the materials that were distributed:

Who were the key partners?
Who was the audience (businesses, schools, etc.)?

10. Did you participate in or publicize workshops or community events to discuss storm water pollution? Yes ☐ No ☐
How many events did you attend?

11. Does your agency have a website that provides storm water pollution prevention information? Yes ☐ No ☐
If so, what is the address?

12. Has awareness increased in your community regarding storm water pollution? Yes ☐ No ☐
Do you feel that behaviors have changed? Yes ☐ No ☐
Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

13. How would you modify the storm water public education program to improve it on the City or County level?

B. Industrial/Commercial Facilities Program

1. Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes ☐ No ☐

Comments/Explanation/Conclusion:

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Landfills				
TSDF				
...				

Comments/Explanation/Conclusion:

3. BMPs Implementation

Provide the reporting data as suggested in the following table.

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Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing out of total in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Landfills										
...										

Comments/Explanation/Conclusion:

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to D.A., etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities (re)inspected due to enforcement actions in current reporting year	Number of facilities (re)inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of Other

Comments/Explanation/Conclusion:

R0008008

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5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from the storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SQMP, if warranted.

Highly Effective ☐ Somewhat Effective ☐ Non-effective ☐

Comments/Explanation/Conclusion:

6. You must also submit a quarterly electronic submittal of your Industrial/Commercial Facilities Program activities.

R0008009

C. Development Planning Program (Part 4.D)

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes ☐ No ☐
   Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:

   a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes ☐ No ☐

   b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes ☐ No ☐

   c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes ☐ No ☐

   d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes ☐ No ☐

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

5. Has your agency amended codes and/or ordinances to give legal effect to the SUSMP changes required in the Permit? Yes ☐ No ☐

6. Describe the process your agency uses to include SUSMP design standards in new development and redevelopment project approvals.

7. How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

   a) Residential

   b) Commercial

   c) Industrial

   d) Automotive Service Facilities

   e) Retail Gasoline Outlets

   f) Restaurants

   g) Parking Lots

   h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area

   i) Total number of permits issued to priority projects

8. What is the percentage of total development projects that were conditioned to meet SUSMP requirements? %

9. How has your agency prepared to reduce the SUSMP threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

10. After 2003, how many additional projects per year will require/did require implementation of SUSMP requirements as a result of the lower threshold?

11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements for new development? Yes ☐ No ☐

12. Has your agency modified its planning procedures for preparing and reviewing CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes ☐ No ☐

If no, provide an explanation and an expected date of completion.

13. Did your agency update any of the following General Plan elements in the past year?

a) Land Use Yes ☐ No ☐

b) Housing Yes ☐ No ☐

c) Conservation Yes ☐ No ☐

d) Open Space Yes ☐ No ☐

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

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14. How many targeted staff were trained last year?

15. How many targeted staff are trained annually?

16. What percentage of total staff are trained annually? %

17. Has your agency developed and made available development planning guidelines? Yes ☐ No ☐

18. If no, what is the expected date that guidelines will be developed and available to developers?

19. What is the status of completion of the technical manual for siting and design of BMPs for the development community?

D. Development Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

   a) Will result in soil disturbance of one acre or greater — Yes ☐ No ☐

   b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area — Yes ☐ No ☐

   c) Is located in a hillside area — Yes ☐ No ☐

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water permit and a certification that a SWPPP has been prepared prior to issuing a grading permit?

5. How many building/grading permits were issued to sites requiring Local SWPPPs last year?

6. How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Storm Water Permit last year?

7. How many building/grading permits were issued to construction site less than one acre in size last year?

8. How many construction sites were inspected during the last wet season?

9. Complete the table below.

Type of Violation	# of Violations	% of Total Inspections	# of Follow-up Inspections	# of Enforcement Actions
Off-site discharge of sediment				
Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

11. Describe the system that your agency uses to track the issuance of grading permits.

E. Public Agency Activities (Part 4.F)

1. Sewage System Maintenance, Overflow, and Spill Prevention (*only applicable to agencies that own and/or operate a sanitary sewer system*)

a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order 01-182? Yes ☐ No ☐

b) How many sanitary sewer overflows occurred within your jurisdiction?

c) How many did your agency respond to?

d) Did your agency investigate all complaints received? Yes ☐ No ☐

e) How many complaints were received?

f) Upon notification, did your agency immediately respond to overflows by containment? Yes ☐ No ☐

g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes ☐ No ☐

h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes ☐ No ☐

If so, describe the program:

i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes ☐ No ☐

If so, describe the program:

2. Public Construction Activities Management

a) What percentage of public construction sites 5 acres or greater in size did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit ? ☐ %

b) Give an explanation for any sites greater than 5 acres that were not covered:

c) What is the total number of active public construction sites?

How many were 5 acres or greater in size?

d) (After March, 2003) Did your agency obtain coverage under the State of California General Construction Activities Storm Water Discharge Permit coverage for public construction sites for sites one acre or greater? Yes ☐ No ☐

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

(1) Good housekeeping practices

(2) Material storage control

(3) Vehicle leaks and spill control

(4) Illicit discharge control

c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes ☐ No ☐

If not, what is the status of implementing this requirement?

d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above?

4. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes ☐ No ☐

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes ☐ No ☐

If so, list them:

d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?

e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

5. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes ☐ No ☐

b) How many of each designation exist in your jurisdiction?

Priority A:
Priority B:
Priority C:

c) Is your city subject to a trash TMDL? Yes ☐ No ☐

d) If yes, describe the activities and/or implementation measures that your agency conducted pursuant to the TMDL and any other trash reduction efforts that occurred.

e) How many times were all Priority A basins cleaned last year?

f) How many times were all Priority B basins cleaned last year?

g) How many times were all Priority C basins cleaned last year?

h) How much total waste was collected in tons from catch basin clean-outs last year?

i) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.

j) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes ☐ No ☐

k) How many new trash receptacles were installed last year?

l) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:

(1) Provide for the proper management of trash and litter generated from the event? Yes ☐ No ☐

(2) Arrange for temporary screens to be placed on catch basins? Yes ☐ No ☐

(3) Or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes ☐ No ☐

m) Did your agency inspect the legibility of the catch basin stencil or labels? Yes ☐ No ☐

What percentage of stencils were legible?

Los Angeles County Municipal Storm Water Permit (Order 01-182)
Individual Annual Report Form
Attachment U-4

n) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes ☐ No ☐

o) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes ☐ No ☐

Is the prioritization attached? Yes ☐ No ☐

p) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes ☐ No ☐

What changes have been made?

q) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes ☐ No ☐

r) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

s) Where is removed material disposed of?

6. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

(1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes ☐ No ☐

(2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes ☐ No ☐

(3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes ☐ No ☐

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

(1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes ☐ No ☐

(2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes ☐ No ☐

(3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes ☐ No ☐

c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes ☐ No ☐

d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes ☐ No ☐

e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes ☐ No ☐

f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes ☐ No ☐

(2) Identify and select appropriate BMPs? Yes ☐ No ☐

7. Parking Facilities Management

a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes ☐ No ☐

b) Were any Permittee-owned parking lots cleaned less than once a month? Yes ☐ No ☐
How many?

8. Public Industrial Activities Management

   a) Did your agency, for all municipal activity considered an industrial activity under USEPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than December 31, 2001? Yes ☐ No ☐

   b) Does your agency serve a population of less than 100,000 people? Yes ☐ No ☐

9. Emergency Procedures

   a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes ☐ No ☐

   b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes ☐ No ☐

10. Feasibility Study

   a) Did your agency cooperate with the County Sanitation Districts of Los Angeles County to prepare a study which investigates the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes ☐ No ☐

   b) Did your agency review its individual prioritized list and create a watershed based priority list of drains for potential diversion and submit a listing of priority diversions to the Regional Board Executive Officer? Yes ☐ No ☐

F. Illicit Connections and Illicit Discharges (IC/ID) Elimination Program (Part 4.G)

1. Attach a copy of your agency's IC/ID Elimination Implementation Program (Part 4.G.1.a.).

2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year (Part 4.G.1.b). If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

5. What is the total length of open channel that your agency owns and operates?

6. What length was screened last year for illicit connections?

7. What is the total length of closed storm drain that your agency owns and operates?

8. What length was screened last year for illicit connections?

9. Describe the method used to screen your storm drains.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total # reported/ identified	Total # investigated	# that conveyed exempt discharges or NPDES permitted	# that conveyed illicit discharges that were terminated	# that were removed	# that resulted in enforcement action	# that resulted in *other* actions
01/02							
02/03							
03/04							
04/05							
05/06							

11. Explain any *other* actions that occurred in the last year.

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

    a) Were all identified connections terminated within 180 days? Yes ☐ No ☐

    b) If not, explain why.

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total # reported	Total # that were discontinued/ cleaned up voluntarily through enforcement and the source was identified	# that were cleaned up but the source could not be identified	# that resulted in no evidence of discharge	# that were determined to be conditionally exempt	# that were exempt or in compliance and the source identified	# that resulted in enforcement action
01/02							
02/03							
03/04							
04/05							
05/06							

14. What is the average response time after an illicit discharge is reported?

    a) Did any response times exceed 72 hours? Yes ☐ No ☐

    b) If yes, explain why.

15. Describe the your agency's spill response procedures.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

17. Attach a list of all permitted connections to your storm sewer system.

V. Monitoring

Briefly describe any storm water monitoring activities that are not required by Order No. 01-182 that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

VI. Assessment of Program Effectiveness

A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;
2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;
3. A summary of the strengths and weaknesses of your agency's storm water management program;
4. A list of specific program highlights and accomplishments;
5. A description of water quality improvements or degradation in your watershed over the past fiscal year;
6. Interagency coordination between cities to improve the storm water management program;
7. Future plans to improve your agency's storm water management program; and
8. Suggestions to improve the effectiveness of your program or the County model programs.

B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.

C. List any suggestions your agency has for improving program reporting and assessment.

14. What is the average response time after an illicit discharge is reported?

    a) Did any response times exceed 72 hours? Yes ☐ No ☐

    b) If yes, explain why.

15. Describe the your agency's spill response procedures.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

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6. Interagency coordination between cities to improve the storm water management program;
7. Future plans to improve your agency's storm water management program; and
8. Suggestions to improve the effectiveness of your program or the County model programs.

B. On a scale of 1 to 10 (10 being full implementation of requirements by their deadlines), rate your municipality's level of compliance with Order No. 01-182.

C. List any suggestions your agency has for improving program reporting and assessment.

VII. Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

FACT SHEET/STAFF REPORT

FOR THE

COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT (CAS004001) ORDER No. 01-182

December 13, 2001

Los Angeles Regional Water Quality Control Board

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FACT SHEET/STAFF REPORT

State of California
California Regional Water Quality Control Board Los Angeles Region
National Pollutant Discharge Elimination System (NPDES)
Permit No. CAS004001, CI 6948
Regional Board Order No. 01-182

I. PURPOSE

The purpose of this Fact Sheet/Staff Report is to give the Permittees and interested parties an overview of the final NPDES storm water permit for the County of Los Angeles and the incorporated cities (except Long Beach), adopted on December 13, 2001, as well as to provide the technical basis for the permit requirements. Sections I through IV describe water quality problems from storm water and urban runoff, and permit conditions to address these problems. Sections V and VI discuss each major element of the Permittees' Storm Water Quality Management Plan (SQMP), and are meant to be used as a companion reference document to the permit. Section VII addresses changes that were made at the December 13, 2001 Regional Board Meeting.

II. INTRODUCTION - THE NEED TO REGULATE STORM WATER DISCHARGES

A. Impacts

The quality of storm water and urban runoff is fundamentally important to the health of the environment and the quality of life in Southern California. Polluted storm water runoff is a leading cause of water quality impairment in the Los Angeles Region. Storm water and urban runoff (during dry and wet weather) are often contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through the storm drain networks directly into the receiving waters of the Region. The water quality impacts and increased public health risks from Municipal Separate Storm Sewer System (MS4) discharges that affect receiving waters nationwide and Los Angeles County and its coastline are well documented.

The **National Urban Runoff Program** (NURP) Study (USEPA 1983) showed that MS4 discharges draining from residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. Although the NURP Study did not cover industrial sites, the study suggested that runoff from industrial sites may have significantly higher contaminant levels than runoff from other urban land use sites. Several studies tend to support this observation, for e.g., the City of Fresno, California, a NURP project site, industrial areas there had the poorest storm water quality of the four land-uses evaluated. The study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.

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The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the Nation's waters from contaminated storm water and urban runoff. The recent 1998 National Water Quality Inventory (305(b) Report)[1] showed that urban runoff/storm water discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report states that ocean shoreline impairment due to urban runoff/storm sewers increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff and storm water discharges are the leading source of pollution and the main factor in the degradation of surface water quality[2] in California's coastal waters, rivers and streams.

The Natural Resources Defense Council (NRDC) 1999 Report, **"Stormwater Strategies, Community Responses to Runoff Pollution"**[3] identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain activities, such as those from industrial sites, are large contributors of pollutant concentrations to the storm water system.

The report also identified several activities causing storm water pollution from urban areas, practices of homeowners, businesses, and government agencies.

More recent studies conducted by **United States Geological Survey** (USGS)[4] confirms the link between urbanization and water quality impairments in urban watersheds due to contaminated storm water runoff.

Furthermore, the water quality impacts of urbanization and urban storm water discharges have been summarized by several other recent USEPA reports.[5] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impairs the beneficial uses of receiving waters. Increases in population density and imperviousness result in changes to stream hydrology including:

a) increased peak discharges compared to predevelopment levels;

---

[1] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress* - USEPA 841-S-00-001 - June 2000; *Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress* - USEPA 841-F-00-006 - June 2000

[2] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress,* Chapter 12 State and Territory Summaries, California, pp. 282-83: 1998.

[3] *Clean Water & Oceans: Water Pollution: In Depth Report Stormwater Strategies, Community Responses to Runoff Pollution.* Natural Resources Defense Council (NRDC), 1999.

[4] *Water Quality in the Puget Sound Basin, Washington and British Columbia, 1996-98,*Circular 1216 - USGS 2000; *Water Quality in the Long Island-New Jersey Coastal Drainages, New Jersey and New York, 1996-98,* Circular 1201 - USGS 2000

[5] *Storm Water Phase II Report to Congress* (USEPA 1995); Report to Congress on the Phase II Storm Water Regulations (USEPA1999); Coastal Zone Management Measures Guidance (USEPA 1992)

b) increased volume of storm water runoff with each storm compared to pre-development levels;

c) decreased travel time to reach receiving water; increased frequency and severity of floods;

d) reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

e) increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization, and

f) decreased infiltration and diminished groundwater recharge.

The Los Angeles County MS4 program has conducted monitoring to:

1. quantify mass emissions for pollutants;
2. identify critical sources for pollutants of concern in storm water;
3. evaluate BMP effectiveness; and
4. evaluate receiving water impacts.

The monitoring indicates that instream concentrations of pathogen indicators (fecal coliform and streptococcus), heavy metals (such as Pb, Cu, Zn,) and pesticides (such as diazinon) exceed state and federal water quality criteria.[6] The mass emissions of pollutants to the ocean are significant from the urban WMAs such as the Los Angeles River WMA, Ballona Creek WMA, and Coyote Creek WMA, with the Los Angeles River WMA providing more than seventy percent of the loadings. Critical source data for facilities (such as auto-salvage yards, primary metal facilities, and automotive repair shops) show that total and dissolved heavy metals (Pb, Cu, Zn, and Cd), and total suspended solids (TSS) exceeded state and federal water quality criteria by as much as 2 orders of magnitude. The results are consistent with a limited term study conducted by the Regional Board to characterize storm water runoff in the Los Angeles region in 1988 before the issuance of first MS4 permit.[7] Storm water runoff data from predominant land uses in Los Angeles County showed similar patterns. Light-industrial, commercial and transportation land uses showed the highest range of exceedances. A pesticide (diazinon) was detected in higher concentrations from residential land use. The data for polycyclic aromatic hydrocarbons (PAHs), a known pollutant of concern in urban storm water runoff, is inconclusive but improved analytical methods may yield more definitive results in the future. Receiving water impacts studies found that storm water discharges from urban watersheds exhibit toxicity that are attributable to heavy metals. Biosurveys of the benthic communities showed bioaccumulation of toxicants. Sediment analysis showed higher concentrations of pollutants, such as Pb and PAHs, in urban watersheds than in rural watersheds (2 to 4 times higher). In addition, toxicity of dry weather flows

[6] *Los Angeles County 1998-1999 Storm water Monitoring Report*, Los Angeles County Department of Public Works (1999). Data summarizes results of storm water monitoring for the most recent year and the past five years.
[7] *Storm Water Runoff in Los Angeles and Ventura Counties, Final Report* (1988), California Regional Water Quality Control Board, Los Angeles, SCCWRP Contribution C292. This study found the highest mean concentrations of pollutants of concern such as heavy metals in the urban watershed rivers and that they contributed significant loads to the ocean.

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was observed with the cause of toxicity undetermined.[8] Other studies have found chemical concentration of pollutants that exceed state and federal water quality criteria in storm drains flowing to the ocean during dry weather,[9] and that there are adverse health impacts from swimming near them.[10]

B. Benefits of Permit Program Implementation

Implementation of the MS4 permit requirements will significantly reduce pollutants in urban storm water in a cost-effective manner. Implementation of Best Management Practices (BMPs) should also reduce pollutant discharges, and improve surface water quality. The expected benefits of implementing the provisions of the Los Angeles County MS4 NPDES permit include:

- **Enhanced Aesthetic Value**: Storm water affects the appearance and quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution will increase benefits as these water bodies recover and become more desirable.
- **Enhanced Opportunities for Boating**: reducing sediment and other pollutants, and increasing water clarity, which enhances the boating experience for users, offer additional benefits.
- **Enhanced Commercial Fishing**: Important because commercial fisheries are a part of the region's economy, and 28% of the estuaries are reportedly impacted by storm water/urban runoff.
- **Enhanced Recreational and Subsistence Fishing**: Pollutants in storm water can eliminate or decrease the numbers, or size, of sport fish and shell fish in receiving waters.
- **Reduced Flood Damage**: Storm water runoff controls may mitigate flood damage by addressing problems due to the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.
- **Reduced Illness from Consuming Contaminated Seafood**: Storm water controls may reduce the presence of pathogens in seafood caught by commercial or recreational anglers.
- **Reduced Illness from Swimming in Contaminated Water**: Epidemiological studies indicate that swimmers in water contaminated by storm water runoff are more likely to experience illness than those who swim farther away from a storm water outfall.
- **Enhanced Opportunities for Non-contact Recreation**: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.
- **Drinking Water Benefits**: Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for treatment, or render the water unusable for drinking.

[8] *Toxicity of Dry Weather Flow from the Santa Monica Bay Watershed*, Bay, S. et al (1996), Bull. Southern California Acad. Sci. 5(1), pp. 33-45. The paper describes preliminary results on dry weather toxicity, which have been confirmed by the MS4 monitoring program.
[9] *Chemical Contaminant Release into Santa Monica Bay, Final Report*, American Oceans Campaign , Santa Monica (1993)
[10] *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999), Epidemiology 10: 355-363). The study found higher risks of respiratory and gastrointestinal symptoms from swimmers.

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- **Water Storage Benefits**: Storm water is a major source of impairment for reservoirs. The heavy load of solids deposited by storm water runoff can lead to rapid sedimentation of reservoirs and the loss of needed water storage capacity.[11]
- **Ground Water Replenishment**: Storm water can be a significant resource that can be used to recharge ground water basins in the region and reduce its dependence on imported water.

III. STATUTORY AND REGULATORY HISTORY OF THE STORM WATER PROGRAM

Over the past 29 years, water pollution control efforts have focused primarily on certain process wastewater discharges from facilities such as factories and sewage treatment plants, with less emphasis on diffuse sources. The 1972 amendments to the Federal Clean Water Act (CWA) prohibit the discharge of any pollutant to waters from a point source, unless a NPDES permit authorizes the discharge. Because the focus on reducing pollutants was centered on industrial and sewage treatment discharges, the U.S. Congress amended the CWA in 1987, requiring the USEPA to create phased NPDES requirements for storm water discharges.

In response to the 1987 Amendments to the CWA, the USEPA developed Phase I of the NPDES Storm Water Program in 1990. Phase I requires NPDES permits for storm water discharges from: (i) "medium" and "large" MS4s generally serving, or located in incorporated places or counties with, populations of 100,000 or more people; and (ii) eleven categories of industrial activity (including construction activity that disturbs five acres or greater of land). Phase II, adopted in December 2000 and scheduled to take effect in March 2003, requires operators of small MS4s and small construction sites (construction activity disturbing between 1 and 5 acres of land) in urban areas to control storm water runoff discharges.

A. Basis for Permit Conditions

1. **Statutory Basis for Permit Conditions.** The conditions established by this permit are based on CWA § 402(p)(3)(B) which mandates that a permit for discharges from MS4s must: effectively prohibit the discharges of non-storm water to the MS4; and require controls to reduce pollutants in discharges from MS4 to the maximum extent practicable (MEP) including best management practices, control techniques, and system, design and engineering methods, and such other provisions determined to be appropriate. MS4s are not exempted from compliance with Water Quality Standards. CWA § 301(b)(1)(C) requires NPDES permits to incorporate effluent limitations, including those necessary to meet water quality standards, applies. The permit conditions have been developed to meet the statutory mandate of the CWA.

   The permit requires the implementation of a comprehensive Storm Water Quality Management Program (SQMP) through a selection of Best Management Practices (BMPs) (40 CFR 122.44(k)) as the mechanism to

[11] *Report to Congress on Phase II Storm Water Regulations.* USEPA, Office of Water. EPA-833-R-99-001, Oct. 1999.

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achieving the reduction of pollutants in storm water to the maximum extent practicable (MEP) (CWA. § 402(p)(3)(B)(iii)).

2. **Regulatory Basis for Permit Conditions.** As a result of the statutory requirements of the CWA the USEPA promulgated MS4 permit application regulations (40 CFR 122.26(d)). These regulations describe in detail permit application information to be submitted by MS4s operators. The information in the application or Report of Waste Discharge (ROWD) is utilized to develop the permit conditions.

3. **Discharge limitations.** No numeric effluent limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the USEPA has required a series of increasingly more effective BMPs,[12] in the form of a comprehensive SQMP and performance criteria in lieu of numeric limitations.[13]

B. Public Review and Participation Process

Los Angeles County Flood Control District submitted the ROWD for on January 31, 2001. Since that time Regional Board staff dedicated significant time and effort to providing the opportunities for public participation and comment. More than 30 meetings, 2 workshops, and numerous outreach efforts were conducted to ensure that the public, the Permittees, and other interested parties had ample opportunity to participate in the development and comment on permit requirements and language prior to consideration by the Regional Board for adoption.

To invite public comment at the beginning of the renewal process, a preliminary draft, dated March 16, 2001, was issued to a working group of interested parties. This draft was used as a starting point for discussion. The workgroup had approximately 30 days to review it prior to the issuance of the first draft, on April 13, 2001. The first draft was sent to all Permittees, storm water consultants, environmental organizations, and other interested parties. It was also made available on the Regional Board Storm Water web page at www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html. More than 30 days were provided for the submittal of written comments. After considering comments submitted, Regional Board staff issued the second draft permit on June 29, 2001. Comments on the second draft (due by August 6, 2001) were considered and incorporated as appropriate in the tentative draft issued on October 11, 2001. Permittees and interested parties had over thirty days to submit written comments and over forty-five days for review prior to Regional Board consideration. Comments on the tentative draft were considered and incorporated as appropriate in the edited tentative draft, which was proposed for adoption before the Regional Board on December 13, 2001. At the Board Meeting, Regional Board staff gave a presentation of the proposed permit and significant changes, and then all interested parties were invited to comment. The Regional Board members asked questions, addressed the significant public comments, and then adopted the edited tentative draft with minor changes, which are described in Section VII. A public notice announcing the Regional Board Hearing was

[12] *Interpretative Policy Memorandum on Reapplication Requirements* of MS4s issued by USEPA (61 Fed. Reg. 41697)
[13] *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits* (61 Fed. Reg. 43761)

published in the Los Angeles Times on October 3, 2001, more than 45 days prior to the date of the Board meeting.

Furthermore, Regional Board staff conducted separate meetings to review particular special provisions with Permittees and interested parties as necessary. In addition to these meetings, Regional Board staff held two workshops to review the permit and listen to comments, including one formal workshop with the Board members on July 26, 2001. Two full-day facilitation sessions to discuss the Industrial/Commercial Facilities Program requirements, with the Regional Board, US EPA and Permittees, were also held. Regional Board staff also participated in monthly Executive Advisory Committee meetings conducted by Permittees where they answered questions and discussed permit issues. Staff was also available for public outreach via telephone. The following table outlines some of the many opportunities for Permittee and public input provided by Regional Board staff.

Date	Public Involvement Activity
January 31, 2001	Application for permit renewal (ROWD)
February 27, 2001	Inspections Working Group Meeting
February 28, 2001	Illicit Connection/Discharge Working Group Meeting
March 1, 2001	Monitoring Working Group Meeting
March 12, 2001	Public Information and Participation Working Group Meeting
March 20, 2001	Inspections Working Group Meeting
March 20, 2001	Construction Working Group Meeting
March 22, 2001	Preliminary Draft Working Group Meeting
April 9, 2001	Monitoring Working Group Meeting
April 13, 2001	Issuance of First Draft
April 24, 2001	Public Workshop
April 24, 2001	Construction Meeting with Building Industry Association
April 27, 2001	Monitoring Working Group Meeting
May 9, 2001	Monitoring Working Group Meeting
May 16, 2001	First Draft Comments Due
May 24, 2001	Construction Meeting with BIA
June 4, 2001	Monitoring Working Group Meeting
June 14, 2001	Monitoring Station Identification Field Trip
June 25, 2001	Monitoring Working Group Meeting
June 29, 2001	Issuance of Second Draft
July 26, 2001	Formal Workshop with Regional Board
August 6, 2001	Second Draft Comments Due
August 8, 2001	Executive Advisory Committee Meeting

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Date	Public Involvement Activity
September 12, 2001	Executive Advisory Committee Meeting
September 19, 2001	Meeting with City of Rancho Palos Verdes
September 27, 2001	Meeting with County of Los Angeles Dept. of Public Works
September 27, 2001	Meeting with BIA and AGC
October 3	Meeting with County and City Departments of Health
October 11, 2001	Issue Tentative Draft
November 9, 2001	Mediation Session with EPA
November 13, 2001	Comments on Tentative Draft Due
November 19, 2001	Monitoring Working Group Meeting
November 29, 2001	Mediation Session with EPA
December 13, 2001	Adoption at Board Meeting

IV. BACKGROUND - LOS ANGELES COUNTY MS4

A. Los Angeles County MS4 Permit History

In 1990, the Los Angeles Regional Board (Regional Board) adopted Order No. 90-079, the Los Angeles County MS4 Permit. That permit required the Los Angeles County Flood Control District, the County of Los Angeles and the incorporated cities in Los Angeles County to implement storm water pollution controls including amending ordinances, optimizing existing pollutant controls such as street sweeping, construction site controls, and others. The Regional Board required all Permittees to implement a minimum list of 13 BMPs for consistency across the County. The 1990 permit was issued on a system wide basis due to the highly interconnected storm drain system serving a population well in excess of 100,000 inhabitants. An NPDES permit is valid for a five-year period after the date is issued.[14]

On July 15, 1996, the Regional Board adopted Order No. 96-054 that revised the 1990 permit. The 1996 LA County MS4 permit required model programs be developed and implemented by the Permittees for Public Information and Public Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges, Public Agency Activities, and Development Planning. These model programs were intended to be dynamic and expected to change with time, as more information on storm water impacts became available.

Following the adoption of Order 96-054, the City of Long Beach submitted a ROWD as an application for its own MS4 permit. The City of Long Beach Municipal Storm Water Permit (Order No. 99-060) was adopted on June 30,

[14] 40 CFR §122.46 (a)

1999. This Order superseded the countywide permit requirements for the City of Long Beach, and the City now operates under its separate MS4 permit.

On January 31, 2001, the Los Angeles County Department of Public Works submitted an application for renewal of their MS4 permit in the form of an ROWD for Los Angeles County and the incorporated cities, except for the City of Long Beach. This application started the process for reissuance of the permit, which enters into its third permit term now.

B. Los Angeles County Storm Drain System

The MS4 covered by this proposed permit for the County of Los Angeles and 83 incorporated cities drains the coastal slopes of the Transverse Mountain Ranges, and flows into the Santa Monica Bay and the Los Angeles/Long Beach Harbor. The storm drain structure consists of thousands of catch basins, thousands of miles of underground storm drains, as well as open channels, all owned and operated separately by Permittees. The length of the system, and the locations of all storm drain connections, are not known exactly, as a comprehensive map for the storm drain system does not exist. Rough estimates, based on information from large municipalities (population > 100,000), indicate that the length exceeds 4,300 miles, as shown below.

Permittee	Area (Square Miles)	Catch Basins	Storm Drain Length	Open Channel Length
LA County	3,100	73,000	2,650 miles	450 miles
City of LA	469	30,000	1,600 miles	31 miles
El Monte	10	316	11 miles	0.4 mile
Glendale	30.6	1,100	Unknown	Unknown
Inglewood	9	1,157	12 miles	Unknown
Pasadena	26	1,050	30	Unknown
Santa Monica	8.3	850	Unknown	Unknown
Torrance	20	2,000	20 miles	3 miles
TOTAL		**109,473**	**4,323**	**484.4**

C. Summary of Water Quality Issues in Los Angeles County Watersheds

Watersheds are geographic areas draining into a river system, ocean or other bodies of water through a single outlet. There are six Watershed Management Areas (WMAs) that represent the six major watersheds covered by the Los

Angeles County MS4 NPDES permit. The following is a summary of some significant issues in each watershed.[15]

Dominguez Channel/Los Angeles-Long Beach Harbor Watershed

Permitted discharges

- 415 dischargers covered under an industrial storm water permit
- 69 dischargers covered under a construction storm water permit

Potential sources of pollution

- Historical deposits of DDT and PCBs in sediment
- Spills from ships and industrial facilities
- Leakages contaminating groundwater
- **Urban and storm water runoff**
- Impairments: metals, PCBs, PAHs, historic pesticides, coliform, trash, and nitrogen

Los Angeles River Watershed

Permitted discharges

- 1,327 dischargers covered under an industrial storm water permit
- 147 dischargers covered under a construction storm water permit

Potential sources of pollution

- Nitrogen and coliform contributions from septic systems
- Other nonpoint sources (horse stables, golf courses)
- Leakage of MTBE from underground storage tanks
- **Urban and storm water runoff**
- Impairments: nitrogen, trash, selenium, other metals, coliform, PCBs, historic pesticides, chlorpyrifos

San Gabriel River Watershed[16]

Permitted discharges

- 549 dischargers covered under an industrial storm water permit
- 175 dischargers covered under a construction storm water permit

Potential sources of pollution

- Excessive trash in recreational areas of upper watershed
- Nonpoint source loadings from nurseries and horse stables

[15] *Watershed Management Initiative Chapter.* California Regional Water Quality Control Board – Los Angeles Region. Dec. 2000.
[16] *San Gabriel Watershed State of The Watershed* - RWQCB - LA Region - June 2000

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- **Urban and storm water runoff**
- Impairments: nitrogen and effects, trash, metals, historic pesticides, coliform, chlorides, and PCBs

Santa Monica Bay Watershed

- 147 dischargers covered under an industrial storm water permit
- 107 dischargers covered under a construction storm water permit

Potential sources of pollution

- Discharges from Ballona and Malibu Creeks contribute to impairments in the Santa Monica Bay and its beaches.
- Impairments: mercury, selenium, other metals, historical pesticides, PAHs, PCBs, nitrogen, coliform, trash, TBT, habitat alteration, exotic vegetation, and salts

Coastline

- **Acute health risk associated with swimming in runoff contaminated surfzone waters**
- Chronic risk associated with consuming seafood from areas impacted by DDT and PCB contamination
- Historic deposits of DDT and PCBs in sediment

Ballona Creek Watershed

- Trash loading from creek
- Sediment contamination by heavy metals form creek to Marina del Rey Harbor and offshore
- **Toxicity of both dry weather and storm water runoff in creek**
- High bacterial indicators at mouth of creek

Malibu Creek Watershed

- Excessive freshwater, nutrients, and coliform in lagoon; contribution from POTW and other sources
- **Urban runoff from upper watersheds**
- Septic tanks in lower watershed

Santa Clara River Watershed

Permitted discharges

- 4 POTWs
- 98 dischargers covered under an industrial storm water permit
- 190 dischargers covered under a construction storm water permit

Potential sources of pollution

- Agriculture
- Increasing loads of nitrogen and salts in supplies of ground water

- POTW discharges
- Increasing development and channelization that results in increased runoff volumes and velocities, erosion, and loss of habitat
- Septic tanks
- Impairments: chloride, nutrients (nitrogen), coliform, trash (in parts of watershed)

D. Enforcement Provision

During the renewal process for the existing permit (i.e. in 1995 and 1996), the permittees proposed and the Regional Board agreed to addition of a "Notice to Meet and Confer" provision (Part 2, section G of the existing permit). This was envisioned as an administrative review process for resolving permit disputes before the Regional Board would take formal enforcement action. It has been actually used only once (in 2000), when the Regional Board issued Notice to Meet and Confer letters to permittees in the Los Angeles River and Ballona Creek watersheds. The purpose of this process was to determine the effectiveness of municipalities' efforts to reduce trash in waters that are impaired by trash.

Subsequent to renewal of the existing permit, the State developed an enforcement policy (State Board Resolution 96-030) and guidance, which sets forth a progressive strategy that has the goal of ensuring consistent, predicable, and fair enforcement of regulations. This is now a well-established and widely implemented policy throughout the State, including in the Los Angeles Region. Therefore, with this policy of progressive enforcement in place the Notice to Meet and Confer provision is not needed; accordingly, the proposed permit does not contain this provision.

E. Total Maximum Daily Loads (TMDLs)

Part 3, Section C. of the proposed permit specifies that the Permittees shall amend the SQMP to comply with load allocations approved pursuant to adoption and approval of Total Maximum Daily Loads (TMDLs). The addition of this provision represents a significant difference from the existing permit, which does not contain a provision for implementation of TMDLs. In addition, the Special Provisions for the Permittees' Program for Public Agencies (Part 4, Sections F.7. and F.8.) specifies performance measures for watersheds subject to a trash TMDL.

TMDLs are one of the Regional Board's highest priorities. In view of the Region's highly urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions can't be forecast at this time, the Board does envision that storm water permits will be an important mechanism for implementing pollutant load reductions. An early example of the relationship between TMDLs and storm water permits is the trash TMDL adopted for the Los Angeles River and Ballona Creek on September 13, 2001, which directs municipalities to monitor for baseline trash levels for 2-4

years, and then to start implementing trash prevention and/ or control measures to reduce trash to "zero" by the year 2013. This 5-year permit incorporates the monitoring requirements of the TMDL and, based on the results of the monitoring requirements, specified load reductions of 60% by 2006. Permits that are adopted subsequent to this MS4 permit are expected to incorporate the remaining load allocation reductions to achieve "zero" trash in the Los Angeles River and Ballona Creek by 2013.

Public review of the Regional Board's TMDLs, will occur during the TMDL adoption process (there need not be an additional public process for TMDL implementation and Basin Plan amendment). Upon approval of a TMDL, the waste load allocations and load allocations (specified in that TMDL) will become effective and enforceable under this permit. This TMDL provision is consistent with TMDL provisions in the Long Beach and Ventura County MS4 permits.

F. Revision of the Permittees' Storm Water Quality Management Program

In general, MS4 permits such as the Los Angeles County MS4 Permit do not have numeric effluent limits for storm water discharges. Rather, the Regional Board relies on a BMP approach implemented by the Permittees to reduce the discharge of pollutants in storm water to the MEP. Therefore the development and implementation of the special provisions (i.e. the model programs) become of paramount importance.

The Special Provisions in the next section are - for the most part - based on the Permitees' existing model programs, which they've been implementing since at least 1999. The incremental changes Regional Board staff has made to the current permit include greater specificity, and better measures to determine implementation. Some of the Permittees are already meeting these performance measures. The performance measures in the permit help to clarify the MEP compliance expectations and set a consistent bar for all Permittees.

V. DISCUSSION OF SPECIAL PROVISIONS

A. Public Information and Participation Program (PIPP)

Legal Authority:

CWA § 402(p)(3)(B)(ii-iii), CWC section 13377, and NPDES regulations at 40 CFR 122.26(d)(2)(I)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and

other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include " A description of education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

To satisfy the Public Education and Outreach minimum control measure, the Permittees need to: (i) implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and (ii) determine the appropriate BMPs and measurable goals for this minimum control measure.

Background:

Implementation of a PIPP is a critical BMP and a necessary component of a storm water management program. The State Board Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The USEPA Phase II Fact Sheet 2.3 (Fact Sheet 2.3) finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[17]

Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and, therefore, should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program because it allows for:

- Broader public support since residents who participate in the development and decision making process are partially responsible for the program and, therefore, are more likely to take an active role in its implementation;
- Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of residents volunteers;
- A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
- A conduit to other programs as residents involved in the storm water program development process make important cross-connections and relationships with other community and government programs. This benefit is particularly

[17] *Storm Water Phase II Final Rule - Public Education and Outreach Minimum Control Measure.* USEPA Fact Sheet 2.3, January 2000.

valuable when trying to implement a storm water program on a watershed basis.

Discussion of New Requirements:

Los Angeles County should continue its comprehensive educational storm water and urban runoff outreach program, which is designed to measurably increase public knowledge and change behavior regarding storm water pollution. The first five-year public education program initiated in 1996 was successful at studying segments of Los Angeles County residents to identify those who pose the greatest threat to storm water quality and those who represent the greatest opportunity to respond positively to a public education program, as well as providing a baseline measurement of residents' storm water-related practices and habits. This information was used to target the residents who are most likely to change their behaviors to improve storm water quality. Using various communication tactics and activities, the program successfully reached 83% of County residents with pollution prevention messages through the Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis (Five-Year Strategy).[18]

Although the Program has been successful at certain goals, it must be augmented to continue increasing public awareness of specific storm water issues. According to the USEPA, materials and activities should be relevant to local situations and issues, and incorporate a variety of strategies to ensure maximum coverage.[19] To help address local situations and sources of specific pollutants, section B.1.d. of the PIPP requires the development of watershed and pollutant-specific education programs.

A need also exists to target ethnic groups that may not be reached by or understand existing storm water educational materials. In an effort to reach these groups the PIPP requires the development of a strategy to provide outreach and bilingual materials to target ethnic communities.

Also, the USEPA encourages partnerships and cooperation among Permittees, businesses and the public.[20] Quarterly meetings will provide the opportunity for Permittees to coordinate their outreach efforts and efficiently build on the County's existing program with local, watershed-specific efforts. Since the Program's inception, Permittees have been required to conduct educational activities within their own jurisdictions. The lack of guidance and coordination has led to duplicate efforts and confusion about developing appropriate programs that are consistent with, and enhance the Principal Permittee's regional education program. This requirement will ensure that all Permittees are coordinated for the most efficient and effective Program. It will also help identify Permittees with insufficient Programs.

[18] Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis, Los Angeles County of Public Works, July 31, 2000.
[19] Phase II Fact Sheet 2.3
[20] *Id.*

It is generally more cost-effective to have numerous operators coordinate to use an existing program than all developing their own local programs. Therefore, Permittees should build on the regional program with additional information specific to local needs.

Furthermore, directing materials or outreach programs toward specific groups of commercial, industrial, and institutional entities likely to have significant storm water impacts is recommended.[21] Pursuant to Order 96-054, the Principal Permittee conducted educational site visits to Phase I industrial facilities, auto repair shops, retail gasoline outlets, and restaurants over the last 5 years. The next step in this targeted outreach program is education at the corporate level to facilitate employee compliance.[22] Therefore, the Principal Permittee is required to implement a corporate outreach program to educate corporate management at gas stations and restaurant chains about storm water regulations.[23] Also, a non-regulatory business assistance program would encourage small businesses that lack access to the expertise necessary to comply with storm water regulations and to implement pollution prevention measures. The business assistance program is not a requirement, however, its implementation is encouraged.

Program Performance Measures:

The previous public information program did not include a protocol to measure the effectiveness of the different public education efforts. The new permit includes requirements to measure the outcome of outreach efforts and demonstrate that they are effective at increasing knowledge and changing the behavior of the public in regards to storm water pollution. The permit includes requirements for the Principal Permittee to develop a strategy for measuring the effectiveness of different educational programs and to develop a behavioral change target that will become a performance measure that must be reported on in Annual Reports.

In addition to the assessment requirements mentioned above, the Principal Permittee is also required to: (a) ensure that a minimum of 35 million impressions per year are made on the general public about storm water via print, local TV access, local radio, or other appropriate media; and (b) provide all School Districts within its jurisdiction with materials, including videos, live presentations, brochures, and other media necessary to educate a minimum of fifty percent of all school children (K-12) every 2 years on storm water pollution. These performance measure are justified based on their consistency with requirements in the City of Long Beach and Ventura County MS4 permits, and on the Principal Permittee's previous performance of PIPP requirements.

According to the Principal Permittee's Year Four (1999-2000) Highlights, approximately 85 million impressions were made through advertising, media relations, customized coffee jackets, corporate partnerships, special events, and

[21] Phase II Fact Sheet 2.3
[22] *Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis*, Los Angeles County Public Works, July 31, 2000. Part P.5.
[23] Permit, Part 4, section B.2.a.

business outreach. Hits on the www.888CleanLA.com web site have been consistently increasing, indicating a growing public interest, as well as greater awareness. Also, increased media attention and public interest in current issues, such as trash TMDLs, is expected. Los Angeles County has committed to making a minimum of 35 million impressions per year.

Furthermore, the requirement is consistent with the number of impressions (3 - 3.5 per resident) required in the Long Beach MS4 Permit and the Ventura County MS4 Permit. The City of Long Beach is required to make a minimum of 1.5 million impressions per year. With a total population of approximately 426,000 people, this amounts to 3.5 impressions per resident per year. Ventura County is required to achieve 3 impressions per resident per year. Los Angeles County's population is 9.5 million people.[24]

According to data provided by Los Angeles County, the School Environmental Education Program has been reaching approximately 50 percent of elementary and secondary schools in the County every 2 years. It is also expected that the required coordination among Permittees will increase the effectiveness and scope of this Program.

B. Industrial/Commercial Facilities Program

Legal Authority:

The Phase I regulations require, in part, that the applicant (i) develop adequate legal authority, (ii) perform a source identification, and (iv) develop a management program to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system design and engineering methods, and such other provisions which are appropriate.[25] Specifically, with regards to industrial controls, the management plan shall include the following.

40 CFR 122.26(d)(2)(iv)(C), A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

> *(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.*
> *(2) Describe a monitoring program for storm water discharges associated with industrial facilities [...]*

Background:

The municipality is ultimately responsible for discharges from the MS4. Because industrial awareness of the program may not be complete, there may be facilities

[24] 2000 U.S. Census Bureau
[25] 40 CFR 122.26(d)(2)

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within the MS4 area that should be permitted but are not (non-filers). In addition, the Phase I regulations that require industries to obtain permit coverage for storm water discharges is largely based on SIC Code. This has been shown to be incomplete in identifying industries that may be significant sources of storm water pollution (*"industries" includes commercial businesses). The word "industries" is used in a broad sense*). Another concern is that the permitting authority may not have adequate resources to provide the necessary oversight of permitted facilities. Therefore, it is in the municipality's best interest to assess the specific situation and implement an industrial/commercial inspection/site visit and enforcement program to control the contribution of pollutants to the MS4 from all high risk sources.

In the preamble to the 1990 regulations, the USEPA clearly states the intended strategy for discharges of storm water associated with industrial activity:

"...Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system." The USEPA also notes in the preamble that *"... municipalities will be required to meet the terms of their permits related to industrial dischargers.*"

Similarly, in the USEPA's Guidance Manual[1] (Chapter 3.0), it is specified that MS4 applicants must demonstrate that they possess adequate legal authority to:

- Control construction site and other industrial discharges to MS4s;
- Prohibit illicit discharges and control spills and dumping;
- Carry out inspection, surveillance, and monitoring procedures.[26]

The document goes on to explain that *"control"*, in this context means not only to require disclosure of information, but also to *limit, discourage, or terminate* a storm water discharge to the MS4. Further, to satisfy its permit conditions, a municipality may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities and construction sites *not* required to obtain permits.

In the same Guidance Manual[27] (Chapter 6.3.3), it is stated that the municipality is ultimately responsible for discharges from their MS4. Consequently, the MS4 applicant must describe how the municipality will help the USEPA and authorized NPDES States to:

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans (SWPPPs) and other procedures that industrial facilities must develop under general or individual permits;

[26] *Guidance Manual For the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* - USEPA -November 1992
[27] *Id.*

- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities discharging storm water to the municipal systems to ensure these facilities are in compliance with their NPDES storm water permit, if required.

Discussion:

Recognizing that the municipality is ultimately responsible for the quality of storm water discharges from the MS4, the municipalities must evaluate industrial/commercial facilities and determine their compliance with the permit requirements, as well as their contribution to the MS4 and potential impacts to the receiving waters. The following areas are to be addressed in order to implement a meaningful industrial/commercial inspection/site visit and enforcement program.

- **Source Identification**
  - Identification of industrial/commercial sites discharging to the MS4 (by SIC codes and narrative if needed)
  - Characterization of activities, materials used, and potential for contributing pollutants along with the type of pollutants

- **Pollution Prevention**
  - Key concepts are many times overlooked: Prevent, before it happens, and be pro-active rather than reactive. It is more difficult to treat after the pollutant is released or mixes with storm water. BMPs and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges from industrial and commercial facilities.

- **Threat to Water Quality Prioritization**
  - Identify impaired water bodies by pollutants and link with activities and industrial/commercial sites that may contribute those particular pollutants (or potentially contribute to) the water quality impairment

- **Through existing ordinance, order, or similar means, the ability to**
  - enter premises;
  - conduct inspections;
  - review and evaluate SWPPPs and monitoring results review;
  - require control methods (BMPs) implementation; and,
  - take appropriate enforcement actions, if necessary.

It may be necessary to update existing ordinances if they do not provide sufficient legal authority to implement the above mentioned components as required by the regulations.

Integration of NPDES Program for MS4 with NPDES Program for Industrial Activities

Recognizing the dual coverage envisioned by the USEPA regulations[28], and suggested partnership between local and State authorities, municipalities shall coordinate with State activities for the implementation of the General Industrial Activities Storm Water Permit (GIASP). The goal is to control industrial sources and other sources not specifically covered under Phase I storm water regulations but identified as significant contributors of pollutants by the municipalities through their identification and prioritization studies. The net result should be a better and improved coordinated program with greater impact on limiting and eliminating (as a final goal) the contribution of pollutants to the receiving water while maintaining and/or restore the capacity of the receiving water to sustain the beneficial uses without impairments.

The *Critical Source Selection and Monitoring Report*[29] identified seven highest ranked pollution potential activities to be, in order of ranking: (i) wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products, (vi) automotive dealers/gas stations, (vii) primary metals products. The report also outlined a complete study plan to be implemented by the Permittees during the permit term. It is significant to note that five out of seven categories of activities are subject to Phase I industrial storm water regulations. Although *automotive repair/parking* and automotive dealers/gas stations categories were not the focus of the Phase I storm water regulations, the study identified these commercial categories as significant potential pollutant contributors based on the criteria developed in the critical source criteria study.

Rank (pollution potential)[30]	Industrial Category	SIC Code	No. Facilities (estimated)
1	Wholesale trade (scrap, auto dismantling)	50	587
2	*Automotive repair/parking*	*75*	*6,067*
3	Fabricated metal products	34	3,283
4	Motor freight (including trucking)	42	872
5	Chemical and allied products	28	1,069
6	*Automotive Dealers/Gas Stations*	*55*	*2,744*
7	Primary Metals Products	33	703

It is also important to note that heavy metals are significant pollutants transported in storm water discharges and cause impairment of receiving waters in the Los Angeles Region. The above table identifies at least two industrial categories that have the highest potential to contribute those pollutants: fabricated metal products and primary metal products. During the previous permit term, Los Angeles County conducted a Critical Source Study (1998-2000). The aim of the study was to monitor for two years the previously identified

[28] Federal Register Vol. 55, No 222, pp. 48000; USEPA Storm Water Phase II Compliance Assistance Guide, 2000, pp. 4-32 and 5-11, where it clarifies the dual responsibility
[29] Critical Source Selection and Monitoring Report, Woodward-Clyde, 1997
[30] *Critical Source Selection and Monitoring Report (Table 1-3)* - Woodward-Clyde 1996

five priority industrial and/or commercial critical source categories. The results of the study confirmed that the critical source industries are indeed high risk. Storm water discharges exceeded water quality standards for almost all toxic pollutants in all categories.

Based on the dual coverage and partnership approach between the permitting authority and municipalities that the USEPA called for in the storm water regulations (see letters from Alexis Strauss, USEPA Water Division Director),[31,32] and in order to best use limited resources at the State and local level, the permit includes the following improvements.

Recognizing that this permit represents a *third term* permit, and building upon the experience and tools developed under the previous permits, the Industrial/Commercial program has been elevated to an inspection and enforcement program. The municipalities are required to (i) control the storm water discharges associated with industrial activities and other commercial facilities identified as significant contributors of pollutants, and (ii) assist the Regional Board in ensuring that industrial activities are covered by the general industrial storm water permit. This requirement is consistent with the nationwide approach used by the USEPA in issuing *second term* MS4 permits.[33] Also, this requirement is consistent with other MS4 permits issued in California: San Diego and Santa Clara MS4 permits. Business education and outreach should be continued under the auspices of the Public Education program.

The strategy as outlined in the draft permit builds on the State/municipalities partnership by focusing their limited resources on the following activities:

- The Permittees will take a lead role in inspecting restaurants, automotive service facilities, retail gasoline outlets, industrial facilities mandated specifically by the regulations, top five highest ranking industrial categories identified by the Permittees through their critical sources identification and monitoring studies and site visits at the remaining industrial categories identified through their critical sources identification study while
- The Regional Board will be the lead agency for inspections of facilities covered or in need of coverage under GIASP;
- The Permittees will assist Regional Board in its activities to fully enforce the GIASP through spot check inspections, referrals, data information research, joint inspections;
- The Regional Board and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen harmonization of activities;
- The Regional Board may, based on available funding, enter into agreement with Permittees to contract some of the inspection activities required by the GIASP to be done by the Permittees.

[31] Letter dated December 19, 2000, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Dennis Dickerson, Executive Officer, Regional Water Quality Control Board-Los Angeles Region.
[32] Letter dated April 30, 2001, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Honorable Stephen Horn, U.S. House of Representatives
[33] MS4 NPDES Permits issued to Palm Beach County, Broward County, Sarasota County, Florida, Tulsa, Oklahoma, Denver, Colorado.

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Based on comments received from interested parties, various options have been considered for inclusion in the permit, based on the legal requirements and background data already provided by the Permittees:

- First draft (April 13, 2001): Staff took a "top-down" approach to inspections, proposing that Permittees screen databases of tens of thousands of industrial and commercial facilities to identify facilities that should be targeted for an inspection program.

- Second draft (June 29, 2001): In response to comments submitted on the first draft, staff attempted to better structure a partnership between the Regional Board and Permittees. The Regional Board would lead efforts to regulate "Phase 1" industrial facilities (which are subject to the State's General Industrial Activities Storm Water Permit), and the Permittees lead efforts to regulate other problem sectors, such as automotive service facilities, restaurants, and RGOs.

- Third draft (October 11, 2001): Staff proposed three options for Board's consideration. Staff structured an **Option A** to encompass inspections of:
  - USEPA mandated facilities (i.e. landfills, Resource Conservation and Recovery facilities, and toxics treatment storage disposal facilities "TSDF"),
  - the automotive sector,
  - restaurants, and
  - retail gasoline outlets.

  In Regional Board staff's opinion, such a minimal requirement fails to address other critical industrial sources of pollutants. To address this concern and to ensure that pollutants from other critical sources are controlled, staff presented **Option B**. This Option B captures sectors in Option A plus five other priority sectors, which are sources of pollutants that cause many of the impairments to surface waters in Los Angeles County. These five priority sectors are:

  - scrap recycling,
  - automotive dismantling,
  - metal fabrication,
  - motor freight,
  - chemical manufacturing, and
  - primary metal products.

  Option C is status quo – it retains the site visit program as required by the MS4 permit issued by the Regional Board in 1996. It does not recognize the Board's original intent to upgrade the site visit program to an inspection-based program in the long term.

At the request of certain Permittees, the US EPA facilitated two day-long sessions, on November 9th and 29th, during which discussions among Permittees, Regional Board staff, and environmental representatives focused on inspection requirements as presented in the third draft as Options A, B, and C.

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Participants made diligent attempts to understand various positions and limitations and, as a result, another option, **Version A/C,** emerged as converging toward a potential consensus.

Version A/C blends elements of the other options previously submitted to the Board and to the public, provides greater clarity with regard to Regional Board expectations and responds to Permittees' concerns over funding by better coordinating State (i.e. Regional Board) inspection efforts with those of the Permittees.

Version A/C clarified and reduced the scope of inspections. In general, frequencies have been reduced from once every 24 months to once every 30 months. In addition, Phase I facilities have been separated in Tier 1 and Tier 2 sites and further reduced the frequency of inspections for Tier 2 category to once every 5 years. The facilities with no exposure of industrial activity to storm water need not be inspected, after the initial determination of no-exposure, during the term of the permit..

Another significant adjustment was the addition of a provision relieving permittees of the responsibility to inspect those Phase I facilities that the Regional Board has inspected within the previous 24 months. In regards to the level of inspection, it was clarified that the Permittees are expected to check during inspections for compliance with the implementation of minimum BMPs, as previously approved by Board Order 98-08, and compliance with the local storm water ordinances.

Version A/C also provides better clarity concerning the scope of enforcement. A progressive enforcement procedure was outlined including minimum steps that Permittees must take in their program to enforce their municipalities' storm water requirements. In recognition of some of the Permittees concerns regarding the resource intensive efforts needed to elevate enforcement actions, a mechanism was provided through which Permittees can refer cases to the Regional Board, and for violations of the State's General Industrial Activities Storm Water permit, the referral can be expedited.

C. Construction Sites Program

Legal Authority:

USEPA storm water regulations at 40 CFR 122.26(d)(2)(iv)(D) provide that a proposed management program must include "a description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system".

The permit provides consistency with the Long Beach MS4 permit and the Ventura County MS4 permit.

Background:

There are several environmental impacts associated with construction activity.

As stated in the *California Storm Water Best Management Practice Handbook for Construction Activity* (BMP Handbook), "Construction usually increases the amount of impervious area causing more of the rainfall to runoff, and increasing the speed at which runoff occurs. Unless properly managed, this increased runoff will erode natural and/or unprotected watercourses causing the watercourse to widen...Sedimentation can also contribute to accelerated filling of reservoirs, harbors, and drainage systems.[34]

Discussion:

The prevention of erosion is a key objective of the permit modifications to the construction program. The Permittees currently oversee construction sites within their respective jurisdiction. The oversight of smaller construction sites (those sites under five acres) is inconsistent among Permittees. Some Permittees have incorrectly assumed that responsibility begins only after a discharge of pollutants, sediments for example, has left the site. USEPA storm water regulations do not support such interpretations. Regional Board staff has clarified this in the permit to require that the municipalities better coordinate oversight of construction activity within their jurisdiction. The Permittees are ultimately responsible for what enters and exits the MS4 that they own and/or operate. It is in the best interest of the Permittees to control what enters their storm drain system.

Justifications for New Requirements:

NEW REQUIREMENT: The new permit requires that Permittees promote the use of effective erosion and sediment controls at construction sites regardless of size.

JUSTIFICATION: The need for proper erosion and sediment controls is very apparent during, and immediately after, the rains that occur in Southern California. The environmental effects of erosion are well documented. Erosion can be prevented or reduced with the proper planning and implementation of appropriate BMPs.

NEW REQUIREMENT: Requirements for source control and treatment control BMPs for controlling runoff at construction sites.

JUSTIFICATION: Erosion occurs when land is exposed and the sediments are mobilized. With adequately engineered and implemented structural or non-structural BMPs, the detrimental environmental effects can be eliminated or minimized. Currently, there are many manuals and guidance handbooks available to guide a developer. The municipalities, in general, are aware of

[34] *California Storm Water Best Management Practice Handbook for Construction Activity.* 1993.

these BMPs, and can work with Regional Board staff to ensure that they are being implemented.

NEW REQUIREMENT: Each Permittee shall require the preparation, submittal, and implementation of a Local SWPPP prior to issuance of a grading permit for construction projects that meet one or more of the following criteria: will result in soil disturbance of one acre or more in size.

JUSTIFICATION: This is to ensure that a site that is being graded, but is less than the required size threshold (5 acres) for a General Construction Activities Storm Water Permit (GCASP) has oversight by the Permittee to ensure implementation of erosion controls and construction waste management practices. Currently, grading requirements are inconsistently applied. Beginning March 2003, USEPA Phase II storm water regulations require that sites one acre to five acres become subject to permitting as well.

NEW REQUIREMENT: The Permittees shall implement a process to review, approve, and enforce any erosion control plan submitted to the Permittee for implementation at construction sites, regardless of size and GCASP coverage of the sites. Local SWPPPs shall be required for projects of one acre or more in size.

JUSTIFICATION: The Permittees need to enforce local storm water ordinances at construction sites to prevent erosion. They should not wait for a discharge to occur before initiating enforcement action.

REQUIREMENT: For sites that require a construction storm water permit, Permittees are required to ensure that a Notice of Intent (NOI) has been filed with the State Board prior to issuing a grading permit. This requirement also applies to land transfers between developers on common plans of sale or development that were five or more acres initially.

JUSTIFICATION: This is currently a requirement in Board Order No. 96-054, but not all Permittees have consistently implemented this provision. Regional Board staff inspect construction sites covered by a GCASP. Some Permittees have issued a grading permit where a GCASP was not obtained. State/municipal coordination will ensure that all construction sites have obtained the required permits.

NEW REQUIREMENT: Wet weather inspections are required of all construction sites one acre or greater. The Permittees need to conduct wet weather inspections to ensure compliance with local ordinances.

JUSTIFICATION: If all sites are inspected, this allows the Permittees to ascertain compliance and focus educational and enforcement efforts on those that most need it. Additionally, Regional Board staff can assist the Permittees in compliance oversight by conducting joint inspections.

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D. Illicit Connections and Illicit Discharges Elimination Program

Legal Authority:

A proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer," per 40 CFR 122.26(d)(2)(iv)(B). A Permittee must include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system," per subsection (1) of the above regulation.

Background:

During dry weather, much of the discharge to storm drain systems consists of wastes and wastewater from non-storm water sources. A significant amount of such discharges may be from illicit discharges or connections, or both. Illicit discharges may occur either through direct connections, such as deliberate or mistaken piping, or through indirect connections, such as dumping, spillage, subsurface infiltration, and washdowns.

The objective of a municipality's illicit connection/illicit discharge (IC/ID) elimination program should be to detect illicit connections and illicit discharges to the storm drain system, and to promptly remove such discharges and connections. Municipalities typically employ the approaches listed below to achieve this objective:

1. Permitting connections to the municipal storm drain.
2. Mapping the storm drain system, locations of catch basins, outfalls, permitted connections, and the names and locations of all waters of the U.S. that receive discharges from the outfalls.
3. Adopting a storm water/ urban runoff ordinance to prohibit unauthorized non-storm water discharges into the MS4, and implementing appropriate enforcement procedures and actions.
4. Implementing a program to detect and eliminate non-storm water discharges to the MS4, including illegal dumping.
5. Educating public employees, businesses, and the general public about the dangers associated with illegal discharges and improper disposal.
6. Establishing a public reporting hotline or other mechanism to report illicit discharges and illegal dumping.
7. Establishing measurable goals to evaluate successful program implementation.

Discussion:

Existing IC/ID Elimination Program

The Regional Board approved a model IC/ID elimination program for the Permittees' SQMP on March 23, 1999. However, only vague performance standards were specified in this model program.

By July 1999, all Permittees reported that they implemented an IC/ID elimination program. For the most part, however, this was a passive program, and relied upon IC/ID detection during regularly scheduled maintenance. Most Permittees are unable to estimate the extent of their storm drain they have screened during regularly scheduled maintenance.

Results of the Permittees' efforts to eliminate illicit connections are summarized in Tables 1 through 5. Their estimates of fiscal resources required to implement these activities for 1999/00 range widely, with two cities – Culver City and Hermosa Beach – estimating budgets of $4.2 million and $2.8 million, respectively. At the other end, four cities estimated $0 expenditures, namely La Habra Heights, Lawndale, Maywood (which does not operate a storm drain system), and West Covina. Based on the Permittees' estimates of expenditures, the Permittees budgeted an average of $113,900 in 1999/00. Removing the anomalous estimates for Culver City and Hermosa Beach, the high ranges up to $564,809, as estimated by the City of Los Angeles, and averaged $32,500. These activities, as summarized in the tables, do not appear to bear a relationship with IC/ID expenditures by each Permittee.

Illicit Connections: As designed in the model program, Permittees with storm drain systems under their management rely upon field screening, during regularly scheduled maintenance of the storm drain system, to locate illicit connections. However, most Permittees cannot estimate the length of the storm drain system that was field-screened; nor did the Regional Board require reporting such information.

For the 1999/00 annual reporting period, very few Permittees reported illicit connections. The attached tables show that the numbers of illicit connections varied widely among Permittees, with about half reporting no illicit connections, and with the County reporting 877 suspected illicit connections. Part of the reason for this range is that the County is responsible for maintaining over half[35] of the storm drain system. Also, several Permittees believe that few – if any – illicit connections have been identified in many cities because: (a) many cities are primarily residential, and illicit connections are unlikely to occur from residential land use; and (b) cities in the County of Los Angeles are relatively new vis a vis their eastern counterparts, and adequate controls were in place at the time storm drain connections were installed.

[35] The exact length of storm drain systems operated by most cities is unknown.

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Table 1: Illicit Connections 1999/00 County, Ballona Creek, and Urban Santa Monica Bay Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
County of Los Angeles	877	124	0	336	417[36]
Beverly Hills	0				
Culver City	None				
El Segundo	0	0	0	0	0
Hermosa Beach	None				
Manhattan Beach	0				
Palos Verdes Estates	0	1	3	3	0
Rancho Palos Verdes	None				
Redondo Beach	0				
Rolling Hills	0	0	0	0	
Rolling Hills Estates	0				
Santa Monica	70	10	50	10	0
West Hollywood	None				
Total	947	135	53	349	417

[36] The County of Los Angeles reported under the "Other" category of illicit connections that 126 connections were already permitted but not properly identified and those 291 illicit connections are still under investigation.

Table 2: Illicit Connections 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges	Removed	Other
Carson	8	0	0	0	0
Hawthorne	None				
Inglewood	3				3[37]
Lawndale	None				
Lomita	1	0	1	0	0
Torrance	0				
Total	12	0	1	0	3

Table 3: Illicit Connections 1999/00 Malibu Creek and Rural Santa Monica Bay Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Agoura Hills	0	0	0	0	
Calabasas	2				2
Malibu	15	0	7	0	
Total	17	0	7	0	2

[37] The City of Inglewood reports that 3 illicit connections are to be eliminated.

Table 4: Illicit Connections 1999/00 Los Angeles River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Alhambra	0	0	0	0	0
Arcadia	0	0	0	0	0
Bell	0	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0
Burbank	4		3	1	
Commerce	14	8	6	0	0
Compton	8	6	2	0	0
Cudahy	0	N/A	N/A	N/A	N/A
El Monte	None				
Glendale					
Hidden Hills	0	N/A	N/A	N/A	N/A
Huntington Park	2			2	
La Canada Flintridge	0				
Los Angeles	29	7	8	11	3
Lynwood	0	0	0	0	0
Maywood	0	0			
Monrovia	0	N/A	N/A	N/A	N/A
Montebello	21	0	11	1	9
Monterey Park	2	0	0	2	0
Paramount	0				
Pasadena	None				
Rosemead	0				
San Fernando	None				
San Marino	0	N/A			
Sierra Madre	None				
Signal Hills	None				
South El Monte	None				
South Gate	2	0	1	1	
South Pasadena					
Temple City					
Vernon	1	0	0	0	1
Total	83	21	31	18	13

Table 5: Illicit Connections 1999/00 San Gabriel River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharged Terminated	Removed	Other
Artesia	0				
Azusa	0				
Baldwin Park	None				
Bellflower	0	0	0	0	0
Bradbury	0				
Cerritos	0	0	0	0	0
Claremont	0				
Covina	0				
Diamond Bar	0				
Duarte	3	0	1	0	2
Glendora	4	0	1	0	3
Hawaiian Garden	0				
City of Industry	None				
Irwindale	9	0	9	0	0
La Habra Heights	0				
La Mirada	1	1			
La Puente	0				
La Verne	0				
Lakewood	11	5	6	0	0
Norwalk	6	0	6	0	N/A
Pico Rivera	0				
Pomona	12	10	2	0	0
San Gabriel	2	0	0	2	0
Santa Fe Spring	0	N/A	N/A	N/A	N/A
Walnut	0				
West Covina	0				
Whittier	8	3	5	2	0
Total	56	19	30	4	5

Illicit Discharges: As designed in the model program, Permittees eliminate illicit discharges by preventing spills and, for those that do occur, by responding promptly. To prevent spills, Permittees enacted ordinances prohibiting non-storm water runoff, and are implementing spill prevention guidance. To respond to discharges, Permittees implement containment and cleanup procedures, coordinate with other agencies, investigate the cause of the discharge and – when the source and responsible party is know – take enforcement action. Additionally, employee training is provided on all of the above.

As with illicit connections, the numbers of illicit discharges varies widely for the annual reporting period 1999/00. The County reported a total of 788 suspected illicit discharges. Among the Cities, results at the high end include 1,876 in the City of Los Angeles, 700 in the City of Beverly Hills, and 450 in Santa Monica. At the other end of the range, many cities reported no incidents of suspected illicit

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discharges. Based on information provided to date, staff cannot account for this wide range. Audits of the Permittees' programs in the future should help clarify this.

Table 6: Illicit Discharges 1999/00
County of Los Angeles, and Ballona Creek and Urban Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
County of Los Angeles	788	95	15	2	411	265
Beverly Hills	700	70[38]	35[2]	35[2]	525	35[2]
Culver City	25	0	0	0	25	0
El Segundo	10	7	1	0	2	0
Hermosa Beach	10	2	0	0	8	0
Manhattan Beach	1	0	0	0	1	0
Palos Verdes Estates	6	2	1	0	3	0
Rancho Palos Verdes	6	0	0	0	6	0
Redondo Beach	31	3	0	0	25	3
Rolling Hills	0	N/A	N/A	N/A	N/A	N/A
Rolling Hills Estates	1				1	
Santa Monica	450	5	22	5	398	20
West Hollywood	9	1	0	0	8	0
Total	2037	185	74	42	1413	323

Table 7: Illicit Discharges 1999/00
Malibu Creek and Rural Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Agoura Hills	11	1	0	0	10	0
Calabasas	12	1			10	
Malibu	15	7	0	0	7	8
Total	38	9	0	0	27	8

[38] Documented as percentage.

Table 8: Illicit Discharges 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas						
Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Carson	24	12	0	0	0	24
Hawthorne	10	0	1	0	9	0
Inglewood	3				3	
Lawndale	2	1	0	0	1	0
Lomita	14	0	0	0	14	0
Torrance	0					
Total	53	13	1	0	27	24

Table 9: Illicit Discharges 1999/00 Los Angeles River Watershed Management Areas						
Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Alhambra	0	0	0	0	0	0
Arcadia	11	1	0	0	10	0
Bell	0	N/A	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0	0
Burbank	47	2	1	0	43	1
Commerce	21	4	8	0	9	0
Compton	17	9	5	0	3	0
Cudahy	0	N/A	N/A	N/A	N/A	N/A
El Monte	50	0	0	0	48	2
Glendale	?	?	?	?	?	?
Hidden Hills	0	N/A	N/A	N/A	N/A	
Huntington Park	2				2	
La Canada Flintridge	75	15	0	0	60	0
Los Angeles	1896	227	2	5	700	962
Lynwood	0	0	0	0	0	0
Maywood	1		1			
Monrovia	0	N/A	N/A	N/A	N/A	
Montebello	13	12	11	0	0	1
Monterey Park	19	0	0	0	18	1
Paramount	0					
Pasadena	39	1	0	0	37	1
Rosemead	0					
San Fernando	12	1	0	0	11	0

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San Marino	0	N/A				
Sierra Madre	3	0	0	0	3	0
Signal Hills	13	3	0	0	10	0
South El Monte	15	0	0	0	15	0
South Gate	28	3	1	0	22	2
South Pasadena						
Temple City						
Vernon	10	0	0	0	9	0
Total	2271	278	29	5	1000	970

Table 10: Illicit Discharges 1999/00
San Gabriel River Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Artesia	10	4	0	0	4	2
Azusa	1				1	
Baldwin Park	27	5	0	0	20	2
Bellflower	8	8	0	0	0	0
Bradbury	0					
Cerritos	8	0	0	0	8	0
Claremont	4	1	0	0	3	
Covina	32	5	4	0	18	5
Diamond Bar	1					1
Duarte	3	3	0	0	0	3
Glendora	14	13	0	0	12	0
Hawaiian Garden	0					
City of Industry	None					
Irwindale	23	0	0	0	20	3
La Habra Heights	1			1		
La Mirada	16		3		13	
La Puente	1				1	
La Verne	1				1	
Lakewood	17	0	2	0	9	6
Norwalk	6	0	0	0	6	0
Pico Rivera	12	6	0	0	6	0
Pomona	78	18	8	10	16	26
San Gabriel	4	0	0	0	3	1
Santa Fe Spring	12	3	0	0	0	9
Walnut	2			1	1	0
West Covina	48	6	0	0	7	35
Whittier	32	12	18	15	17	3
Total	361	84	35	27	166	96

Reporting: As designed in the model program, Permittees have implemented procedures to receive reports of illicit discharge and disposal incidents, and to promptly respond and report such incidents. Most rely upon the countywide hotline system, which is maintained by the County. For hazardous substances, Permittees implement additional reporting procedures.

New IC/ID Elimination Program Requirements

The Special Provisions Section of the permit (Board Order No. 01-182) requires the Permittees to revise their IC/ID Elimination Program in the SQMP to meet the following proposed requirements in the permit:

- General requirements, among which include development (if necessary) and update of a list of permitted connections to the storm drain system, a tracking system for illicit connections and discharges, and compilation of this information in coordination with the Principal Permittee, as well as identification of priority areas for proactive screening.

- Illicit connection requirements for proactive screening of the storm drain system over a 5-year period, including:

  - Field screening of open channels and underground pipes (with a diameter of 36 inches or greater);[39]

  - Permit screening, to ensure that all facilities with connections are effectively implementing the prohibition on non-storm water discharges;

  - Requirements to investigate and terminate illicit connections, including response times; and

- Illicit discharge requirements, specifying response times for abatement and cleanup (within one business day), and investigation (as soon as practicable).

As Permittees have pointed out, and as staff acknowledges, residential land uses are less likely to have illicit connections. However, staff remains concerned that adequate controls be in place at all times to prevent improper connections to the storm drain system. Staff's concern is based upon the wide range of illicit connections reported by Permittees with no apparent relation to land use, the poor water quality of dry weather flows in inland receiving waters, and also incidents of illicit connections reported separately or directly to the Regional Board.

[39] As set forth on page 3-3 and in Appendix I of the Permittees' model program, screening tools for the proactive program will include dye tests, smoke tests, and TV inspections.

E. Public Agency Activities Program

Legal Authority:

USEPA storm water regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5,and 6). Each Permittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities.

Background:

Many Permittees provide services that ultimately result in the enhancement of the lives of the residents. Some of these services include but are not limited to: sewage system operations; public construction activities; vehicle maintenance; material storage; street and road maintenance; landscaping; recreational facility management; parking facility management; public industrial activities; and many other activities.

Justifications for New Requirements:

NEW REQUIREMENT: In sewage system operations, each Permittee is required to implement a response plan in case of an overflow of the sewage system to the storm drain system.

JUSTIFICATION: The response plan will have different requirements dependent upon whether the Permittee owns or operates the sanitary sewer system.

NEW REQUIREMENT: All requirements in the Development Construction Program apply to public construction activities.

JUSTIFICATION: This is proposed to reduce the possibility of a public construction site from becoming a source of pollutants. A public construction site should be a model of what to do efficiently and effectively (preceding a discharge).

NEW REQUIREMENT: Each Permittee with a construction site that meets the size requirements for a GCASP must obtain coverage under the general permit for construction activity. Currently the size threshold is 5 acres but will change to 1 acre on March 10, 2003. However, a municipality of less than 100,000 people (1990 Census) need not apply for coverage for a construction activity until March 10, 2003.

JUSTIFICATION: This change is consistent with USEPA Phase II storm water regulations, and will assist in the tracking of construction sites operated by Permittees.

NEW REQUIREMENT: Each Permittee is required to ensure that public facilities are designed and constructed using construction and post-construction BMPs consistent with the Standard Urban Storm Water Mitigation Plans (SUSMPs) required in the Development Planning section of the permit.

JUSTIFICATION: This requirement ensures consistency with the planning, design, and construction requirements for private projects. Public projects will be treated the same as private projects.

NEW REQUIREMENT: For Permittee owned or operated vehicle maintenance, material storage areas, and corporation yards the Permittees will implement site specific SWPPPs to minimize pollutants in storm water discharges. Vehicle and equipment wash areas will be required to be self contained or covered, equipped with a clarifier, or other pretreatment device, and/or properly connected to the sanitary sewer. This requirement will take effect when a new facility is constructed or when an existing site is remodeled or reconstructed.

JUSTIFICATION: This requirement ensures consistency with the City of Long Beach MS4 and the Ventura County MS4 permits.

NEW REQUIREMENT: For storm drain operation and maintenance, Permittees are now required to prioritize all catch basins and clean them out according to the permit requirements (Part 4.F.5, Permit). The previous permit required catch basins to be inspected and cleaned once a year. Also, any catch basin greater than 40% full must be cleaned, and after July 1, 2003, any catch basin greater than 25% full must be cleaned. In addition to catch basin cleaning, Permittees must also implement other trash reduction measures. These measures include placing trash receptacles at all transit stops and implementing special actions to cleanup trash when hosting a special event.

Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) may continue with their current catch basin cleaning schedule until TMDL implementation measures are developed. The TMDL implementation measures may be different than permit provisions, and requiring Permittees subject to a TMDL to implement different permit requirements would be premature and result in unnecessary expenses for these Permittees. However, if TMDL implementation measures are not in place by October 2003, Permittees subject to a trash TMDL must implement all permit requirements to control trash.

At the December 13, 2001 Board Meeting, concern was raised regarding the storm drain operation and management requirements described above. At the time of the Board Meeting, the requirement did not include a clause in case TMDL implementation measures were not implemented as currently scheduled. Therefore, it was possible that Permittees in the Los Angeles River and Ballona Creek WMAs would be allowed to continue their current practices without any additional trash reduction requirements. This issue was discussed, and the Board approved inserting a phrase that required the TMDL subject Permittees to implement regular storm drain operation and management requirements in the case that the TMDL implementation phase has not begun by 2003.

NEW REQUIREMENT: For storm drain maintenance each Permittee must visually monitor their open channels for debris and identify and prioritize areas of illicit discharge for regular inspection and at least annually remove trash and

debris from the channels. Permittees must properly dispose of removed material.

NEW REQUIREMENT: The streets and roads maintenance section (Part 4.F.6, Permit) requires each Permittee to designate streets based on the volume of trash that is consistently generated. Priority A (highest) streets must be swept twice a month. Priority B (medium) streets must be swept once a month, and Priority C (lowest) streets must be swept as necessary, but no less than once a year. The basis of prioritization was left for the Permittees to establish and implement.

JUSTIFICATION: The new streets and roads maintenance requirements will allow Permittees to more efficiently use resources to target high priority areas.

NEW REQUIREMENT: Permittees, in cooperation with the Los Angeles County Sanitation District, are required to conduct a study to investigate the possible diversion of dry weather discharges or the use of alternate treatment control BMPs to treat storm water from their jurisdiction. A priority list of possible diversions must be submitted to the Regional Board Executive Officer no later than July 1, 2003. The permit does not require Permittees to implement the list. The purpose of the requirement is to have the prioritized lists available for consideration for possible funding through grants, bonds, supplemental environmental projects (SEPs), or other sources.

F. New Development And Significant Redevelopment Program

Impacts from New Development:

Treatment control BMP requirements on new development and redevelopment offer the most cost-effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[40]

USEPA storm water regulations at 40 CFR 122.26 require that pollutants in storm water be reduced to MEP. The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis.[41] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that storm water BMPs be designed to manage both flows and water quality for best

[40] *The Economics of Watershed Protection*, T. Schueler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provides positive economic benefits.

[41] *Storm Water Phase II Final Rule* – Pre-Federal Register Version, p 87 (USEPA 1999). See USEPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.

performance. [42] It is equally important that treatment control BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[43] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of funds. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or making improvements to reduce runoff from the site.

Review of Design Standards:

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound.[44] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for eighty-five percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inches depending on the imperviousness of the watershed area and the mean rainfall.[45]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall event equal to or less than a predetermined size; and (iii) Percent reduction in runoff based on a rainfall event of standard size.[46] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO; Orlando, FL; Portland, OR; and Austin, TX.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency, and a peak discharge rate not to exceed 0.2 cubic feet per second.[47] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to

[42] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)
[43] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. USEPA-821-R-99-012, USEPA. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.
[44] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).
[45] *Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force,* November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee.
[46] *Sizing and Design Criteria for Storm water Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans,* August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.
[47] *City of Seattle Municipal Code, Chapter 22.802.015* – Storm water, drainage and erosion control requirements.

remove 80 to 90 percent of the annual TSS load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[48]

Some States have established numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to 1 inch, and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[49] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982, including BMPs sized for 80 percent reduction (95 percent for impaired waters) in annual TSS loads derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[50] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development, which add 10,000 square feet of impervious surface or more for residential development, and 5,000 square feet of impervious surface or more for other types of development.[51] Other mitigation criteria options include the 90th percentile 24-hour rainfall event (used by the State of Maryland) and the six month 24 hour rainfall event (used by the State of Washington).

On a national level, the USEPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs, and will likely build from the experience of effective state and local programs to establish national criteria.[52] The USEPA, based on the NURP, supports the first half-inch of rainfall as generating first flush runoff.[53] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The USEPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

Background:

On April 22, 1999, the Regional Board approved a List of BMPs for MS4 Permittees to select from and required implementation of the most effective BMPs in their Development Planning and Development Construction programs.[54]

The Final SUSMP was issued on March 8, 2000. It established new development and significant redevelopment conditions for all projects in the following categories:

[48] *Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver*, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.
[49] *Maryland Storm Water Design Manual* - (Maryland Department of the Environment 2000).
[50] *Florida Development Manual: A Guide to Sound Land and Water Management* (Florida Department of Environmental Protection 19xx). The manual describes structural and non-structural construction and post construction BMPs design criteria.
[51] *Storm Water Management in Washington State Volumes 1 – 5.* (Washington Department of Ecology 2001). The volumes 1,3 and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes were adopted as statewide standards in late 2001.
[52] *Storm Water Phase II Final Rule* – 64 Fed. Reg. 68759. See USEPA's discussion on construction and post-construction BMP requirements for Phase II.
[53] *A Watershed Approach to Urban Runoff: Handbook for Decisionmakers*, Terrene Institute and USEPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.
[54] (Board Resolution No. 99-03).

- 10 or more home subdivision;
- 100,000+ square-foot commercial development;
- Automotive repair facilities;
- Retail Gasoline Outlets;
- Restaurants;
- Parking lots more than 5,000 square feet or more than 25 parking spaces
- Hillside located single-family dwelling,
- Construction projects adjacent to, in, or discharging directly to Environmentally Sensitive Areas

The SUSMP included numerical design criteria for structural and treatment control BMPs. These criteria are:

Mitigate (infiltrate or treat) storm water runoff from either:

a) the 85th percentile 24-hour runoff event, determined as the maximized capture storm water volume for the area from the formula recommended by the WEF and ASCE study[55];

b) the annual runoff volume, based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in the BMP Handbook;[56]

c) the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system; or

[55] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. (1998).
[56] *California Storm water Best Management Practices Handbook – Industrial/ Commercial,* (1993)

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d) the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event; and/or

e) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

f) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

g) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

The State Board issued a precedential decision[57] on the matter in Order WQ 2000-11, largely sustaining the SUSMP as approved by the Regional Board. The State Board amended the SUSMP to limit its application to discretionary projects as defined by CEQA, eliminated the category for projects in environmentally sensitive areas, and set aside the requirement for retail gasoline outlets to treat storm water until a threshold is developed in the future. In addition, the State Board articulated its support for regional solutions and the mitigation banking.

The new permit amends the SUSMP requirements to clarify implementation, make it consistent with recent Regional Board actions, and where appropriate correct procedural and other deficiencies identified by the State Board in its SUSMP ruling. The proposed changes include:

- SUSMPs for hillside developments that are 1 acre or more. Hillside residential homes below the threshold would be required to incorporate BMPs to facilitate drainage and pollutant removal but would not be subject to the numerical mitigation criteria. Currently, all hillside developments regardless of size are subject to the numerical mitigation criteria. This change normalizes post-construction controls for home developments irrespective of location.

- Numerical design criteria retail gasoline stations, where they meet both thresholds, (i) projected average daily traffic of 100 cars or more; and (ii) 5,000 square feet or more of surface area.

- Clarify that the 100,000 square feet commercial development includes heavy industrial development. The category is designated 'industrial/commercial'.

[57] *State Water Board Order WQ 2000-11*: SUSMP; Memorandum from Chief Counsel to Regional Board Executive Officers, (December 26, 2000) discusses statewide policy implications of the decision.

- Lower the industrial/commercial category threshold from 100,000 square feet to 1-acre (43,560 square feet) beginning March 9, 2003, to be consistent with the USEPA Phase 2 storm water regulations for small construction projects.

- SUSMP requirements apply to all developments, both ministerial and discretionary. As presently implemented the SUSMP requirements apply to only discretionary projects as defined under CEQA.

- SUSMP requirements apply to projects situated in, adjacent to, or discharging directly to environmentally sensitive areas where the development (a) creates 2,500 square feet or more of impervious area, and (b) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat.

- Redevelopment clarification.

Technical papers that provide more detail have been prepared and are included in the Administrative record.

VI. MONITORING PROGRAM

Background:

Using data collected from a monitoring program, storm water management efforts can be prioritized, helping limited resources be most effective in improving receiving water quality. For example, a monitoring program can provide data that can allow for specific receiving waters and watersheds to be targeted for urban runoff management and education efforts based on their need. Particular pollutants and their sources can also be identified and targeted using monitoring data. In addition, monitoring data can be useful in assessing the effectiveness of an urban runoff management program. Successful efforts that have resulted in receiving water quality improvements can be analyzed for use elsewhere, while areas that need follow-up efforts can also be identified. In general, a comprehensive monitoring program can supply a wealth of data that can be used in a wide range of applications for improving water quality.

Storm Water Monitoring History:

In the 1994-95 storm season, the Los Angeles County Department of Public Works began monitoring storm water quality in Los Angeles County. The first two years of monitoring were conducted pursuant to the 1990 permit. Over the past five years, the Los Angeles County storm water monitoring program consisted of four main components: mass emission monitoring, land use monitoring, critical source monitoring, and a Santa Monica Bay receiving water study. The results of each objective are summarized below.

- **Mass Emission Monitoring**

  Mass emissions were monitored for four major watersheds: Ballona Creek, Malibu Creek, Los Angeles River, and San Gabriel River. The County also monitored mass

emissions from Coyote Creek, although it was not a requirement of Order 96-045. The mass emission monitoring identified the Los Angeles River as consistently contributing the most zinc, copper, and suspended solids[58]. Sixteen chemical constituents of concern were identified from the comparison of mass emission annual concentrations to the objectives of the Ocean Plan, Basin Plan, and the CTR (several other constituents of concern were identified through research)[1]. The mass emission monitoring was also successful at identifying toxic levels of zinc and copper from Ballona Creek discharge, toxicity in the Los Angeles and San Gabriel Rivers, and the extent of severity of bacterial indicators in both dry and wet weather.

- **Land Use Monitoring**

  The County selected eight land use types to be monitored to identify sources of pollutants in storm water monitoring. These land uses include retail/commercial, vacant, high-density single family residential, transportation, light industrial, education, multifamily residential, and mixed residential. The land use monitoring identified light industrial, transportation, and retail/commercial land uses as producing the highest median concentrations for total and dissolved zinc[1]. Light industrial and transportation displayed the highest median concentrations for total and dissolved copper, and light industrial produced the highest concentrations of suspended solids. The majority of the Land Use monitoring requirement was completed, however, Event Mean Concentrations (EMCs) for several constituents (many due to the lowering of method detection limits) were not achieved. Pesticide, nutrient, and PAHs are among the constituents that do not have EMCs for most land uses.

- **Critical Source Monitoring**

  Five critical sources, including industrial and commercial facilities, were monitored to evaluate the effectiveness of voluntary good housekeeping and preventative BMPs. The critical sources included in the study were motor freight, auto dealers, chemical manufacturing, machinery manufacturing, and rubber/plastics. The critical source monitoring program identified fabricated metal businesses as producing the highest median concentrations for zinc, copper, and suspended solids[59]. The inability to require or control the implementation of BMPs made this study somewhat ineffective at evaluating BMP effectiveness. In most cases, there was no significant difference in pollutant levels from critical sources with and without BMPs. However, levels of total and dissolved copper at the fabricated metal industry were significantly reduced with the implementation of BMPs[1].

- **Receiving Water Study**

  A three-year study was conducted to assess the impacts of urban storm water runoff, specifically ecosystem health, on the receiving waters of the Santa Monica Bay. The study examined plume characteristics, water column and seafloor biology. Ballona and Malibu Creek were compared to evaluate the effects of different watershed types. The study discerned the presence of well-developed plumes

[58] Los Angeles County 1994-2000 Integrated Receiving Water impacts Report, Los Angeles County Department of Public Works

[59] *Ibid.*

containing toxic materials, identified zinc and copper as contaminants in Ballona Creek, and concluded that sediments offshore of Ballona Creek generally had higher concentrations of urban contaminants. These findings demonstrate the need for further studies and for the identification of sources of toxic pollutants.

New Storm Water Monitoring Program:

The objectives of the Storm Water Monitoring Program include, but are not limited to: 1) assessing compliance with the MS4 permit; 2) measuring and improving the effectiveness of the SQMP; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality.

Mass Emissions Monitoring

Seven mass emissions stations will be monitored. Monitoring at the five existing stations will continue, and new stations were required in Dominguez Channel, and the Santa Clara River.

The Dominguez Channel watershed contains the highest percentage of impervious area. Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters.[60] Also, the Dominguez Channel Watershed is a highly industrialized area and the storm water runoff needs to be characterized to determine its contribution of pollutants in the San Pedro Bay.

A new mass emission station in the Santa Clara watershed is also required. The purpose of this station is to characterize mass emissions from Los Angeles County and to monitor the impacts from new development. Therefore, the station should be located as close to the Ventura County line as practicable. The Santa Clara is currently the most natural and least impacted watershed in the County. However, it is rapidly urbanizing and contains a significant amount of proposed development. Several factors, including the natural state of the river and the lack of accessibility, have made it difficult to select a location for a sampling station. However, Regional Board and Los Angeles County DPW staff conducted a field investigation of the watershed that revealed a couple of potential monitoring locations. Prior to the next rainy season, the County will determine the location that is most feasible for them.

Method Detection Limits

The Minimum Levels (MLs) listed in Appendix 4 of the State Board Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed bays, and Estuaries of California, 2000 (SIP) represent the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.[61] These MLs must be incorporated into all water quality monitoring programs to detect priority toxic pollutants. The MLs are the only established criteria that take into consideration recent improvements in chemical analytical methods. If they are not used in the storm water program, concentrations of

[60] 64 *Fed. Reg.* 68725
[61] SIP

concern of priority toxic pollutants may not be detected, which has occurred throughout the history of the Los Angeles County storm water monitoring program. Detection and control of toxic pollutants in surface waters is necessary to achieve the CWA's goals and objectives.[62] Numeric criteria for toxic pollutants is necessary to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health.[63] Also, using MLs will provide quantifiable data that is necessary to better assess water quality and to develop Waste Load Allocations and Load Allocations for TMDLs. Furthermore, non-detects cannot be used to accurately determine mass loadings. The criteria established in the CTR are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.[64] Section 402(p)(3)(B)(iii) gives USEPA and states the authority to incorporate appropriate water quality-based effluent limitations in NPDES permits for discharges from MS4s.[65] The MLs have been incorporated in Attachment U-1 of the Monitoring and Reporting Program.

TSS Monitoring

Every storm greater than .25 inch shall be sampled and analyzed for TSS. The purpose of this requirement is to consider the high variability of storm water discharges and determine more accurate average mass emission values. The high variability of storm water makes it unlikely to characterize a storm season based on a few mass emission samples. Studies show that the median event mean concentration for storm water programs that do not sample every storm is consistently biased low, relative to the annual flow-weighted mean[66]. To adequately characterize a storm and capture central tendencies, many storms would need to be sampled. However, this is cost-prohibitive. Therefore, the correlation between TSS and trace metals should be used. Studies have indicated that runoff contaminants tend to be highly correlated with suspended solids in large rivers and creeks throughout southern California[67]. TSS measurements are one-tenth the cost of trace metal analyses. However, TSS concentrations accounted for up to 95% of the variability in some trace metal concentrations in a study of the Santa Ana River (urbanized watershed in Orange County) conducted by the Southern California Coastal Water Research Project (SCCWRP)[2].

Water Column Toxicity Monitoring

Storm water samples were found to be toxic in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay, demonstrating the need for this toxicity monitoring requirement.

Toxicity testing is used to assess the impact of storm water pollutants on the overall quality of aquatic systems[68]. It can be a very useful tool for storm water managers. The Center for Watershed Protection rated toxicity testing as a "very useful" indicator for assessing municipal storm water programs. Toxicity testing can also be used to evaluate the effectiveness of storm water BMPs and other storm water pollution

[62] 65 Fed. Reg. 31683
[63] *Id.*
[64] 65 Fed. Reg. 31682
[65] 65 Fed. Reg. 31703
[66] Temporal variability patterns of stormwater concentrations in urban stormwater runoff. Leisl L. Tiefenthaler, Kenneth C. Schiff, and Molly Leecaster, Southern California Coastal Water Research Project (SCCWRP) annual Report 2000.
[67] SCCWRP. 1992. Surface Runoff to the Southern California Bight.
[68] Center for Watershed Protection, Environmental Indicators to Assess Stormwater Control Programs and Practices (1996).

reduction measures[69]. Managers can use the results of toxicity testing to identify areas of high concern and to establish priority locations for BMPs. Furthermore, Toxicity Identification Evaluations (TIEs) and Toxicity Reduction Evaluations (TREs) can be used to identify specific pollutants and their sources so that management actions can be more specifically prioritized.

Previous toxicity testing was only conducted using the *Stronglyocentrotus purpuratus* (sea urchin) fertilization test, a marine species. Toxicity testing using multiple species is needed to provide a more complete assessment of the causes of toxicity in storm water[70]. The identification of zinc and copper as contaminants of concern in previous studies in the County were based primarily on studies with the sea urchin. Reliance on single species tests may not provide an accurate assessment of toxicity[71]. Because different species vary in their sensitivity to contaminants, tests with multiple species are needed to determine if other contaminants are present at toxic concentrations[72]. Specifically, an organism that is sensitive to pesticides, which have been found to be important factors in the toxicity of storm water from other watersheds, should be used[73]. USEPA recommends the use of the *Ceriodaphnia dubia* (water flea) reproduction and survival test for the measurement of receiving water toxicity. The water flea is one of the most sensitive aquatic species to diazinon, whereas the sea urchin fertilization test is insensitive to organophosphorus pesticides[74]. By contrast, sea urchin sperm are approximately 10 times more sensitive to trace metals than are water fleas.

Furthermore, the toxicity component of the Monitoring Program should include toxicity identification procedures so that potential constituents of concern can be confirmed and others can be discounted. TIEs are needed to prioritize management actions.

Two wet weather and two dry weather samples will be analyzed for toxicity from each mass emission station every year. When a sample is substantially toxic to either test species, a Phase I TIE will begin immediately. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, Ceriodaphnia TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[75] If enough toxicity is not present at the beginning of a TIE, it cannot be successfully completed. The City of Long Beach Storm Water Monitoring Program has been modified to include similar TIE procedures.

Based on the results from the Long Beach Monitoring Report, the Regional Board determined that using consecutive hits of toxicity in storm water as a trigger for a TIE does not yield adequate results. For example, every single storm event sampled at the Long Beach mass emission stations was toxic to some extent to at least one of the three species tested, but only one TIE was conducted on one species.[76] Also, due to the high variability of storm water, there is no guarantee that substantial toxicity will be present after the two consecutive hits. To increase the chances of a successful TIE and to better identify all causes of toxicity in storm water, TIEs should begin immediately when substantial toxicity is detected in a sample.

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[69] Ibid.
[70] Bay, Jones, Schiff. Study of the Impact of Stormwater Discharge on Santa Monica Bay (1999).
[71] Center for Watershed Protection
[72] Bay, et al.
[73] Bay, et al.
[74] Kinnetic Laboratories, inc., City of Long Beach Storm Water Monitoring Report (2000-2001).
[75] SCCWRP
[76] City of Long Beach Storm Water Monitoring Report, 2000-2001. Kinnetic Labs, Inc. and SCCWRP

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Furthermore, after a toxic pollutant or class of pollutants is identified as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, Toxicity Reduction Evaluations (TRE) will be conducted. If a Phase I TIE only identifies a broad category of toxicants (i.e., nonpolar organics), additional TIE analysis, to the extent possible, will be conducted until the source of toxicity is identified. The purpose of this requirement is to evaluate the extent and causes of toxicity in inland and coastal receiving waters, and to eliminate or reduce the sources of toxicity in storm water.

TRE development and implementation is directly tied to the SQMP, to ensure that management actions are taken when problems are identified. The Principal Permittee expressed concern to Regional Board staff that the TRE requirement could potentially be too involved and costly to be completed with the available funds and resources during the course of the Order. To address this concern, the Regional Board clarified the TRE language. It was decided that a third party should be involved in the source analysis and BMP recommendations, and that each Permittee shall be responsible for the implementation of BMPs in their areas of jurisdiction that are causing or contributing to toxicity. The Principal Permittee is responsible for retaining a neutral third party to evaluate possible sources of toxicity and recommend appropriate BMPs, based on available information. Regional Board staff agreed with the Principal Permittee's proposed funding limit for TRE development, to ensure that the majority of the monitoring budget is not used for TRE purposes.

In addition to the funding limit, the Principal Permittee is also encouraged to coordinate TREs with concurrent TMDLs where overlap exists. If a TMDL is being developed or implemented for an identified toxic pollutant, much of the work necessary to meet the objectives of a TRE may already be underway, and information and implementation measures should be shared.

Overall, the toxicity monitoring program will assess the impact of storm water on the overall quality of aquatic systems and implement measures to ensure that those impacts are eliminated or reduced. Chemical monitoring does not necessarily reveal the impacts of storm water on aquatic life or beneficial uses of water bodies. Therefore, toxicity monitoring is a necessary component of a storm water monitoring program.

Tributary/Source Identification Monitoring

Based on the results of previous storm water quality monitoring and toxicity testing, there is a need to monitor subwatersheds to determine pollutant sources and prioritize management actions. Exceedances of various pollutants, including toxic levels of zinc and copper in the Ballona Watershed, have been occurring at the mass emission stations for many years, but there has not yet been an effort to monitor tributaries to determine where the pollutants are actually coming from.[77] Regional Board staff worked with Los Angeles County staff, and other interested stakeholders, to design a tributary monitoring program.

[77] Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report, July 31, 2000. LA County DPW, SCCWRP, Woodward Clyde.

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Shoreline Monitoring

The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline monitoring requirement be incorporated in this Order. Regional Board staff and the County of Los Angeles determined that the shoreline monitoring is an appropriate requirement for the storm water monitoring program, per the conditions listed in Section D of the Monitoring Program.

Trash Monitoring

Trash is a pollutant that impacts storm water runoff, and a trash monitoring program should be included in the MS4 permit. The permit requirement is consistent with the monitoring language in the trash TMDL for the Los Angeles River watershed[78]. The Regional Board Executive Officer issued a CWC § 13267 Request for Trash Monitoring letter, dated December 21, 2001, which required this monitoring. The Regional Board does not intend to require two separate monitoring programs through the MS4 permit and the TMDL. The letter is referenced in the trash monitoring requirement to clarify that monitoring conducted pursuant to the TMDL is sufficient for the permit requirement.

Regional Monitoring

Regional Monitoring efforts address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Los Angeles County is a major discharger in this region and should participate in regional programs. Also, participation in Regional Monitoring, such as the SCCWRP Bight-wide study in 2003, can accomplish several goals of the Monitoring Program.

Estuary Sampling

The main goal of the estuary sampling is to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. Previous studies indicate that contaminated sediments can be linked to suspended solids in storm water[79]. From the information this sampling effort generates, a map of each estuary that depicts the impacted areas will be produced. Such a map will be used to direct future monitoring efforts. Once the impacted areas are identified, regular monitoring can be conducted to determine trends and accumulation of sediment from storm water. The specific sampling requirements are consistent with the Hyperion Waste Water Treatment Plant NPDES permit. This sampling program is also consistent with the objectives of the SCCWRP Bight-wide 2003 study. The results will be incorporated into a larger study of the entire coast of Southern California, from Santa Barbara to the boarder of Mexico.

[78] Trash Total Maximum Daily Loads for the Los Angeles River Watershed, June 18, 2001, Regional Board
[79] Los Angeles County 1994-2000 integrated Receiving Water Impacts Report, Los Angeles County Department of Public Works, Contaminated Sediments and Total Suspended Solids (Section 4.2.4)

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This will provide a comparison of the storm water impacts from Los Angeles County to other larger MS4s, as well as individual dischargers.

Bioassessment

Bioassessment data can be an important indicator of stream health and storm water impacts. It can detect impacts that chemical and physical monitoring cannot. In the Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, EPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of storm water problems. Therefore, this Regional Board and other Regional Boards commonly require bioassessment monitoring in storm water and point source NPDES permits.

However, the fact that a biological index does not yet exist for this region is an issue that Regional Board staff took into consideration for this requirement. Without a biological index, including reference conditions and knowledge of background variability, data cannot be fully analyzed to accurately indicate stream health or impacts. However, it can be used to determine trends in the biological community, and it is necessary for index development. Also, bioassessment data can be analyzed in the future, after an index is developed.

Considering the importance of bioassessment and the need for an index, the Principal Permittee is required to develop a bioassessment program as part of a regional effort (Southern California Stormwater Research/Monitoring Program) and to coordinate with the Surface Water Ambient Monitoring Program (SWAMP), organized by the Regional Board. This is to ensure that the most useful data is collected for the purposes of detecting biological trends in receiving waters and for developing a biological index.

New Development Impact Study in the Santa Clara Watershed

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. For much of its length, it is a high quality natural resource[80]. There is also a great amount of current and future development in the watershed. Therefore, it is important to monitor this watershed to detect water quality impacts from new development and implement measures to prevent degradation from occurring. To accomplish this, a special study is appropriate.

The special study will consist of monitoring tributaries in the Santa Clara watershed to accomplish two goals. The first is to determine impacts from new development. The second is to assess the effectiveness of SUSMPs by comparing storm water quality between subwatersheds with and without post-construction storm water BMPs. Two tributary stations will be selected and monitored for this study. One will be chosen that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation. The second station will be representative of a subwatershed in which the majority of development has/will include SUSMP implementation.

The City of Santa Clarita will cooperate with the County to conduct the New Development Impact Study (as well as the Peak Discharge Study, if they are combined). The City has proposed to contribute a maximum of $100,000 over the course of the New

[80] Watershed Management Initiative Chapter, January 2000. California Regional Water Quality Control Board, Los Angeles Region

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Development Impact Study. The City also has 2 field staff that may be available for sampling and other field measurements during normal working hours. The City is also interested in participating in site selection and study design.

Peak Discharge Impact Study

The Development Planning section (Part 4.C.2) of the permit requires that the Principal Permittee determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization. The purpose of the Peak Discharge Impact Study is to help meet that requirement and to study the extent of physical impacts to Natural Drainage Systems from storm water discharges. The Ventura County MS4 permit contains a similar requirement. The Ventura County Flood Control District has designed a study that can possibly be extended to a watershed in Los Angeles County.

Since this study and the New Development Impact Study are both related to monitoring impacts from developed areas, selected sites may be similar. It may be possible to meet the requirements of both studies by studying the chemical characteristics of storm water runoff from a site, and the physical characteristics in the water body downstream of the same site before and after rain events.

BMP Effectiveness Study

The BMP Effectiveness Study is an integral part of the storm water monitoring program. It is necessary to document the effectiveness of treatment control BMPs so that the storm water management agency can make informed decisions on the use of BMPs.

VII. FINAL QUESTIONS AND CHANGES

After the staff presentation and public hearing at the December 13, 2001 Board Meeting, a few questions and issues remained. Prior to adoption, Board Members asked staff and the public to discuss these issues. The main questions were in regards to due process and noticing, the Receiving Water Limitations language, and the storm drain operation and management requirements. The issues and their outcomes are described below.

First, many interested parties expressed a concern that additional time was needed to review and comment on the change sheets. The change sheets contained detailed descriptions of minor changes that were proposed after the issuance of the third draft on October 11, 2001. Almost all of these changes were made at the request of Permittees for clarification. Questions regarding due process and notice procedures for these changes were asked of staff attorney Michael Lauffer. Lauffer Esq. responded by saying that particular attention had been paid to this issue. Prior to the Board Meeting, staff counsel analyzed whether or not any of the changes contained in the change sheets were significant enough to trigger concerns with respect to due process and permit re-noticing. He concluded that the changes were all insignificant and represented logical outgrowths of what the Regional Board had already noticed.[81]

[81] Reporter's Transcript of Proceedings from the December 13, 2001 Regional Board Meeting, Item 10. Pages 155-59.

In regards to Version A/C of the Industrial/Commercial Facilities Program, staff counsel concluded that it was not a significant change, since it is a combination of Versions A and C, which had already been public noticed. Lauffer stated that none of the changes triggered a requirement to re-notice the proposed permit.[82]

Next, the Receiving Water Limitations (Part 2, Permit) and lack of a "safe harbor" clause were raised as issues during the public hearing. Some Permittees and other interested parties expressed concern that under the new permit municipalities will be in immediate violation due to exceedances of water quality standards which may occur during storm events. Counsel Lauffer referenced the State Board's precedential decision on the San Diego County MS4 permit petition and the State Board's rationale for not including some of the language requested by municipalities.[83] He explained that the Receiving Water Limitations language affirms that an iterative process is the preferred approach. Including specific protection for Permittees above and beyond what the iterative process provides may hinder the Regional Board's enforcement ability in cases where Permittees do not fully implement their SQMPs or appropriate BMPs and exceedances persist.[84] Overall, staff counsel concluded that the existing Receiving Water Limitation language is consistent with the State Board Order WQ 2001-15, and is a necessary component of MS4 permits.

The last issue that was discussed in detail at the Board Meeting was the storm drain operation and management requirements. The concern was raised that Permittees subject to a trash TMDL would not be required to implement any additional trash reduction BMPs, as all other Permittees are, if the trash TMDL implementation phase is delayed or held up in litigation. This issue is described in Section V.E. of this report. In summary, the Board approved inserting a phrase that required TMDL subject Permittees to implement the regular storm drain operation and management requirements in case TMDL implementation has not begun by October 2003.

[82] *Id.*
[83] State Board Order WQ 2001-15
[84] *Id.* Page 164

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties
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Gray Davis
Governor

January 7, 2002

To: Interested Parties

ADOPTION OF THE LOS ANGELES COUNTY MUNICIPAL STORM WATER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT (BOARD ORDER 01-182; NPDES PERMIT No. CAS004001)

Dear Interested Party:

We are pleased to advise you that the municipal storm water permit for the County of Los Angeles (Permit) was adopted by the Regional Water Quality Control Board at its meeting on December 13, 2001 pursuant to Division 7 of the California Water Code. Board Order 01-182 serves as the permit under the National Pollutant Discharge Elimination System (NPDES), for storm water discharges and urban runoff within the County of Los Angeles, and will expire on December 13, 2006.

The Permit requires the Los Angeles County Flood Control District, herein referred to as the Principal Permittee, and all Co-Permittee cities to implement NPDES Permit number CAS004001, including the: Monitoring and Reporting Program, Receiving Water Limitations (which clarifies that discharges must meet water quality objectives); Public Information and Participation Program; Industrial/Commercial Facilities Control Program (upgrades the existing site visit program to an inspection program of select industrial/commercial sectors); Development Planning Program (lowers the threshold of industrial/commercial development that is subject to Standard Urban Storm Water Mitigation Plan (SUSMP) requirements from 100,000 square feet to one acre beginning in 2003; and expands SUSMPs to cover: environmentally sensitive areas, ministerial and discretionary projects, and retail gasoline outlets); Development Construction Program; Public Agency Activities Program (includes explicit requirements to control the discharge of trash to the MS4); and Illicit Connections and Illicit Discharges Elimination Program (requires the Principal Permittee to take more responsibility for tracking illicit discharges and connections, and upgrades passive field screening activities (during regularly scheduled maintenance) to a proactive field screening program).

If you would like a hard copy of the permit, please call our storm water hotline at (213) 576-6753. The entire permit renewal process was an open and public process. For your use and public dissemination, an electronic copy of the LA Storm Water Permit may be downloaded from our website at: www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/la_ms4_final.html . We would greatly appreciate you directing other interested parties to the website for further information on storm water management updates as necessary.

Thank you very much for your interest and participation during the development and adoption of the Permit. Should you have any comments or questions in regards to the LA Storm Water

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Permit or program, please do not hesitate to call us at the Regional Board's Storm Water Hotline at (213) 576-6753.

Sincerely,

Xavier Swamikannu, D.Env.
Acting Storm Water Section Chief

R0008089

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January 10, 2002

Mr. Dennis A. Dickerson
Executive Officer
California Regional Water Quality
Control Board
Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, CA 90013

2002 JAN 11 P 2:48

Re: Petition for Review of Order No. 01-182 and Request for Preparation of Administrative Record and List of Interested Persons

Dear Mr. Dickerson:

Enclosed please find a Petition for Review and accompanying Statement of Point and Authorities filed with the State Water Resources Control Board on behalf of our clients, the County of Los Angeles and the Los Angeles County Flood Control District, concerning certain elements of Order No. 01-182, NPDES Permit No. CAS00401, Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges Within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach ("Stormwater Permit").

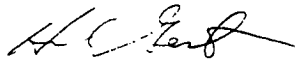
In accordance with 23 Cal. Code Reg. § 2050(a)(10), we respectfully request that the Board prepare the full administrative record on the action of the Board in adopting the Stormwater Permit, including a copy of the tape recording of the Board hearing on December 13, 2001 and the Regional Board workshops held April 24, 2001 and July 26, 2001, as well as a copy of all reporter's transcripts of such hearing and workshops, if available.

In addition, pursuant to 23 Cal. Code Reg. § 2050(a)(8), please provide a list of persons that are known to the Regional Board to have an interest

in the subject matter of this Petition and please forward such list to this office and to the State Water Resources Control Board.

Thank you for your assistance in this matter. Please call me at the number noted above if you have any questions.

Very truly yours,



Howard Gest

cc: Peter J. Gutierrez, Esq.

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Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

January 11, 2002

The Honorable Senator Bob Margett
California State Senate
55 East Huntington Drive, Suite 330
Arcadia, CA 91006

REPLY TO YOUR LETTER OF DECEMBER 7, 2001 REGARDING THE COUNTY OF LOS ANGELES NPDES MUNICIPAL STORM WATER PERMIT RENEWAL

Dear Senator Margett:

Thank you for your letter dated December 7, 2001 regarding the re-issuance of the County of Los Angeles Municipal Storm Water Discharge Permit (LA Storm Water Permit). On behalf of Chairman Nahai, I am formally replying to your letter.

Please note that immediately upon receipt of your letter in early December, I did contact a member of your staff to express appreciation for your letter and to convey the intent of the Regional Board to move forward with consideration of the permit on December 13th. As you already are no doubt aware, the Regional Board did act on the permit that day and approved the tentative permit with many additional changes that were requested by various cities and the County of Los Angeles.

We are currently preparing additional informational materials to help clarify those elements of the permit that have been the subject of discussion. I will convey those materials to you as soon as they are prepared, which should be sometime next week. I would also be pleased to provide you or members of your staff with a personal briefing on the permit should you so desire.

To schedule a briefing or should you have any questions, please feel free to call me at (213) 576-6605 at your convenience.

Sincerely,

Dennis A. Dickerson
Executive Officer

cc: Mr. H. David Nahai, Chair, Regional Water Quality Control Board
Ms. Francine Diamond, Regional Water Quality Control Board

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