CITY OF LANCASTER

STORM WATER

MANAGEMENT PROGRAM

(SWMP)

City of Lancaster
44933 N. Fern Avenue
Lancaster, California

REVISED
AUGUST 2003

CERTIFICATION

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, to the best of my knowledge and belief, the information submitted is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

James R. Williams, Public Works Director

SECTION 1 OBJECTIVES

1.1 Background

The City of Lancaster is located in the extreme northern section of Los Angeles County. The City comprises approximately 94 square miles of the Antelope Valley Drainage Basin. The basin floor is an alluvial plain formed by runoff from the mountains to the south. The primary drainage pattern is south to north. Average annual rainfall is approximately 5.1". The natural and manmade drainage channels are dry most of the time. The City has an urbanized core with sparsely populated outlying areas. Traversing the urbanized core from south to north is the Amargosa Creek with natural and manmade elements.

The City of Lancaster has been designated a regulated Small Municipal Storm Sewer System (MS4) by the United States Environmental Protection Agency (USEPA) pursuant to 40 CFR§122.32(a)(1) because it is an urbanized area as defined by the Bureau of Census. Therefore, the City is required to comply with the Phase II regulations of the National Pollutant Discharge Elimination System (NPDES). There are two options. One is to obtain an individual permit addressing specific compliance provisions and the other is to file a Notice of Intent (NOI) to comply with the State Water Resources Board (SWRB) Small MS4 General Permit. The City of Lancaster has decided to file an NOI to comply with the General Permit in lieu of obtaining an individual permit.

In compliance with Federal regulations, the City of Lancaster submitted an NOI, Storm Water Management Program (SWMP) and a fee on March 7, 2003. On April 10, 2003, SWRB acknowledged receipt of the above and stated the application was incomplete. SWRB provided comments to assist the City in making its application complete and requiring a deadline for re-submittal of August 29, 2003. On April 20, 2003, the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004 was adopted.

The City of Palmdale and the County of Los Angeles in and around the Cities of Lancaster and Palmdale have been designated as urbanized areas and are required to submit NOIs, fees, and their individual SWMPs.

1.2 Objective

The objective of the SWMP is to establish ordinances, policies, procedures and practices to manage and control the quality of storm water runoff in the City of Lancaster. The expected result of the actions prescribed by the SWMP is that storm water quality shall be no worse than it was before the actions were taken. However, when applied to numerical data, the City of Lancaster's goal is a 5% numerical improvement. By applying a 95% confidence interval, the goal represents a range of 0 – 10% numerical improvement.

1.3 Legal Authority

The City of Lancaster intends to adopt an Ordinance to implement and enforce this SWMP. The schedule for development and adoption of the ordinance is shown in Appendix G.

1.4 *Annual Report*

The City of Lancaster is required to submit an annual report to SWRB by September 15th of each year. During the time period of October 1-15 of each year, the City shall make a public presentation of the report to include SWRB staff. The report shall summarize the City's accomplishments that year to include measurable goals performance indicators and trend analyses, overall self-rating and, if applicable, recommended changes to the SWMP.

1.5 Zones

The Regional Water Quality Control Board (RWQCB) provided the City with the following zone definitions:

Red Zone - areas within 1/4 mile of surface waters
Yellow Zone - areas within 1/2 mile of surface water or tributary to surface water
Green Zone - areas not flowing to tributary or surface water

The City does not have any surface waters, however, the RWQCB has determined the Amargosa Creek, its tributaries and areas within 1/2 mile to be in a Yellow Zone. The remainder of the City is in a Green Zone. (See Appendix A.)

For existing conditions, the Yellow Zone is the urbanized area of influence and, therefore, the focus of the SWMP. However, municipal operations conducted throughout the City are addressed regardless of zone. The SWMP will address new construction, post-construction, and redevelopment projects throughout the City regardless of zone.

1.6 Program Effectiveness Indicators

The suggested program effectiveness indicators described by RWQCB in workshops over the last couple of years will be evaluated by the City during its ongoing development of the SWMP. As the SWMP develops and Best Management Practices (BMPs) are implemented, program effectiveness indicators will be developed to measure the progress and effectiveness of the BMPs.

1.7 Maximum Extent Practicable (MEP)

MEP is the technology-based standard enacted by Congress in CWA§402(p)(3)(B)(iii) that establishes the level of pollutants that dischargers must achieve. It emphasizes pollution prevention and source control BMPs as the first line of defense. It is an ever evolving, flexible and advancing concept that recognizes technical and economic feasibility. The way in which MEP is met may vary between communities.

The City of Lancaster is located in the desert with little rainfall and no permanent surface waters. Groundwater is located several hundred feet below the surface. Therefore, the impact on water quality from existing sources of storm water pollutants is minimal.

The City does have a large amount of undeveloped land. Due to its proximity to Los Angeles, there is a great potential for future development. Therefore, the City's strategy for MEP is to concentrate its efforts and resources in the SWMP on the Construction and Post-Construction MCMs. As the City adds new development, illicit discharge detection and prevention will become more important as more and larger users come to town.

SECTION 2 PARTNERSHIPS

2.1 Responsible / Accountable Strategy

The City of Lancaster has decided to file a Notice of Intent (NOI) to comply with the State Water Resources Board General Permit. The City assumes all responsibility and accountability for compliance and reporting as required by the General Permit.

2.2 Separate Implementing Entity (SIE) Strategy

The City has other agency facilities within its boundaries that are required to comply with Phase II NPDES regulations. These entities must file a NOI as a permittee, obtain a separate permit or enter into an agreement with the City to be covered as an SIE. The City intends to investigate the need or benefit of entering into agreements with such agencies. See Section 3.1 for a list of approved SIEs.

2.3 Validation Strategy

The City performed inspections on existing basins and collected data on types and quantities of constituents to serve as a baseline for future comparison testing. This information also provides a basis for decisions regarding areas of concern.

City departments currently perform a variety of functions that relate to storm water quality throughout the City. These current and ongoing activities serve as a baseline for future decisions regarding additional activities deemed necessary to conduct an effective SWMP.

During the multi year permit cycle beginning March 10, 2003, the sampling data and the current department activity list will be used extensively to assist in decision making and trend comparisons. At the end of the permit cycle, this baseline information will be valuable by allowing the City to evaluate the effectiveness of the SWMP.

SECTION 3 AREAS OF INFLUENCE

3.1 Separate Implementing Entities

RWQCB has approved the City of Lancaster to include the following agencies in this SWMP:

Antelope Valley Community College (AVCC)

Lancaster Elementary School District (LSD)

Antelope Valley Union High School District (AVUHD)

Eastside Union Elementary School District (ESD)

Westside Union Elementary School District (WSD)

California State Prison (CSP)

Los Angeles County Corrections Department (Mira Loma Facility)

3.2 Urbanized Area of Influence

The City of Lancaster has identified the yellow zone adjacent to Amargosa Creek as the urbanized area of influence. The zone shown on the map in Appendix A also includes areas tributary to the Amargosa via the storm sewer system and any area within ½ mile. The boundary of the yellow zone will be modified to include extensions to the City storm drain system and new construction as applicable.

SECTION 4 CHARACTERIZATION

4.1 Categories

The following property zoning/uses will be used in the characterization of the City. The list may be broken down more specifically during the development stage of the SWMP.

Industrial - industrial zoned property
Commercial - commercial zoned property
Residential - residential zoned property

4.2 Zones

The Regional Water Quality Control Board (RWQCB) provided the City with the following zone definitions:

Red Zone - areas within 1/4 mile of surface waters
Yellow Zone - areas within 1/2 mile of surface water or tributary to surface water
Green Zone - areas not flowing to tributary or surface water

The City does not have any surface waters, however, the RWQCB has determined the Amargosa Creek, its tributaries and areas within 1/2 mile to be in a Yellow Zone. The remainder of the City is in a Green Zone. (See Appendix A.)

For existing conditions, the Yellow Zone is the urbanized area of influence and, therefore, the focus of the SWMP. However, municipal operations conducted throughout the City are addressed regardless of zone. The SWMP will address new construction, post-construction, and redevelopment projects throughout the City regardless of zone.

SECTION 5 MEASURABLE GOALS

5.1 Public Education and Outreach (Minimum Control Measure No. 1)

5.1.1 Minimum Measure Objective

The City will educate the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

5.1.1.(a) BMP: Develop and implement a Public Education and Outreach Program utilizing existing Los Angeles County and Mojave Resource Conservation District (RCD) programs and new programs designed by and for the City of Lancaster.

Measurable Goal: Measurable goals will be developed as part of the Public Education and Outreach Program.

Justification: The County of Los Angeles under the auspices of their Phase 1 NPDES permit conducts extensive public education programs via radio, TV, internet sites, school visits and other community based organizations. The City of Lancaster is contained completely within the boundaries of the County. Therefore, the County programs already reach the citizens of Lancaster to a great extent.

The Mojave RCD has received a grant for thirty months to conduct public education programs about storm water quality. The outlets for these programs are in the Antelope Valley and, therefore, will reach many citizens of Lancaster. During the grant period, RCD's program may be very useful to the City of Lancaster. In developing this program, the City expects to augment the existing programs with new programs addressing local concerns.

5.2 Public Participation / Involvement (Minimum Control Measure No. 2)

5.2.1 Minimum Measure Objective

The City shall comply with State and local public notice requirements when implementing a public involvement/participation program.

5.2.1.(a) BMP: Study the potential to use the public to assist the City in developing and managing storm water runoff quality.

Measurable Goal: Measurable goals will be developed when the use of public/private committees and/or other methods of involving the public are determined.

Justification: The SWMP is designed to be a living document that addresses specific and unique concerns of the City of Lancaster. The City will enhance the effectiveness of the SWMP by including the local community in the development and management of the plan.

5.3 Illicit Discharge Detection and Elimination (Minimum Control Measure 3)

5.3.1 Minimum Measure Objective

Develop, implement and enforce an illicit discharge detection and elimination program, develop a storm sewer system map, establish legal authority for enforcement actions, develop a plan to detect and address non-storm water discharges, inform the public of the hazards of illicit discharges and address the categories of non-storm water discharges listed in the draft General Permit.

5.3.1 (a) BMP: Develop an illicit discharge detection and elimination program to include adopting legal authority for enforcement, procedures for implementation, inventory and mapping of the storm sewer system, a plan to detect and address non-storm water discharges, a plan to inform the public of the hazards of illicit discharges and plans to address the categories of non-storm water discharges listed in the General permit.

Measurable Goal: Measurable goals will be developed as part of the illicit Discharge Detection and Elimination Program.

Justification: Illicit discharge detection and elimination is an essential element to properly implement and manage the SWMP. A comprehensive plan that addresses legal authority, asset inventory, public education/involvement and specific categories of non-storm water discharges is needed for the City to meet its SWMP responsibility.

5.4 Construction Site Runoff (Minimum Control Measure No. 4)

5.4.1 Minimum Measure Objective

Develop, implement and enforce a program to reduce pollutants in any storm water runoff from construction activities in a land disturbance of greater than or equal to one acre.

5.4.1(a) BMP: Develop an erosion and sedimentation program to include legal authority for enforcement and procedures for implementation of rules, regulations, guidelines and inspections of construction sites that disturb greater than one acre of land.

Measurable Goal: Measurable goals will be developed as part of the Erosion and Sedimentation Control (ESC) Program.

Justification: The City has an ordinance for dust control and wind erosion. It also has a manual of engineering design guidelines, policies, and procedures for use by engineers, architects, and builders. A thorough review is necessary to provide for the preparation of a comprehensive Erosion and Sedimentation Control Program.

5.5 Post-Construction Storm Water Management in New Development / Redevelopment (Minimum Control Measure No. 5)

5.5.1 Minimum Measure Objective

Develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than one acre to include strategies for structural and non-structural BMPs and incorporation of the requirements of Revised Attachment 4 of the General Permit included in Appendix H.

5.5.1(a) BMP: Develop a post-construction storm water management program.

Measurable Goal: Measurable goals will be developed as part of the Post-Construction Storm Water Management Program.

Justification: The development of the Post-Construction Storm Water Management Program will require a thorough review of existing ordinances, regulations, policies, procedures and design guidelines. In addition, the General Permit requires adoption of the design standards or a functionally equivalent program that is acceptable to RWQCB. The City's review shall include incorporating those standards.

5.6 Pollution Prevention / Good Housekeeping for Municipal Operations (Minimum Control Measure No. 6)

5.6.1 Minimum Measure Objective:

Reduce the amount of pollution to the storm water runoff system by educating and training of municipal employees.

5.6.1(a) BMP: Develop a Training Program for Spill Prevention and Containment.

Measurable Goal: Measurable goals will be developed when the spill prevention and containment program is in place.

Justification: The City has procedures for spill prevention and containment. A review is necessary to insure an up-to-date program for education and training.

5.6.1(b) BMP: Develop a Training Program for Grounds Maintenance Employees.

Measurable Goal: Measurable goals will be developed when the training program is in place.

Justification: The City has a training program for Grounds Maintenance Employees. However, a review of that program with a specific emphasis on storm water runoff pollution is necessary to insure an up-to-date program.

SECTION 6 EVALUATION / ASSESSMENT

6.1 Key Baseline Events

The basin sampling data and the City department current activity inventory shown in Appendix D establish the baseline for evaluation and assessment of the SWMP.

6.2 Key Separate Implementing Entity (SIE) Baseline Events

The City intends to investigate the need to enter into agreements with SIEs during the first year of the permit cycle. The specifics of the relationship will not be known until the agreements are in place. Key baseline events will be identified by the City in an annual report when the information is known.

SECTION 7 SCHEDULE

7.1 Responsible / Accountable Timeframe

The City is a single permittee and as such will comply with the annual reporting requirement of the General Permit. The Director of Public Works shall be responsible for directing and managing all activities relating to the SWMP.

7.2 Key Events / Tasks

The Five Year Master Schedule in Appendix G lists the key events/tasks described in the SWMP and provides a time schedule for completion of each event/task.

SECTION 8 OTHER FACTORS

8.1 Exclusions (None known at this time.)

8.2 SIE

SWRB has identified six entities as potential SIEs to Lancaster's SWMP. Those entities are listed in Section 3.1. The City of Lancaster is charged with the responsibility of contacting each entity and determining the intent of that entity to be covered as a SIE. For each entity that so desires, the City will enter into a binding agreement detailing responsibilities of each party. The current status of these contacts are shown in Appendix F.

APPENDIX A Urbanized Areas of Influence

APPENDIX B BMPs for MCMs

BMP TABLE

MCM	SECTION	BMP
1	5.1.1(a)	Develop and implement a Public Education and Outreach Program utilizing existing Los Angeles County and Mojave Resource Conservation District (RCD) programs and new programs designed by and for the City of Lancaster.
2	5.2.1(a)	Study the potential to use the public to assist the City in developing and managing storm water runoff quality.
3	5.3.1(a)	Develop an illicit discharge detection and elimination program to include adopting legal authority for enforcement, procedures for implementation, inventory and mapping of the storm sewer system, a plan to detect and address non-storm water discharges, a plan to inform the public of the hazards of illicit discharges and plans to address the categories of non-storm water discharges listed in the General Permit.
4	5.4.1(a)	Develop an erosion and sedimentation program to include legal authority for enforcement and procedures for implementation of rules, regulations, guidelines and inspections of construction sites that disturb greater than one acre of land.
5	5.5.1(a)	Develop a post-construction storm water management program.
6	5.6.1(a) 5.6.1(b)	Develop a Training Program for Spill Prevention and Containment. Develop a Training Program for Grounds Maintenance Employees.

Note: The SWMP is in its initial development stage. The BMPs shown above are program development type. The schedule for development and completion is shown in Appendix G. An expected product of the development of these programs are detailed structural and treatment BMPs which will be shown in future annual reports.

APPENDIX C Measurable Goals

TABLE C-1

MEASURABLE GOALS	PERFORMANCE MEASURES
TBD	TBD

Note: The SWMP is in its initial development stage. Current BMPs for each MCM call for programs to be developed. The expected result is BMPs with performance measures for reporting on program effectiveness.

APPENDIX D Evaluation / Assessment

Evaluation Assessment

Note: The SWMP is in its initial development stage. After the completion of the various programs required for the MCMs, a table/matrix will be developed linking indicators (baselines/trends) with the MCMs, trend analyses and sample model calculations.

Included at this time are basin sampling information and a matrix showing City Departments and their current and expected future responsibilities.

BASIN SAMPLING DATA

DEPARTMENT ACTIVITIES - CURRENT

Division/Section	Current Activity	Potential future role/ Responsibility for SWMP Implementation
Public Works		
Maintenance	Conduct street sweeping	
	Maintain storm drains and catch basins	Master maintenance schedule for storm drain
	Maintain drainage basins	
	Maintain roadway shoulders and drainage swales	
	Maintain city maintenance facilities	Spill prevention education and training
	Hazardous material clean up	
Engineering	Administer plan and permit requirements for new construction	Erosion control and sedimentation program
		Construction site inspection program
Community Development	Review new development and redevelopment projects	Post construction site development program
	Prepare General Plan revisions and amendment	
Parks & Recreation	Pesticide and herbicide control program	Training program for chemicals
	Hazardous material use and control program	Training program for oils, fuel and waste disposal

Future roles shown on here are subject to revision.

APPENDIX E Inspection/Verification Sequences / Validation/Audit Programs

Note: The SWMP is in its initial development stage. As the programs described in the SWMP are developed, inspection/verification sequences and validation/audit programs will be developed for each program within the SWMP.

APPENDIX F Exclusions / SIEs

EXCLUSIONS – None at this time.

SIEs

SIE	STATUS
AVCC	Pending
LSD	Pending
AVUSD	Pending
ESD	Pending
WSD	Will apply for separate coverage under general permit. *
CSP	Has requested approval from RWQCB to not be included due to specific site characteristics.
Mira Loma Facility	Removed by RWQCB. *

Note: Status pending indicates that these entities are in the process of deciding whether to be an SIE to Lancaster's SWMP or file separately.

* See attached letters.

From: Jarma Bennett [mailto:bennj@dwq.swrcb.ca.gov]
Sent: Thursday, July 03, 2003 11:27 AM
To: sdassler@cityoflancasterca.org
Cc: sjord@ladpw.org; TWBelliz@lasd.org; Eugene Rondash
Subject: Mira Loma Detention Center

Hello Steve,
I'm emailing you to try to clear up some issues regarding the Small MS4 General Permit. I have been in contact with Thomas Bellizia of the Mira Loma Detention Center (MLDC), who attended a workshop that Lancaster put on last week. During the workshop, MLDC's permitting requirements were discussed. I'm cc'ing Mr. Bellizia, Stacy Jordan of Los Angeles County, and Eugene Rondash of the RWQCB so hopefully we can all be on the same page.

I understand that MLDC is owned and operated by the County of Los Angeles and as such will fall under the County's Small MS4's Permit and be covered by the County's Storm Water Management Program. Because the facility is owned by the County, which is designated as a regulated small MS4 requiring permit coverage, there should not be the jurisdictional problem that would exist if the prison was state or federally owned. If the facility were state or federally owned, it would need to obtain separate permit coverage.

The County should consider the facility's potential polluting activities and potential education/involvement opportunities when developing and implementing their SWMP.

Please let me know if there are any questions regarding this issue. Thank you for your time.

Jarma

Jarma Bennett
Division of Water Quality
State Water Resources Control Board
1001 "I" Street
Sacramento, CA 95814
(916) 341-5532
FAX (916) 341-5543

bennj@dwq.swrcb.ca.gov

APPENDIX G 5 Year Master Schedule

APPENDIX H Revised Attachment 4

Areas subject to high growth or serving a population of at least 50,000 must comply with the following provisions (for counties this threshold population applies to the population within the permit area).

A. RECEIVING WATER LIMITATIONS

1. Discharges shall not cause or contribute to an exceedance of water quality standards contained in a Statewide Water Quality Control Plan, the California Toxics Rule (CTR), or in the applicable RWQCB Basin Plan.

2. The permittees shall comply with Receiving Water Limitations A.1 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications. The SWMP shall be designed to achieve compliance with Receiving Water Limitations A.1. If exceedance(s) of water quality objectives or water quality standards (collectively, WQS) persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittees shall assure compliance with Receiving Water Limitations A.1 by complying with the following procedure:

   a. Upon a determination by either the permittees or the RWQCB that discharges are causing or contributing to an exceedance of an applicable WQS, the permittees shall promptly notify and thereafter submit a report to the RWQCB 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 exceedance of WQSs. The report may be incorporated in the annual update to the SWMP unless the RWQCB directs an earlier submittal. The report shall include an implementation schedule. The RWQCB may require modifications to the report.

   b. Submit any modifications to the report required by the RWQCB within 30 days of notification.

   c. Within 30 days following approval of the report described above by the RWQCB, the permittees shall revise the SWMP 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 SWMP and monitoring program in accordance with the approved schedule.

   So long as the permittees have complied with the procedures set forth above and are implementing the revised SWMP, the permittees do not have to repeat the same procedure for

continuing or recurring exceedances of the same receiving water limitations unless directed by the RWQCB to develop additional BMPs.

B. DESIGN STANDARDS

Regulated Small MS4s subject to this requirement must adopt an ordinance or other document to ensure implementation of the Design Standards included herein or a functionally equivalent program that is acceptable to the appropriate RWQCB. The ordinance or other document must be adopted and effective prior to the expiration of this General Permit or, for Small MS4s designated subsequent to the Permit adoption, within five years of designation as a regulated Small MS4.

All discretionary development and redevelopment projects that fall into one of the following categories are subject to these Design Standards. These categories are:

- Single-Family Hillside Residences
- 100,000 Square Foot Commercial Developments
- Automotive Repair Shops
- Retail Gasoline Outlets
- Restaurants
- Home Subdivisions with 10 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

1. Conflicts With Local Practices
   Where provisions of the Design Standards conflict with established local codes or other regulatory mechanism, (e.g., specific language of signage used on storm drain stenciling), the Permittee may continue the local practice and modify the Design Standards to be consistent with the code or other regulatory mechanism, except that to the extent that the standards in the Design Standards are more stringent than those under local codes or other regulatory mechanism, such more stringent standards shall apply.

2. Design Standards Applicable to All Categories

   a. Peak Storm Water Runoff Discharge Rates
      Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion.

   b. Conserve Natural Areas
      If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent

with applicable General Plan and Local Area Plan policies:

1) Concentrate or cluster Development on portions of a site while leaving the remaining land in a natural undisturbed condition.
2) Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.
3) Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

c. Minimize Storm Water Pollutants of Concern
Storm water runoff from a site has the potential to contribute oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system. The development must be designed so as to minimize, to the maximum extent practicable, 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. Pollutants of concern consist of any 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 concentrations or loads considered potentially toxic to humans and/or flora and fauna.

In meeting this specific requirement, “minimization of the pollutants of concern” will require the incorporation of a BMP or combination of BMPs best suited to maximize the reduction of pollutant loadings in that runoff to the Maximum Extent Practicable. Those BMPs best suited for that purpose are those listed in the California Storm Water Best Management Practices Handbooks; Caltrans Storm Water Quality Handbook: Planning and Design Staff Guide; Manual for Storm Water Management in Washington State; The Maryland Stormwater Design Manual; Florida Development Manual: A Guide to Sound Land and Water Management; Denver Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices and Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters , USEPA Report No. EPA-840-B-92-002, as “likely to have significant impact” beneficial to water quality for targeted pollutants that are of concern at the site in question. However, it is possible that a combination of

BMPs not so designated, may in a particular circumstance, be better suited to maximize the reduction of the pollutants.

d. Protect Slopes and Channels
Project plans must include BMPs consistent with local codes, ordinances, or other regulatory mechanism and the Design Standards to decrease the potential of slopes and/or channels from eroding and impacting storm water runoff:

1) Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
2) Utilize natural drainage systems to the maximum extent practicable.
3) Stabilize permanent channel crossings.
4) Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion, with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers and the California Department of Fish and Game.

e. Provide Storm Drain System Stenciling and Signage
Storm drain stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets. The stencil contains a brief statement that prohibits the dumping of improper materials into the storm water conveyance system. Graphical icons, either illustrating anti-dumping symbols or images of receiving water fauna, are effective supplements to the anti-dumping message. All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: “NO DUMPING – DRAINS TO OCEAN”) and/or graphical icons to discourage illegal dumping.· Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.· Legibility of stencils and signs must be maintained.

f. Properly Design Outdoor Material Storage Areas
Outdoor material storage areas refer to storage areas or storage facilities solely for the storage of materials. Improper storage of materials outdoors may provide an opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the storm water conveyance system. Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the storm water conveyance system, the following Structural or Treatment BMPs are required:

1) Materials with the potential to contaminate storm water must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
2) The storage area must be paved and sufficiently impervious to contain leaks and spills.
3) The storage area must have a roof or awning to minimize collection of storm water within the secondary containment area.

g. Properly Design Trash Storage Areas
A trash storage area refers to an area where a trash receptacle or receptacles (dumpsters) are located for use as a repository for solid wastes. Loose trash and debris can be easily transported by the forces of water or wind into nearby storm drain inlets, channels, and/or creeks. All trash container areas must meet the following Structural or Treatment Control BMP requirements (individual single family residences are exempt from these requirements):

1) Trash container areas must have drainage from adjoining roofs and pavement diverted around the area(s).
2) Trash container areas must be screened or walled to prevent off-site transport of trash.

h. Provide Proof of Ongoing BMP Maintenance
Improper maintenance is one of the most common reasons why water quality controls will not function as designed or which may cause the system to fail entirely. It is important to consider who will be responsible for maintenance of a permanent BMP, and what equipment is required to perform the maintenance properly. As part of project review, if a project applicant has included or is required to include, Structural or Treatment Control BMPs in project plans, the Permittee shall require that the applicant provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, CEQA mitigation requirements and/or Conditional Use Permits. For all properties, the verification will include the developer's signed statement, as part of the project application, accepting responsibility for all structural and treatment control BMP maintenance until the time the property is transferred and, where applicable, a signed agreement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance. The transfer of property to a private or public owner must have conditions requiring the recipient to assume responsibility for maintenance of any Structural or Treatment Control BMP to be included in the sales or lease agreement for that property, and will be the owner's responsibility. The condition of transfer shall include a provision that the property owners conduct maintenance inspection of all Structural or Treatment Control BMPs at least once a year and retain proof of inspection. For residential properties where the Structural or Treatment Control BMPs are located within a common area which will be maintained by a homeowner's association, language regarding the responsibility for maintenance must be included in the project's conditions, covenants and

restrictions (CC&Rs). Printed educational materials will be required to accompany the first deed transfer to highlight the existence of the requirement and to provide information on what storm water management facilities are present, signs that maintenance is needed, how the necessary maintenance can be performed, and assistance that the Permittee can provide. The transfer of this information shall also be required with any subsequent sale of the property. If Structural or Treatment Control BMPs are located within a public area proposed for transfer, they will be the responsibility of the developer until they are accepted for transfer by the County or other appropriate public agency. Structural or Treatment Control BMPs proposed for transfer must meet design standards adopted by the public entity for the BMP installed and should be approved by the County or other appropriate public agency prior to its installation.

i. Design Standards for Structural or Treatment Control BMPs
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:

1) Volumetric Treatment Control BMP

a) 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

b) 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, (2003); or

c) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for “treatment” that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

2) Flow Based Treatment Control BMP

a) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the area; or

b) 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.

Limited Exclusion
Restaurants and Retail Gasoline Outlets, where the land area for development or redevelopment is less than 5,000 square feet, are excluded from the numerical Structural or Treatment Control BMP design standard requirement only.

3. Provisions Applicable to Individual Priority Project Categories

a. 100,000 Square Foot Commercial Developments

1) Properly Design Loading/Unloading Dock Areas
Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

a) Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.

b) Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

2) Properly Design Repair/Maintenance Bays
Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

a) Repair/maintenance bays must be indoors or designed in such a way that doesn’t allow storm water runon or contact with storm water runoff.

b) Design a repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local

jurisdiction, obtain an Industrial Waste Discharge Permit.

3) Properly Design Vehicle/Equipment Wash Areas
The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. The area in the site design must be:

a) Self-contained and/ or covered, equipped with a clarifier, or other pretreatment facility, and

b) Properly connected to a sanitary sewer or other appropriately permitted disposal facility.

b. Restaurants

1) Properly Design Equipment/Accessory Wash Areas
The activity of outdoor equipment/accessory washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for the washing/steam cleaning of equipment and accessories. This area must be:

a) Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer.

b) If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer or other appropriately permitted disposal facility.

c. Retail Gasoline Outlets

1) Properly Design Fueling Area
Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. The project plans must include the following BMPs:

a) The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.

b) The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.

c) The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents runon of storm water to the extent practicable.

d) At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

d. Automotive Repair Shops

1) Properly Design Fueling Area
Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the storm water conveyance system. Therefore, design plans, which include fueling areas, must contain the following BMPs:

a) The fuel dispensing area must be covered with an overhanging roof structure or canopy. The canopy's minimum dimensions must be equal to or greater than the area within the grade break. The canopy must not drain onto the fuel dispensing area, and the canopy downspouts must be routed to prevent drainage across the fueling area.

b) The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface), and the use of asphalt concrete shall be prohibited.

c) The fuel dispensing area must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents runon of storm water to the extent practicable.

d) At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.

2) Properly Design Repair/Maintenance Bays
Oil and grease, solvents, car battery acid, coolant and gasoline from the repair/maintenance bays can negatively impact storm water if allowed to come into contact with storm water runoff. Therefore, design plans for repair bays must include the following:

a) Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.

b) Design a repair/maintenance bay drainage system to capture all wash-water, leaks and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local

jurisdiction, obtain an Industrial Waste Discharge Permit.

3) Properly Design Vehicle/Equipment Wash Areas
The activity of vehicle/equipment washing/steam cleaning has the potential to contribute metals, oil and grease, solvents, phosphates, and suspended solids to the storm water conveyance system. Include in the project plans an area for washing/steam cleaning of vehicles and equipment. This area must be:

   a) Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or other appropriately permitted disposal facility.

4) Properly Design Loading/Unloading Dock Areas
Loading/unloading dock areas have the potential for material spills to be quickly transported to the storm water conveyance system. To minimize this potential, the following design criteria are required:

   a) Cover loading dock areas or design drainage to minimize run-on and runoff of storm water.

   b) Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

e. Parking Lots

1) Properly Design Parking Area
Parking lots contain pollutants such as heavy metals, oil and grease, and polycyclic aromatic hydrocarbons that are deposited on parking lot surfaces by motor-vehicles. These pollutants are directly transported to surface waters. To minimize the offsite transport of pollutants, the following design criteria are required:

   a) Infiltrate or treat runoff.

2) Properly Design To Limit Oil Contamination and Perform Maintenance
Parking lots may accumulate oil, grease, and water insoluble hydrocarbons from vehicle drippings and engine system leaks:

   a) Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used (e.g. fast food outlets, lots with 25 or more parking spaces, sports event parking lots, shopping malls, grocery stores, discount warehouse stores).

b) Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal, and system fouling and plugging prevention control.

4. Waiver
A Permittee may, through adoption of an ordinance, code, or other regulatory mechanism incorporating the treatment requirements of the Design Standards, provide for a waiver from the requirement if impracticability for a specific property can be established. A waiver of impracticability shall be granted only when all other Structural or Treatment Control BMPs have been considered and rejected as infeasible. Recognized situations of impracticability include, (i) extreme limitations of space for treatment on a new or redevelopment project, (ii) unfavorable or unstable soil conditions at a site to attempt infiltration, and (iii) 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 10 feet from the soil surface. Any other justification for impracticability must be separately petitioned by the Permittee and submitted to the appropriate RWQCB for consideration. The RWQCB may consider approval of the waiver justification or may delegate the authority to approve a class of waiver justifications to the RWQCB EO. The supplementary waiver justification becomes recognized and effective only after approval by the RWQCB or the RWQCB EO. A waiver granted by a Permittee to any development or redevelopment project may be revoked by the RWQCB EO for cause and with proper notice upon petition.

5. Limitation on Use of Infiltration BMPs
Three factors significantly influence the potential for storm water to contaminate ground water. They are (i) pollutant mobility, (ii) pollutant abundance in storm water, (iii) and soluble fraction of pollutant. The risk of contamination of groundwater may be reduced by pretreatment of storm water. A discussion of limitations and guidance for infiltration practices is contained in, *Potential Groundwater Contamination from Intentional and Non-Intentional Stormwater Infiltration, Report No. EPA/600/R-94/051, USEPA (1994).* In addition, the distance of the groundwater table from the infiltration BMP may also be a factor determining the risk of contamination. A water table distance separation of ten feet depth in California presumptively poses negligible risk for storm water not associated with industrial activity or high vehicular traffic. Site specific conditions must be evaluated when determining the most appropriate BMP. Additionally, monitoring and maintenance must be provided to ensure groundwater is protected and the infiltration BMP is not rendered ineffective by overload. This is

especially important for infiltration BMPs for areas of industrial activity or areas subject to high vehicular traffic [25,000 or greater average daily traffic (ADT) on main roadway or 15,000 or more ADT on any intersecting roadway]. In some cases pretreatment may be necessary.

6. Alternative Certification for Storm Water Treatment Mitigation
   In lieu of conducting detailed BMP review to verify Structural or Treatment Control BMP adequacy, a Permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect registered in the State of California, that the plan meets the criteria established herein. The Permittee is encouraged to verify that certifying person(s) have been trained on BMP design for water quality, not more than two years prior to the signature date. Training conducted by an organization with storm water BMP design expertise (e.g., a University, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying.

FIVE YEAR MASTER SCHEDULE

REF	TASK	Year 1	Year 2	Year 3	Year 4	Year 5
5.1.1.(a)	BMP: Develop and implement a Public Education and Outreach program utilizing existing Los Angeles County and Mojave Resource Conservation District (RCD) programs and new programs developed by and for the City of Lancaster.	Complete an inventory of the existing County and Mojave RCD programs.	Analyze the County programs to determine the suitability and effectiveness for use in Lancaster. Prepare a report detailing the findings	Prepare a Public Education and Outreach program utilizing existing and new programs. Develop performance indicators.	To be determined.	To be determined.
5.2.1.(a)	BMP: Study the potential to use the public to assist the City in developing and managing storm water runoff quality.	Investigate establishing a SWMP Steering Committee and prepare a report to City management.	City management to review the report and provide direction to staff on establishing SWMP steering committee including participants and responsibilities/authority.	To be determined based on direction of management.	To be determined.	To be determined.
5.3.1.(a)	BMP: Develop an illicit discharge detection and elimination program to include adopting legal authority for enforcement, procedures for implementation, inventory and mapping of the storm sewer system, a plan to detect and address non-storm water discharges, a plan to inform the public of the hazards of illicit discharges and plans to address the categories of non-storm water discharges listed in the General Permit.	Research existing programs, prepare outline for major elements of program.	Prepare storm sewer system map. Complete draft of Ordinance.	Adopt an ordinance.	Develop program and performance measures.	Implement program.
5.4.1(a)	BMP: Develop an erosion and sedimentation program to include legal authority for enforcement and procedures for implementation of rules, regulations, guidelines and inspections of construction sites that disturb greater than one acre of land.	Research all existing City ordinances, regulations, policies, procedures and design guidelines in order to prepare a comprehensive and coordinated erosion and sedimentation control program.	Gather and review information from other desert communities that may be useful in preparing the program.	Develop erosion and sedimentation control measures and action programs to implement the measures.	Write and adopt an erosion and sedimentation control ordinance. Develop performance measures.	Implement program.
5.5.1(a)	BMP: Develop a post-construction storm water management program.	Research all existing City ordinances, regulations, policies, procedures and design guidelines.	Gather and review information from other desert communities that may be useful for the post-construction program.	Based on the research, develop measures and action programs to implement the program.	Write and adopt an ordinance. Develop performance measures.	Implement program.
5.6.1(a)	BMP: Develop a Training Program for Spill Prevention and Containment.	Review existing program.	Complete revisions to program. Establish training schedule.	Develop performance measures.	Implement program.	
5.6.1(b)	BMP: Develop a Training Program for Grounds Maintenance Employees.	Review existing program.	Complete revisions to program. Establish training schedule.	Develop performance measures.	Implement program.	
N/A	BMP: Prepare and adopt a storm water management ordinance.	Research existing ordinances.	Prepare draft for department review.	Adopt ordinance.	Implement ordinance.	

Lancaster - Palmdale, CA Urbanized Area

Storm Water Entities as Defined by the 2000 Census

Lancaster

LOS ANGELES CO

Quartz Hill

Palmdale

Desert View Highlands

Littlerock

2000 Census Urbanized Areas

- Lancaster - Palmdale, CA

- Municipal Boundaries
- County Boundaries
- Major Waterbodies

SOURCE:
US Census Bureau TIGER data, 2000 Census

PROJECTION:
State Plane Coordinate System - California V
Horizontal datum - NAD83

MAP DESIGN:
August 21, 2002

0 1 2 Miles

0 2 Kilometers

N