California Regional Water Quality Control Board

Los Angeles Region

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

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Arnold Schwarzenegger
Governor

December 27, 2006

Mr. Jeff Pratt, Deputy Director
Ventura Countywide Stormwater Quality Management Program
Ventura Watershed Protection District
800 South Victoria Avenue, L#1600
Ventura, CA 93009

Ventura County Municipal Storm Water Permittees

DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES PERMIT No. CAS004002) - LETTER OF TRANSMITTAL

Dear Mr. Pratt, et al:

We are pleased to transmit to you the draft National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit (attached) and waste discharge requirements for storm water discharges from the MS4 within the Ventura County Watershed Protection District, County of Ventura and the incorporated cities therein. The Ventura County MS4 permit requires the Ventura County Watershed Protection District, herein referred to as the Principal Co-Permittee, and other Co-Permittees to implement the NPDES Permit No. CAS004002, including the Reporting Program (Monitoring Report and Program Report).

Permittee comments and comments from the public and other interested persons on the draft Ventura County MS4 permit are appreciated and due to the California Regional Water Quality Control Board, Los Angeles Region (L.A. Water Board) by February 26, 2007. Comments may be mailed to the Regional Board, Xavier Swamikannu/Storm Water Permitting at the above address or e-mailed to: April122007workshop@waterboards.ca.gov. The L.A. Water Board will conduct a public workshop on April 12, 2007 to receive comment on the draft MS4 permit, but will not take any action. A future public meeting will be scheduled to consider adoption of the Ventura County MS4 Permit.

We welcome the Principal Permittee and other municipal Permittees participation and assistance during the development of the MS4 permit. Should you have any question, please do not hesitate to call me at (213) 576-6605 or Dr. Xavier Swamikannu at (213) 620-2094.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosure

Cc: Mailing List

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 07-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

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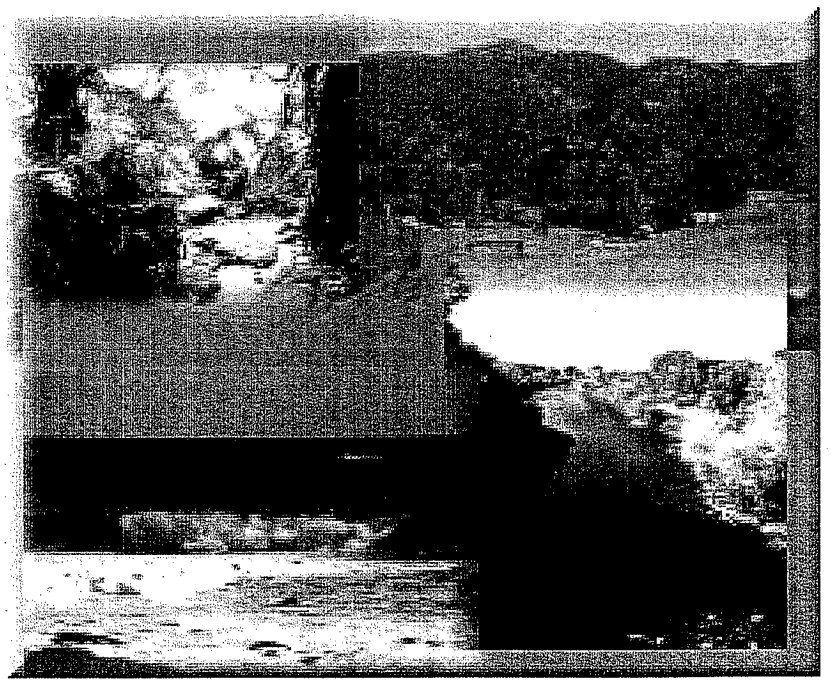

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 06-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter called Regional Water Board), finds that:

A. Permit Parties and History

1. Ventura County Watershed Protection District (Principal Permittee), County of Ventura, Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventrura, Santa Paula, Simi Valley and Thousand Oaks (hereinafter referred to separately as Permittees) have joined together to form the Ventura Countywide Storm Water Quality Management Program to discharge wastes. The Permittees discharge or contribute to discharges of storm water from municipal separate storm sewer systems (MS4s), also called storm drain systems, into the Watershed Management Areas of Ventura River, Santa Clara River, Calleguas Creek, Malibu Creek and Miscellaneous Ventura Coastal all within Ventura County and Los Angeles County (see Attachment "A").

2. Storm water discharges from the Ventura County MS4 are covered under countywide waste discharge requirements contained in Order No. 00-108, adopted by the California Water Quality Control Board, Los Angeles Region (Regional Water Board) on July 27, 2000, which replaced Order No. 94-082, adopted by the Regional Water Board on August 22, 1994. Order No. 00-108 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

3. The Regional Water Board may require a separate NPDES permit for any entity that discharges storm water into the watersheds of Ventura County. Such an entity can be any State or Federal facility, special district or other public or private party.

B. Nature of Discharge

1. Storm water discharges consist of surface water runoff generated from various land uses in all the hydrologic drainage basins, which discharge into Waters of the State. The quality of these discharges varies and is affected by geology, land use, season, hydrology, and sequence and duration of hydrologic events. Based on the Ventura Countywide Storm Water Monitoring Program's Water Quality Monitoring Reports which were required under Order No. 00-108, the wet weather Pollutants of Concern (POC) include bacteria, conventional pollutants, metals, nutrients, organic compounds, and pesticides. The POC are identified in Attachment "B" of this Order.

2. Common pollutants in storm water and their respective sources are: bacteria from animal droppings; Polycyclic Aromatic Hydrocarbons (PAHs) from the products of internal combustion engine operation and parking lot sealants wash off; nitrates from fertilizer application; pesticides from pest mitigating applications; herbicides from plant mitigating applications; bis (2-ethylhexyl) phthalate from the break down of plastic products; mercury from atmospheric fallout and improper disposal of mercury switches; lead from fuels, paints, automotive parts; copper from brake pad wear and roofing materials, zinc from tire wear and galvanized sheeting and fencing; sediment from land disturbance and erosion; and dioxins as products of combustion.

3. The implementation of the measures set forth in this Order are reasonably expected to reduce the discharge of pollutants via storm water runoff into receiving waters, and to meet the Waste Load Allocations (WLAs) for municipal storm water adopted by the Regional Water Board.

4. In general, the substances that are found in municipal storm water runoff can harm human health and aquatic ecosystems. In addition, the high volumes and high velocities of storm water discharged from MS4s into natural watercourses can adversely impact aquatic ecosystems and stream habitat and cause stream bank erosion and physical modifications collectively termed hydromodification. Municipal point source discharges from urbanized areas remain a leading cause of impairment of surface waters in California (2002 National Assessment Database, http://www.epa.gov/waters/305b/index.html and State Water Resources Control Board (State Board) 2002 CWA § 305(b) Report http://www.waterboards.ca.gov/tmdl/305b.html).

5. Water quality assessments conducted by the Regional Water Board identified impairments, or threatened impairments, of beneficial uses of water bodies in the Ventura Watersheds. These impairments include many of the POC identified by the Ventura Countywide Storm Water Monitoring Program. These impairments are

identified on the Federal Clean Water Act (CWA) § 303(d) list of impaired water bodies.

6. Studies and research conducted by other Regional agencies, and academic institutions have also identified storm water 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 and 2004*, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999, 2004); *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. Novle et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001); Receiving Water Impacts Associated with Urban Runoff, Pitt, R.(2002).]

7. Development and urbanization increase pollutant loads, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces (paved) such as highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, impervious surfaces (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 (ESAs) designated by the State include:

   (a) Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use; and

(b) California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

8. Ventura County has several stream segments listed on the CWA § 303(d) list of impaired water bodies for various pollutants/stressors. The California Stream Bioassessment Procedure (CSBP) is a cost-effective tool and standard protocol for assessing the biological and physical/ habitat conditions of stream segments for evaluation of the overall health of the watershed. [References: Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling, 1999. *Rapid Bioassessment Protocols for use in Streams and Rivers: Periphyton, Benthic, Macroinvertebrates, and Fish.* 2nd Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C., California State Water Resources Control Board - Division of Water Quality, (2003). *The Status and Future of Biological Assessment for California Streams*. Southern CA Coastal Water Research Project, CA Department of Fish and Game, (2005). *Bioassessment In Low Gradient Streams Quality Assurance Project Plan.* California Department of Fish and Game, (2005). *California Stream Bioassessment Procedure (CSBP) for Measuring Basic Characterization of Stream Habitat and Sampling Benthic Macroinvertebrates.* Ode, P. et al, (2005). *A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams*.] This Order includes requirements to conduct bioassessments of natural streams and waterways.

9. The Ventura Watershed stream segments listed on the CWA § 303(d) list of impaired water bodies have polluted and/ or disturbed ecosystems that can be assessed to evaluate their potential for ecological restoration. The purpose of restoration is to reestablish insofar as possible the ecological integrity of degraded aquatic ecosystems. Ecological integrity refers to the condition of an ecosystem, particularly the structure, composition, and natural processes of its biotic communities and physical environment. Restoration strives for the greatest progress toward ecological integrity achievable within the current limits of the watershed. [References: U.S. EPA, 2000. *Principles for the Ecological Restoration of Aquatic Resources*. EPA841-F-00-003. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC. 4 pp., the Federal Interagency Stream Restoration Working Group, (2001). *Stream Corridor Restoration: Principles, Processes, and Practices*.] This Order includes requirements to conduct restoration planning.

10. 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 3-10 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. [References: *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 Bulletin, 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 steams 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 In Rhodes*, D.P. and Williams, G.P. *Adjustments to the Fluvial System* p. 333-350, (1979); Dubuque, Iowa, Kendall/Hunt, Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness*: Watershed Protection Techniques, 1(3), Schueler T. (1994); *Managing Runoff to Protect Natural Streams, The Latest Development and Investigation of Hydromodification in California*, Stein, E.D., and Zaleski, S. (2005); *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*, Coleman, D, MacRae, C, Stein, E.D. (2005); and *Urbanization and Channel Stability Assessment In The Arroyo Simi Watershed of Ventura County*, Final Report, (2004).]

11. The industries and businesses listed in this Order that are to be inspected by Permittees have the potential to discharge contaminated runoff into the MS4, this runoff is an environmental threat because it can adversely impact public health and safety, and the quality of receiving waters. For example, pretreatment program compliance inspections and audits performed in the Los Angeles and Ventura Counties indicate that automotive service and food service facilities sometimes discharge-polluted runoff to the MS4s. The POCs in such wash waters include oil and grease, toxic chemicals, and food waste. Spills from clogged sanitary sewer lines have a high likelihood to reach the receiving waters via MS4s. Overall, the most common POC identified in runoff discharging to the MS4s are: (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 (*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 Water Board in July 1997; *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 Water Board in July 1997). Municipal storm water monitoring data and industrial storm water monitoring data indicate that industrial and commercial sites continue to contribute significant quantities of pollutants in storm water runoff. [References: Ventura County Monitoring Program Report, (2005-2006), *Storm Water Industrial Activities Sampling Program Evaluation in California,* M. Stenstrom and H. Lee, January 2005, http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/lams4Documents.html, *Evaluation of Urban Non-Point Source Runoff of Hazardous Metals Entering Santa Monica Bay, California,* M.S. Buffleben et all, in *Water Science and Technology 2002.* Other studies performed in California also point to the threat of pollution created by nonstorm water discharges to storm drains including discharges of washwaters during dry and wet weather (*Water Quality Concerns and Regulatory Controls for Nonstorm Water Discharges to Storm Drains*, L.D. Duke and M.M. Kihara, Journal of the American Water Resources Association, June 1998.]

12. Rising groundwater and swimming pool water have been found to be sources of pollutants such as salts. Salts increase the salinity of otherwise freshwater systems and disrupt physiological processes. This Regional Water Board has adopted Basin Plan amendments to include TMDLs for salts and this Order includes provisions to control the discharges from these activities in order to directly or indirectly reduce or eliminate the discharge of salts to fresh water systems where salts may impair water quality and beneficial uses.

13. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as: strip malls, parking lots, commercial business parks, and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of POC in storm water. [References: Pitt et al., *Urban Storm Water Toxic Pollutants:* Action Plan Demonstration Project, *Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States Petroleum Institute, (1994); *Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Industrial Storm Water Pollution Prevention: Effectiveness and Limitations of Source Controls in the Transportation Industry*, L. Donald Duke and Y. Jae Chung, Waste Management, Vol. 15, No. 8, pp. 543-558 (1996); Source Characterization, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000); Technomic Press, Field, R et al. Editors; *First Flush Storm Water Runoff from Highways,* M.K. Stenstrom et al. (2000); *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler et at. Technical Report 343, Southern California Coastal Water Research Project (2001); California Storm Water BMP Handbook Municipal, (January 2003); Kayhanian K. Singh A., Suverkropp C.,

Borroum S., (November 2003). *Impact of Annual Average Daly Traffic On Highway Runoff Pollutant Concentrations*. J.Envir. Engrg., Volume 129, Issue 11, pp. 975-990. *Metals and PAHs Adsorbed to Street Particles,* Sim-Lin Lau and Michael K. Stenstrom (2005).]

14. Retail Gasoline Outlets (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. [References: *The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban*, MD, Schueler T. and Shepp D. (1992), and *Concentration of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Landuse*, Ranabal, F.I. and T.J. Bizzard (1995). In Proceedings of the Fourth Biennial Storm Water Research Conference, Florida, pp. 42-52].*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001); *Supplement to Retail Gasoline Outlet Report* (December 2001); *Review of Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets* (November 2001).]

15. The Regional Water Board adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R4-2005-0080) on November 3, 2005. The objective of the program is to monitor runoff from irrigated agriculture facilities in the coastal watersheds of Los Angeles and Ventura Counties. The Regional Water Board's Basin Plan, which designates beneficial uses and establishes water quality objectives for the Region, recognizes that agricultural activities can generate pollutants such as sediment, pesticides, herbicides, and nutrients that upon discharge to receiving water, can degrade water quality and impair beneficial uses. A category identified by the Conditional Waiver as a source of pollutants is nursery operations. This Order includes requirements for the municipal operator to insure the implementation of pollutant reduction and control measures at nursery operations, with the objective of reducing pollutants in storm water runoff within their jurisdiction.

16. Research conducted on the contribution of aerial deposition of trace heavy metals in Los Angeles County watersheds indicates that dry indirect deposition may account for a significant load of pollutants into surface waters. Similar patterns of aerial deposition likely occur in Ventura County. Of the atmospherically deposited pollutants on the watersheds, ten to twenty percent may account for the total load for copper, zinc, nickel, lead, and chromium to the water bodies. Land reservoirs and sequestration may account for the remaining ninety to eighty percent of the atmospherically deposited pollutants on the watersheds. Emissions of semi-volatile organics such as polycyclic aromatic hydrocarbons (PAHs) and pesticides and their subsequent deposition may contribute to the contamination of receiving waters but

appear to be less significant (*Atmospheric Dry Deposition of Trace Metals in the Los Angeles Coastal Region*, L.D. Sabine et al (2005) SCCWRP AR pp. 50-60; *Atmospheric Concentration of PAH, Pesticides, and other Semi-volatile Organic Compounds in the Los Angeles Coastal Region*, L.D. Sabin et al (2005) pp. 61-72; *Contribution of Trace Metals from Atmospheric Deposition to Stormwater Runoff in a Small Impervious Urban Catchment*, Sabin et al., Water Research 39 (2005) 3929-3937; *Measuring and Modeling of Atmospheric Deposition on Santa Monica Bay and the Santa Monica Bay Watershed*, K.D. Stolzenbach et al. (2001). The Los Angeles Regional Water Board will coordinate with the South Coast Air Quality Management Districts, the California Air Resources Board, and other governmental agencies to address multimedia sources of pollution that may contribute to pollution of surface waters.

17. Trash and debris are pervasive pollutants which accumulate in streams, rivers, bays, and ocean beaches throughout Southern California. It poses a serious threat to our oceans and coasts, navigation, biological resources, recreation, human health and safety, aesthetics and economies. [References: Moore, S.L., Gregorio D., Carreon, M., Weisberg, S.B., and Leecaster, M.K., (2001). *Composition and Distribution of Beach Debris in Orange County, California.* Marine Pollution Bulletin, 42(3), pp. 241-245. *Los Angeles River Watershed Total Maximum Daily Loads for Trash*, Staff Report, (2001). (September, 2005). *2005 Plastic Debris, Rivers to Sea Conference.*]

18. Nitrite and nitrate (NH3) are biostimulatory substances that can cause or contribute to eutrophic effects such as low dissolved oxygen and algae growth impairing warm freshwater and wildlife habitats. NH3 is highly toxic to fish and other aquatic life. Excessive ammonia can cause aquatic life toxicity. [References: *California 2002 303(d) list of water quality limited segments*, (February 4, 2003); *Santa Clara River Total Maximum Daily Loads for Nitrogen Compounds*, Staff Report (2003).]

19. Pesticides are substances used to prevent, destroy, repel or mitigate any pest ranging from insects, animals and weeds to microorganisms. Their effects can be direct (e.g. fish die from a pesticide entering waterways, or birds do not reproduce after ingesting contaminated fish), or indirect (a hawk becomes sick from eating a mouse dying from pesticide poisoning). Pesticide categories include: Organochlorine, Organophosphorus, Organophosphate, and Pyrethroid. [References: *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*; Weston, D.P., Holmes, R.W., You, J., Lydy, M.J. Environ. Sci. Technol.; (Article); 39(24); pp. 9778-9784 (2005); Bioavailability of Pyrethroids in Surface Aquatic Systems; Gan, J., Yang,W., Bondarenko,S., Spurlock,F. (Presentation at CA Department of Pesticide Regulation) (2005); *Pesticides in the Nation's Streams and Ground Water, 1992-2001*; Gilliom, R.J.; Barbash J.E.; Crawford C.G.; Hamilton, P.A.; Martin, J.D.; Nakagaki, N.; Nowell, L.H.; Scott, J.C., Stackelberg, P.E.; Thelin, G.P.; Wolock, D.M. USGS

Circular 129; 2006; *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Organochlorine (OC) Pesticides, Polychlorinated Byphenyls (PCB) and Siltation*, Staff Report, (2006); *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Toxicity, Chlorpyrifos and Diazinon*, Staff Report, (2006); U.S. EPA, *Permethrin, Resmethrin, Sumithrin: Synthetic Pyrethroids For Mosquito Control*,
URL: http://www.epa.gov/pesticides/health/mosquitoes/pyrethroids4 mosquitoes.htm;
U.S. EPA, *Chlorpyrifos Summary*,
URL: http://www.epa.gov/oppsrrd1/op/chlorpyrifos/summary.htm;
U.S. EPA, *Diazinon Summary*,
URL: http://www.epa.gov/pesticides/op/diazinon/summary.htm.]

20. Polychlorinated Byphenyls (PCBs) are a subset of the synthetic organic chemicals known as chlorinated hydrocarbons. Concern over PCBs toxicity, persistence (chemical stability) in the environment and that they have been shown to bioconcentrate significantly in aquatic organisms has led to prohibitions on PCBs. [References: *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Organochlorine (OC) Pesticides, Polychlorinated Byphenyls (PCB) and Siltation*, Staff Report, (2006); U.S. EPA, Technical Factsheet on: Polychlorinated Biphenyls (PCBs),
URL: http://www.epa.gov/OGWDW/dwh/t-soc/pcbs.html.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by the Code of Federal Regulations (CFR) [40 CFR 122.26(d)] are:

   (a) Adequate Legal Authority.
   (b) Fiscal Resources.
   (c) Storm Water Quality Management Program (SMP).
      (1) Public Information and Participation Program.
      (2) Industrial/ Commercial Facilities Program.
      (3) Planning and Land Development Program.
      (4) Development Construction Program.
      (5) Public Agency Activities Program.
      (6) Illicit Connection and Illicit Discharges Elimination Program.
   (d) Reporting Program (Monitoring Report and Program Report).

2. The Ventura County SMP, dated November 2001 (revision 2) identifies seven program areas, which are listed below and were previously approved under Board Order No. 00-108.
   (a) Ventura County SMP.
      (1) Program Management.

(2) Programs for Residents.
(3) Programs for Industrial/ Commercial Businesses.
(4) Programs for Planning and Land Development.
(5) Programs for Construction Sites.
(6) Programs for Public Agency Activities.
(7) Programs for Illicit Connections/ Illegal Discharges.

For purposes of region-wide consistency, the program titles are revised and consolidated into the six areas listed in the preceding C.1(c). All Permittee storm water documents submitted to the Regional Water Board are to follow the organization enumerated in C.1(c).

3. The Permittees filed a Report of Waste Discharge (ROWD), dated January 26, 2005. The Permittees applied for renewal of their waste discharge requirements for a 5-year period, which serves as an NPDES permit to discharge wastes to surface waters.

4. The Regional Water Board reviewed the ROWD and determined it to be partially complete under the reapplication policy for MS4s issued by the United States Environmental Protection Agency (REGIONAL WATER BOARD) (61 Fed. Reg. 41697). The Regional Water Board has prepared this Order so that implementation of provisions contained in this Order by Permittees will meet the requirements of the federal NPDES regulations at 40 CFR 122.26.

5. To-date, the monitoring program has consisted of mass emission, receiving water (tributaries), and land-use monitoring stations, toxicity testing, special studies for bio-assessment of the Ventura River and hydrology, identification of ESAs, implementation of the Storm Water Quality Urban Impact Mitigation Plan (SQUIMP), and provide support for volunteer monitoring programs. This Order requires a monitoring program consisting of mass emission, and tributary station(s), toxicity and total suspended solids (TSS) testing, wet weather MS4 WLA monitoring, bio-assessment of the Ventura River, Santa Clara River and Calleguas Creek, trash and debris study, a Pyrethroid assessment, continuation of the hydromodification study, low impact development study, participation in the Southern California Bight Project (SCBP), and support volunteer of monitoring programs.

6. The Principal Permittee is a member of the Southern California Coastal Water Research Project (SCCWRP) Commission. The Principal Permittee also participates in the Regional Monitoring Programs and research partnerships, such as the Southern California Storm Water Monitoring Coalition (SMC) and the Bioassessment Working Group.

D. Permit Coverage

1. The area covered by this Order includes all areas within Ventura County boundaries and all areas within the Municipalities' boundaries (see Figure 1) that are within the Regional Water Board's jurisdiction except for agricultural lands and forest lands. Storm water runoff in these areas are discharged to the watercourses covered by this Order (see Attachment "A"). Provisions of this Order apply to the urbanized areas of the municipalities, areas undergoing urbanization and areas which the Regional Water Board Executive Officer determines are discharging storm water that causes or contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States pursuant to CWA § 402(p)(2)(E).

2. The Permittees covered under this Order were designated on a system-wide basis under Phase I of the CWA § 402(p)(3)(B)(i). The action of covering all Ventura County municipalities under a single MS4 permit on a system-wide basis was consistent with the provisions of 40 CFR 122.26(a)(3)(iv), which states that one permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems; and the Regional Water Board may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

3. Federal, State, Regional, or local entities within the Permittees' boundaries or in jurisdictions outside the Ventura County Watershed Protection 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 Water Board will work with these entities to ensure the implementation of programs that are consistent with the requirements of this Order.

4. This Order incorporates the MS4 TMDLs' WLAs adopted by the Regional Water Board as required under CWA § 303 (d). This order incorporates default WLA monitoring requirements, or where approved, TMDL Implementation Plan Monitoring Program requirements to verify compliance with the adopted TMDL WLAs.

5. Permittees are to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system through inter-agency agreements or other formal arrangements.

E. Federal, State and Regional Regulations

1. The Water Quality Act of 1987 added § 402(p) to the CWA (33U.S.C. § 1251-1387). This section requires the U.S. EPA to establish regulations setting forth NPDES requirements for storm water discharges in 2 phases.

   (a) U.S. EPA 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 1 Final Rule was published on November 16, 1990 (55 Fed. Reg. 47990).

   (b) U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (population of less than 100,000), small construction projects (less than 5 acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA 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 US. The Phase II Final Rule was published on December 8, 1999 (64 Fed. Reg. 68722).

2. The U.S. EPA 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.

3. The U.S. EPA has entered into a Memorandum of Agreement (MOA) with the US 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, and the CWA's water quality standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the U.S. EPA, the Services, and CWA delegated States on CWA permit issuance under § 402 of the CWA [66 Fed. Reg. 11202-11217].

4. The CWA allows the U.S. EPA to delegate its NPDES permitting authority to states with an approved environmental regulatory program. The State of California is a delegated State. The Porter-Cologne Water Quality Control Act (California Water Code- CAL. WATER CODE) authorizes the State Water Resources Control Board (State Water Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State and tributaries thereto.

5. The State Water Board submits a report (a list of water quality limited segments (§ 303[d] list)) on the State's water quality to the U.S. EPA pursuant to § 305(b) of the 1972 CWA, and Title 40, CFR § 130.7, every 2 years. The Report provides water quality information to the general public and serves as the basis for U.S. EPA's National Water Quality Inventory Report to Congress. Title 40 CFR § 130.7(b)(1) provides that waterbodies included on State § 303(d) lists are those waterbodies for which pollution controls required by local, State, or federal authority, including technology-based or more stringent point source effluent limitations or nonpoint source BMPs, are not stringent enough to implement any water quality standard applicable to such waters. Title 40 CFR § 130.7(b)(3) defines "water quality standard applicable to such waters" as "those water quality standards established under § 303 of the [Clean Water] Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements."

6. Under § 303(d) of the CWA, States are required to identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 USC §1313(d)(1)). The most recent 303(d) list was adopted on July, 2003. A TMDL specifies that maximum amount of a pollutant that a water-body can receive, still meet applicable water quality objectives and protect beneficial uses. The U.S. EPA 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 Water Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This Order incorporates a provision to implement and enforce approved WLAs for municipal storm water discharges and requires amending the SMP after pollutant loads have been allocated and approved.

7. Under § 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), US Coastal States with approved coastal zone management programs are required to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: 1) agriculture; 2) silviculture; 3) urban; 4) marinas; and 5) hydromodification. This Waste Discharge Requirement addresses the management measures required for the hydromodification category and the urban category, with the exception of septic systems.

8. The Regional Water Board addresses septic systems through the administration of non-Chapter 15 regulatory programs and the implementation of Regional Water Board Order No.R4-2004-0146. Septic systems are also addressed under State Assembly Bill (AB) 885 (2000). The Regional Water Board will implement and enforce regulations issued by the State Board pursuant to AB 885. Taken together, these State and Local agency requirements when imposed on septic system operators are expected to reduce the bacterial contamination of storm water from improperly maintained septic systems.

9. On May 18, 2000, the U.S. EPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR) 65 Fed. Reg. 31682 (40 CFR 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 CTR (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.

10. The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's coastal waters. It applies to point and nonpoint source discharges. The Ocean Plan identifies the applicable beneficial uses of marine waters that include preservation and enhancement of designated Areas of Special Biological Significance (ASBS) (now called "State Water Quality Protection Areas") and establishes a set of narrative and numerical water quality objectives designed to protect beneficial uses. The SWRCB adopts the California Ocean Plan, and both the SWRCB and the six coastal Regional Water Quality Control Boards (RWQCBs) implement and interpret the California Ocean Plan.

11. This Regional Water Board adopted a revised Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan, which is incorporated into this Order by reference, specifies the beneficial uses of Ventura County water bodies and their tributary streams, and contains both narrative and numerical water quality objectives for these receiving waters. The following beneficial uses identified in the Basin Plan apply to all or portions of each watershed covered by this Order:

    (a) Municipal and domestic supply.
    (b) Agricultural supply.
    (c) Industrial service supply.
    (d) Industrial process supply.
    (e) Ground water recharge.
    (f) Freshwater replenishment.
    (g) Navigation.
    (h) Hydropower generation.
    (i) Water contact recreation.
    (j) Non-contact water recreation.
    (k) Ocean commercial and sport fishing.
    (l) Warm freshwater habitat.

(m) Cold freshwater habitat.
(n) Preservation of Areas of Special Biological Significance.
(o) Saline water habitat.
(p) Wildlife habitat.
(q) Preservation of rare and endangered species.
(r) Marine habitat.
(s) Fish migration.
(t) Fish spawning.
(u) Shellfish harvesting.

12. On March 22, 1999 the Consent Decree in Heal the Bay, Inc.; Santa Monica BayKeeper, Inc. v. Browner, Case No. 98-4825 SBA was approved. Under Establishment of TMDLs- The parties understand that California has the initial opportunity pursuant to § 303(d) of the CWA to adopt and submit to U.S. EPA for approval TMDLs to be established under this Consent Decree. TMDLs developed by Regional Water Boards are adopted as Basin Plan amendments in order to include implementation provisions. The TMDL process follows the procedure below:

(a) Regional Water Board adopts.
(b) State Water Board approves.
(c) Office of Administrative Law approves.
(d) U.S. EPA (Region 9) approves.
(e) State Resources Agency final fee exemption letter.

13. The Regional Water Board has adopted amendments to the Basin Plan, to incorporate TMDLs for the following:

(a) U.S. EPA approved TMDLs with storm water WLAs.
  (1) Santa Clara River and its Tributaries - Nitrogen Compounds.
    (A) Regional Water Board Resolution No. 2003-011.
    (B) State Water Board Resolution No. 2003-0073.
    (C) OAL file No. 04-0123-35.
    (D) U.S. EPA approval date March 18, 2004.
    (E) Final fee exemption date March 23, 2004 (effective date.
    (F) Compliance is 1 year after effective date.

  (2) Malibu Creek and Lagoon - Bacteria.
    (A) Regional Water Board Resolution No. 2004-019.
    (B) State Water Board Resolution No. 2005-0072.
    (C) OAL file No. 05-1018-03 S.
    (D) U.S. EPA approval date January 10, 2006.
    (E) Final fee exemption date January 24, 2006 (effective date).

(F) Compliance for Summer Dry is 3 years after effective date.
(G) Compliance for Winter Dry is 6 years after effective date.

(3) Calleguas Creek, Its Tributaries, and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.
(A) Regional Water Board Resolution No. 2005-009.
(B) State Water Board Resolution No. 2005-0067.
(C) OAL file No. 05-1110-02 S.
(D) U.S. EPA approval date March 14, 2006.
(E) Final fee exemption date March 24, 2006 (effective date).
(F) Compliance for Toxicity and Interim WLA is effective date.
(G) Compliance for Final WLA is 2 years after effective date.

(4) Calleguas Creek, Its Tributaries, and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation.
(A) Regional Water Board Resolution No. 2005-010.
(B) State Water Board Resolution No. 2005-0068.
(C) OAL file No. 05-1206-03 S.
(D) U.S. EPA approval date March 14, 2006.
(E) Final fee exemption date March 24, 2006 (effective date).
(F) Compliance for Interim WLA is effective date.

14. The Regional Water Board adopted and approved requirements for new development and significant redevelopment projects in Ventura 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 Water Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000 for Los Angles County and the Cities in Los Angeles County. Since 2000, new development and redevelopment water quality criteria have been implemented by the Permittees to be consistent with SUSMP. The State Board affirmed the Regional Water Board action and SUSMPs in State Board Order No. WQ 2000-11, issued on October 5, 2000.

(a) A statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Water 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 RGOs. The Regional Water Board properly justified the extensions of SUSMPs and water quality criteria to ministerial projects, projects in environmentally sensitive areas, and RGOs, during the adoption of Regional Water Board Order 01-182. The Regional Water Board's action was upheld by the County of Los Angeles

Superior Court (In Re: Los Angeles County Municipal Storm Water Permit Litigation, Lead Case No. BS 080548, Statement of Decision, Superior Court Central Civil West, March 24, 2005).

(b) The State Water Board's Chief Counsel interpreted the Order to encourage regional solutions and endorsed a mitigation fund or "bank" as alternatives for new development and significant redevelopment. The Regional Water Board has included provisions for Regional solutions and the establishment of a mitigation bank in this Order.

15. The Regional Water Board supports Watershed Management planning to address water quality protection in the region. The objective of the Watershed Management planning 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 available resources.

16. To facilitate compliance with federal regulations, the State Board has issued the following 4 Statewide General NPDES Permits associated with storm water:

(a) Industrial General Permit (IASGP- Industrial Activities Storm Water General Permit), NPDES No. CAS000001, issued on November 19, 1991, reissued on September 17, 1992 and April 17, 1997, currently under review for reissuance.
(b) Construction General Permit (CASGP- Construction Activities Storm Water General Permit), NPDES No. CAS000002, issued on August 20, 1992, reissued August 19, 1999, currently under review for reissuance.
(c) Small Linear Underground/ Overhead Construction Projects General Permit (small LUPs), NPDES No. CAS000005, issued on June 18, 2003.
(d) Small MS4 Permit WQ Order No. 2003-0005-DWQ adopted on April 30, 2003.

17. Facilities discharging storm water associated with industrial activities, construction projects that disturb 1 or more acres of soil, or construction projects that disturb less than 1 acre but are part of a larger common plan of development or sale that in total disturbs 1 or more acres, and construction activities associated with small linear underground/ overhead projects that result in land disturbances greater than one acre, but less than five acres (small LUPs), are all required to obtain individual NPDES permits for storm water discharges, or be covered by the statewide General Permits by completing and filing a Notice of Intent (NOI) with the State Board. The U.S. EPA 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.

18. State Water Board Resolution No. 68-16 contains the state Antidegradation Policy, titled "Statement of Policy with Respect to Maintaining High Quality Waters in California (Resolution 68-16), applies to all waters of the state, including ground waters of the state, whose quality meets or exceeds (is better than) water quality objectives. Resolution No. 68-16 incorporates the federal Antidegradation Policy (40 CFR Section 131.12) where the federal policy applies, (State Water Board Order WQO 86-17). Both, state and federal antidegradation policies acknowledge that an activity that results in a minor water quality lowering, even if incrementally small, can result in violation of Antidegradation Policies through cumulative effects, for example, when the waste is a cumulative, persistent, or bioaccumulative pollutant.

    (a) State Water Board Resolution No. 68-16 establishes essentially a 2-step process for compliance with the policy.
        (1) Step 1- if a discharge will degrade high quality water, the discharge may be allowed if any change in water quality:
            (A) Will be consistent with maximum benefit to the people of the State.
            (B) Will not unreasonably affect present and anticipated beneficial use of such water.
            (C) Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in Water Quality Control Plans).
        (2) Step 2- any activities that result in discharges to high quality waters are required to:
            (A) Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance.
            (B) Maintain the highest water quality consistent with the maximum benefit to the people of the State.
                (i) If such treatment or control results in a discharge that maintains the existing water quality, then a lowering of water quality would not be consistent with state Antidegradation Policy.
                (ii) Likewise, the discharge could not be allowed under state Antidegradation Policy if:
                    (I) The discharge, even after treatment, would unreasonably affect beneficial uses; or
                    (II) The discharge, would not comply with applicable provisions of Water Quality Control Plans.

19. The Hydromodification Control and Low Impact Development (LID) provisions of this Order are intended to promote the State Water Board and federal Antidegradation policies by preventing water quality and habitat (beneficial) degradation.

20. The State Water Board on June 17, 1999, adopted Order No. WQ 99-05, which specifies standard receiving water limitation language to be included in all municipal storm water permits issued by the State and Regional Water Boards.

21. Cal. Water Code § 13263(a) requires that waste discharge requirements issued by Water 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.

22. Cal. Water Code § 13370 et. seq. requires that waste discharge requirements issued by the Water Boards implement the provisions of the CWA (33 U.S.C. Sec. 1251 et seq.) and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto.

23. 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 F.3rd. 526 (9th Cir., 2001)). The U.S. EPA issued a Final Rule that on October 17, 2006, that exempts the application of a pesticide to or over, including near, waters of the United States if conducted consistent with all relevant requirements under the Federal Insecticide and Fungicide Rodenticide Act (FIFRA), from an NPDES permit under the Clean Water Act in the following two circumstances: (a) The application of pesticides directly to waters of the United States in order to control pests, and (b) The application of pesticides to control pests that are present over waters of the United States, including near such waters, that results in a portion of the pesticides being deposited to waters of the United States (40 CFR 122.3(h)).

24. The California State Assembly passed AB 1721 (Pavley Environmental Education) on September 8, 2005. An act to amend § 60041 of the Education Code, to amend § 71301, § 71302, § 71303, § 71304, and § 71305 of the Public Resources Code, and to add § 13383.6 to the Water Code, relating to environmental education. § 13383.6 is added to the Water Code, to read: § 13383.6. On and after January 1, 2007, if a Regional Water Board or the State Board issues a municipal storm water permit pursuant to § 402(p) of the CWA (33 U.S.C. Sec. 1342(p)) that includes a requirement to provide elementary and secondary public schools with educational materials on storm water pollution, the Permittee may satisfy the requirement, upon approval by the Regional Water Board or State Board, by contributing an equivalent amount of funds to the Environmental Education Account established pursuant to subdivision (a) of § 71305 of the Public Resources Code.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 2100 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 (a governmental agency can use its judgment in deciding whether and how to carry out or approve a project, § 15357) and does not apply to ministerial projects (the law requires a governmental agency to act on a project in a set way without allowing the agency to use its own judgment, § 15369). 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 regardless of weather a project is discretionary or ministerial, the Regional Water 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. The objective of this Order is to protect the beneficial uses of receiving waters in Ventura County. To meet this objective, the Order requires that Best Management Practices (BMPs) will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and achieve water quality objectives and standards. The U.S. EPA envisioned that municipal storm water program would be implemented in an iterative manner and improved with each iteration by using information and experience gained during the previous permit term (*Interpretative Policy Memorandum on Reapplication Requirements for MS4 permits* - 61 Fed. Reg. 41697). Municipalities are required to evaluate what is effective and make improvements in order to protect beneficial uses of receiving waters. This Order requires the implementation of an effective combinations of pollution control and pollution prevention measures, education, public outreach, planning, and implementation of source control BMPs and Structural and Treatment Control BMPs. The better–tailored BMPs combined with the performance objectives outlined in this Order have the purpose of attaining water quality objectives and standards (*Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*- 61 Fed. Reg. 43761). Where WLAs have been adopted for Municipal storm water discharges, this Order requires Permittees to implement controls to achieve the WLAs within the compliance schedule provided in the TMDLs.

   The implementation of the measures set forth in this Order are reasonably expected to reduce the discharge of pollutants conveyed in storm water discharges into receiving waters, and to meet the TMDL WLAs for municipal storm water adopted by the Regional Water Board.

3. The U.S. EPA has recommended that all future TMDLs and TMDL amendments be expressed as daily increments consistent with a federal court ruling (*Friends of the Earth, Inc. v. EPA, et al.* No. 05-5015 (D.C. Cir. 2006)). However, this interpretation does not affect the discretionary authority of the Regional Water Board to express NPDES permit limits and conditions in non daily terms because there is no express or implied statutory limitation (CWA §502(11)) (*Establishing TMDL "Daily Loads" in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in Friends of the Earth, Inc. v. EPA, et al. (April 2006) and Implications for NPDES Permits*, U.S. EPA Office of Water, memorandum, Nov 15, 2006). This Order translates MS4 TMDL WLAs adopted by the Regional Water Board into forms "consistent with the assumptions and requirements of the TMDL", by use of alternate temporal increments, concentrations, presumptive BMPs, prohibitions, and other express limitations.

4. During the term of the Order, the Permittees shall implement all necessary control measures to reduce pollutant(s) which cause or continue to cause or contribute to water quality impairments, but for which TMDLs have not yet been developed or approved, to eliminate the water quality impairment(s). Successful efforts to reverse the wet weather impairments during the permit term for such pollutants, may avoid the need for a WLA for wet weather or the need to develop a TMDL in the future

5. This Order promotes a land development and redevelopment strategy that considers the water quality and water management benefits associated with smart growth techniques. Such measures include hydromodification mitigation requirements, minimization of impervious surfaces, integrated water resources planning, and low impact development guidelines. (Reference: *Protecting Water Resources with Smart Growth*, EPA 231-R- 04-002, U.S. EPA 2004; *Using Smart Growth Techniques as Storm Water Best Management Practices,* EPA 231-B-05-002, U.S. EPA 2005; *Parking Spaces/Community Places: Finding the Balance through Smart Growth Solutions*, EPA 231-K-06-001, U.S. EPA 2006; *Protecting Water Resources with Higher-Density Development*, EPA 231-R-06-001, U.S. EPA 2006.)

6. The implementation of an effective Public Information and Participation Program is a critical component of a storm water management program. While commercial and industrial facilities are traditionally subject to multiple environmental regulations and receive environmental protection guidance from multiple sources, the general public, in comparison, receives significantly less education in environmental protection. An effective Public Information and Participation Program is required because:

   (a) Activities conducted by the public such as vehicle maintenance, improper household waste materials disposal, improper pet waste disposal and the improper

application of fertilizers and pesticides have the potential to generate a significant amount of pollutants that could be discharged in storm water.

(b) An increase in public knowledge of storm water regulations, proper storage and disposal of household wastes, proper disposal of pet wastes and appropriate home vehicle maintenance practices can lead to a significant reduction of pollutants discharged in storm water.

7. The California Supreme Court ruled in its *City of Burbank* Decision that Water Boards when issuing an NPDES permit may not consider economic factors to justify imposing pollutant restrictions that are less stringent than the applicable federal regulations require (*City of Burbank v. State Water Resources Control Bd.*, 35 Cal.4d, 618 (2005)). However, when the pollutant restrictions in an NPDES are more stringent than that which federal law requires, economic factors must be considered. The requirements in this Order may be explicit or more specific than those enumerated in federal regulations under 40 CFR 122.26 or in U.S. EPA guidance. However, the requirements have been prescribed to be consistent with CWA § 402(p)(3)(B)(iii) and are necessary to reduce the discharges of pollutants to the maximum extent practicable and to meet water quality standards. Hence they are no more stringent than that required by federal law.

8. This Order also provides flexibility for Permittees to petition the Regional Water Board Executive Officer to substitute a BMP under this Order 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 MEP and attain water quality objectives 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. The State Water Board amended the Policy for the Implementation of Toxics Standards in Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy – SIP) on February 24, 2005. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the State Implementation Policy. The 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 interference. 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.

11. This Order establishes Municipal Action Levels (MALs) for selected pollutants based on nationwide Phase I MS4 monitoring data for pollutants in storm water. (Reference: http://unix.eng.ua.edu/~rpitt/Research/Research.shtml). The MALs were computed using the statistical based population approach, one of three approaches recommended by the California Water Board's Storm Water Panel in its report, *'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 2006). The MALs were obtained by multiplying the Median (central tendency measure) with the Coefficient of Variance (estimate of variance measure). MALs are identified in Attachment "C". Permittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas to not exceed the MALs. On or after (first October in year 3 after permit adoption), two or more exceedences of a MAL will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order.

12. 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 CA Health and Safety Code, § 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.

13. This Order contemplates that Permittees will ensure that implemented Treatment Control BMPs will not pose a safety or health hazard to the public. This Order contemplates that Permittees will ensure that the maintenance of implemented Treatment Control BMPs will comply with all applicable health and safety regulations, such as, but not limited to requirements for worker entry into confined spaces under OSHA Safety and Training education, § 1926.21(b)(6)(i).

14. The CWA prohibits the discharge of pollutants from point sources to waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Water Board adopted statewide General Waste Discharge Requirements for

Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Part 4.G.1. 'Sewage System Maintenance, Overflow, and Spill Prevention Response Plan' are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board recognizes that there may be some overlap between the MS4 permit provisions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes, as satisfying the requirements in Part 4.G.1, provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

15. This Order takes in to consideration the housing needs in the area under the Permittees' jurisdiction by balancing the implementation of Smart Growth and Low Impact Development techniques with the protection of the water resources of the region. Although not required, the Regional Water Board considered the need for housing and the appropriate techniques to allow for reasonable development while protecting the receiving waters from degradation. (Reference: *Considering Housing Needs in Actions Taken by the Regional Water Board: Moving from Costs to Value, 2006).*

16. This Order may have an incremental effect on costs required for compliance with the provisions contained herein. Although not required, Regional Water Board considered costs in preparing this Order. (Reference: *NPDES Stormwater Cost Survey, prepared for California State Water Resources Control Board, CSU, Sacramento 2005).*

G. Public Notification

1. The issuance of waste discharge requirements that serve as an NPDES permit for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 (California Environmental Quality Act) of the Public Resources Code in accordance with California Water Code Section 13389. The California Court of Appeals has affirmed the exemption, and ruled that the Regional Water Board's issuance of an NPDES permit is not subject to review under CEQA (County of Los Angeles et al., v. California Water Boards et al.,) (2006), (Cal.Rptr.3d 619)., Notwithstanding, the Regional Water Board has considered the policies and

requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute environmental documents for the Ventura County MS4 TMDLs incorporated in this Order.

2. The Regional Water 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 make statements and submit their comments.

3. The Regional Water Board has conducted 4 scoping meetings with Permittees and their representatives. On **Xxxxx xx, 200x**, the Regional Water Board conducted a workshop on reissuance of the NPDES permit and received input from the Permittees and the public regarding proposed changes.

4. This Order shall serve as a NPDES permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 90 days from Order adoption provided the Regional Administrator of the U.S. EPA has no objections.

5. Pursuant to Cal. Water Code § 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board within 30 days of adoption of the Order by the Regional Water Board. A petition must be sent to:

   State Water Resources Control Board
   Office of Chief Counsel
   P.O. Box 100
   Sacramento, CA 95812-0100

6. 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 Cal. Water Code for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Permittees, in order to meet the provisions contained in Division 7 of the Cal. Water Code and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, shall comply with the following:

PART 1 - DISCHARGE PROHIBITIONS

A. Prohibitions - Discharges

1. Discharges into and from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance (as defined In Cal. Water Code § 13050), in waters of the State are prohibited.

2. Discharges from the MS4, which cause or contribute to exceedences of receiving water quality objectives for surface waters are prohibited.

3. Discharges to the MS4 not covered by an NPDES individual or general permit are prohibited.

B. Prohibitions - Non-Storm Water Discharges

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

1. Originate from a State, federal, or other source which they are pre-empted by State or Federal law from regulating.

2. Fall within one of the categories below and in the following Table 1, are not a source of pollutants, and meet all conditions where specified by the Regional Water Board Executive Officer:
   (1) Stream diversions authorized by the State Water Board.
   (2) Natural springs and rising ground water.
   (3) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].[1]
   (4) Flows from riparian habitats or wetlands.
   (5) Flows from emergency fire fighting activity.
   (6) Potable drinking water supply and distribution system releases.[2]
   (7) Drains for foundation, footing and crawl drains.
   (8) Air conditioning condensate.
   (9) Water from crawl space pumps.
   (10) Reclaimed and potable landscape irrigation runoff.
   (11) Dechlorinated/ debrominated swimming pool discharges [see definition Part 7].
   (12) Non-commercial car washing by residents or non-profit organizations.
   (13) Sidewalk rinsing
   (14) Pooled storm water from treatment BMPs.[3]

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[1] NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County.
[2] Releases may occur only with the implementation of appropriate BMPs and dechlorination prior to discharge [see section G for specific BMPs]. Any agency or municipal (i.e., water dept., fire dept., etc.) that either individually or collectively discharge(s) or reasonably expects to discharge 100,000 gallons or more of potable water per year, shall submit an ROWD to obtain a separate NPDES permit under this Order [see section G.10]. Discharges from utility vaults shall be conducted under coverage of a separate NPDES permit specific to that activity. Discharges from well heads and hydrostatic pipe testing shall be subject to a separate NPDES general permit coverage (CAG674001).
[3] All storm water BMPs shall at a minimum be maintained at a frequency as specified by the manufacturer. All storm water BMPs shall be designed to drain within 72 hours. Storm water treatment BMPs may be drained to the MS4 under this Order if the discharge is not a source of pollutants. The discharge shall cease when the discharge has become a source of a pollutant(s), (bottom sediment included). Sediments shall be disposed of properly, in compliance with all applicable local, state, and federal policies, acts, laws, regulations, ordinances, and statutes.

Table 1

Type of Discharges:	Conditions under which allowed:	Required BMPs for discharge to occur:
Stream diversions permitted by the State Board;	Shall comply with all conditions in the authorization.	Shall comply with all conditions in the authorization.
Natural springs and rising ground water	1. Ground water dewatering requires a separate NPDES permit. 2. Segregate flow to prevent introduction of pollutants.	Shall comply with all conditions in the authorization.
Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)] (Utility vault dewatering requires a separate NPDES permit.)	NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County	Shall comply with all conditions in the authorization.
Flows from riparian habitats or wetlands	Provided that all necessary permits or authorizations are received prior to diverting the stream flow.	Shall comply with all conditions in the authorization.
Flows from emergency fire fighting activity	Pooled water after fire must be discharged or reused in a controlled manner.	
Potable drinking water supply and distribution system releases	See Footnote #2 on page 26. Provided planned discharges from water lines and potable water sources shall bedechlorinated, pH adjusted if necessary, reoxygenated, and volumetrically and velocity controlled to prevent resuspension of sediments. Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, even after de-chlorination.	See Footnote #2 on page 26. To be discharged, this type of water shall be dechlorinated using aeration and/ or sodium thiosulfate and/ or be allowed to infiltrate to the ground. BMPs such as sand or gravel bags shall be utilized to prevent sediment transport. All sediments shall be collected and disposed of in a legal and appropriate manner.
Drains for foundation, footing and crawl drains	Dewatering requires a separate NPDES permit.	Shall comply with all conditions in the authorization.
Air conditioning condensate	Segregation of flow to prevent introduction of pollutants	Infiltration whenever possible
Water from crawl space pumps	Dewatering requires a separate NPDES permit.	NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County

Type of Discharges:	Conditions under which allowed:	Required BMPs for discharge to occur:
Reclaimed and potable landscape irrigation runoff	Segregation of flow to prevent introduction of pollutants.	Implement conservation programs to minimize this type of discharge by using less water.
Dechlorinated/ debrominated swimming pool discharges [see definition Part 7]	Provided discharge to a sanitary sewer is not available. Swimming pool discharges shall be dechlorinated, pH adjusted if necessary, reoxygenated, and volumetrically and velocity controlled to prevent resuspension of sediments. Cleaning waste water and filter back wash shall not be discharged to municipal separate storm sewers. Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, even after de-chlorination. Chlorine residual in discharge shall not exceed 0.1mg/L.	Pool water may be dechlorinated using time, aeration, and/ or sodium thiosulfate.
Non-commercial car washing by residents or non-profit organizations		Preferred area is at commercial carwash or in an area where wash water infiltrates. Pumps or vacuums may be used to direct water to areas for infiltration or other use.
Sidewalk rinsing	This may be undertaken only if high pressure low volume is used as described in the glossary under "Sidewalk Rinsing".	
Pooled storm water from treatment BMPs	All storm water BMPs shall at a minimum be maintained at a frequency as specified by the manufacturer. All storm water BMPs shall be designed to drain within 72 hours. Storm water treatment BMPs may be drained to the MS4 under this Order if the discharge is not a source of pollutants. The discharge shall cease when the discharge has become a source of a pollutant(s), (bottom sediment included). Sediments shall be disposed of properly, in compliance with all applicable local, state, and federal policies, acts, laws, regulations, ordinances, and statutes.	

3. If the Regional Water Board Executive Officer determines that any of the preceding categories of non-storm water discharges are a source of pollutants, the Permittee shall either:

   (a) Prohibit the discharge from entering the MS4; or
   (b) Authorize the discharge category and require implementation of appropriate or additional BMPs to ensure that the discharge will not be a source of pollutants; or
   (c) Require or obtain coverage under a separate NPDES permit for discharge into the MS4.

4. The Regional Water Board Executive Officer, after providing the opportunity for public comment, may authorize or prohibit the discharge of other categories of non-storm water, after consideration of antidegradation policies and upon presentation of evidence.

PART 2 - RECEIVING WATER LIMITATIONS

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

2. 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.

3. The Permittee shall comply with the Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with this Order.[1] This Order shall be implemented to achieve compliance with receiving water limitations. If exceedence(s) of water quality objectives or water quality standards persist, notwithstanding implementation of the Order and its components and other requirements of this Order, 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(s) or Regional Water Board that discharges are causing or contributing to a violation of applicable water quality

[1] Separately, after permit year 3 (reporting year 15 from issuance of the first permit), two or more exceedences of a Municipal Action Level (MAL) will create a presumption that the implementation of measures to reduce the pollutant(s) in MS4 discharges to the MEP are inadequate. The Permittee is affirmatively required to augment measures to reduce the discharge of the pollutant(s) to not violate the MEP. The 'end-of-pipe' compliance points for MALs are at 36 inches in diameter or greater discharge pipes with outfalls to the receiving waters, with receiving water mass emission measurements as default compliance points.

standards, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report to the Regional Water Board Executive Officer for approval. The RWL Compliance Report shall be included with the Annual Report, unless the Regional Water Board directs an earlier submittal.

(b) The RWL Compliance Report shall describe BMPs currently being implemented and the additional BMPs that will be implemented, to prevent or reduce any pollutants that are causing or contributing to the exceedences of water quality standards.

(c) The RWL Compliance Report shall include a BMP implementation schedule.

(d) Within 30 days following approval of the RWL Compliance Report the approved, modified suite of BMPs, implementation schedule, and any additional monitoring required shall be implemented.

(e) Modifications to the RWL Compliance Report, required by the Regional Water Board shall be submitted to the Regional Water Board Executive Officer within 30 days of notification.

(f) Implement the revised monitoring program according to the approved schedule.

4. If a member of the public has documentary evidence of RWL violations, the member of the public may petition the Regional Water Board Executive Officer in writing to review the alleged violation within 60 days to determine if Part 2 of this Order was violated.

5. As long as the Permittee complies with the procedures set forth above to comply with the receiving water limitations, is in compliance with the MALs, and is implementing this Order, the Permittee does not have to repeat the procedure for continuing or recurring exceedences of the same water quality standard(s) unless directed to by the Regional Water Board to develop and implement additional BMPs.

6. Nothing in Part 2 shall prevent the Regional Water Board from enforcing any provision of this Order.

PART 3 - STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, adopt and implement applicable terms of this Order within its jurisdictional boundaries. The Principal Permittee shall be responsible for program coordination as described in this Order as well as compliance with applicable portions of the permit within its jurisdiction. This Order shall be implemented no later than (60 days from Order adoption), unless a later date has been specified for a particular provision in this Order and provided the Regional Administrator of the U.S. EPA has no objections.

2. Each Permittee shall, comply with the requirements of 40 CFR 122.26(d)(2) and implement programs and control measures so as to reduce the discharges of pollutants in storm water to the MEP and achieve water quality objectives.

3. Each Permittee shall implement programs and measures to comply with the TMDLs' WLAs for the MS4 as follows:
   (1) Dry Weather Discharges- achieve the concentration or load based numerical limitation for dry weather discharge identified in this Order (Part 6. Total Maximum Daily Load Provisions) through effective prohibition of dry weather discharges.
   (2) Wet Weather Discharges- achieve the concentration or load based numerical limitation or its BMPs expression for wet weather discharge identified in the Order (Part 6. Total Maximum Daily Load Provisions), or implement the BMPs specifically identified in the Order which have a reasonable expectation, when fully implemented, to achieve the WLAs in the Order (Part 6. Total Maximum Daily Load Provisions).

B. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit, including, but not limited to:

   (a) Illicit connections and illicit discharges, and to remove illicit connections.

   (b) The discharge of non-storm water to the MS4 from:
      (1) Washing or cleaning of gas stations, auto repair garages, or other types of automotive service facilities.
      (2) Mobile auto washing, carpet cleaning, steam cleaning, sandblasting and other such mobile commercial and industrial operations.

(3) Areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken.
(4) Storage areas for materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials.
(5) Swimming pool(s) that have a concentration greater than:
  (A) Chlorine/ bromine- 0.1mg/L.
  (B) Chloride- 250mg/L.
  (C) Cyanuric acid of 50ppm;
  (D) E. coli of 235/100 ml (fresh waters).
  (E) Fecal coliforms of 400/100 ml (fresh waters and marine waters).
  (F) Enterococcus of 104/100 ml (marine waters).
  (G) Total coliforms of 10,000/ 100 ml, or 1,000/ 100 ml if the ratio of fecal-to-total coliform exceeds 0.1 (marine waters).
(6) Swimming pool filter backwash.
(7) Decorative fountains and ponds.
(8) Industrial/ Commercial areas, including restaurant mats.
(9) Concrete truck cement, pumps, tools, and equipment washout.
(10) Spills, dumping, or disposal of materials other, such as:
  (A) Litter, landscape and construction debris, garbage, food, animal waste, fuel or chemical wastes, batteries, and any other materials which have the potential to adversely impact water quality; or
  (B) Any pesticide, fungicide or herbicide.
(11) Stationary and mobile pet grooming facilities.
(12) Trash container leachate.

2. The Permittees shall possess adequate legal authority to:

(a) Control through interagency agreement, the contribution of pollutants from one portion of the MS4 to another portion of the MS4.

(b) Require persons within their jurisdiction to comply with conditions in the Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows).

(c) Utilize enforcement measures (e.g., stop work orders, notice of violations, fines, referral to City, County, and/ or District Attorneys, referral to strikeforces, etc.) by ordinances, permits, contracts, orders, administrative authority, and civil and criminal prosecution.[1]

(d) Control pollutants, including potential contribution[2] 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.

(e) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the MS4.

(f) Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality objectives.

(g) Require that Treatment Control BMPs be properly operated and maintained.

3. Each Permittee has adopted a Storm Water Quality Ordinance based upon a countywide model. Each Permittee will update its Storm Water Quality Ordinance to be able to enforce all requirements of this Order, no later than (6 months from adoption date).

4. Each Permittee shall submit no later than (180 days after adoption date), a statement by its legal counsel that the Permittee has obtained and possesses all necessary legal authority to comply with this Order through adoption of ordinances and/ or municipal code modifications.

C. Fiscal Resources

1. The Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this Order.[3] Each Permittee shall:

(a) Submit an Annual Budget Summary that shall include:

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[1] Where the Permittee has no direct authority, the Permittee is required to enter into an agreement with the agency or department that has the enforcement authority. In the case of private responsible parties such as, HOAs, the Permittee must retain enforcement authority.

[2] "Potential contributions" and "potential to discharge," means adequate legal authority to prevent an actual discharge of pollutants to the municipal separate storm sewer system.

[3] The sources of funding may be the general funds, and/or Benefit Assessment, plan review fees, permit fees, industrial/ commercial user fee, revenue bonds, grants or other similar funding mechanism.

(1) The storm water budget for the prior report year, using actual expenditures with written explanation where necessary for the implementation of the storm water program.

(2) The storm water budget for the upcoming report year, using estimated expenditures with written explanation where necessary for the implementation of the storm water program.

(3) The summary report shall identify for both the prior report year (actual expenditure) and the upcoming report year (estimated expenditure) the following specific categories:
(A) Program Management Activities.
(i) Overall Administrative costs

(B) Program Required Activities Implementation (storm water related activities only). Provide figures breakdown of expenditures for the categories below:
(i) Illicit connection/ illicit discharge.
(ii) Development planning.
(iii) Development construction.
(iv) Construction inspection activities.
(v) Industrial/ Commercial inspection activities.
(vi) Public Agency Activities.
(I) Maintenance of Structural BMPs and Treatment Control BMPs.
(II) Inspection of Structural BMPs and Treatment Control BMPs;
(III) Municipal Street Sweeping for Commercial/ Industrial land use only.
(IV) Catch basin clean-outs (include dumping fees separately).
(V) Storm drain clean-outs (include dumping fees separately).
(VI) Other costs (describe).
(vii) Public Information and Participation.
(viii) Monitoring Program.
(ix) Miscellaneous Expenditures (describe).

D. Modifications/ Revisions

1. No later than (90 days after Regional Water Board adoption of this Order) each Permittee shall modify storm water management programs, protocols, practices, and municipal codes to make them consistent with the requirements herein.

E. Designation and Responsibilities of the Principal Permittee

1. The Ventura County Watershed Protection District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

   (a) Participate in the County Environmental Crimes Task Force.
   (b) Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee.
   (c) Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Water Board on permitting issues.
   (d) Provide technical and administrative support for committees that will be organized to implement this Order and its requirements.
   (e) Evaluate, assess, and synthesize the results of the monitoring program and the effectiveness of the implementation of BMPs.
   (f) Convene the Management Committees (MCs) and subcommittees constituted pursuant to Part F, below, upon designation of representatives.
   (g) Implement the Countywide Monitoring Program required under the Order and evaluate, assess and synthesize the results of the monitoring program.
   (h) Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Water Board of monitoring and annual reports, and summaries of other reports required under this Order.
   (i) Comply with the "Responsibilities of the Permittees" in Part 3.F., below.

F. Responsibilities of the Permittees

1. Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings- Permit Coverage D.1 and D.2) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittees shall:

   (a) Comply with the requirements of this Order and any modifications thereto.
   (b) Coordinate among its internal departments and agencies, as necessary, to facilitate the implementation of the requirements of this Order applicable to such Permittees in an efficient and cost-effective manner.
   (c) Participate in intra-agency coordination (e.g., Planning Department, Fire Department, Building and Safety, Code Enforcement, Public Health, Parks and Recreation, and others) necessary to successfully implement the provisions of this Order.
   (d) Report, in addition to the Budget Summary, any supplemental dedicated budgets for the same categories.

(e) Be represented at all Management Committee Meetings, which will meet at least once a month.
(f) Be represented at all subcommittee meetings. Currently there are 5 subcommittees which were functional during the second permit term:
  (1) Residential/ Public Outreach.
  (2) Business & Illicit Discharge.
  (3) Planning and Land Development.
  (4) Construction.
  (5) Public Infrastructure.

PART 4 - SPECIAL PROVISIONS (BASELINE)

A. General Requirements

1. This Order 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 and achieve water quality objectives for the permitted areas in the County of Ventura.

2. Best Management Practice Substitution

   The Regional Water Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s) and after public notice, 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.
   (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.
   (c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Watershed Initiative Participation

1. The Principal Permittee consents to participate in appropriate water quality meetings for watershed management planning, including but not limited to the following:

   (a) Southern California Stormwater Monitoring Coalition (SMC).
   (b) SMC Regional Monitoring Programs.
   (c) Southern California Regional Bioassessment Program.
   (d) Calleguas Creek Watershed Management Plan.

(e) Santa Clara River Enhancement and Management Plan.
(f) Steelhead Restoration and Recovery Plan.
(g) Wetlands Recovery Project.
(h) Ventura County Task Force of the Wetlands Recovery Project.
(i) Southern California Bight Project.
(j) Other appropriate watershed planning groups.

C. 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 PIPP, and shall coordinate with Permittees to implement specific requirements. The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audience about the MS4, the adverse impacts of storm water pollution on receiving waters and potential solutions to mitigate the impacts.
- To measurably change the waste disposal and storm water pollution generation behavior of target audiences by encouraging implementation of appropriate solutions.
- To involve and engage communities in Ventura County to participate in mitigating the impacts of storm water pollution.

1. Residential Program

(a) "No Dumping" Message
Each Permittee shall label all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping shall be posted at designated public access points to creeks, other relevant water bodies, and channels. Signage and storm drain messages shall be legible and maintained.

(b) Public Reporting
Each Permittee will identify staff who will serve as the contact(s) person for reporting clogged catch basin inlets and illicit discharges/ dumping, faded or missing catch basin labels, and general storm water management information. Permittees shall include this information, updated by July 1 of each year, in public information media such as the government pages of the telephone book, and internet web sites. The Principal Permittee shall compile a list of the general public reporting contacts submitted by all Permittees and make this information available on the web site (http://www.vcstormwater.org/contact.htm) and upon

request. Each Permittee is responsible for providing current, updated information to the Principal Permittee.

(c) Outreach and Education
(1) The Principal Permittee shall implement the following activities:
(A) Conduct a Storm Water pollution prevention advertising campaign.
(B) Conduct Storm Water pollution prevention public service announcements.
(C) Distribute storm water pollution prevention public education materials to:
(i) Automotive parts stores.
(ii) Home improvement centers/ lumber yards/ hardware stores.
(iii) Pet shops/ feed stores.
(D) Public education materials shall include, but are not limited to information on the proper disposal, storage, and use of:
(i) Vehicle waste fluids.
(ii) Household waste materials.
(iii) Construction waste materials.
(iv) Pesticides, herbicides, and fertilizers (including integrated pest management practices-IPM).
(v) Green waste (including lawn clippings and leaves).
(vi) Animal wastes.
(E) Organize watershed Citizen Advisory Groups/ Committees to develop effective methods to educate the public about storm water pollution no later than (365 days after the adoption of this Order).
(F) Organize events targeted to residents and population subgroups; and
(G) Maintain the Countywide storm water website (www.vcstormwater.org), which shall include educational material listed in the preceding section C.1(c)(1)(C).
(2) The Principal Permittee shall develop a strategy to educate ethnic communities through culturally effective methods. Details of this strategy should be incorporated into the PIPP, and implemented, no later than (180 days after the adoption of this Order).
(3) Each Permittee shall continue the existing outreach program to residents on the proper disposal of litter, green waste, pet waste, proper vehicle maintenance, lawn care and water conservation practices.
(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.
(5) The Permittees shall make a minimum of 10 million impressions per year to the general public related to storm water quality, with a minimum of 5 million impression via newspaper, local TV access, local radio and/ or internet access.

(6) 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.
Pursuant to AB 1721 (2005), beginning January 1, 2007, the Permittees, in lieu of providing educational materials/ funding to School Districts in the County, may opt to provide an equivalent amount of funds or fraction thereof to the Environmental Education Account established within the State Treasury.[1] This option requires the written approval of the Regional Water Board Executive Officer.

(7) Each Permittee shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee and contact information changes no later than 30 days after a change occurs.

(8) The Permittees shall develop and implement a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of the adverse impacts of storm water pollution and solutions before and after educational programs are conducted. The strategy shall be implemented no later than (180 days after the adoption of this Order).

(9) The Permittees shall develop and implement a behavioral change assessment strategy no later than (180 days after the adoption of this Permit), in order to ensure that the PIPP is demonstrably effective in changing the behavior of the public. The strategy shall be developed based on current sociological data and studies.

(d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants identified in Attachment "B" (Pollutants of Concern) no later than (180 days after the adoption of this Order). Metals may be appropriately addressed through the Industrial/ Commercial Facilities Program (e.g. the distribution of educational materials on appropriate BMPs for metal fabrication and recycling facilities that have been identified as a potential source). Region-wide pollutants may be included in the Principal Permittee's mass media outreach program.

[1] Matching funds shall be equivalent to $10 per targeted student per year. Dollar value is to be indexed to the 2006/ 2007 fiscal year.

2. Businesses Program

(a) Corporate Outreach

(1) The Permittees shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations and BMPs. The program shall target a minimum of four RGO franchisers and cover a minimum of 80% of RGO franchisees in the county, four retail automotive parts franchisers, two home improvement center franchisers and six restaurant franchisers. Corporate Outreach for all target facilities shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order). At a minimum, this program shall include:

(A) Conferring with corporate management to explain storm water regulations.

(B) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with recommendations to facilitate employee and facility compliance with storm water regulations.

(2) Corporate Outreach for all RGOs, automotive parts stores, home improvement centers and restaurant chains corporations shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order).

(b) Business Assistance Program

The Permittees shall 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. The Program shall include:

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

(2) Distribution of storm water pollution prevention education materials to operators of auto repair shops, car wash facilities (including mobile car detailing), mobile carpet cleaning services, commercial pesticide applicator services and restaurants.

D. Industrial/ Commercial Facilities Program

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. Except where specified otherwise in this Order, pollutant reduction and control measures may be used alone or in combination, and may include Structural Treatment Control, Source Control BMPs, and operation and maintenance procedures, which may be applied before, during, and/ or after pollution generating activities. At a minimum, the Industrial/ Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance with municipal ordinances at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Inventory of 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 specified in Attachment "D":

      (1) Commercial Facilities
         (A) Restaurants.
         (B) Automotive service facilities.
         (C) RGOs and automotive dealerships.
         (D) Nurseries and nursery centers.

      (2) U.S. EPA Phase I, II Facilities

      (3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]
         (A) Municipal landfills.
         (B) Hazardous waste treatment, disposal, and recovery facilities.
         (C) Facilities subject to SARA Title III (also known as the Emergency Planning and Community Right-to-Know Act (EPCRA)).

   (b) Each Permittee shall include the following minimum fields of information for each critical sources industrial and commercial facility:
      (A) Name of facility and name of owner/ operator.
      (B) Address of facility.
      (C) Coverage under the IASGP or other individual or general NPDES permits or any applicable waiver issued by the Regional or State Board pertaining to runoff discharges.
      (D) A narrative description including Standard Industrial Classification (SIC) System/ North American Industry Classification System (NAICS) Codes that best describe the industrial activities performed

and principal products used at each facility and status of exposure to storm water.

(c) The Regional Water Board recommends that Permittees include additional fields of information, such as material usage and/ or industrial output, and discrepancies between SIC System/ NAICS Code designations (as reported by facility operators) and identify the actual type of industrial activity that has the potential to pollute storm water. In addition, the Regional Water Board recommends the use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system.

(d) 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 inter and intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, and similar information).

2. Inspect Critical Sources

(a) Commercial Facilities

Each Permittee shall inspect all facilities identified in Part 4 D.2. twice during the 5-year term of the Order, provided that the first inspection occurs no later than (2 years from the adoption of this Order). A minimum interval of six months between the first and the second mandatory compliance inspection is required. In addition, each Permittee shall implement the activities outlined in the following subsections. At each facility, inspectors shall verify that the operator is implementing the mandatory source control BMPs. The Permittees shall require implementation of additional treatment control BMPs where storm water flows from the MS4 discharge to an ESA or a CWA § 303(d) listed waterbody (see section 3(b) below). Likewise, for those BMPs that are not adequate to achieve MALs and/ or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.

(1) Restaurants-

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 being effectively implemented in compliance with State law, County and municipal ordinances. BMPs in the following Table 2 shall be implemented, unless the pollutant generating activity does not occur.

Table 2

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Waste/ Hazardous Materials Storage, Handling and Disposal	Distribution of educational materials on storm water pollution prevention practices to the public.	By Municipality
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/ Leaks	Implementation of effective spills/ leaks prevention and response procedures.	SC-11
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/ handling practices and appropriate control measures	SC-34
Parking/ Storage Area Maintenance	Implementation of effective parking/ storage area designs and housekeeping/ maintenance practices	SC-43
Storm Water Conveyance System Maintenance	Implementation of proper conveyance system operation and maintenance protocols.	SC-44

(2) Automotive Service Facilities-

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 3 are being implemented, unless the pollutant generating activity does not occur.

Table 3

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/ Leaks	Implementation of effective spills/ leaks prevention and response procedures.	SC-11
Vehicle/ Equipment Fueling.	Implementation of effective fueling source control devices and practices.	SC-20
Vehicle/ Equipment Cleaning.	Implementation of effective equipment/ vehicle cleaning practices and appropriate wash water management practices	SC-21
Vehicle/ Equipment Repair	Implementation of effective vehicle/ equipment repair practices and source control devices.	SC-22
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices.	SC-31
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/ handling practices and appropriate control measures	SC-34
Parking/ Storage Area Maintenance	Implementation of effective parking/ storage area designs and housekeeping/ maintenance practices	SC-43
Storm Water Conveyance System Maintenance Practices	Implementation of proper conveyance system operation and maintenance protocols.	SC-44

(3) Retail Gasoline Outlets and Automotive Dealerships-

Level of Inspections: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 4 are being implemented, unless the pollutant generating activity does not occur.

Table 4

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/ Leaks	Implementation of effective spills/ leaks prevention and response procedures.	SC-11
Vehicle/ Equipment Fueling	Implementation of effective fueling source control devices and practices.	SC-20
Vehicle/ Equipment Cleaning	Implementation of effective wash water control devices.	SC-21
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/ handling practices and appropriate control measures	SC-34
Building and Grounds Maintenance	Implementation of effective facility maintenance practices.	SC-41
Parking/ Storage Area Maintenance	Implementation of effective parking/ storage area designs and housekeeping/ maintenance practices	SC-43

(4) Commercial Nurseries and Nursery Centers (Merchant Wholesalers, Nondurable Goods, and Retail Trade)-

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 5 are being implemented, unless the pollutant generating activity does not occur.

Table 5

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Outdoor Loading/ Unloading	Implementation of effective outdoor loading/ unloading practices.	SC-30
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices.	SC-31
Outdoor Equipment Operations	Implementation of effective outdoor equipment source control devices and practices.	SC-32
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Building and Grounds Maintenance	Implementation of effective facility maintenance practices.	SC-41

(A) For nursery operations (Agricultural Facilities) in the NAICS Code 11142x - Nursery and Floriculture Production, which are subject to the Conditional Waiver, each Permittee shall:

(i) Verify enrollment under the Conditional Waiver by recording a valid identification number.

(ii) Notify all nonfilers of their lawful obligation to apply for coverage under the Regional Water Board's Conditional Waiver.

(B) Permittees shall submit a list of facility names in the NAICS Code 11142x that have been notified to apply for the Conditional Waiver (nonfilers). The list of nonfilers shall be electronically sent to the Regional Water Board's Regional Programs at the following e-mail address: sunger@waterboards.ca.gov.

(b) Industrial Facilities

Each Permittee shall conduct compliance inspections at Phase I, II facilities as specified below.

(1) **Frequency of Inspection**

(A) Each Permittee shall perform an initial inspection at all industrial facilities identified by the U.S. EPA in 40 CFR 122.26(c) no later than (2 years after the adoption of the Order). After the initial inspection, all facilities determined as having exposure of industrial activities to storm water are subject to a second mandatory compliance inspection. A minimum interval of 6 months between the first and the second compliance inspection is required.

(B) Following the first mandatory compliance inspection, a Permittee shall perform a second mandatory compliance inspection yearly at a minimum of 20% of the facilities determined not to have exposure of industrial activities to storm water. The purpose of this inspection is to verify the continuity of the no exposure status. Facilities determined as having exposure will be notified that they must obtain coverage under the IASGP. A facility need not be inspected more than twice during the term of the Order unless subject to an enforcement action. A minimum interval of 6 months in between the first and the second compliance inspection is required.

(C) Applicable to all facilities: A Permittee need not inspect facilities that have been inspected by the Regional Water Board within the previous 24 month interval. However, if the Regional Water Board performed only one inspection, the Permittee shall conduct the second required mandatory compliance inspection.

(2) **Level of Inspection:** Each Permittee shall confirm that each operator:

(A) 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 (SWPPP) is available on-site; and,

(B) Is effectively implementing BMPs in compliance with County and municipal ordinances. Facilities must implement the source control BMPs identified in Part 4. D. 3. and Appendix D, *California Stormwater Industrial and Commercial BMP Handbook (2003)*. The Permittees shall require implementation of additional treatment control BMPs where the storm water from the MS4 discharges to a CWA § 303(d) listed waterbody; or.

(C) Has applied and has a current No Exposure Certification (and WDID number) for facilities subject to this requirement.

3. Ensure Compliance of Critical Sources

(a) **BMP Implementation:** In the event that a Permittee determines that a BMP is infeasible at any site, including those specified in the California Stormwater Industrial and Commercial BMP Handbook (2003), the Permittee shall require implementation of similar BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve MALs and/ or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.

(b) **ESAs and Impaired Waters:** For critical sources that discharge to ESAs or that are tributary to CWA § 303(d) listed impaired waterbodies, the Permittees shall require operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to exceedences of MALs and/ or 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, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement actions 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 and make them available on request to the Regional Water Board, 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 Municipal Storm Water Ordinances and California Water Code § 13260:** A Permittee may refer a violation(s) to the Regional Water Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must be documented with:

(A) Two follow-up inspections, and
(B) Two warning letters or notices of violation.

(2) **Referral of Violations of the Industrial Activities Storm Water General Permit (IASGP), including Requirements to File a Notice of Intent or No Exposure Certification:** For those facilities in violation of the IASGP, Permittees may escalate referral of such violations to the Regional Water Board (electronically on a quarterly basis to the Regional Water Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov) after one inspection and one written notice (copied to the Regional Water Board) to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

(A) Name of the facility.
(B) Operator of the facility.
(C) Owner of the facility.
(D) Industrial activity being conducted at the facility that is subject to the IASGP.
(E) Records of communication with the facility operator regarding the violation, which shall include at least an inspection report.
(F) The written notice of the violation copied to the Regional Water Board.

(3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:** Each Permittee shall initiate, within one business day,[1] 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 municipal storm water urban runoff ordinances, and to oversee corrective action.

(4) **Support of Regional Water Board Enforcement Actions:** As directed by the Regional Water Board Executive Officer, Permittees shall support Regional Water Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Water Board inspectors; appearing as witnesses in Regional Water Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

(5) **Participation in a Task Force:** The Permittees consent to participate with the Regional Water Board, and other public agencies on an enforcement task

[1] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

force such as the Storm Water Task Force, to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

E. Planning and Land Development Program

1. The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to:

   (a) Minimize impacts from storm water runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.
   (b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[1] to less than 5 percent of total project area.
   (c) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.
   (d) Minimize pollution emanating from impervious surfaces on developed land such as roof-tops, parking lots, and roadways through the use of appropriate Source Controls (good housekeeping practices), Low Impact Development Strategies, and Treatment Control BMPs.
   (e) Properly design and maintain Treatment Control BMPs (in order to avoid the breeding of vectors).[2]
   (f) Select an integrated approach to mitigate storm water pollution by utilizing a suite of controls in the following order of preference to remove storm water pollutants, reduce storm water runoff volume, and beneficially reuse storm water:
      (1) Low Impact Development Strategies.
      (2) Integrated Water Resources Management Strategies.
      (3) Multi-benefit Natural Feature BMPs.
      (4) Prefabricated/ Proprietary Treatment Control BMPs.

[1] Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales (native vegetation) using approved dispersion techniques.
[2] Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.

I. Low Impact Development

1. All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.

2. The Permittees shall develop a LID Technical Guidance Document no later than (18 months from the Order's adoption date) for use by Land Planners and Developers. The LID Technical Guidance Document shall include objectives and specifications for LID in the areas of:
   (a) Site Assessment.
   (b) Site Planning and Layout.
   (c) Vegetative Protection, Revegetation and Maintenance.
   (d) Techniques to Minimize Land Disturbance.
   (e) Integrated Management Practices.
   (f) LID Design and Flow Modeling Guidance.
   (g) Hydrologic Analysis.
   (h) LID Translators.

3. The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with LID objectives and specifications developed in the LID Technical Guidance Document through a training program. The LID training program will include the following:
   (a) LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.
   (b) A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.
   (c) Materials and data from LID pilot projects and demonstration projects including case studies.
   (d) Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.
   (e) Availability of the LID Technical Guidance Document.

II. Numeric Hydromodification Mitigation Criteria

1. Hydrologic (Flow/ Volume/ Duration) Control

   (a) Each Permittees shall require all new development and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration. This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations.

   (b) Natural drainage systems, including tributaries, are located in the following watersheds:
   (1) Ventura River.
   (2) Santa Clara River.
   (3) Calleguas Creek.
   (4) Miscellaneous Ventura Coastal.

   (c) Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (E_p) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat.[1]

   (d) The Southern California Storm Water Monitoring Coalition (SMC) is expected to initiate a study to develop a regional methodology to eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management tools.[2] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS):
   (1) Establishment of a stream classification for Southern California streams.
   (2) Development of a deterministic or predictive relationship between changes in watershed impervious cover and stream-bed/ stream bank enlargement.

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[1] See Attachment "E" - Determination of Erosion Potential.
[2] Coleman, D., C. MacRae, and E. Stein. 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. Southern California Coastal Water Research Project. 70 pp.

(3) Development of a numeric model to predict stream-bed/ stream bank enlargement and evaluate the effectiveness of mitigation strategies.

(e) Until the completion of the SMC's HCS, Permittees shall continue to implement the following Interim Hydromodification Criteria to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are:

(1) **Projects disturbing land area of less than fifty acres**
Hydrologic control for projects in this size category shall involve matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24 hour storm event (not exceeding the pre-development flows).

(2) **Projects disturbing land areas of fifty acres or greater** [1]
Hydrologic control for projects in this size category shall involve the completion of a Hydromodification Analysis Study (HAS) by the project proponent to demonstrate that post development conditions are not expected to alter the duration of sediment transporting flows in receiving streams and tributaries. The HAS must demonstrate that the selected hydrologic controls will maintain an Erosion Potential value of 1 unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.

(f) The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to identify effective mitigation strategies. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than (18 months from the Order's adoption).

(g) Hydromodification Control Plan

(1) On completion of the HCS (SMC HCS or Permittee HCS), the Permittees shall develop and implement Watershed Hydromodification Control Plans (HCPs), no later than 6 months after the completion of the HCS. The HCP shall identify tributary classifications, flow rate

[1] 91st percentile of all construction projects covered under the general construction permit (CASGP) in Southern California.

and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will maintain the stream and tributary Erosion Potential at 1 unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.

(2) The HCS shall contain the following elements:
- (A) Hydromodification Management Standard: Storm water discharges from applicable new development and redevelopment projects shall not cause an increase in the erosion potential of the receiving creek over the pre-project (existing) condition.
- (B) Natural Drainage Areas and Hydromodification Management Control Areas.
- (C) Projects subject to Controls including Redevelopment Projects.
- (D) Description of authorized Hydromodification Management Controls.
- (E) Hydromodification Management Control Design Criteria.
- (F) Range of flows to control namely matching post development discharge rates and durations from critical flow on up to the pre-development 10-year peak flow (or equivalent alternative criteria).
- (G) Goodness of fit criteria.
- (H) Allowable low flow rate.
- (I) Description of the approved Hydromodification Model.
- (J) Any alternate Hydromodification Management Model and Design.
- (K) In-Stream Measures Design Criteria.
- (L) Record Keeping.

III. Post-Construction Storm Water Mitigation Criteria

1. Post-Construction Storm Water BMP Program and Project Applicability

(a) Each Permittee shall require that during the construction of a single-family hillside home, measures be taken to:
- (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 all development projects equal to 1 acre or greater of disturbed area be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution.

(c) Each Permittee shall require, in addition, that the following development projects be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution:
(1) Industrial park 5,000 square feet or more of surface area;
(2) Commercial strip mall 5,000 square feet or more of surface area;
(3) Retail gasoline outlet 5,000 square feet or more of surface area;
(4) Restaurant (SIC 5812) 5,000 square feet or more of surface area;
(5) Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces;
(6) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;
(7) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; and
(8) Redevelopment projects in subject categories that meet Redevelopment thresholds (identified below in section III.4).

(d) Each Permittee shall require, in addition, that post-construction BMPs be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution at development projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will:
(1) Discharge storm water runoff that is likely to impact a sensitive biological species or habitat.
(2) Create 2,500 square feet or more of impervious surface area.

2. Tiered Numeric Water Quality Design Criteria

(a) **Projects disturbing land areas less than 50 acres**
Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a volumetric and/ or hydrodynamic (flow based) treatment control design standard, consistent with the objectives stated in Part 4. E.1. and as identified below to mitigate (infiltrate, filter or treat) storm water:

(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 (Ventura County Technical Manual); or
   (C) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system;[1] and/ or

(2) Hydrodynamic (Flow Based) Treatment Control BMP
   (A) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
   (B) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity for Ventura County; or
   (C) Ten percent of the 50-year storm design flow rate.

(b) **Projects disturbing land area of 50 acres or greater**
Each Permittee shall require that post-construction treatment control BMPs be:
   (1) Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate the following:
      (A) Rainfall intensity based on hourly rainfall records;
      (B) An adjustment factor for within hour rainfall variability; and
      (C) Hydraulics of BMP Performance.
   (2) Satisfy the objectives identified for storm water quality management identified in Part 4. E.1.

3. Site Specific Mitigation

(a) Each Permittee shall require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment projects not identified in Parts 4. E. III.1(b), III.1(c), and III.1(d), but which may potentially have adverse impacts on

[1] This option is not available for construction projects that disturb land area 5 acres or greater.

post-development storm water quality, where 1 or more of 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.

4. Redevelopment Projects

(a) Each Permittee shall apply the post-construction BMP requirements, or site specific requirements including post-construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories.

(b) 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.
   (1) 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.
   (2) 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 alteration must be mitigated, and not the entire development.

(c) Redevelopment does not include routine maintenance 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. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

(d) Existing single-family structures are exempt from the Redevelopment requirements.

5. Maintenance Agreement and Transfer

(a) Each Permittee shall require that all development projects subject to post-construction BMP requirements 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.
(1) 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 (HOA) for maintenance of the Structural and Treatment Control BMPs; or
(E) 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
(F) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

6. Development Planning Coordination and Enforcement

(a) Each Permittee shall implement a program to inspect and enforce on new development and redevelopment projects for post-construction control BMPs.
(1) Prior to approving and signing off for occupancy and issuing the Certificate of Occupancy for all new development and redevelopment projects subject to post-construction control BMPs, each Permittee shall inspect the constructed site design, Structural control and Treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.

(b) The State/ U.S. EPA permitting authority may undertake the following actions for coordination with the post-construction BMP provisions of the State construction activity storm water general permit or individual storm water construction permits.

(1) Absence of Post-Construction BMPs

(A) If the State/ U.S. EPA inspection does not readily identify the implementation of post-construction control BMPs at the site, the Regional Water Board will start progressive enforcement action against the Permittee and/ or project owner/ developer.

(B) Failure to implement post-construction control BMPs, or implementing ineffective BMPs may be grounds for the State/ U.S. EPA permitting authority to deny the Notice of Termination (NOT).

(2) Inadequate or Ineffective Post-Construction BMPs

(A) If the State/ U.S. EPA inspection identifies the implementation of post-construction BMPs, but they are determined to be inadequate or ineffective (e.g. undersized, or non-specific to pollutants of concern, or poorly maintained), the Regional Water Board will start progressive enforcement action against the Permittee and/ or project owner/ developer.

(B) Implementation of inadequate or ineffective BMPs may be grounds for the State/ U.S. EPA permitting authority to deny the Notice of Termination (NOT) for the project.

7. Regional and Redevelopment Area Storm Water Mitigation

(a) A Permittee or a coalition of Permittees may apply to the Regional Water Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will:

(1) Result in equivalent or improved storm water quality.
(2) Protect stream habitat.
(3) Promote cooperative problem solving by diverse interests.
(4) Be fiscally sustainable and has secure funding.
(5) Be completed in four years or less including the construction and start-up of treatment facilities.

(b) A Permittee may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment

projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will result in equivalent or improved storm water quality.

(1) Redevelopment Project Areas include (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the Regional Water Board.

(c) Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, as approved in this Order.

8. Mitigation Funding

(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to support regional or subregional solutions to storm water pollution, where any of the following situations occur:
   (1) A waiver for impracticability is granted;
   (2) Funds become available;
   (3) Off-site mitigation is required because of loss of environmental habitat; or
   (4) An approved watershed management plan, or an integrated water resources management plan, or a regional storm water mitigation plan, or a wetlands recovery plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.

9. Inspection and Tracking System for Post-Construction Treatment Control BMPs

(a) Each Permittee shall develop and implement no later than (6 months from this Order's adoption) the following:
   (1) A GIS or other electronic system for tracking projects that have been conditioned for post-construction treatment control BMPs. The electronic system, at a minimum, should contain the following information:
      (A) Municipal Project ID.

(B) State WDID No.
(C) Project Acreage.
(D) BMP Type and Description.
(E) BMP Location (coordinates).
(F) Date of Acceptance.
(G) Date of O&M Certification.
(H) Maintenance Records.
(I) Inspection Date and Summary.
(J) Corrective Action.
(K) Date Certificate of Occupancy Issued.
(L) Replacement or Repair Date.

(2) A post-construction treatment control BMP inspection program to verify proper maintenance and operation of post-construction treatment control BMPs previously approved. The inspection program, at a minimum shall consist of the following elements:
(A) Post-construction treatment control BMP acceptance inspection to ensure proper installation.
(B) Post-construction treatment control BMP Inspection check list.
(C) Inspection at least once every 2 years, beginning (1 year after the Order's adoption), of post-construction treatment control BMPs to ensure treatment effectiveness, hydraulic function, and vector risk minimization, with particular attention to:
(i) Conventional Treatment BMPs - failure, invasive species vegetation, fugitive material, sediment clogging, and improper modifications.
(ii) Non-Proprietary Treatment Control BMPs – solids removal, pump-out, blockage and drawdown drainage;
(D) Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.

10. Developer Technical Guidance and Information

(a) The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include, at a minimum, the following:
(1) Hydrologic (Flow/ Volume/ Duration) Control criteria described herein and the interim criteria based on hydrograph matching.
(2) Expected BMP pollutant removal performance including consistent effluent quality and removal efficiency ranges (International BMP Database, technical reports and the scientific literature).
(3) Appropriate BMPs for storm water POCs.
(4) Data on Observed Local Effectiveness and performance of implemented BMPs.

(5) BMP Maintenance and Cost Considerations.
(6) Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits.
(7) LID principles and specifications.

11. Project Review and Inter Department Coordination

(a) Each Permittee shall facilitate a process for effective approval of post-construction control measures. The process shall include:
(1) Detailed BMP review including BMP sizing calculations, BMP pollutant removal effectiveness, and municipal approval.
(2) An established structure for communication and delineated authority between and among municipal departments which have jurisdiction over project review, plan approval, and project construction through memoranda of understanding (MOU).

12. California Environmental Quality Act (CEQA) Document Update

(a) 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:
(1) Potential impact of project construction on storm water runoff.
(2) Potential impact of project post-construction activity on storm water runoff.
(3) 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.
(4) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit.
(5) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies.
(6) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm.
(7) 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 Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended:
(1) Land Use.
(2) Housing.
(3) Conservation.
(4) Open Space.

(b) Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

F. Development Construction Program

Sediment losses due to erosion on construction sites are exacerbated during the wet season. Sediment is a primary pollutant impacting beneficial uses of watercourses. Sedimentation and siltation adversely affect fish spawning, and in time, alter aquatic habitat. Other pollutants including pesticides, herbicides, fertilizers, and metals, adsorb onto sediment particles and detrimentally impact biological systems and water quality.

1. Grading Prohibitions

(a) Each Permittee shall implement a program to control storm water discharges from construction activity at all construction sites within its jurisdiction. During the wet season, the program shall ensure that the following requirements are effectively implemented at all of the construction site categories listed below:
(1) No grading shall occur between October 1 – April 15 (wet season) for construction projects in the following areas of high erosivity or receiving water impairment or sensitive habitat:
(A) On hillsides with slopes 20% or steeper prior to land disturbance;
(B) Directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment; or
(C) Within or adjacent to an environmentally sensitive area (ESAs).

(b) If grading operations in these areas are not completed before the onset of the wet season beginning October 1st, grading shall be halted and effective erosion control measures shall be put in place to minimize erosion. Grading shall not resume until after April 15th. Depending on the project area, the developer shall implement the Erosion and Sediment control BMPs listed in Tables 5, 6, and 7.

(1) A Grading Prohibition Variance may be granted by the Regional Water Board Executive Officer, where the Permittee can demonstrate that BMP measures proposed by the project proponent and approved by the Permittee can be reasonably expected to:
   (A) Not cause or contribute to the degradation of water quality.
   (B) Ensure that Total Suspended Solids discharged is 100mg/L or less.
   (C) Ensure that Turbidity of the discharge is 50 NTU or less.
   (D) Not impair beneficial uses.
   (E) Includes a monitoring program to ensure effectiveness.

2. Construction Sites Less than an Acre
   (a) Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites (see the following Table 6) to prevent erosion and sediment loss, and the discharge of construction wastes.[1] Where the Erosivity Factor (R) for the construction project is 50 or greater, erosion controls (erosion avoidance) will be the preferred BMPs.[2]

[1] The BMPs are taken from the *California BMP Handbook, Construction, January 2003* and the *Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003*, and addenda.
[2] Fact Sheet, *Construction Rainfall Erosivity Waiver* (2001) EPA 833-F-00-014; *Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE)* (1997), USDA Agricultural Handbook No. 703.

Table 6

Minimum Set of BMPs for All Construction Sites	CASQA Handbook	Caltrans Handbook
For Erosion Control		
Scheduling	EC-1	SS-1
Preservation of Existing Vegetation	EC-2	SS-2
Sediment Controls		
Silt Fence	SE-1	SC-1
Sand Bag Barrier	SE-8	SC-8
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004).[1]	NS-2	NS-2
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-2
Spill Prevention and Control	WM-4	WM-4
Solid Waste Management	WM-5	WM-5
Concrete Waste Management	WM-8	WM-8
Sanitary/ Septic Waste Management	WM-9	WM-9

3. Construction Sites 1 acre or greater but Less than 5 acres

   (a) Each Permittee shall require the implementation of the following BMPs (see the following Table 7) in addition to the ones identified in the preceding Table 6 at all construction sites 1 acre and greater but less than 5 acres to prevent erosion and sediment loss, and the discharge of construction wastes:

[1] Ponded storm water may be discharged at a concentration of Total Suspended Solids (TSS) of 100mg/L or less.

Table 7

BMPs	CASQA Handbook	Caltrans Handbook
For Erosion Control		
Hydraulic Mulch	EC-3	SS-3
Hydroseeding	EC-4	SS-4
Soil Binders	EC-5	SS-5
Straw Mulch	EC-6	SS-6
Geotextiles and Mats	EC-7	SS-7
Wood Mulching	EC-8	SS-8
Sediment Controls		
Fiber Rolls	SE-5	SC-5
Gravel Bag Berm	SE-6	SC-6
Street Sweeping and/ or Vacuum	SE-7	SC-7
Storm Drain Inlet Protection	SE-10	SC-10
Additional Controls		
Wind Erosion Controls	WE-1	WE-1
Stabilized Construction Entrance/ Exit	TC-1	TC-1
Stabilized Construction Roadway	TC-2	TC-2
Entrance/ Exit Tire Wash	TC-3	TC-3
Non-Storm Water Management		
Vehicle and Equipment Washing	NS-8	NS-8
Vehicle and Equipment Fueling	NS-9	NS-9

4. Construction Sites 5 acres and Greater

(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 8) in addition to the ones identified in the preceding Tables 6 and 7 at all construction sites 5 acres and greater to prevent erosion and sediment loss, and the discharge of construction wastes:

Table 8

BMPs	CASQA Handbook	Caltrans Handbook
Sediment Controls		
Sediment Basin	SE-2	SC-2
Check Dam	SE-4	SC-4
Tracking Control BMPs		
Stabilized Construction Entrance/ Exit	TR-1	TC-1
Non-Storm Water Management		
Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Spill Prevention and Control	WM-4	WM-4
Concrete Waste Management	WM-8	WM-8
Sanitary/ Septic Waste Management	WM-9	WM-9

5. Local Agency Requirements

(a) Each Permittee shall require for all construction sites 1 acre or greater, compliance with all conditions identified in the preceding F.1, F.2, F.3, and F.4, and the following requirements:

(1) Local Storm Water Pollution Prevention Plan (Local SWPPP),

(A) Each Permittee shall require the preparation and submittal of a Local SWPPP, for approval prior to issuance of a grading permit for construction projects.

(i) The Permittee shall approve no Local SWPPP unless it includes appropriate construction site BMPs and maintenance schedules.

(ii) 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.

(iii) 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:

(iv) *"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."*

(2) Certification Statement

(A) Each Permittee shall require that each landowner or the landowner's agent sign a statement on the Local SWPPP 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."

(B) The Local SWPPP certification shall be signed by the landowner as follows:
  (i) Corporation - by a responsible corporate officer which means the following:
    (I) 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
    (II) Manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
  (ii) Partnership or sole proprietorship - by a general partner or the proprietor; or
  (iii) Municipality or other public agency - by an elected official, a ranking management official (e.g., County/ City Administrative Officer, City Manager, Director of Public Works, or City Engineer).

6. Roadway Paving or Repaving Operations

(a) Each Permittee shall require that for any project that includes roadbed or street paving, repaving, patching, digouts, or resurfacing roadbed surfaces, that the following BMPs be implemented for each project.
  (1) Restrict paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions.
  (2) Install sand bags or gravel bags and filter fabric at all susceptible storm drain inlets and at manholes to prevent spills of paving products and tack coat;
  (3) Prevent the discharge of Release Agents including soybean oil, other oils, or diesel to the storm water drainage system or watercourses.
  (4) Minimize non storm water runoff from water use for the roller and for evaporative cooling of the asphalt.
  (5) Clean equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose properly.
  (6) Collect liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled or disposed off properly.
  (7) Collect solid waste by vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly.
  (8) Cover the "cold-mix" asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm.

(9) Cover loads with tarp before haul-off to a storage site, and do not overload trucks.
(10) Minimize airborne dust by using water spray during grinding.
(11) Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in or near storm water drainage system or watercourses.
(12) Protect stockpiles with a cover or sediment barriers during a rain.

7. Electronic Site Tracking System

(a) Each Permittee shall use an electronic system to track grading permits, encroachment permits, demolition permits, building permits, or construction permits (and any other municipal authorization to move soil and/ or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

8. Inspections

(a) Each Permittee shall inspect all construction sites for the implementation of storm water quality controls a minimum of once during the wet season. Concurrently, each Permittee shall ensure that:
(1) The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits.
(2) For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.
(3) If compliance with municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance as specified in municipal codes.
(4) If compliance has not been achieved, and the site is also covered under a Construction Activities Storm Water General Permit (CASGP) or Small Linear Underground/ Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the procedures listed in section D.3.(d)- Interagency Coordination of this Order.

(b) Prior to approving and/ or signing off for occupancy and issuing the Certificate of Occupancy for all construction projects subject to post-construction controls, each Permittee shall inspect the constructed site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. The initial/ acceptance

BMP verification inspection does not constitute an operation and maintenance inspection, as required in sections E.III.7(a)(1) and G.6(g)(1).

9. State Conformity Requirements

(a) Each Permittee shall ensure that no grading permit, encroachment permit, demolition permit, building permit, electrical permit, or construction permit (or any other municipal authorization to move soil and/ or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the CASGP or Small LUP General Permit[1] unless:
   (1) Proof of coverage under a State NPDES permit is demonstrated (a copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site).
   (2) Demonstration or 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) Proof of an updated NOI(s) and a copy of the modified SWPPP(s) 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.

10. Interagency Coordination

(a) A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with:
   (1) A minimum of 2 follow-up inspection reports (inspections completed within 3 months).
   (2) A minimum of 2 warning letters or NOVs.

(b) Referral of Non-filers under the CASGP or the Small LUP General Permit: Each Permittee shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) under the CASGP or Small LUP General Permit, to the Regional Water Board, no later than 15 days after making a

[1] NPDES Permit No. CAS000005, Waste Discharge Requirements For Discharges of Storm Water Runoff Associated with Small Linear Underground/ Overhead Construction Projects (Small LUP General Permit) for any linear land disturbing activity or activities (cumulatively) that will cause one acre or more of land disturbance but not more than 5 acres.

determination of failure to file. In making such referrals, Permittees shall include, at a minimum, the following documentation:

(1) Project location address.
(2) Project description.
(3) Developer or owners name with complete mailing address.
(4) Project size.
(5) Records of communication with the developer or owner regarding filing requirements.

(c) Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:

(1) Each Permittee shall initiate, within 1 business day,[1] an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.

(A) The initial investigation shall include, at a minimum, an inspection on the facility and its perimeter to confirm the complaint and to determine if the site operator is effectively complying with the municipal storm water/ urban runoff ordinances, and to oversee corrective action.

(d) Support of Regional Water Board Enforcement Actions – As directed by the Regional Water Board Executive Officer:

(1) Each Permittee shall support Regional Water Board enforcement actions by:

(A) Assisting in identification of current owners, operators, and lessees of properties and sites.
(B) Providing staff, when available, for joint inspections with Regional Water Board inspectors.
(C) Appearing to testify as witnesses in Regional Water Board enforcement hearings.
(D) Providing copies of inspection reports and other progressive enforcement documentation.

G. Public Agency Activities Program

Each Permittee shall implement a Public Agency Activities 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

[1] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

- Vehicle Maintenance/ Material Storage Facilities/ Corporation Yards Management/ Municipal Operations
- Landscape and Recreational Facilities Management
- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Infrastructure Maintenance - Long-term
- Public Industrial Activities Management
- Emergency Procedures
- Employee Training

1. Sewage System Maintenance, Overflow, and Spill Prevention Response Plan

   (a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction. The response Plan shall clearly identify agencies responsible and telephone numbers and email for any contact and shall contain at a minimum of the following procedures for:
   (1) Investigation of any complaints received within 24 hours of the incident report.
   (2) Response within two hours to overflows for containment upon notification.
   (3) Notification to appropriate sewer and public health agencies and the Office of Emergency Services (OES) when a sewer overflows to the MS4. This requirement includes notification to the affected public health agencies that are mandated to monitor beach conditions, within 2 hours in case a spill has the potential to be discharged through the MS4 into coastal beaches.

   (b) Each Permittee which owns and/ or operates a sanitary sewer system, shall in addition to the preceding section 1(a), also implement the following requirements:
   (1) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.
   (2) Implement procedures and maintenance on schedules to prevent sewage spills or leaks from sewage facilities from entering the MS4.

   (c) Each Permittee with septic systems in their jurisdiction shall implement a response plan for overflows of septic system leachate to surface waters within their respective jurisdiction, and shall consist, at a minimum, of the following:
   (1) Investigation of any complaints received.
   (2) Response within two hours to overflows for containment, upon notification.
   (3) Notification within 24 hours to appropriate agencies and public health agencies when a septic system fails and flows to the MS4.

(d) In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement the MS4 NPDES permit, other individual NPDES permits that may contain spill prevention, sewer maintenance, pretreatment programs and the SSO WDR will coordinate their compliance activities for consistency and efficiency.

2. Public Construction Activities Management

(a) Each Permittee shall implement and comply with the Development Planning Program requirements in Part 4. E of this Order at all Permittee owned or operated public construction projects.
(b) Each Permittee shall implement and comply with the Development Construction Program requirements in Part 4.F. of this Order at all Permittee owned or operated construction projects.

(c) Each Permittee shall obtain coverage under the CASGP for construction activities and projects that are:
  (1) Covered under 1 (or more) Capital Improvement Projects (including but not limited to street repaving, new streets, channel clearing[1]) or contract, and that individually or cumulatively disturb 1 acre or more of land; or
  (2) Less than 1 acre, but are part of a larger common plan of development that in total disturbs 1 or more acres of land; and
  (3) Linear construction project(s) that disturb 5 or more acres of land.

(d) Each Permittee shall obtain coverage under the Small LUP General Permit when disturbing at least 1 acre, but less than 5 acres of land during linear construction (land area includes trenching and staging areas).

3. Vehicle Maintenance/ Material Storage Facilities/ Corporation Yards Management/ Long Term Maintenance Programs.

(a) Each Permittee shall implement the following BMPs[2] at all Permittee owned, leased facilities and job sites including but not limited to vehicle/ equipment maintenance facilities, material storage facilities, and corporation yards, and at any area that includes the activities as described in the following Tables.

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[1] A CWA §401 certification may be required separately from the Regional Water Board for activities that occur within or adjacent to Waters of the U.S.. The Permittee shall obtain all necessary permits and certifications from the State and federal permitting authorities before commencing soil disturbing activities.
[2] These BMPs are identified in Appendix B of the *Caltrans Storm Water Quality Handbook Maintenance Staff Guide, May 2003*, and its addenda.

Additionally, for any activity or area described in the footnote below,[1] each Permittee shall also implement the BMPs in the Caltrans Storm Water Quality Handbook Maintenance Staff Guide described as B-4 in Table 9.

Table 9

From the Caltrans Storm Water Quality Handbook Maintenance Staff Guide	**Appendix B**
Activity Specific BMPs	Page
General BMPs	B-4
Flexible Pavement	B-9
Asphalt Cement Crack and Joint Grinding/ Sealing	B-9
Asphalt Paving	B-10
Structural Pavement Failure (Digouts) Pavement Grinding and Paving	B-11
Emergency Pothole Repairs	B-13
Sealing Operations	B-14
Rigid Pavement	B-15
Portland Cement Crack and Joint Sealing	B-15
Mudjacking and Drilling	B-16
Concrete Slab and Spall Repair	B-17
Slope/ Drains/ Vegetation	B-19
Shoulder Grading	B-19
Nonlandscaped Chemical Vegetation Control	B-21
Nonlandscaped Mechanical Vegetation Control/ Mowing	B-23
Nonlandscaped Tree and Shrub Pruning, Brush Chipping, Tree and Shrub Removal	B-24
Fence Repair	B-25
Drainage Ditch and Channel Maintenance	B-26
Drain and Culvert Maintenance	B-28
Curb and Sidewalk Repair	B-30
Litter/ Debris/ Graffiti	B-32
Sweeping Operations	B-32
Litter and Debris Removal	B-33
Emergency Response and Cleanup Practices	B-34
Graffiti Removal	B-36
Landscaping	B-37
Chemical Vegetation Control	B-37
Manual Vegetation Control	B-39
Landscaped Mechanical Vegetation Control/ Mowing	B-40
Landscaped Tree and Shrub Pruning, Brush Chipping, Tree and Shrub Removal	B-41
Irrigation Line Repairs	B-42
Irrigation (Watering), Potable and Nonpotable	B-43

[1] Scheduling and Planning; Spill Prevention and Control; Sanitary/ Septic Waste Management; Material Use; Safer Alternative Products; Vehicle/ Equipment Cleaning, Fueling, and Maintenance; Illicit Connections Detection, Reporting and Removal; Illegal Spill / Discharge Control and Maintenance Facility Housekeeping Practices.

(b) Each Permittee shall obtain coverage under the CASGP no later than (7 days of adoption of Order 07-xxx) [Note: Refer Here To Ventura Permit Adoption Date Only]) for long-term maintenance programs including maintenance of flood control channels (such as vegetation removal), maintenance or replacement of streets, sidewalks, roads, and any other project that the Permittee undertakes including all Capital Improvement Projects (CIP) if either 1 or more acres of land are disturbed by grading, clearing or excavation activities for an individual project or cumulatively as part of several projects involving a soil disturbance.

4. Vehicle and Equipment Wash Areas

(a) Each Permittee shall eliminate discharges of wash waters from vehicle and equipment washing no later than (365 days after permit adoption) by implementing any of the following measures at existing facilities with vehicle or equipment wash areas:
(1) Self-contain, and haul off for disposal;
(2) Equip with a clarifier;
(3) Equip with an alternative pre-treatment device; or
(4) Plumb to the sanitary sewer.

(b) Any municipal facilities constructed, redeveloped, or replaced shall have all vehicle and equipment wash areas plumbed to the sanitary sewer or be self contained and all wastewater/ washwater hauled for legal disposal.

5. Landscape, Park, and Recreational Facilities Management

(a) Integrated Pest Management (IPM)
Each Permittee shall implement a jurisdiction-wide IPM program (an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.) and ensure that:
(1) Pesticides are used only if, after monitoring indicates they are needed according to established guidelines.
(2) Treatments are made with the goal of removing only the target organism.
(3) Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial, non-target organisms, and the environment.
(4) Its use of pesticides, including Organo-phosphates and Pyrethroids do not threaten water quality.
(5) Partner with other agencies and organizations to ensure that pesticide use within their jurisdiction does not threaten water quality.

(6) Adopt and verifiably implement policies, procedures, and/ or ordinances requiring the minimization of pesticide use and encouraging the use of IMP techniques (including beneficial insects) in the Permittees' overall operations and on municipal property.

(7) Policies, procedures, and ordinances shall include commitments and timelines to reduce and ultimately eliminate the use of pesticides that cause impairment of surface waters by implementing the following procedures:

(A) Quantify pesticide use by its staff and hired contractors.

(B) Prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units.

(C) Demonstrate reductions in pesticide use.

(b) Each Permittee shall implement the following requirements no later than (180 days following permit adoption):

(1) Use a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers.

(2) Comply with the provisions and the monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2004-0008-DWQ).

(3) Ensure no application of pesticides, herbicides or fertilizers are applied to an area immediately prior to, during, or immediately after a rain event, or when water is flowing off the area.

(4) Ensure that no banned or unregistered pesticides and herbicides are stored or applied.

(5) Ensure that all staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator.

(6) Implement procedures to encourage the retention and planting of native vegetation to reduce water, pesticide, herbicide and fertilizer needs; and

(7) Store pesticides, herbicides and fertilizers indoors or under cover on paved surfaces or use secondary containment.

(A) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills.

(B) Regularly inspect storage areas.

6. Storm Drain Operation and Management

(a) Catch Basin Cleaning

(1) 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.

<u>Priority B</u>: Catch basins that are designated as consistently generating moderate volumes of trash and/ or debris.
<u>Priority C</u>: Catch basins that are designated as generating low volumes of trash and/ or debris.

(2) Each Permittee shall clean catch basins according to the following schedule:
<u>Priority A</u>: A minimum of 3 times during the wet season and once during the dry season every year.
<u>Priority B</u>: A minimum of once during the wet season and once during the dry season every year.
<u>Priority C</u>: A minimum of once per year.

(3) In addition to the preceding schedule, Permittees shall ensure that any catch basin that is at least 25% full of trash and/ or debris shall be cleaned out.

(b) Trash Management at Public Events
(1) Each Permittee shall require for any event in the public right of way or wherever it is foreseeable that substantial quantities of trash and litter may be generated, that the following measures be implemented:
(A) That conditions be placed on any special use permit issued for such event; and
(B) Require the proper management of trash and litter generated; and
(C) Arrange for temporary screens to be placed on catch basins; or
(D) Clean out catch basins, trash receptacles, and grounds in the event area within 24 hours subsequent to the event.

(c) Trash Receptacles
(1) Each Permittee shall install trash receptacles at all transit stops in commercial areas and near schools within its jurisdiction no later than (6 months from the Order's adoption).
(2) Each Permittee shall ensure that all trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.

(d) Catch Basin Labels
(1) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest each catch basin and inlet before the rainy season begins.
(2) Each Permittee shall record and re-stencil or re-label within 15 days of inspection, catch basins with illegible stencils.

(e) Catch Basin Excluders
(1) Each Permittee shall install trash excluders, or similar devices on catch basins to prevent the discharge of trash to the storm drain system on all catch basin inlets no later than (180 from permit adoption).

(f) Storm Drain Maintenance
  (1) Each Permittee shall implement a program for Storm Drain Maintenance no later than (180 days after permit adoption) that includes the following:
    (A) Visual monitoring of Permittee-owned open channels and other drainage structures for debris at least annually.
    (B) Annually, based on the monitoring in the preceding section 6(a), identify and prioritize problem areas of illicit discharge for regular inspection.
    (C) Conduct a review of maintenance activities to assure that the most appropriate storm water BMPs are being utilized to protect water quality.
    (D) Remove trash and debris from open channel storm drains a minimum of once per year before the storm season.
    (E) Eliminate the discharge of contaminants during MS4 maintenance and clean outs.
    (F) Quantify the amount of materials removed using standard measures and ensure the materials are properly disposed of.

(g) Permittee Owned Treatment Control BMPs
  (1) Each Permittee shall implement an inspection and maintenance program for all Permittee owned treatment control BMPs, including post-construction treatment control BMPs.
  (2) Each Permittee shall ensure proper operation of all treatment control BMPs and maintain them as necessary for proper operation, including post-construction treatment control BMPs.
  (3) Any residual water within a treatment control BMP when being maintained shall be:
    (A) Hauled away and legally disposed of;
    (B) Discharged to the sanitary sewer system (with permits or authorization); or
    (C) Treated to remove bacteria, sediments, nutrients, and meet the limitations set in Table 10 prior to discharge to the MS4.

Table 10

Discharge Limitations for Dewatering Treatment BMPs[1]

Parameter	Units	Limitation
Total Dissolved Solids	mg/L	1550
Nitrogen (Nitrate-nitrogen plus nitrite nitrogen)	mg/L	8
Total Suspended Solids	mg/L	100
Turbidity	NTU	50
Oil and Grease	mg/L	10
TPH	µg/L	100
COD	mg/L	120
Cu	µg/L	22.1
Pb	µg/L	12.8
Ni	µg/L	100
Zn	µg/L	170
E. Coli	per 100 ml	235 (fresh water)
Fecal Coliform	per 100 ml	400 (fresh water)

7. Streets and Roads

(a) Maintenance
(1) Each Permittee shall perform street sweeping of curbed streets in commercial areas to control trash and debris at least 2 times per month.

(b) Road Construction and Reconstruction
(1) Each Permittee shall implement the following BMPs for road reconstruction:
(A) Drain Inlet protection from sediments.
(B) Dewatering of below grade construction areas.
(C) Secondary containment for cold mix.
(D) Sheeting underneath cold mix (during storage) to prevent discharge of spray release, and
(E) Sheeting to cover cold mix (during storage).
(F) If street material is to be concrete, then provide a vehicle wash off area that is isolated from the MS4.

[1] Limits are from the Water Quality Control Plan Los Angeles Region (Basin Plan) and U.S. EPA Benchmark Values.

8. Infrastructure Maintenance - Long-term

   (a) Each Permittee shall obtain coverage under the CASGP for all long-term maintenance programs including but not limited to any project under the Capital Improvement Program (CIP) including but not limited to: pavement replacement; sidewalk replacement; channel maintenance; roadside maintenance (such as: vegetation removal); or grading, clearing or excavation activities that disturb 1 or more acres of land either for an individual project or as part of a long-term city/ county plan that may be less.

9. Public Industrial Activities Management

   (a) Each Permittee shall obtain separate coverage under the IASGP for any municipal activity subject to U.S. EPA regulations at CFR 122.26 for the discharge of storm water associated with industrial activity. These facilities include, but are not limited to:
      (1) Publicly owned wastewater treatment plants with a design flow of 1 MGD or more or required to have an approved pretreatment program under 40 CFR 403.
      (2) Landfills that receive or have received industrial waste or subject to regulation under Subtitle D of EPRCA.
      (3) Hazardous Waste Treatment, Storage and Disposal Facilities.
      (4) Steam Electric Power Generating Facilities.
      (5) Airports (SIC Major Group 45).
      (6) Ports (SIC Major Group 44).
      (7) Local and Suburban Transit (SIC Major Group 41).

10. Municipal Potable Water Supply System and Distribution De Minimus Discharges

   (a) Each Permittee which owns or operates or maintains a potable water supply system(s) and which performs maintenance of that system by flushing hydrants or other system components, may discharge such waters to the storm drain system provided:
      (1) The total volume of discharges annually is no more than 100,000 gallons[1] for the system per year.
      (2) BMP(s) are implemented to ensure that:
         (A) Chlorine concentration of the discharge is 0.1mg/L or less[2].

[1] If greater than 100,000 gallons per year, then coverage under a separate NPDES permit from the Regional Water Board (NPDES Permit No. CAG674001) is required.
[2] BMPs for dechlorination include the addition of Sodium Thiosulfate per manufacturer specifications, or aeration that will reduce residual chlorine concentration in water to 0.1mg/L or less.

(B) Turbidity is at 50 NTUs or less so as to minimize the discharge of sediment.
(C) No erosion is caused down side of the discharge.

11. Emergency Procedures

(a) Each Permittee may conduct repairs of essential public service systems and infrastructure in emergency situations with a self-waiver of the provisions of this Order. An emergency is a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences including riot, accident, or sabotage.
(1) Where the self-waiver has been invoked, the Permittee shall submit to the Regional Water Board Executive Officer a statement of the occurrence of the emergency, an explanation of the circumstances, and the measures that were implement to reduce the threat to water quality, no later than 7 business days after the situation of emergency has passed.

12. Municipal Employee and Municipal Contractor Training

(a) Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors in targeted positions (whose interactions, jobs, and activities affect storm water quality) on the requirements of the overall storm water management program to:
(1) Promote a clear understanding of the potential for activities to pollute storm water.
(2) Identify opportunities to require, implement, and maintain appropriate BMPs in their line of work.

(b) Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors who use or have the potential to use pesticides, herbicides or fertilizers (whether or not they normally apply these as part of their work). Training programs shall address:
(1) The potential for pesticide-related surface water toxicity.
(2) Proper use, handling, and disposal of pesticides.
(3) Least toxic methods of pest prevention and control, including IPM.
(4) Reduction of pesticide use.

(c) Each Permittee shall, no later than (6 months from the permit adoption) and annually thereafter before June 30, train all of their employees and contractors who are responsible for illicit connections and illicit/ illegal discharges. Training programs shall address:
(1) Identification.
(2) Investigation.
(3) Termination.
(4) Cleanup.
(5) Reporting of Incidents.
(6) Documentation of Incidents.

H. Illicit Connections and Illicit Discharges Elimination Program

Each Permittee shall eliminate all Illicit Connections and Illicit Discharges (IC/ ID) 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 shall implement an IC/ ID Program. The IC/ ID procedures shall be documented and made available for review.

(b) Tracking - All Permittees shall, no later than (2 years after the adoption of this Order), map at a scale and in a format specified by the Principal Permittee all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee incidents of illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee no later than (2 years after the adoption of this Order). Permittees shall use this information to identify priority areas for further investigation and elimination of IC/ ID.

2. Public Reporting

(a) Permittees shall establish and maintain a phone hotline and internet site to receive all reports of IC/ ID complaints.

(b) Permittees shall document the location of the reported IC/ ID and the actions undertaken in response to all IC/ ID complaints.

3. Illicit Connections

(a) Screening for Illicit Connections

(1) The Permittees shall submit to the Principal Permittee:

(A) A GIS layer showing the location and length of underground pipes 18 inches and greater in diameter, and channels within their jurisdiction in accordance with the following schedule:

(i) All channeled portions of the storm drain system no later than (365 days after the adoption of this Order).

(ii) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater, (no later than 3 years after the adoption of this Order).

(iii) All portions of the storm drain system consisting of storm drain pipes 18 inches in diameter or greater, (no later than 5 years after the adoption of this Order).

(B) The status of suspected, confirmed, and terminated illicit connections.

(2) Permittees shall conduct field screening of their storm drain systems in accordance with screening procedures described in the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments (2004).[1] Permittees shall conduct field screening for illicit connections in accordance with the following schedule:

(A) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater no later than (5 years after the adoption of this Order).

(B) High priority areas identified during the mapping of illicit connections and discharges no later than (5 years after the adoption of this Order).

(C) All portions of storm drain systems 50 years or older in age no later than (5 years after the adoption of this Order).

(3) Each Permittee shall maintain a list containing all connections under investigation for possible illicit connection and their status.

(b) Response to Illicit Connections

(1) Investigation -

Upon discovery or upon receiving a report of a suspected illicit connection, a Permittee shall complete an investigation within 21 days, to determine the following:

(A) Source of the connection.

(B) Nature and volume of discharge through the connection.

(C) Responsible party for the connection.

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[1] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4

(2) Termination -
Upon confirmation of an illicit storm drain connection, a Permittee shall ensure the following:
(A) Termination of the connection within 180 days of completion of the investigation, using formal enforcement authority to eliminate the illicit connection.

(3) Documentation -
Permittees shall keep records of all illicit connection investigations and the formal enforcement taken to eliminate all illicit connections.

4. Illicit Discharges

(a) Investigation -
The Permittees shall investigate an illicit/ illegal discharge during or immediately following containment and cleanup activities, and shall take formal enforcement action to eliminate the illegal discharge.

(b) Abatement and Cleanup -
Each Permittee shall respond, within 1 business day of discovery or a report of a suspected illicit/ illegal discharge, with actions to abate, contain, and clean up all illegal discharges, including hazardous substances.

(c) Documentation -
Permittees shall maintain records of all illicit/ illegal discharge discoveries, reports of suspected illicit/ illegal discharges, their response to the illicit/ illegal discharges and suspected illicit/ illegal discharges, and the formal enforcement taken to eliminate all illicit/ illegal discharges.

I. REPORTING PROGRAM

1. The Principal Permittee in consultation with the Permittees and Regional Water Board staff shall convene an adhoc working group to develop an Electronic Reporting Program, the basis of which shall be the questions in the attached Monitoring Report and Program Report (Reporting Program- Attachment "H") for approval by the Regional Water Board Executive Officer. The Committee shall no later than (6 months of permit adoption):

(a) Develop an electronic reporting format.

(b) Include requirements as basis for reporting.

2. Each Permittee shall submit information required in the Reporting Program in a method as appropriate to the format approved by the Regional Water Board Executive Officer.

3. The Principal Permittee shall submit by December 15th of each year beginning the year of 2007, an Annual Report to the Regional Water Board Executive Officer in the form of one hard copy and three compact disk (CD) copies (or an electronic equivalent).

4. The Annual Report shall document the status of the General Storm Water Program, an integrated summary of the results of analyses from:
(a) The monitoring program described under Part 1- Monitoring Report.

(b) The requirements described under Part 2-Program Report.

5. Plans shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a compact disk (CD), submit 1 hard copy and 3 CD copies.

6. Study Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

7. Progress Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

PART 5 - WATERSHED ECOLOGICAL RESTORATION PLANNING

Restoration of a degraded aquatic ecosystem to a close approximation of its remaining natural potential is a complex process that requires planning, implementation, monitoring, and management. The purpose of ecological restoration planning is to provide a tool that can produce improvements in the quality of our water resources to support diverse, productive communities of plants and animals that provide significant ecological and social benefits.[1]

1. The Permittees shall develop and implement Watershed Ecological Restoration Plans (ERP) and submit Annual Watershed Ecological Restoration Status Reports (ERSR) in accordance with the requirements in Part 5 of this Order.

2. The Permittees shall develop ERPs for all Watershed Management Areas' (WMA) stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring (Attachment "F", section E).

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[1] U.S. EPA, 1995. *Ecological Restoration.* EPA841-F-95-007. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC.

3. The ERPs shall include the following Restoration Principles:[1]
   (a) Preserve and protect aquatic resources.
   (b) Restore ecological integrity.
   (c) Restore natural structure.
   (d) Restore natural function.
   (e) Work within the watershed and broader landscape context.
   (f) Understand the natural potential of the watershed.
   (g) Address ongoing causes of degradation.
   (h) Develop clear, achievable, and measurable goals.
   (i) Focus on feasibility.
   (j) Use a reference site.
   (k) Anticipate future changes.
   (l) Involve the skills and insights of a multi-disciplinary team (such as: Wetlands Recovery Project and Ventura County Task Force of the Wetlands Recovery Project).
   (m) Design for self-sustainability.
   (n) Use passive restoration, when appropriate.
   (o) Restore native species and avoid non-native species.
   (p) Use natural fixes and bioengineering techniques, where possible.
   (q) Monitor and adapt where changes are necessary.

4. Permittees within WMA, shall develop ERP for the degraded stream segments of the Ventura River, Santa Clara River and Calleguas Creek, according to the following schedule:

   (a) Starting with the Ventura River, a Watershed ERP is to be developed and implemented for all river segments with a score of "poor" and "very poor" within 18 months from adoption of this Order and submitted to the Regional Water Board Executive Officer for approval.

   (b) An ERP for the Santa Clara River and Calleguas Creek are to be developed and implemented for all river segments with a score of "poor" and "very poor" within 18 months from the end of their second monitoring year and submitted to the Regional Water Board Executive Officer for approval.

[1] U.S. EPA, 2000. *Principles for the Ecological Restoration of Aquatic Resources*. EPA841-F-00-003. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC. 4 pp.

5. The Permittees shall submit Annual ERSR on the WMA ERP, which shall to include:

   (a) Background information.
   (b) Evaluation of site conditions.
   (c) Progress towards goals summarized and linked to specific stressors and measurements endpoints.
   (d) Bioassessment monitoring assessment(s).

PART 6 - TOTAL MAXIMUM DAILY LOAD PROVISIONS

Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing points (Waste Load Allocation) and non-point sources (Load Allocation). Municipal storm water discharges are considered a point source and have been assigned a WLA for certain pollutants. The objective of the TMDL is to restore the waterbody to the highest beneficial use or potential beneficial use designated by the Regional Water Board.

This Order incorporates MS4 WLAs that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA. The WLAs in the Order are expressed either as a numerical limitation, or a suite of BMPs that have been determined as providing a reasonable expectation that the WLAs will be achieved for wet weather flows, or as a prohibition for dry weather flows. Permittees shall implement all control measures to achieve the TMDL WLA(s) as stated in the TMDL by the WLA(s) effective date(s).

1. **Watershed - Pollutant**
   Santa Clara River and its Tributaries' (Reach 3) - Nitrogen Compounds (Ammonia and Nitrate plus Nitrite).

   (a) WLA Implementation
      (1) Prohibition:
      Permittees (Ventura County Watershed Protection District, and the Cities of Santa Paula and Fillmore) in the Santa Clara River and its Tributaries' (Reach 3) shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination.*[1] Permittees shall conduct field screening for illicit connections in accordance with the following schedule:

[1] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4

(A) All portions of the storm drain system consisting of storm drain pipes and open channels/ drains 12 inches in diameter or greater within 5 years after the adoption of this Order.
(B) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.
(C) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.
(D) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.
(E) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/ or 5 or more industrial NPDES storm water sites per square mile within 5 years after the adoption of this Order.

(2) Numerical Limits:
The WLAs are expressed as numerical limits in-stream for Ammonia and Nitrate within the Santa Clara River and its Tributaries' Watershed (Reach 3), established for its MS4 Permittees are following:
(A) MS4 Permittees shall not exceed water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria for Ammonia and Nitrate plus Nitrite.

2. **Watershed - Pollutant**
Malibu Creek and Lagoon - Bacteria

(a) WLA Implementation
(1) Prohibition:
MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Simi Valley and Thousand Oaks) discharging to Malibu Creek and Lagoon shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination.*[1] Permittees shall conduct screening for illicit connections in accordance with the following schedule:
(A) All portions of the storm drain system consisting of storm drain pipes 12 inches in diameter of greater within 5 years after the adoption of this Order.

[1] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4.

(B) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.

(C) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.;

(D) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.

(E) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/ or 5 or more industrial NPDES storm water sites per square mile within 5 years after the adoption of this Order.

(2) Numerical Limits:
The WLAs are expressed as exceedence days in-stream for Bacteria within Malibu Creek and Lagoon Watershed, established for its MS4 Permittees are the following (see Table 11):

Table 11

Bacteria (ml) in-stream

Weather	**Summer Dry (April 1 - October 31)**
WLA	Daily Exceedence Sampling Days = 0 Weekly Exceedence Sampling Days = 0
Weather	**Winter Dry (November 1 - March 31)**
WLA	Daily Exceedence Sampling Days = 3 Weekly Exceedence Sampling Days = 1
Weather	**Wet (November 1 - October 31)**
WLA	Daily Exceedence Sampling Days = 17 Weekly Exceedence Sampling Days = 3
Marine Water	
Geometric Mean	Total coliform density not to exceed 1,000/ 100 ml
	Fecal coliform density not to exceed 200/ 100ml
	Enterococcus density not to exceed 35/ 100 ml
Single Sample	Total coliform density not to exceed 1,000/ 100 ml
	Fecal coliform density not to exceed 200/ 100ml
	Enterococcus density not to exceed 35/ 100 ml
	Total coliform density not to exceed 1,000/ 100 ml, if the ratio of fecal-to-total coliform >.1
Fresh Water	
Geometric Mean	E. coli not density to exceed 126/ 100 ml
	Fecal coliform density not to exceed 200/ 100ml
Single Sample	E. coli density not to exceed 235/ 100 ml
	Fecal coliform density not to exceed 400/ 100ml

3. **Watershed - Pollutant**
Calleguas Creek, its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.

(a) WLA Implementation

(1) Numerical Limits:
The WLAs are expressed as numerical limits in-stream for Toxicity, Chlorpyrifos and Diazinon within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 12):

Table 12

Toxicity (TUc) in-stream

Weather	Dry
WLA	1.0

Chlorpyrifos (ug/L) in-stream

Weather	Dry	Dry
WLA	Interim	Final
Chronic (4 day)	0.45	0.014

Diazinon (ug/L) in-stream

Weather	Dry	Dry
WLA	Interim	Final
Acute (1hr.)	1.73	0.10
Chronic (4 day)	0.556	0.10

4. **Watershed - Pollutant**
Calleguas Creek, its Tributaries and Mugu Lagoon[1] - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation

(1) Numerical Limits:
The WLAs expressed as numerical limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation within Calleguas Creek, its Tributaries and Mugu Lagoon established for the MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 13):

[1] Point Mugu Naval Air Weapons Station is not a Phase I MS4 Permittee.

Table 13

OC Pesticides and PCBs (ng/g) in-sediment

Weather	Dry	Dry	Dry	Dry	Dry
WLA	Interim	Interim	Interim	Interim	Interim
	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Chlordane	17.0	48.0	3.3	3.3	3.4
4,4-DDD	66.0	400.0	290.0	14.0	5.3
4,4-DDE	470.0	1,600.0	950.0	170.0	20.0
4,4-DDT	110.0	690.0	670.0	25.0	2.0
Dieldrin	3.0	5.7	1.1	1.1	3.0
PCBs	3,800.0	7,600.0	25,700.0	25,700.0	3,800.0
Toxaphene	260.0	790.0	230.0	230.0	260.0

OC Pesticides and PCBs (ng/g) in-sediment

Weather	Dry	Dry	Dry	Dry	Dry
WLA	Final	Final	Final	Final	Final
	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Chlordane	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0
4,4-DDE	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3
Dieldrin	0.2	0.1	0.2	0.2	0.2
PCBs	120.0	130.0	120.0	120.0	120.0
Toxaphene	0.6	1.0	0.6	0.6	0.6

Siltation (tons/yr.)

WLA	Per year
To Mugu Lagoon	2,496.0

PART 7 - DEFINITIONS

The following are definitions for terms in this Order:

43,560 Square Foot Commercial Development - means any commercial development that creates at least 43,560 square feet of surface area, including parking areas (43,560 sq. ft. equals 1 acre).

Adverse Impact - means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

Agriculture - means the science, art, and business of cultivating the soil, producing crops, and raising livestock.

Antidegradation Policies - refers to the State (*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, and federal policies, which protects high quality surface waters. 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 § 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.

Areas Subject to Storm Water Mitigation Requirements - means areas designated as an Area of Special Biological Significance (ASBS) by the State Board, an area designated as a significant natural resource by the California Resources Agency, or an area identified by the discharger as environmentally sensitive for water quality purposes, based on the Regional Water Board Basin Plan and CWA § 303(d) Impaired Water-bodies List for the County of Ventura.

Authorized Discharge - means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

Authorization to discharge storm water from storm water treatment BMPs - This Order authorizes discharges from storm water treatment BMPs implemented or installed by the Permittees to reduce the discharge of pollutants in storm water discharges during rain events. All storm water BMPs shall be maintained at a frequency as specified by the manufacturer or more frequently. All storm water BMPs shall be drained to avoid stagnation or breeding of vectors.

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.

Automotive Service Facilities - means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes. 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.

SIC Code	Corresponding NAICS Code
5013	425120, 441310, 425110, & 423120
5014	425120, 425110, 423130, & 441320
5511	441110
5541	447110, & 447190
7532	811121
7533	811112
7534	326212, & 811198
7536	811122
7537	811113
7538	811111
7539	811198, & 811118

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 Water 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 Water 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.

California Environmental Quality Act (CEQA) - means a California statute that requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible (Reference: California Public Resources Code § 21000 et seq.)

Commercial Area(s) - means any geographic area of the Permittees' jurisdiction that is not heavy industrial or residential. A commercial area includes, but is not limited to areas surrounding: commercial activity, 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.

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 any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction also includes structure tear down, routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility; but does not 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.

Construction Activities Storm Water General Permit (CASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from construction activities under certain conditions.

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 any swimming pool discharge with a residual chlorine or bromine level of 0.1mg/L; and does not contain any detergents, wastes, algaecides, or cyanuric acid in excess of 50 ppm, or any other additional chemicals including salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash or swimming pool water containing bacteria.

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 any 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.

Directly Discharging - means outflow from a drainage conveyance system that is composed entirely or predominately of flows from the subject, property, development, subdivision, or industrial facility and not commingled with the flows from adjacent lands.

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 any area that is altered as a result of land disturbance. Examples include but are not limited to: clearing, grading, grubbing, stockpiling and/ or excavation, etc...

Effluent limitation - means any restriction imposed by the Permitting Authority (PA) on quantities, discharge rates, concentrations, and/ or mass loadings of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Emergency - means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage (Reference: California Public Resources Code § 21060.3. Emergency).

Environment - means the physical conditions, which exist within the area which, will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

Environmentally Sensitive Area - 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" (Reference: California Public Resources Code § 30107.5). ESAs subject to storm water mitigation requirements are:

1. Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use.

2. California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

Federal Clean Water Act (CWA) - means (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92—500, as amended by Public Law 95—217, Public Law 95—576, Public Law 96—483 and Public Law 77—117, 33 U.S.C. 1251 et seq.

First Storm Event - means the first storm event of the wet season that produces at least 0.25 inches of rain.

Forest Land - means land at least 10 percent stocked with live trees, or land that had this minimum tree stocking in the past and is not currently developed for nonforest use. The minimum area recognized is 1 acre.

Groundwater Dewatering - means the active practice of removing standing water from soil excavations using a pump(s) or other means.

Hillside - means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 20% or greater and where grading contemplates cut or fill slopes.

Horse Stables - means a property where at least one horse is stabled at least part of the year.

Hydromodification - means the alteration away from a natural state of stream flows or the beds or banks of rivers, streams, or creeks, including ephemeral washes, which results in hydrogeomorphic changes.

Illegal Discharge - means any discharge to the municipal separate storm sewer (storm drain system) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illegal discharge includes all non-storm water discharges not composed entirely of storm water except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or discharges authorized by the Regional Water Board Executive Officer.

Illicit Connection - means any engineered conveyance that is connected to the storm drain system without a permit or municipal authorization. It also means any engineered conveyance through which discharges of pollutants to the separate storm drainage systems, which are not composed entirely of storm water or are not authorized by an NPDES permit.

Illicit Discharge - means any discharge to a municipal separate storm sewer (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 not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or authorized by the Regional Water 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 either the Standard Industrial Classifications (SIC) or the North American Industry Classification System (NAICS). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Industrial Activities Storm Water General Permit (IASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Industrial Park - means a land development that is set aside for industrial development. Industrial parks are usually located close to transport facilities, especially where more than one transport modalities coincide: highways, railroads, airports, and navigable rivers. It includes office parks, which have offices and light industry.

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).
9. Report preparation, and if appropriate, recommendations for coming into compliance.

Integrated Pest Management (IPM) - means a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

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 Water Board designated Ventura County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 669,016 thousand, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

Local SWPPP - means the Local Storm Water Pollution Prevention Plan (LSWPPP) required by the local agency for a project that disturbs one or more acres of land. Shall mean a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred as a Storm Water Pollution Control Plan (SWPCP).

Maximum Extent Practicable (MEP) - means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 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." Also, see State Board Order WQ 2000-11, page 20 and Browner decision (Defenders of Wildlife v. Browner (1999), 191 F.3d 1159).

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 "G" of this Order.

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. The ML value represents 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. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique.

Municipal Separate Storm Sewer System (MS4) - means a conveyance or system of conveyances (including roads w/ drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), as defined in 40 CFR 122.26(b)(8):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under § 208 of the Federal Clean Water Act (CWA) that discharges into waters of the United States.
2. Designed or used for collecting or conveying storm water.
3. Which is not a combined sewer.
4. Which is not part of a Publicly Owned Treatment Works (POTW), as defined in 40 CFR 122.2.

NAICS - means North American Industry Classification System.

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 and replacement 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.

Nursery - The NAICS will be used to classify nursery operations and determine the type of operations covered under this Order and those covered under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver).

(a) There are 3 broad NAICS sectors available to classify nurseries:
  (1) 111xxx - Crop Production - Agriculture.
  (2) 424xxx - Merchant Wholesalers, Nondurable Goods.
  (3) 44xxxx - Retail Trade.
    (A) **Nursery (Agricultural Facilities - Crop Production)** - means Nursery and Floriculture Production under NAICS Code 11142x. These operations are subject to the **Conditional Waiver**. This industry comprises establishments primarily engaged in (1) growing nursery and floriculture products (e.g., nursery stock, shrubbery, cut flowers, flower seeds, foliage plants, sod) under cover or in open fields and/ or (2) growing short rotation woody trees with a growing and harvesting cycle of 10 years or less for pulp or tree stock (e.g., cut Christmas trees, cottonwoods).
    (B) **Nursery (Commercial Facilities - Merchant Wholesalers, Nondurable Goods, and Retail Trade)** - means industries Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers under NAICS Code 424930; and Nursery, Garden Center, and Farm Supply Stores under NAICS Code 444220. This Order covers these types of operations. The industry in NAICS Code 424930 comprises establishments primarily engaged in the merchant wholesale distribution of flowers, florists' supplies, and/ or nursery stock (except plant seeds and plant bulbs). The industry in NAICS Code 444220 comprises establishments primarily engaged in retailing nursery and garden products, such as trees, shubs, plants, seeds, bulbs, floriculture products and sod, which are predominantly grown elsewhere. These establishments may sell a limited amount of a product they grow themselves.

Open Channel – means a storm drainage channel that is not a natural water course

Parking Lot - means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use.

Permit - means an authorization, license, or equivalent control document issued by EPA 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-Permittee(s) and any agency named in this Order as being responsible for permit conditions within its jurisdiction, as defined by Federal Regulation. Permittees to this Order include the Ventura Water Protection District, Ventura County, and the cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley and Thousand Oaks.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

Point Zero - means in the context of the TMDLs, the point at which water from the storm drain or creek initially mixes with water. Point zero has been selected as the compliance point for the TMDL numeric target because access to these drains is, on the whole, not restricted.

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 Drinking Water Supply - means potable drinking water supply releases that are consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Drinking Water Supply Releases - means potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Water Distribution Systems Releases - means releases of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, 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 nor discharge of water from a line that has come into contact with soil as in a trench. Nonetheless, all potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion at the discharge point or downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Pre-Developed Condition - means native vegetation and soils that existed at a site prior to first development. The pre-developed condition may be assumed to be an area with the typical vegetation, soil, and storm water runoff characteristics of open space areas in coastal Southern California unless reasonable historic information is provided that the area was atypical.

Priority Pollutants - means those constituents referred to in 40 CFR 401.15 and listed in the U.S. EPA 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 (Reference: California Public Resources Code § 21065).

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 supports 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.

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 U.S. EPA or the authorized representative of the Regional Administrator.

Report of Waste Discharge (ROWD) - means an application for renewal of the NPDES Permit for Waste Discharge Requirements for Municipal Separate Storm Sewer Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein.

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).

Restoration - means the reestablishment of predisturbance aquatic functions and related physical, chemical and biological characteristics (Reference: National Research Council. 1992. Restoration of Aquatic Ecosystems: Science, Technology and Public Policy. National Academy Press, Washington, D.C.)

Retail Gasoline Outlet (RGO) - means any facility engaged in selling gasoline and lubricating oils- SIC 5541 and NAICS 447110 & 447190.

- RGOs: 447190 Other Gasoline Stations:
  This industry comprises establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/ or providing food services.
- RGOs: 447110 Gasoline Stations with Convenience Stores:
  Retailing automotive fuels in combination with a convenience store or food mart.

Runoff - means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. It is typically comprised of nuisance flows contaminated with pollutants.

SARA Title III - is the Superfund Amendment and Reauthorization Act of 1986 also known as the Emergency Planning and Community Right-To-Know Act (EPCRA). This act mandated the establishment of State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), and Local Emergency Planning Committees (LEPCs) who are responsible for preparing for hazardous materials emergencies through planning and training.

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 only sidewalk rinsing using high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed. Any waste generated from the activity must be collected and properly and legally disposed of. It does not mean hosing of any sidewalk nor street with a garden hose with a pressure nozzle.

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.

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.

SMC - means Southern California Stormwater Monitoring Coalition. The Stormwater Monitoring Coalition is a collaborative research/ monitoring partnership of the Southern California Water Boards, Municipal Storm Water Agencies, and municipalities to develop the methodologies and assessment tools to more effectively understand urban storm water and non-storm water (anthropogenic) impacts to receiving waters and to conduct research/ monitoring through Subsequent Research Implementation Agreements. The first original cooperative agreement was entered into on February 8, 2001.

Small Construction - means any soil disturbing activities less than 5 acres.

SoCal B-IBI - means Southern California Benthic Index of Biological Integrity.

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.

Stream - means a body of flowing water; natural water course containing water at least part of the year. In hydrology, it is generally applied to the water flowing in a natural channel as distinct from a canal (Reference: US Geological Survey).

Strip Mall - means a commercial development that is a shopping center where the stores are arranged in a row, with a sidewalk in front. Strip malls are typically developed as a unit and have large parking lots in front. They face major traffic arterials and tend to be self-contained with few pedestrian connections to surrounding neighborhoods. It is also called a plaza.

Storm Sampling Event - means a rainfall event that produces more than 0.25 inch of precipitation and that, which is separated from the previous storm event by at least 1 week of dry weather, for the purpose of monitoring.

Storm Water - means storm water runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Storm Water Discharge Associated with Industrial Activity - means industrial discharge, as defined in 40 CFR 122.26(b)(14).

Storm Water Pollution Control Plan (SWPCP) - means a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred to as a Local Storm Water Pollution Prevention Plan (LSWPPP)

Storm Water Quality Management Program - means the Ventura Countywide Storm Water Quality Management Plan, 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 runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

SWAMP - means the State and Regional Water Boards' Surface Water Ambient Monitoring Program.

Targeted Employees - means management and staff who perform or direct activities that directly or indirectly have an effect of storm water quality. The employees generally are employed in the following areas: department of public works, or engineering, or sanitation, or storm water maintenance, drainage and flood control, transportation, streets and roads, parks and recreation, public landscaping and corporation yards, planning or community development, code enforcement, building and safety, harbor dept, airports, buses and trains, and/ or general services and fleet services.

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.

Total Maximum Daily Load (TMDL) Dry Weather- defined in the Bacteria TMDLs as those days with less than 0.1 inch of rainfall and those days occurring within three days after a rain.

Toxicity Identification Evaluation (TIE) - means a set of procedures to identify the specific chemical(s) responsible for toxicity through a process of chemical/ physical manipulations of samples followed by toxicity tests. These procedures are performed in 3 phases (Phase I- Toxicity Characterization Procedure, Phase II- Toxicity Identification Procedure, and Phase III- Toxicity Confirmation Procedure) 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.

Urbanization - means the process of changing of land use and land patterns from rural characteristics to urban (city-like) characteristics. These changes include (i) the replacement of pervious surfaces with impervious surfaces such as rooftops and buildings, and impervious materials such as asphalt and concrete; and (ii) the conversion of rural land to house new residents, support new businesses, and facilitate vehicular traffic flow.

U.S. EPA 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:

- Facilities subject to storm water effluent limitation guidelines, new source performance.
- Standards, or toxic pollutant effluent standards (40 CFR N).
- Manufacturing facilities.
- Oil and gas/ mining facilities.
- Hazardous waste treatment, storage, or disposal facilities.
- Landfills, land application sites, and open dumps.
- Recycling facilities.
- Steam electric power generating facilities.

- Transportation facilities.
- Sewage of wastewater treatment works.
- Light manufacturing facilities.

Vehicle Maintenance/ Material Storage Facilities/ Corporation Yards - means any Permittee owned or operated facility or portion thereof that:

1. Conducts industrial activity, operates or stores equipment, materials, and provides services similar to Federal Phase I facilities;
2. Performs fleet vehicle service/ maintenance including repair, maintenance, washing, or fueling;
3. Performs maintenance and/ or repair of machinery/ equipment; or
4. Stores chemicals, raw materials, or waste materials.

Waste Load Allocations (WLAs) - means a portion of a receiving water's Total Maximum Daily Pollutant Load (TMDL) that is allocated to one of its existing or future point sources of pollution (Reference: 40 CFR § 130.2(h)).

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 Water Board to regulate all discharges, including storm water discharges.

Water Quality Standards - means the State Water Quality Standards, which are comprised of beneficial uses, water quality objectives and the State's Antidegradation Policy.

Waters of the State - means any surface water or groundwater, including saline waters, within boundaries of the state (Reference: California Water Code § 13050).

Waters of the United States or Waters of the US - 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 impoundment's of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in the preceding paragraph (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 the preceding 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 U.S. EPA. SOLID WASTE AGENCY OF NORTHERN COOK CTY. V.ARMY CORPS OF ENGINEERS (531 U.S. 159 (2001)) The U.S. Supreme Courts SWANCC Decision upheld the primary rights and responsibilities of States over land and water but limited the water and wetland areas subject to federal regulation under the Clean Water Act.

Watercourse - means any natural or artificial channel for passage of water, including the VCFCD jurisdictional channels included in the List of Channels within the Comprehensive Plan of the VCFCD, as approved by the Board of Supervisors of the VCFCD on October 4, 1993, and any amendments thereto.

Watershed Management - means approach for water resources protection. It is a strategy for integrating and managing resources, both human and fiscal that focuses on regulation of point sources, to a more regional approach that acknowledges environmental impacts from other activities.

Watershed Management Areas (WMA) - means the geographically-defined watershed areas where the Regional Water Board will implement the watershed approach. These generally involve a single large watershed within which exists smaller subwatersheds but in some cases may be an area that does not meet the strict hydrologic definition of a watershed e.g., several small Ventura coastal waterbodies in the region are grouped together into one WMA.

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 8 - STANDARD PROVISIONS

A. General Requirements

1. The Permittee shall comply with all provisions and requirements of this Order.

2. Should the Permittee discover that it failed 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 Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes Attachment "F", the Reporting Program, which is a part of this Order and must be complied with.

B. Regional Water Board Review

1. The Regional Water Board may review any formal determinate or approval made by the Regional Water Board Executive Officer pursuant to the provisions of this Order.

   (a) Permittee(s) or a member of the public may request such review upon petition within 30 day of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Water Board.

C. Public Review

1. All documents submitted to the Regional Water 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 (California Government Code § 6250 et seq.).

2. All documents submitted to the Regional Water 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 [40 CFR 122.41(a)]

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), CAL. WATER CODE § 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)]

1. 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; Investigations; Responsibilities [40 CFR 122.41(i), Cal. Water Code § 13225 and § 13267]

1. The Regional Water Board, U.S. EPA, and other authorized representatives shall be allowed:

   (a) Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;

   (b) Access to copy any records, at reasonable times that are kept under the conditions of this Order;

   (c) To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order;

   (d) To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CAL. WATER CODE;

   (e) To review any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan or requirement to investigate the quality of any waters of the state within its region; and,

   (f) To require as necessary any state or local agency to investigate and report on any technical factors involved in water quality control or to obtain and submit analyses of water.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), Cal. Water Code § 13263(f)]

1. 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:
   (a) adequate laboratory controls; and
   (b) appropriate quality assurance procedures.

2. 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]

1. Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Water 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 Water Board, in accordance with the procedural requirements of the CAL. WATER CODE and CCR Title 23 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 Water Board;
   (b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan, including TMDLs;
   (c) Comply with any applicable requirements, guidelines, and/ or regulations issued or approved pursuant to CWA § 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. 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.

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 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

1. The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

1. The Permittees shall furnish, within a reasonable time, any information the Regional Water Board or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order.

2. The Permittees shall also furnish to the Regional Water 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 Water 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 5 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.

[1] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Ventura County SMP are exceeded, and which endanger public health or the environment.

2. The Regional Water Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][1]

1. Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Water Board may take enforcement action against Permittees for bypass unless:

   (a) 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.);

   (b) 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;

   (c) The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or,

   (d) 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)][2]

1. 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

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[1]This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the Ventura County SMP.
[2]This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Ventura County SMP are exceeded, and which endanger public health or the environment.

facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

2. 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.

3. 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.

4. 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)]

1. 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 CWA provides the following:

   (a) Criminal Penalties for:
      (1) Negligent Violations:
      The CWA provides that any person who negligently violates permit conditions implementing CWA § 301, 302, 306, 307, 308, 318, or 405 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 CWA § 301, 302, 306, 307, 308, 318, or 405 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 CWA § 301, 302, 307, 308, 318, or 405 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 CWA § 309(c)(4))

(b) Civil Penalties
The CWA provides that any person who violates a permit condition implementing CWA § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed $27,500 per day for each violation.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

1. 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 of Board Order

1. Regional Water Board Order No. 00-108 is hereby rescinded.

S. Board Order Expiration Date

1. This Order expires on **Xx xx, 200x**. The Permittees must submit a Report of Waste Discharge (ROWD) and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than 180 days in advance of such date (**Xx xx, 200x**).

T. MS4 Annual Reporting Program [40 CFR 122.42(c)]

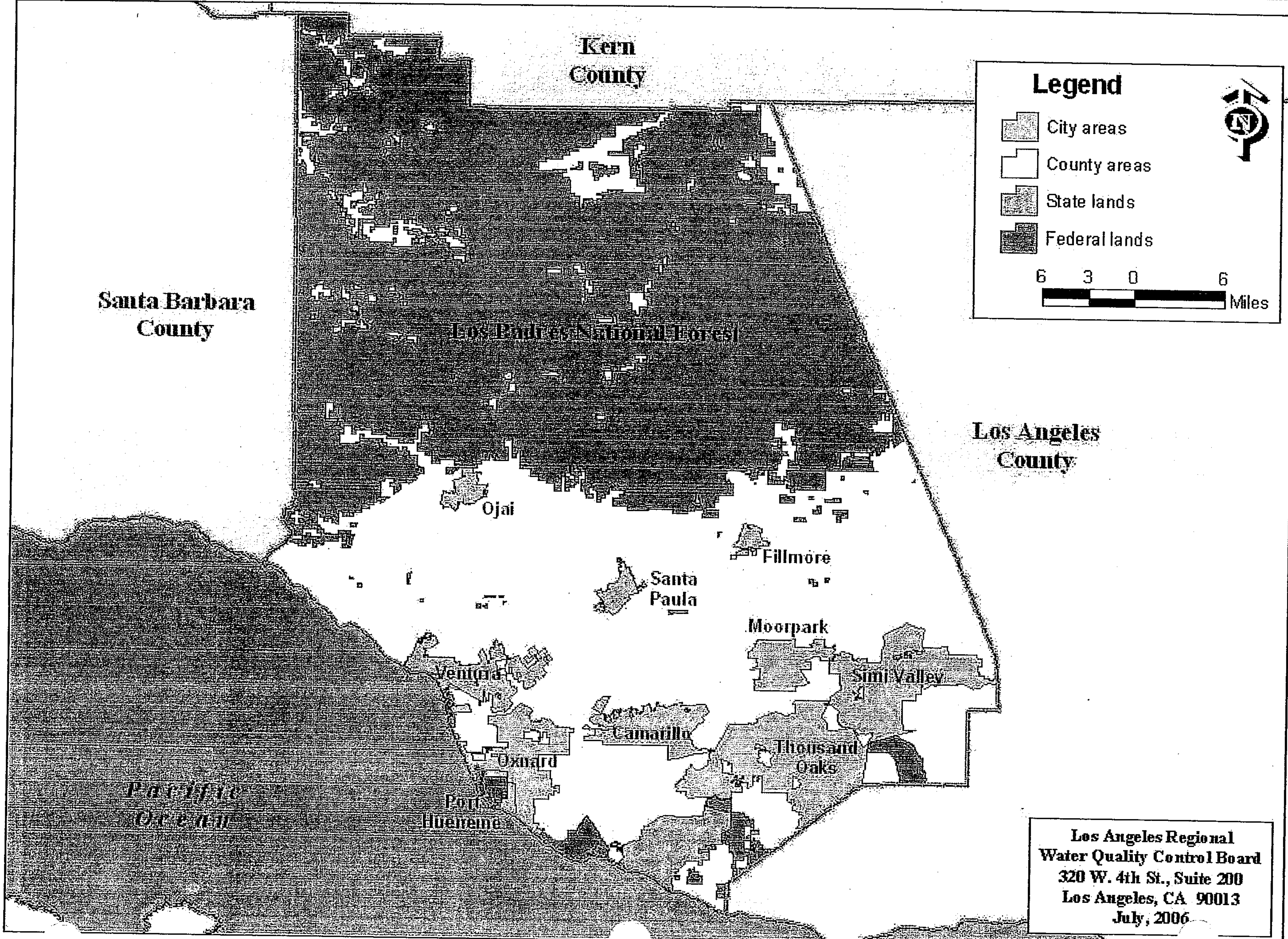
1. The Annual Program Reporting shall include the following information:

   (a) *Municipal separate storm sewer systems.*
   The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:
   (1) The status of implementing the components of the storm water management program that are established as permit conditions;
   (2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii) of this part;
   (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (d)(2)(v) of this part;
   (4) A summary of data, including monitoring data that is accumulated throughout the reporting year;
   (5) Annual expenditures and budget for year following each annual report;
   (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
   (7) Identification of water quality improvements or degradation.

I, Jonathan S. Bishop, Regional Water Board 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 **Xx xx, 200x**.

Jonathan S. Bishop
Executive Office

Land Jurisdict s in Ventura County, California



F ure 1

ATTACHMENT A
Watershed Management Areas

Watershed Management Area	Hydrologic Units(s)	Major Surface Water Bodies	303(d) Pollutant(s) of Concern	Permittees
Ventura River	402.10 402.20 402.31 402.32	Ventura River Ventura River Estuary Canada Larga Matilija Creek Matilija Creek Reservoir San Antonio Creek	Algae Coliform (fecal, total) Eutrophic Low DO Nitrogen Trash	City of Ojai City of San Buenaventura Ventura County Watershed Protection District
Santa Clara River	403.11 403.21 403.22 403.31 403.32 403.41 403.42 403.43 403.44 403.51 403.52 403.53 403.54 403.55	Santa Clara River Santa Clara River Estuary Brown Barranca/Long Canyon Elizabeth Lake Hopper Creek Lake Hughes Mint Canyon Creek Munz Lake Piru Creek Pole Creek Sespe Creek Torrey Canyon Creek Wheeler Canyon/Todd Barranca	Algae Ammonia ChemA* (tissue) Chloride Coliform Enrichment Eutrophic Fish kills Low DO/Organic Enrichment Nitrate + Nitrite Odors pH Sulfate Trash Total Dissolved Solids Toxaphene	City of Fillmore City of Oxnard City of San Buenaventura City of Santa Paula Ventura County Watershed Protection District

ATTACHMENT A
Watershed Management Areas

Watershed Management Area	Hydrologic Units(s)	Major Surface Water Bodies	303(d) Pollutant(s) of Concern	Permittees
Calleguas Creek	403.11 403.12 403.61 403.62 403.63 403.64 403.67 403.66 403.68	Calleguas Creek Calleguas Creek Estuary Arroyo Conejo Arroyo Las Posas Arroyo Simi Beardsley Channel Conejo Creek Fox Barranca Mugu Lagoon Mugu Drain/Oxnard Drain Rio de Santa Clara/Oxnard Drain Revolon Slough Tapo Canyon	Algae Ammonia Boron ChemA* (tissue) Chlordane (tissue, sediment) Chloride Chlorpyrifos (tissue) Coliform, fecal Copper (total, dissolved) Dacthal (sediment) DDT (tissue, sediment) Dieldrin (tissue) Endosulfan (tissue, sediment) Hexachlorocyclohexane (tissue) Mercury Nickel Nitrate + Nitrite Nitrate as Nitrogen (NO3) Nitrogen Organophosphorus Pesticides PCBs (tissue) Sediment Toxicity Sedimentation/Siltation Selenium Sulfate Total Dissolved Solids Toxaphene (tissue, sediment) Toxicity Trash Zinc	City of Camarillo City of Moorpark City of Simi Valley City of Thousand Oaks Ventura County Watershed Protection District

ATTACHMENT A
Watershed Management Areas

Watershed Management Area	Hydrologic Units(s)	Major Surface Water Bodies	303(d) Pollutant(s) of Concern	Permittees
Malibu Creek	401.00 403.11 404.21 404.22 404.23 404.24 404.25 404.26 404.47 404.45	Malibu Creek Malibu Creek Lagoon Lake Lindero Lake Sherwood Las Virgenes Creek Linero Creek Malibou Lake Medea Creek Palo Comado Santa Monica Bay Westlake Lake Triunfo Creek	Algae Ammonia Coliform DDT (tissue, sediment) Enteric viruses Eutrophic Lead Low DO/Organic Enrichment Nutrients (algae) PAHs (sediment) PCBs (tissue, sediment) PH Mercury Scum/foam Sedimentation/Siltation Sediment Toxicity Selenium Specific Conductance Trash	City of Simi Valley City of Thousand Oaks Ventura County Watershed Protection District

ATTACHMENT A
Watershed Management Areas

Watershed Management Area	Hydrologic Units(s)	Major Surface Water Bodies	303(d) Pollutant(s) of Concern	Permittees
Miscellaneous Ventura Coastal	401.00 403.11	Channel Islands Harbor Channel Islands Beach Hobie Beach Mandalay Beach McGrath Lake McGrath Beach Ormond Beach Port Hueneme Harbor Promenade Park Beach Rincon Beach San Buenaventura Beach Santa Clara River Estuary Beach/Surfers Knoll Ventura Harbor: Ventura Keys	Beach closures Coliform (fecal) Chlordane (sediment) DDT (tissue, sediment) Dieldrin (sediment) PCBs (tissue, sediment) Lead (sediment) Sediment Toxicity Zinc (sediment)	City of Oxnard City of Port Hueneme City of San Buenaventura Ventura County Watershed Protection District

ATTACHMENT B

Mass Emission and Receiving Water Wet Weather Pollutants of Concern[1]

Anion	Bacteriological
Chloride	E. Coli
	Fecal Coliform

Conventional	Metal
Residual Chlorine	Aluminum -Total
TDS	Arsenic - Total
	Barium - Total
	Beryllium - Total
	Cadmium - Total
	Chromium - Total
	Cooper - Dissolved
	Mercury - Total
	Nickel - Total
	Selenium - Total
	Zinc - Dissolved

Nutrient	Organic
Nitrate as Nitrogen	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Bis(2-ethylhexyl)phthalate
	Chrysene
	Indeno(1,2,3-cd)pyrene

Pesticide
4,4'-DDD
4,4'-DDE

[1] Mass Emission and Receiving Water monitoring site's wet weather Pollutants of Concern (POC) classification and exceedences (Basin Plan Objective and CTR-Acute Objective) based on data from Ventura Countywide NPDES Stormwater Monitoring Program Water Quality Monitoring Reports (2003/04 through 2005/06). Data for 2000/01 through 2002/03 was either presented with exceedences not analyzed or by percent exceedence, so data could not be compared to 2003/04 through 2005/06 exceedence data.

ATTACHMENT B

Mass Emission Dry Weather Pollutants of Concern[1]

Anion	Bacteriological
Chloride	E. Coli
	Fecal Coliform

Conventional	Metal
TDS	Aluminum -Total
	Cadmium - Dissolved
	Cadmium - Total
	Selenium - Total

Nutrient	Organic
Nitrate as Nitrogen	Bis(2-ethylhexyl)phthalate

Pesticide
4,4'-DDD
4,4'-DDE
4,4'-DDT

[1] Mass Emission monitoring site's dry weather Pollutants of Concern (POC) classification and exceedences (Basin Plan Objective and CTR-Chronic Objective) based on data from Ventura Countywide NPDES Stormwater Monitoring Program Water Quality Monitoring Reports (2003/04 through 2005/06). Data for 2000/01 through 2002/03 was either presented with exceedences not analyzed or by percent exceedence, so data could not be compared to 2003/04 through 2005/06 exceedence data.

ATTACHMENT B

Land Use Wet Weather Pollutants of Concern[1]

Bacteriological	Conventional
E. Coli	Ph
Fecal Coliform	TDS

Metal	Nutrient
Aluminum -Total	Nitrate as Nitrogen
Cooper - Dissolved	
Mercury - Total	
Selenium - Total	
Zinc - Dissolved	

Organic	Pesticide
Benzo(a)anthracene	4,4'-DDD
Benzo(a)pyrene	4,4'-DDE
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Bis(2-ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Hexachlorobenzene	
Indeno(1,2,3-cd)pyrene	
Pentachlorophenol	

[1] Land Use monitoring site's wet weather Pollutants of Concern (POC) classification and exceedences (Basin Plan Objective and CTR- Acute Objective) based on data from Ventura Countywide NPDES Stormwater Monitoring Program Water Quality Monitoring Reports (2003/04 through 2005/06). Data for 2000/01 through 2002/03 was either presented with exceedences not analyzed or by percent exceedence, so data could not be compared to 2003/04 through 2005/06 exceedence data.

ATTACHMENT C
Municipal Action Levels

Table 1

Conventional Pollutants & Bacteria

Pollutants	pH	TSS mg/L	COD mg/L	Total Coliform mpn/100 ml	E. Coli mpn/100 ml
Median	7.5	59	53	12000	1750
Municipal Action Level	----	106.2	58.3	--------	--------
Coefficient of variation[1]	0.1	1.8	1.1	2.0	2.0

Table 2

Metals

Pollutants	Cd, total µg/L	Cd, filtered µg/L	Cr, total µg/L	Cr, filtered µg/L	Cu, total µg/L	Cu, filtered µg/L	Pb, total µg/L	Pb, filtered µg/L	Ni, total µg/L	Zn, total µg/L	Zn, filtered µg/L
Median	1.0	0.50	7.0	2.1	16	8.0	17	3.0	8.0	116	52
Municipal Action Level	2.0	0.55	10.5	1.5	32.0	12.8	30.6	6.0	9.6	232.0	104.0
Coefficient of variation[1]	2.0	1.1	1.5	0.7	2.0	1.6	1.8	2.0	1.2	2.0	2.0

[1] Since the Municipal Action Levels (MALs) are based on the median, which includes the variability of the sample results, the maximum value for the coefficient of variation has been set at 2.0.

ATTACHMENT D
Critical Sources Categories[1]

Municipal Landfills (SIC 4953)

Hazardous Waste Treatment, Disposal and Recovery Facilities[1]

Facilities Subject to SARA Title III (also known as EPCRA)[2]

Restaurants[3]

Wholesale trade (scrap, auto dismantling) (SIC 50)

Automotive service facilities[2]

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)

Nursery[3] (NAICS 424930 and 444220)

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)

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[1] Non-underlined categories belong to Industrial Facilities.
[2] Various categories subject to these requirements.
[3] See Definition in Part 7. of the Order.

ATTACHMENT D
Critical Sources Categories[1]

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)

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)

[1] Non-underlined categories belong to Industrial Facilities.

ATTACHMENT E
Determination of Erosion Potential

E_p is determined as follows- The *total effective work* done on the channel boundary is derived and used as a metric to predict the likelihood of channel adjustment given watershed and stream hydrologic and geomorphic variables. The index under urbanized conditions is compared to the index under pre-urban conditions expressed as a ratio (E_p). The effective work index (W) is computed as the excess shear stress that exceeds a critical value for streambed mobility or bank material erosion integrated over time and represents the total work done on the channel boundary:

$$W = \sum_{i=1}^{n} (\tau_i - \tau_c)^{1.5} \cdot V \cdot \Delta t_i \qquad (1)$$

Where τ_c = critical shear stress that initiates bed mobility or erodes the weakest bank layer, τ_i = applied hydraulic shear stress, Δt = duration of flows (in hours), and n = length of flow record. The effective work index for presumed stable stream channels under pre-urban conditions is compared to stable and unstable channels under current urbanized conditions. The comparison, expressed as a ratio, is defined as the Erosion Potential (Ep)[1] (McRae (1992, 1996).

$$Ep = \frac{W_{post}}{W_{pre}} \qquad (2)$$

where:

W_{post} = work index estimated for the post-urban condition
W_{pre} = work index estimated for the pre-urban condition

[1] MacRae, C.R. 1992. The Role of Moderate Flow Events and Bank Structure in the Determination of Channel Response to Urbanization. Resolving conflicts and uncertainty in water management: Proceedings of the 45th Annual Conference of the Canadian Water Resources Association. Shrubsole, D, ed. 1992, pg. 12.1-12.21; MacRae, C.R. 1996. Experience from Morphological Research on Canadian Streams: Is Control of the Two-Year Frequency Runoff Event the Best Basis for Stream Channel Protection. Effects of Watershed Development and Management on Aquatic Ecosystems, ASCE Engineering Foundation Conference, Snowbird, Utah, pg. 144-162

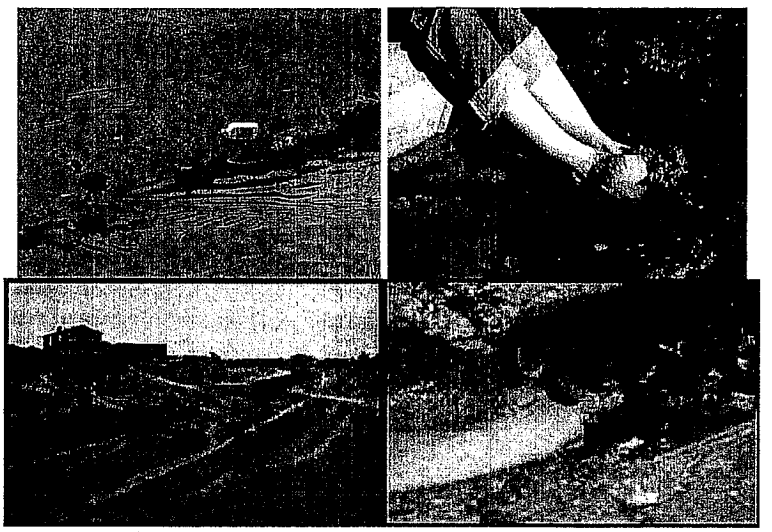
STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING PROGRAM - No. CI 7388
FOR
ORDER 07-xxxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS

MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

Xxxxx xx, 200x



December 27, 2006 - draft

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Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff.
- Characterization of the quality of storm water discharges.
- Identifying sources of pollutants.
- Assessing the overall health and evaluating long-term trends in receiving water quality.
- Assessing compliance with effluent limitations and water quality objectives.
- Measuring and improving the effectiveness of measures implemented under this Order.

The results of the monitoring requirements outlined below shall be used to refine BMPs for the reduction of pollutant loading and the protection and enhancement of the beneficial uses of the receiving waters in Ventura County.

The 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:

- Estimate the mass emissions from the MS4.
- Assess trends in the mass emissions over time.
- Determine if the MS4 is contributing to exceedences of water quality objectives by comparing results to applicable water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria.

1. The Santa Clara River mass emission station (ME-SCR) shall be relocated so that mass emissions measurements include urban storm water discharges from the cities of San Buenaventura and Oxnard. Until the ME-SCR station is relocated, the Principal Permittee in coordination with the cities of San Buenaventura (ME-SB) and Oxnard (ME-OX) shall separately monitor mass emissions from the two urbanized areas.

   (a) Monitor the largest representative drainage systems transporting 60 percent or more of flow from the Municipal drainage area to the Santa Clara River for the city of San Buenaventura and the city of Oxnard, to estimate the total mass emissions for these cities.

2. The Principal Permittee shall monitor mass emissions from the following 5 mass emission stations:
   (a) ME-VR for Ventura River.
   (b) ME-SCR for Santa Clara River.
   (c) ME-SB for Santa Clara River (until ME-SCR is relocated).
   (d) ME-OX for the Santa Clara River (until ME-SCR is relocated).
   (e) ME-CC for Calleguas Creek.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 00-108.

4. Samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall.

5. Samples are to be flow-weighted composites and can be collected manually or automatically for ME-SB and ME-OX (see section A.6).

6. 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, unless the Regional Water Board Executive Officer approves an alternate protocol.

7. Flow may be estimated using EPA methods at sites where flow measurement devices are not in place.

8. The Principal Permittee shall monitor:

   (a) The first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events.

   (b) Also, 2 dry weather flow events shall be monitored.
      (A) Monitor 1 prior to the onset of wet weather- October 1st (during the months of May - June).
      (B) Monitor 1 post wet weather- April 15th (during the months of August - September).

   (c) A total of 5 monitoring events (3 storm and 2 dry weather) shall be sampled per mass emission station.

9. 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 total suspended solids (TSS). Results shall be used to assess the variability of storm water constituents and provide an accurate estimate of mass emissions (pollutant correlation with TSS).

10. Grab samples shall be taken for pathogen indicators and oil and grease, only.

11. All samples taken shall be analyzed for all constituents listed in Attachment "G" (Storm Water Monitoring Program's Constituents with Associated Minimum Levels). If a constituent is not detected at the Method Detection Limit (MDL) for its respective test method in more than 75 percent of the first 48 sampling events at a station, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality objective. The Principal Permittee shall conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

12. At a minimum a sufficient sample volume must be collected to perform all of the required chemical and biological tests, including toxicity.

13. When monitoring can not be performed to comply with the requirements of this Order due to circumstances beyond the Permittees control, then within 48 hours the following shall be submitted to the Regional Water Board Executive Officer:

    (a) Statement of situation.
    (b) Explanation of circumstance(s) with documentation.
    (c) Statement of corrective action for the future.

14. Monitoring results submitted for compliance shall include:

    (a) Statement that a sample is either a wet or dry weather sample.
    (b) Rain totals and hydrographs for monitoring events in both narrative and graphic formats.
    (c) All applicable Standard Monitoring Provisions listed in section "J".

15. Monitoring results from each station shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and its updates.[1]

16. The Principal Permittee shall perform an annual analysis, to be included in the Annual Storm Water Report, of the correlation between POC (including, but not limited to metals and PAHs) and TSS loading for the sampling events that are analyzed for the complete list of constituents in Attachment "G".

[1] The SMC developed a SDTFs for use by member agencies for electronic recording and transfer of storm water monitoring data. Southern California Coastal Water Research Project, Technical Report 421 (August, 2004).

17. A summary of the years' mass emission station's monitoring results highlighting exceedences (POC) to Basin Plan, the Ocean Plan, and the CTR for both acute and chronic criteria with corresponding sampling dates shall be included with the Annual Storm Water Report.

B. Aquatic Toxicity Monitoring

The objective of aquatic toxicity monitoring is to evaluate if storm water and non-storm water discharges are causing or contributing to acute and/ or chronic toxic impacts on aquatic life by the following:

- Toxicity at the mass emission stations is to be evaluated using marine test organisms to assess impacts on the marine or estuarine environments.
- Toxicity at tributary stations is to be evaluated using freshwater test organisms to assess impacts on the freshwater environment.

The Principal Permittee shall analyze mass emission samples and tributary samples for aquatic toxicity to evaluate the extent and causes of toxicity in receiving waters. Permittees shall utilize documents such as: Ventura County's Technical Guidance Manual for Storm Water Quality Control Measures and U.S. EPA's National Management Measures to Control Nonpoint Source Pollution from Urban Areas to implement measures to eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples for toxicity from 2 storm events (including, the first storm event that produces a rainfall of at least 0.25 inches) for each mass emission station and tributary station per wet season.

   (a) A minimum of 1 marine species shall be used for toxicity testing for each mass emission station event. Specifically, ***Strongylocentrotus purpuratus*** (sea urchin) fertilization/ development tests shall be used. This test 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) too less than or equal to 6% sample. In no case shall the toxicity test species ***Strongylocentrotus purpuratus*** (sea urchin) be substituted with another organism unless Permittees receive written authorization from the Regional Water Board Executive Officer.

   (b) A minimum of 1 freshwater species shall be used for toxicity testing for each tributary station event. Specifically, ***Ceriodaphnia dubia*** (water flea) 7-day survival/ reproduction tests shall be used. In no case shall the toxicity test species ***Ceriodaphnia dubia*** (water flea) be substituted with another organism unless Permittees receive written authorization from the Regional Water Board Executive Officer.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall complete acute and/ or chronic Phase I (Toxicity Characterization Procedures) TIEs for all sites showing 90 percent or more toxicity to any 1-test organism in the first year. For all sites showing a 20 percent or more toxicity to any 1-test organism an acute and/ or chronic Phase I TIE shall be completed in the second year. The acute and chronic Phase I TIEs 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.
   (f) Inhibition of Organophosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. A TIE Prioritization Metric may be utilized to rank sites for TIEs.[2]

4. 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 2 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. TRE development shall be performed by a neutral third party (retained by the Permittees), in consultation with the Regional Water 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. No later than 30 days after the source of toxicity and appropriate BMPs are identified, the Permittees shall submit the TRE Corrective Action Plan to the Regional Water Board Executive Officer for approval. At a minimum, the Plan 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 post construction control measures to reduce the pollutant(s) causing toxicity.
      (5) Follow-up monitoring to demonstrate that toxicity has been removed.

[2] Appendix 5. SMC Model Monitoring Program.

(b) Phase I results are intended as a first step in specifically identifying the toxicants but the data generated can also be used to develop treatment methods to remove toxicity without specific identification of the toxicants. Since Phase I TIEs characterize the physical/ chemical nature of the constituents which cause toxicity, additional TIE (Phase II- Toxicity Identification Procedures- identify non-polar organics, ammonia, or metals, and Phase III- Toxicity Confirmation Procedures) analyses may be required in order to identify and/ or confirm the identity of the pollutants causing toxicity before the TRE can be completed.

(c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

(d) Upon approval by the Regional Water 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.

(e) The Principal Permittee shall be responsible for the development of a maximum of 2 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 4,4'-DDD is being implemented when a TRE for 4,4'-DDD is required, the efforts shall be coordinated to avoid overlap).

(f) The Principal Permittee shall report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

(g) Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).

5. At a minimum a sufficient sample volume shall be collected to perform the required toxicity test. When using the toxicity test species the following is required:
   (a) ***Ceriodaphnia dubia*** (water flea) a minimum sample volume of 4 liters;
   (b) ***Strongylocentrotus purpuratus*** (sea urchin) a minimum sample volume of 2 liters.

6. Sample storage (holding time) time shall not exceed 72 hours (from collection through lab processing).

7. The same refrigerated sample showing toxicity shall be used for the TIE, even though the holding time may exceed 72 hours.

8. Toxicity monitoring results shall be sent to the Regional Water Board in the same electronic format and time period as provided for the mass emission monitoring results in section A.10.

9. The Principal Permittee shall report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Storm Water Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

10. All constituents (POC) that caused toxicity or exceeded any applicable water quality objectives at the associated mass emission station the previous year shall be listed in each Annual Storm Water Report.

11. A summary of the years' mass emission station's Aquatic Toxicity monitoring results with corresponding sampling dates and ToxCalc output shall be included with the Annual Storm Water Report.

12. When the SMC Standardized Toxicity Testing Protocol is completed, the Regional Water Board Executive Officer may direct Permittees to replace the current toxicity program with the standardized procedure.

C. Tributary Monitoring

The Principal Permittee shall monitor tributary emissions to accomplish the following objectives:

- Identify sub-watersheds where storm water discharges are causing or contributing to exceedences of water quality objectives.
- Prioritize drainage and sub-drainage areas where control measures need to be implemented.
- Determine if the MS4 is contributing to exceedences of water quality objectives by comparing results to applicable water quality objectives in the Basin Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria.

1. In selecting sites to conduct tributary monitoring, Permittees shall review existing monitoring programs in the watersheds by other public and private entities, watershed coalitions, and citizen volunteers so as to complement and not duplicate efforts.

2. The Principal Permittee shall develop a watershed-based tributary monitoring program no later than (6 months after adoption of this Order) and submit it for approval to the Regional Water Board Executive Officer. The tributary monitoring program shall include the following:

   (a) A description of the program, map and coordinates of the location for each of the proposed monitoring stations.

   (b) Monitoring dates (years) for all stations.

3. The Principal Permittee shall develop and implement a tributary monitoring program based on the following requirements:

   (a) No later than (2nd year of this Order), monitoring within a Watershed Management Area (WMA) shall begin in at least 1 of the WMAs listed below (C.3.b) for a period of 2 years. Monitoring stations shall be rotated to the remaining WMA(s) when the current monitoring at each station is completed, as approved by the Regional Water Board Executive Officer.

   (b) The WMAs listed below shall have the following major tributaries monitored:
   (1) Ventura River- 2 tributaries (San Antonio Creek and McDonald Creek).
   (2) Santa Clara River- 3 tributaries (Santa Paula, Sespe Creek and Piru).
   (3) Calleguas Creek- 2 tributaries (Revolon Slough and Conejo Creek).

   (c) The Principal Permittee shall monitor the first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events per tributary station, for a total of 3 sampling events.

   (d) Samples taken during the first storm event of the wet season shall be analyzed for all constituents listed Attachment "G".

   (e) Samples taken during the 2 additional storm events of the wet season shall be analyzed for:
   (1) All constituents for which the water body is impaired downstream of the monitoring station (303(d) list of water quality limited segments).
   (2) The POC listed for its associated mass emission station.

   (f) Samples shall be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).

   (g) Provisions enumerated in the Mass Emission sections' A.5 through A.7, A.10, A.12, A.13, A.14(b), A.14(c), and A.15.

(h) Samples shall be taken no further than 0.25 mile upstream of the tributary's confluence with the mainstem, when applicable, but outside of the influence of the mainstem. Sampling shall occur down stream of all potential pollutant sources (i.e., discharge pipes, channels, ditches, creeks, etc.).

(i) Incorporate Pyrethroid sampling (Pyrethroid Insecticides Study- section "H") into all sampling events.

4. If exceedences of applicable water quality objectives occur in at least 2 storm events at a single major tributary station, the Permittees shall initiate a focused effort to identify the source(s) of pollutant(s) within that subwatershed. A corrective action plan to assess and identify the source(s) of pollutant(s) shall be submitted within 90 days after the exceedence to the Regional Water Board Executive Officer. The assessment shall be conducted consistent with the guidelines described in the Model MS4 Monitoring Program for assessment of urban runoff contribution.

5. Tributary monitoring within the Malibu Creek WMA shall be coordinated with the Malibu Creek Total Maximum Daily Load (TMDL) Monitoring Program.

6. All constituents (POC) that caused toxicity or exceeded any applicable water quality objectives at the associated mass emission station the previous year shall be listed in the Annual Report.

7. A summary of the years' tributary station's monitoring results with corresponding sampling dates and ToxCalc output shall be included in the Annual Report.

D. TMDL Monitoring

This Monitoring section incorporates the TMDL MS4 Waste Load Allocations (WLAs) that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA.

- See Part 6 - Total Maximum Daily Load Provisions for prohibition field screening criteria and WLAs.
- See section E. Federal, State and Regional Regulations, #13 for effective dates.
- All Mass Emission monitoring shall be conducted in accordance with the Mass Emission sections' A.3., A.5., A.6., and A.7.
- Grab samples shall be taken for pathogen indicators.
- Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).
- ***Ceriodaphnia dubia*** (water flea) 7-day survival/ reproduction tests shall be used for toxicity testing.
- Monitoring results for each TMDL shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later

than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and its updates.

- A summary of the years' monitoring results for each TMDL with corresponding sampling dates and ToxCalc output (if applicable) shall be included in the Annual Monitoring Report.

1. **Watershed - Pollutant**
   Santa Clara River and its Tributaries (Reach 3) - Nitrogen Compounds (Ammonia and Nitrate plus Nitrite).

   (a) Waste Load Implementation
   The WLAs are expressed as numerical limits in-stream for Ammonia and Nitrate within the Santa Clara River and its Tributaries' Watershed (Reach 3), established for its MS4 Permittees (Ventura County Watershed Protection District, and the Cities of Santa Paula and Fillmore) are to be implemented through the following:
   (1) Dry weather - Upon adoption of the Order (**Xx xx, 200x**), the discharge of dry weather flows from the MS4 to Santa Clara River that exceed the WLA is prohibited. Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Ammonia and Nitrate plus Nitrite to the MS4, and shall monitor a minimum of 2 dry weather flow events at the Santa Clara River mass emission station (ME-SCR). The MS4 Permittees shall monitor 1 dry weather flow event prior to the onset of wet weather- October 1st (during the months of May - June); and monitor 1 dry weather flow event post wet weather- April 15th (during the months of August - September).
   (2) MS4 Permittees shall not exceed water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria for Ammonia and Nitrate plus Nitrite.

   (b) The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.
   (1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Santa Clara River and its Tributaries' Nitrogen Compounds TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

2. **Watershed - Pollutant**
Malibu Creek and Lagoon - Bacteria.

(a) Waste Load Implementation
The WLAs are expressed as exceedence days in-stream for Bacteria within Malibu Creek and Lagoon Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Simi Valley and Thousand Oaks) shall be implemented through the following:

(1) Summer Dry Weather (April 1 - October 31) - Upon adoption of the Order (**Xx xx, 200x**), the discharge of summer dry weather flows from the MS4 to Malibu Creek and Lagoon is prohibited. Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Bacteria to the MS4, and shall monitor weekly from April 1 - October 31, weeks that contain days with less than 0.1 inch of rainfall (events separated by 3 days of dry weather) for exceedences to the WLAs in-stream at point zero of all publicly owned storm drain pipes and open channels/ drains discharging to the following:

Table 1

1. Potrero Valley Creek to the Ventura County Line
2. Las Virgenes Creek to the Ventura County Line

(2) Winter Dry Weather (November 1 to March 31) - Upon adoption of the Order (**Xx xx, 200x**), the discharge of winter dry weather flows from the MS4 to Malibu Creek and Lagoon is prohibited. Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Bacteria to the MS4, and shall monitor weekly from November 1 to March 31, weeks that contain days with less than 0.1 inch of rainfall (events separated by 3 days of dry weather) for exceedences to the WLAs in-stream at point zero of all publicly owned storm drain pipes and open channels/ drains discharging to the following:

Table 2

1. Potrero Valley Creek to the Ventura County Line
2. Las Virgenes Creek to the Ventura County Line

(3) Wet Weather (November 1 - October 31) - This portion of the TMDL must be achieved within 10 years from the effective date of the TMDL, which is beyond the term of this Order and therefore is not covered under this Order.

(b) The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.

(1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Malibu Creek and Lagoon - Bacteria TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

3. **Watershed - Pollutant**

Calleguas Creek, its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.

(a) Waste Load Implementation

The WLAs are expressed as numerical limits in-stream for Toxicity, Chlorpyrifos and Diazinon within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:

(1) Wet Weather - Upon adoption of the Order (**Xx xx, 200x**), the MS4 Permittees shall develop wet weather toxicity testing and compliance protocol and procedures. This may be accomplished by participating in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Toxicity Testing Protocol study. After the completion of the SMC study, the Permittees shall submit a report to the Regional Water Board Executive Officer identifying the testing protocol and compliance criteria, for consideration and approval. The Regional Water Board Executive Officer will approve a toxicity testing protocol and compliance criteria after providing the opportunity for public comment.

(2) The MS4 Permittees, thereafter shall conduct toxicity testing for WLA compliance with both acute and chronic criteria for Chlorpyrifos and Diazinon on the first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events per wet season (events separated by 7 days of dry weather), at the Calleguas Creek mass emission station (ME-CC).

(b) The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.

(1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Calleguas Creek, its Tributaries

and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

4. **Watershed - Pollutant**
Calleguas Creek, its Tributaries and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation.

(a) Waste Load Implementation
The WLAs are expressed as numerical limits in-sediment for OC Pesticides, PCBs and Siltation within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:

(1) Dry Weather - Upon adoption of the Order (**Xx xx, 200x**), the MS4 Permittees shall participate in the 2008 Southern California Bight Project (SCBP) to evaluate the distribution and fate of contaminated sediments. Also, the MS4 Permittees shall monitor a minimum of 2 dry weather flow events, 1 dry weather flow event prior to the onset of wet weather- October 1st (during the months of May - June); and monitor 1 dry weather flow event post wet weather- April 15th (during the months of August - September), for OC Pesticides and PCBs exceedences to the TMDL interim WLAs in-sediment at the base of the following Hydrologic Units:

Table 3

Hydrologic Unit	403.12	403.68	403.62	403.63	403.67
Subwatershed	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek

(2) Final WLAs - This portion of the TMDL must be achieved within 20 years from the effective date of the TMDL, which is beyond the term of this Order and therefore is not covered under this Order.

(3) Siltation Special Study - This portion of the TMDL is 8 years in duration, which is beyond the term of this Order and therefore is not covered under this Order.

(b) When The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.
(1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Calleguas Creek, its Tributaries and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

SPECIAL STUDIES

E. Bioassessment Monitoring

The Principal Permittee shall perform Bioassessment monitoring to accomplish the following objectives:

- Detect biological responses to pollution.
- Detect biological trends in receiving waters.
- Assess the biological integrity of receiving waters.
- Assess river segments impaired to restore.
- Identify probable causes of impairment not detected by physical and chemical water quality measurements.

1. The Principal Permittee shall continue the following:
   (a) Coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being implemented by the State Water Board;

   (b) Participate in the Southern California Coastal Water Research Project's (SCCWRP) Bioassessment Working Group to develop:
   (1) QA/ QC protocols.
   (2) Formalize a taxonomic workgroup for biological identification.
   (3) Create standard operation procedures (SOP) for field activities.

2. The SWAMP and SCCWRP's Bioassessment Work Group shall be coordinated with to identify the most appropriate locations for Bioassessment stations within Ventura County.

3. Bioassessment monitoring shall begin the first spring/ fall following adoption of the Order, (**Xx xx, 200x**).

4. Bioassessment monitoring shall occur for 1 year in 1 WMA and then rotate to another WMA for 1 year, among the following WMAs:

(a) Ventura River - ongoing.
(b) Santa Clara River - 2008.
(c) Calleguas Creek - 2009.

5. A minimum of 10 Bioassessment stations shall be monitored per WMA during the spring season of each year.

6. Beginning in 2010, the Principal Permittee shall satisfy the Bioassessment requirement by participating in the Southern California Regional Bioassessment Program directed by the SMC or alternate plan approved by the Regional Board, using both random and targeted sites.

7. The Principal Permittee in consultation with the SMC shall be lead for the Ventura River Watershed within the Southern California Regional Bioassessment Program, or alternate plan approved by the Regional Board. The Principal Permittee shall develop a Ventura River Watershed wide monitoring plan and submit it to the Executive Officer for approval, at least 6 months prior to the start of the Southern California Regional Bioassessment Program or alternate plan approved by the Regional Board.

8. The Principal Permittee shall use the California Stream Bioassessment Procedure (CSBP) Stream Habitat Characterization Form (revision date: April 25, 2005), or other method(s) approved by the Regional Board.

9. Samples shall be collected according to the CSBP for Measuring Basic Characterization of Stream Habitat and Sampling Benthic Macroinvertebvrates (revision date: May 5, 2005), or other method(s) approved by the Regional Board.

10. The Principal Permittee shall use the Bioassessment In Low Gradient Streams Quality Assurance Project Plan by the SCCWRP (August 2005), or other method(s) approved by the Regional Board.

11. The SOP developed by the Bioassessment Technical Subcommittee shall be used, when available. The SOP is to describe all procedures and responsible parties. It is to contain step-by-step field, laboratory and data entry procedures, as well as, related QA/ QCprocedures. There is to be specific information about the Bioassessment program relating to: 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 SOP be used shall be available to the Regional Water Board Executive Officer upon request.

12. Field sampling shall conform to the SOP established for the Bioassessment Technical Subcommittee. 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 the Regional Water Board Executive Officer and the California Department of Fish and Game (DFG) upon request. Personnel from the Principal Permittee or an independent auditor that has been properly trained in CSBP methods should perform Field inspections. Visits should report on all aspects of the field procedure with corrective action occurring immediately.

13. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures.

14. 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/ QCresults 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 10% as long as there are no substantial QA/ QCproblems. If there are substantial QA/ QCproblems, the level of external validation shall be increased to a level of 20% for 2 years. If there are no substantial QA/ QC problems within the 2 years, the level of external validation may be decreased to 10% upon approval from the Regional Board. External QA/ QC should be arranged through the California DFG's Aquatic Bioassessment Laboratory in Rancho Cordova.

15. The Southern California Benthic Index of Biological Integrity (SoCal B-IBI) shall be used to develop a score for assessed sites.

16. The Principal Permittee at end of every monitoring year shall evaluate the WMA to estimate the percentage of stream segments that are in "very good", "good", "fair", "poor" and "very poor" condition based on the SoCal B-IBI.

    (a) All stream segments within the WMAs that score "poor" or "very poor" are to have the stream segment(s) resampled the following year. If a "poor" or "very poor" is scored 2 years in a row in the same stream segment then the Permittees shall meet the following requirements:
        (1) Develop a Watershed Ecological Restoration Plans (ERP) as listed in Part 5 - Watershed Ecological Restoration Planning, which shall be submitted to the Regional Water Board Executive Officer.

17. The Principal Permittee shall continue to perform yearly Bioassessment monitoring as outlined above (Special Studies- section "E" Bioassessment Monitoring), for all stream segments within the WMA that have an ERP developed for them, until the Plan's project goals (e.g., measurement endpoints) are achieved.

    (a) All stream segments within the WMA that are being sampled under an ERP shall meet the following requirements:
        (1) The Permittees shall develop Annual Watershed Ecological Restoration Status Reports (ERSR) as listed in Part 5 - Watershed Ecological Restoration Planning, which shall be submitted to the Regional Water Board Executive Officer.

18. The following results and information shall be included in the Annual Storm Water 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 physical/ habitat assessment metric values between stations and year-to-year trends.
    (f) Comparison of biological and physical/ habitat data to the SoCal IBI.
    (g) Electronic data formatted to the California DFG Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database.

F. Trash and Debris Study

The Principal Permittee shall perform the trash and debris study to accomplish the following objectives:

- Quantitatively assess the types and amount of trash and debris on the coastal areas and beaches within the County of Ventura.
- Identify areas impaired for trash and debris, and to develop control strategies.

1. The Principal Permittee and Permittees shall implement a trash and debris study for the following areas:
    (a) San Buenaventura Seaside Park Shoreline.
    (b) San Buenaventura Marina Park.
    (c) Ventura Keys.
    (d) Ventura Harbor/ Marina.
    (e) Channel Island Waterfront.
    (f) Channel Island Harbor.
    (g) Hollywood Beach (Hollywood-By-The-Sea & Hollywood Beach).
    (h) Silver Strand Beach.

(i) Port Hueneme Harbor/ Marina.
(j) Hueneme Beach Park.
(k) Ormond Wetland/ Lagoon/ Beach.

2. Trash and debris study shall be implemented in 2 segments:

   (a) Coastal waters/ Inland waters -
      (1) Ventura Keys.
      (2) Ventura Harbor/Marina.
      (3) Channel Island Waterfront.
      (4) Channel Island Harbor.
      (5) Port Hueneme Harbor/ Marina.

   (b) Beaches -
      (1) San Buenaventura Seaside Park Shoreline.
      (2) San Buenaventura Marina Park.
      (3) Hollywood Beach (Hollywood-By-The-Sea & Hollywood Beach).
      (4) Silver Strand Beach.
      (5) Hueneme Beach Park.
      (6) Ormond Wetland/ Lagoon.

3. Coastal waters/ Inland waters shall quantify trash and debris types collected from its waters.

4. Beaches shall quantify trash and debris distribution and types by sampling stratified random sites.

5. Trash and debris from coastal waters inland waters and beaches shall be documented accordingly:

   (a) Trash and debris is to be bagged according to location;

   (b) Bagged trash and debris to be identified and quantified by:
      (1) Sort debris into broad categories used by the Center for Marine Conservation during their Coastal Cleanup days (i.e., glass, metal, plastics, foamed plastics, rubber, paper, wood, cloth, etc.).
      (2) The broad categories are to be recorded, enumerated and weighed.
      (3) Each broad category of debris is to be further sorted into specific subcategories (e.g., cups, buoys, toys, fishing line, trash bags, etc.).
      (4) The subcategories are to be recorded and enumerated.
      (5) Within the subcategories brand names are to be recorded when possible, to estimate their percent of total and establish cross-brand trends.

6. Use of the sampling methodology described in *Composition and Distribution of Beach Debris in Orange County*[3] shall be followed. The sampling methodology can be modified when applicable (i.e., on rocks).

7. Trash and debris study shall begin no later than the second October following adoption of the Order, **(Xx xx, 200x)**.

8. Trash and debris study Final Report shall be completed and submitted to the Regional Water Board Executive Officer no later than 18 months from the study's start date.

9. Trash and debris collected in the study shall be disposed of in compliance with applicable State, Federal, and Local regulations.

G. Pyrethroid Insecticides Study

The Principal Permittee shall perform a Pyrethroid Insecticides study to accomplish the following objectives:

- Evaluate whether creek/ river sediments are toxic to aquatic organisms.
- Evaluate whether pyrethroid insecticide concentrations are at or approaching levels known to be toxic to sediment-dwelling aquatic organisms.
- Prioritize drainage and sub-drainage areas where control measures need to be implemented if necessary.

1. The Permittees shall incorporate the Pyrethroid Insecticides monitoring within the Tributary Monitoring programs' schedule and sampling stations, as applicable.

2. The Principal Permittee shall monitor the Pyrethroid Insecticides stations according to the following:

   (a) Provisions enumerated in the Mass Emission sections' A.12 and A.15.

   (b) Provisions enumerated in the Tributary Monitoring sections' C.1, C.3(a), C.3(c), and C.4.

   (c) Establish 2 to 6 stations along the mainstream of each major WMA tributary.

   (d) Establish 2 to 3 stations along secondary tributaries (originate at the outfall of storm drains) entering each major tributary in a WMA.

[3] *Composition and Distribution of Beach Debris in Orange County, California;* Moore, S. L., Gregorio D., Carreon, M, Weisberg, S.B. and Leecaster, M.K; Marine Pollution Bulletin Vol. 42, No. 3, pp. 241-245 (2001).

(e) Approximately 3 L of sediment is to be collected at each station in a pre-cleaned glass jar by skimming the upper 1 cm of the sediment column with a steel scoop, and held on ice until return to the laboratory. Sediment shall be homogenized in the laboratory by hand mixing, then held at 4 °C (toxicity samples) or -20 °C (chemistry samples).

(f) All samples taken shall be analyzed for the following Pyrethroids:
(1) biefenthrin.
(2) cyfluthrin.
(3) cypermethrin.
(4) deltamethrin.
(5) esfenvalerate.
(6) lambda-cyhalothrin.
(7) permethrin.
(8) tralomethrin (if laboratory is capable of analyzing for it).

(g) Detection limits for all Pyrethroids shall be as close to 1ng/g (dry weight) as reasonably achievable.

(h) Each sediment sample is to measure the following:
(1) total organic carbon (OC).

4. All samples shall be tested for toxicity to 7 to 10 day old ***Hyalella azteca*** according to standard U.S. EPA testing methods.[4] Use of the approach described in *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*[5] for toxicity testing shall be used.

5. Analyses is preferred to be conducted at a laboratory that has performed sediment toxicity testing for Pyrethroid Insecticides;

6. Pyrethroid Insecticides study Final Report shall contain the following:

(a) Executive summary.
(b) Methods.
(c) Results.
(d) Discussion.
(e) Recommendations to mitigate Pyrethroids.

[4] *U.S. EPA. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates*; EPA Publication 600/R-99/064; U.S. Environmental Protection Agency: Washington, DC, 2000; 192 pp.
[5] *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*; Weston, D.P.; Holmes, R.W.; You, J.; Lydy, M.J. Environ. Sci. Technol.; (Article); 2005; 39(24); 9780 pp.

7. If toxicity is attributed to Pyrethroids then consultation with staff at U.S. EPA, the California Department of Pesticide Regulations and the California Stormwater Quality Association's (CASQA) pesticides committee (UP3 Project web site), shall be required to obtain relevant information to use in developing the recommendations to mitigate Pyrethroids.

8. The Final Report shall be completed and submitted to the Executive Officer of the Regional Water Board no later than 8 months after completion of the study.

H. Hydromodification Control Study

The Principal Permittee shall conduct or participate in special studies to develop tools to predict and mitigate the adverse impacts of Hydromodification, and to comply with hydromodification control criteria. These are the following:

- Develop a mapping and classification system for streams based on their susceptibility to the effects of hydromodification.
- Establish protocols for ongoing monitoring to assess the effects of hydromodification.
- Develop dynamic models to assess the effects of hydromodification on stream condition.
- Develop a series of tools that managers can easily apply to make recommendations or set requirements relative to hydromodification for new development and redevelopment.

1. The Principal Permittee may satisfy this requirement by participating in the 'Development of Tools for Hydromodification Assessment and Management' Project undertaken by the SMC and coordinated by the SCCWRP.

2. The Principal Permittee shall continue to partner with the SMC and collect data or sponsor its collection for the Ventura County sites to reduce statistical uncertainty and/ or improve model predictability.

3. The Principal Permittee shall submit a letter to the Regional Water Board Executive Officer stating how they are satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special studies.

I. Low Impact Development

The Principal Permittee shall conduct or participate in a special study to assess the effectiveness of low impact development techniques in semi-arid climate regimes such as in Southern California.

1. The Principal Permittee may satisfy this requirement by participating in the SMC project titled "Quantifying the Effectiveness of Site Design/ Low Impact Development Best Management Practice in Southern California".

2. The Principal Permittee shall submit a letter to the Regional Water Board Executive Officer stating how they are satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special study.

J. Southern California Bight Project

The Principal Permittee and Permittees shall participate with other government organizations regulating discharges in southern California in the collaboration to conduct a regional monitoring survey (Southern California Bight Project (SCBP)) anticipated to be held in 2008. The survey's primary objective is to assess the spatial extent and magnitude of ecological disturbances on the mainland continental shelf of the SCB and to describe relative conditions among different regions of the SCBP.

The Principal Permittee shall participate on the Steering Committee for the bight-wide monitoring project, and complete the estuary and nearshore sampling effort requirement of the proposed monitoring project for Ventura County as defined in the SCBP plan. The Principal Permittee shall be responsible up to a dollar amount of $250,000 for monitoring in the SCBP.

K. Volunteer Monitoring Programs

The Principal Permittee and Permittees shall participate in the development and implementation of volunteer monitoring programs in the Ventura watersheds. These include, but are not limited to the following:

1. Ventura River - (Ventura Stream Team).
2. Santa Clara River - (Santa Clara River Stream Team).
3. Calleguas Creek - (Calleguas Creek Watershed Quality Monitoring Program).
4. Malibu Creek - (Malibu Creek Watershed Quality Monitoring Program).

L. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]

   (a) 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)] [CWC §13383(a)]

   (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 (ROWD) 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 Water Board or U.S. 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)]

   (a) Records of monitoring information shall include:
   (1) The date, time of sampling or measurements; exact place, weather conditions, and rain fall amount.
   (2) The individual(s) who performed the sampling or measurements.
   (3) The date(s) analyses were performed.
   (4) The individual(s) who performed the analyses.
   (5) The analytical techniques or methods used.
   (6) The results of such analyses.
   (7) The data sheets showing toxicity test results.

4. Monitoring and Records [40 CFR 122.21(j)(4)]

   (a) 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. If a particular Minimum Level (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.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

   (a) 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 2 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:

   (a) Certified for such analyses by an appropriate governmental regulatory agency.

   (b) Which has participated in 'Intercalibration Studies' for storm water pollutant analysis conducted by the SMC [6].

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* (SIP) shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into Attachment "G".

8. The Monitoring Report shall specify the analytical method used, the Method Detection Level (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 1 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.

   (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 Water Board Executive Officer for approval prior to raising the ML for any constituent.

[6] The 'Intercalibration Studies' are conducted periodically by the SMC to establish a consensus based approach for achieving minimal levels of comparability among different testing laboratories for storm water samples to minimize analytical procedure bias. Stormwater Monitoring Coalition Laboratory Document, Technical Report 420 (2004) and subsequent revisions and augmentations.

10. Monitoring Reports [40 CFR 122.41(I)(4)(ii)]

    (a) If the Principal Permittee monitors any pollutant more frequently than required by the Order 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(I)(4)(iii)]

    (a) 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 Water 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 submittal of the 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 Water Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Jonathan S. Bishop
Executive Officer
Date: **Xx xx, 200x**

ATTACHMENT G

Storm Water Monitoring Program's Constituents with 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	N/A
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA (single sample limits)	**MPN/100ml**
Total coliform (marine waters)	10,000
Enterococcus (marine waters)	104
Fecal coliform (marine & fresh waters)	400
E. coli (fresh waters)	235
GENERAL	**mg/L**
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1 NTU
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
Perchlorate	4 µg/L

[1] For priority pollutants, MLs published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (SIP) shall be used for all analyses, unless otherwise specified. Method Detection Levels (MDLs) must be lower than or equal to the ML value, unless otherwise approved by the Regional Board.

ATTACHMENT G

Storm Water Monitoring Program's Constituents with Associated Minimum Levels (MLs)[1]

METALS (Dissolved & Total)	**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	**µg/L**
2-Chlorophenol	2
4-Chloro-3-methylphenol	1
2,4-Dichlorophenol	1
2,4-Dimethylphenol	2
2,4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
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

ATTACHMENT G

Storm Water Monitoring Program's Constituents with Associated Minimum Levels (MLs)[1]

BASE/NEUTRAL	µg/L
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

ATTACHMENT G

Storm Water Monitoring Program's Constituents with Associated Minimum Levels (MLs)[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**
Atrazine	2
Chlorpyrifos	0.05
Cyanazine	2
Diazinon	0.01
Malathion	1
Prometryn	2
Simazine	2
HERBICIDES	**µg/L**
2,4-D	0.02
Glyphosate	5
2,4,5-TP-SILVEX	0.2

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

REPORTING PROGRAM - No. CI 7388
FOR
ORDER 07-xxxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS

MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

Xxxxx xx, 200x

December 27, 2006 - draft

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Reporting Program Requirements

The Principal Permittee shall submit by December 15th of each year beginning the year of 2007, an Annual Report to the Regional Water Board Executive Officer in the form of a one hard copy and three compact disks (CD) (or equivalent electronic format)

1. The Annual Report shall document the status of the General Storm Water Program, an integrated summary of the results of analyses from:
   (a) The monitoring program described under Part 1-Monitoring Report; and
   (b) The requirements described under Part 2- Program Report.

2. Plans shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a compact disk (CD), submit 1 hard copy and 3 CD copies.

3. Study Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

4. Progress Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

PART 1 - MONITORING REPORT

A. The following shall be included with the Annual Report:

1. Mass Emissions
   (a) Assess the variability of storm water constituents and provide an accurate estimate of mass emissions (pollutant correlation with TSS) from the results all monitored storms events.

   (b) Rain totals and hydrographs for monitoring events in both narrative and graphic formats shall be included with the Annual Report.

   (c) An annual analysis, of the correlation between pollutants of concern (POCs) (including, but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the complete list of constituents in Attachment "G" (Storm Water Monitoring Program's Constituents with Associated Minimum Levels).

   (d) A summary of the years' mass emission station's monitoring results highlighting exceedences (POC) with corresponding sampling dates shall be included with the Annual Report.

2. Aquatic Toxicity Monitoring
   (a) An analysis of the mass emission samples and tributary samples for aquatic toxicity to evaluate the extent and causes of toxicity in receiving waters.

   (b) A report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

   (c) Report on the development, implementation, and results for each TRE Corrective Action Plan, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

   (d) All constituents (POCs) that caused toxicity or exceeded any applicable water quality objectives at the associated mass emission station the previous year shall be listed.

   (e) A summary of the years' mass emission station's monitoring results with corresponding sampling dates and ToxCalc output.

3. Tributary Monitoring
   (a) A summary of the years' tributary station's monitoring results with corresponding sampling dates and ToxCalc output (lab hard copy data).

   (b) All constituents that caused toxicity or exceeded any applicable water quality standards (POCs) at the associated mass emission station the previous year (the constituents- POCs shall be listed in the Annual Monitoring Report.

4. TMDL Compliance Monitoring
   (a) Field screening schedule, a summary of accomplished screening and result(s) (as available) for illicit connections in accordance with the following schedule:
      (1) All portions of the storm drain system consisting of storm drain pipes 12 inches in diameter of greater within 5 years after the adoption of this Order.
      (2) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.
      (3) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.
      (4) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.
      (5) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/ or 5 or more industrial

NPDES storm water sites per square mile within 5 years after the adoption of this Order.

(b) A summary of the years' monitoring results for each TMDL with corresponding sampling dates and ToxCalc output (if applicable).

5. Bioassessment Monitoring
   (a) The following sampling results and information shall be submitted:
      (1) All physical, chemical and biological data collected in the assessment;
      (2) Photographs and GPS locations of all stations;
      (3) Documentation of quality assurance and control procedures;
      (4) Analysis that shall include calculation of the metrics used in the CSBP;
      (5) Comparison of mean biological and physical/ habitat assessment metric values between stations and year-to-year trends;
      (6) Comparison of biological and physical/ habitat data to the SoCal IBI; and
      (7) Electronic data formatted to the California DFG Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database.

B. The following shall be submitted to the Regional Water Board Executive Officer:

1. Aquatic Toxicity Monitoring
   (a) A TRE Corrective Action Plan within 30 days after the source of toxicity and appropriate BMPs are identified.

2. Tributary Monitoring
   (a) A watershed-based tributary monitoring program no later than (6 months after adoption of this Order). The tributary monitoring program shall include the following:
      (1) A description of the program, map and coordinates of the location for each of the proposed monitoring stations.
      (2) Monitoring dates (years) for all stations.

   (b) Request to rotate monitoring stations after current monitoring at each station is completed within a Watershed Management Area for the tributary monitoring program.

   (c) A corrective action plan to assess and identify the source(s) of pollutant(s) that caused exceedences of applicable water quality standards shall within that subwatershed shall be submitted within 90 days after the exceedence. The assessment shall be conducted consistent with the guidelines described in the Model MS4 Monitoring Program for assessment of urban runoff contribution.

3. TMDL Compliance Monitoring
   (a) A report identifying the Southern California Municipal Storm Water Monitoring Coalition's (SMC) standardized toxicity testing protocol and compliance criteria, for consideration and approval.

4. Bioassessment Monitoring
   (a) A Ventura River Watershed wide monitoring plan at least 6 months prior to the start of the Southern California Regional Bioassessment Program or alternate plan approved by the Regional Water Board;

   (b) A Watershed Ecological Restoration Plan(s) (EPR) for stream segments if that have scored 2 years in a row a "poor" or "very poor";

   (c) Yearly Watershed Ecological Restoration Status Reports for all stream segments within the Watershed Management Areas (WMAs) that are being sampled under an EPR.

5. Trash and Debris Study
   (a) A trash and debris study final report, no later than 18 months from the study's start date.

6. Pyrethroid Insecticides Study
   (a) Pyrethroid insecticides study final report, no later than 8 months after completion of the study.

7. Hydromodification Control Study
   (a) Letter stating how the Principal Permittee is satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special studies.

8. Low Impact Development
   (a) Letter stating how the Principal Permittee is satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special study.

9. Non-Compliance
   (a) When monitoring can not be performed to comply with the requirements of this Order due to circumstances beyond the Permittees control, then within 48 hours the following shall be submitted:
      (1) Statement of situation.
      (2) Explanation of circumstance(s) with documentation.
      (3) Statement of corrective action for the future.

C. The following shall be submitted to the Regional Water Board's Storm Water E-mail Address: **MS4stormwaterrb4@waterboards.ca.gov**. Data transmitted shall be in the SMCs Standardized Data Transfer Formats (SDTFs) and all updates are to be adhered to.[1]

1. Mass Emissions
   (a) Monitoring results no later than 45 days from sample collection date.

2. Aquatic Toxicity Monitoring
   (a) Monitoring results no later than 45 days from sample collection date.

3. Tributary Monitoring
   (a) Monitoring results no later than 45 days from sample collection date.

4. TMDL Compliance Monitoring
   (a) Monitoring results no later than 45 days from sample collection date.

5. Non-Compliance
   (a) When the Order 's monitoring requirements can not be performed due to circumstances beyond the Permittees control, then within 48 hours the following shall be submitted to the Regional Water Board Executive Officer:
      (1) Statement of situation.
      (2) Explanation of circumstance(s) with documentation.
      (3) Statement of corrective action for the future.

PART 2 - PROGRAM REPORT

On an annual basis the Permittees shall complete an Annual Monitoring Program Report that responds adequately to the evaluative questions below which correspond to the Order.

DISCHARGE PROHIBITIONS

(a) Have you effectively prohibited all non-storm discharges into the MS4 and watercourses?

(b) If there are any exceptions in the municipal code, list the exceptions to the municipal code. In other words, which non-storm water discharges does your municipality allow? Under what conditions are they allowed (with BMPs)? List which BMPs are required prior to discharge.

[1] The SMC developed a SDTFs for use by member agencies for electronic recording and transfer of storm water monitoring data. Southern California Coastal Water Research Project, Technical Report 421 (August, 2004).

(c) Do you have a procedure to assure that any project within your jurisdiction which may undertake ground water dewatering obtain a permit from the Regional Water Board?

(d) How many projects are permitted to dewater in your jurisdiction?

(e) How many are permanent dewatering to continue after construction is completed?

(f) Do you have a permitting/ permission system for the discharge of dechlorinated/ debrominated swimming pool discharges? Explain it.

(g) If yes, how many swimming pools are drained with the agency's permit/ permission?

(h) How do you ensure that discharge limits for chlorine, bromine, etc are not exceeded?

(i) Do you allow the discharge of "salt water" swimming pool discharges? If yes

(j) Do you have a permitting/ permission system for the discharge of "salt water" swimming pool discharges? Explain it.

RECEIVING WATER LIMITATIONS

1. At any time, has the discharge from the MS4 caused or contributed to the violation of water quality objectives or water quality standards?

2. At any time, has the discharge from the MS4 for which a Permittee is at least partially responsible, caused or contributed to a condition of nuisance?

3. At any time, has the discharge of pollutant(s) from the MS4 exceeded the MS4 Waste Load Allocation(s) for Wet Weather Discharges?

4. For pollutant(s) which continue to cause or contribute to water quality impairments, but for which TMDLs have not yet been developed or approved, what has the Permittee implemented to eliminate future water quality impairments?

STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION

A. General Requirements

B. Legal Authority

1. Does your municipal agency possess all the necessary legal authority to implement and enforce each requirement of this Order?
2. If the answer is no, explain why not.
3. By what date certain will the municipal agency have all the necessary legal authority?
4. Attach a copy of the 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.
5. After submitting the Statement from your legal counsel, was your city's municipal code (or other legal authority) changed (Any section that applies to or affects storm water permitting or requirements)? On what date(s) was it changed? Provide the changes.

C. Fiscal Resources

1. Provide a detailed Annual Budget Summary of the Permittee's allocation of funds expended to implement the activities required to comply with the conditions of this Order.
2. Indicate the source(s) of funding (whether general funds; and/ or Benefit Assessment Program funds; plan review fees; permit fees; industrial/ commercial user fee; revenue bonds; grants; or other funding mechanism. Each Permittee's Annual Budget Summary shall separately include:
3. Annual Budget Summary of expenditures applied to the storm water management program and also 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 Overall Management Activities;
      (1) Administrative costs

   (b) Program Required Activities Implementation;
   Provide an estimated percent breakdown of expenditures for the categories below:
      (1) Illicit connection/ illicit discharge
      (2) Development planning
      (3) Development construction
      (4) Construction inspection activities
      (5) Industrial/ Commercial inspection activities
      (6) Public Agency Activities
      (7) Maintenance of Structural BMPs and Treatment Control BMPs
         (A) Municipal Street Sweeping for Commercial/ Industrial landuse only;
         (B) Catch basin clean-outs (including dumping fees);
         (C) Storm drain clean-outs (including dumping fees); and
         (D) Other costs (describe).

(8) Public Information and Participation;
(9) Monitoring Program; and
(10) Miscellaneous Expenditures (describe).

D. Designation and Responsibilities of the Principal Permittee

The Principal Permittee shall submit within the Annual Program Report information on the implementation of the following:

1. Coordination and facilitation of activities to comply with the requirements of this Order;
2. Evaluation, assessment, and summary of the results of the monitoring program and the effectiveness of the implementation of BMPs and any recommended change.

E. Responsibilities of the Permittees

Each Permittee shall include within the Annual Program Report information on the implementation of the following:

1. A statement under penalty of perjury that the Permittee is or is not in compliance with the requirements of this Order and any subsequent modifications thereto;
2. A summary of how coordination occurs among its internal departments and agencies to ensure the implementation of the requirements of this Order;
3. Description of the intra-agency coordination by Agency departments (e.g. Community Development (Planning), Public Works, Sanitation, Engineering, Fire Department, Building and Safety, Code Enforcement, Public Health, Water and/ or Power Department, etc.) to ensure the successful implementation of the provisions of this Order;
4. In addition to the Budget Summary, identify any supplemental dedicated budgets for the storm water categories listed.
5. Identify the staff which participated at all committee or subcommittee meetings and when.

PART 4 - SPECIAL PROVISIONS

A. General Requirements

1. Best Management Practice Substitution
   (a) Did the Regional Water Board Executive Officer approve any site-specific BMP substitution for your agency?
   (b) If so, describe implementation of that/ those BMP(s).

B. Watershed Initiative Participation

1. Describe your participation (Principal Permittee) in appropriate water quality meetings for watershed management planning. Include the following:
   (a) Calleguas Creek Watershed Management Plan;
   (b) Regional Monitoring Program;
   (c) Santa Clara River Enhancement and Management Plan;
   (d) Steelhead Restoration and Recovery Plan; and
   (e) Southern California Stormwater Monitoring Coalition (SMC).

C. Public Information and Participation Program (PIPP)

1. Describe the Permittee successes in:

- Measurably increasing 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;
- Measurably changing the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions;
- Involving and engaging communities in Ventura County to participate in mitigating the impacts of storm water pollution.

2. Residential Program
   (a) Did the Permittee label each storm drain inlet that they own with a legible "no dumping" message.
   (b) How many inlets were labeled this year?
   (c) How many inlets were labeled cumulatively?
   (d) Did the Permittee install signs with prohibitive language discouraging illegal dumping at designated public access points to creeks, other relevant water bodies, and channels?
   (e) How many?

   Public Reporting
   (a) Identify the staff person(s) who will serve as the contact person(s) for reporting clogged catch basin inlets and illicit discharges/ dumping, faded or lack of catch basin stencils, and general storm water management information.

   (b) Did the Permittee update this information by July 1 of this year?

   (c) 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 (http://www.vcstormwater.org/contact.htm) and upon request.

Outreach and Education

(1) Provide documentation to show that the Permittees implemented the following activities:
- Storm Water pollution prevention advertising campaign.
- Storm Water pollution prevention public service announcements.
- Distribution of storm water pollution prevention public education materials to auto parts stores, home improvement centers and pet shops/ feed stores in regards to information on the proper storage and disposal of household waste materials, construction waste materials and vehicle waste fluids, the proper use of fertilizers and pesticides and the proper disposal of animal wastes.
- Organization of watershed Citizen Advisory Groups/ Committees to develop/ implement effective methods to educate the public about storm water pollution.
- Organization of events for residents and population subgroups.
- Maintenance of the Countywide storm water website (www.vcstormwater.org), including educational materials.

(2) Provide documentation to show that the Principal Permittee implemented the strategy to educate ethnic communities through culturally acceptable and effective methods.

(3) Did each Permittee implement outreach efforts to residents and school children related to the proper disposal of litter, green waste, pet waste, proper vehicle maintenance, lawn care and water conservation practices?

(4) Did the Permittees make demonstrable positive effects on the general public related to storm water quality?

(5) On 4 above, explain how so.

(6) Did the Principal Permittee, in cooperation with the Permittees, 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) Provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee and changes to contact information no later than 30 days after a change occurs.

(9) Provide the assessment of the strategy to measure the effectiveness of in-school educational programs.

Businesses Program

(a) Corporate Outreach

(b) Provide a progress update on the Corporate Outreach program.

C. Industrial/ Commercial Facilities Program

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 may be used alone or in combination, and may include Structural Treatment Control, Source Control BMPs, and operation and maintenance procedures, which may be applied before, during, and/ or after pollution generating activities. At a minimum, the Industrial/ Commercial Facilities Control Program Report shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance with municipal ordinances at industrial and commercial facilities that are critical sources of pollutants in storm water runoff.

1. Inventory of Critical Sources

(a) Describe how the critical sources are inventoried. (whether via a watershed-based inventory or database or GIS. Provide a sample.

(b) Each Permittee shall include the following minimum fields of information for each critical sources industrial and commercial facility.
   (1) Name of facility and owner/ operator.
   (2) Address of facility.
   (3) Coverage under the ISWGP or other individual or general NPDES permits or any applicable waiver issued by the Regional or State Board pertaining to runoff discharges.
   (4) A narrative description including SIC (NAICS) codes that best describe the industrial activities performed and principal products used at each facility and status of exposure to storm water.

(c) Did each Permittee update its inventory of critical sources annually?

(d) Critical Source Inventory Database

Did you (individually or jointly) update the Database for Critical Sources Inventory? Yes ☐ No ☐

Comments/ Explanation/ Conclusion:

2. Inspection Program
   (a) The Permittee shall verify the following for each inspection:
      (1) The facility has a current Waste Discharge Identification (WDID) number or a current No Exposure Certification for discharging storm water associated with industrial activity?
      (2) A Storm Water Pollution Prevention Plan available on-site?
      (3) The facility is effectively implementing BMPs in compliance with County and municipal ordinances including the source control BMPs outlined in Part 4.D. of this Order
      (4) The facility needs to implement additional treatment control BMPs where the storm water from the MS4 discharges to a CWA §303(d) listed water body?

Provide the reporting data as suggested in the following table.

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:				

- Did each Permittee perform an initial inspection at all facilities in the categories listed no later than (two years after the adoption of the Order)?
- All facilities determined as having exposure of industrial activities to storm water are subject to a second compliance inspection. Were all inspections completed?
- Was there a minimum interval of six months between the first and the second compliance inspection per site as required?

BMPs Implementation

Provide the reporting data as suggested in the following table.

Category	Number of facilities inspected by category this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	Percent 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	Percent 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										
etc...										

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 of enforcement actions since permit adoption (by category)
NOVs							
Etc...							

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referrals	Number of Other(Explain)
Landfill				
Etc...				
Comments/ Explanation/ Conclusion:				

Nurseries and nursery centers

(a) At nurseries subject to the agricultural waiver issued by the Regional Water Board, provide a spreadsheet with the following information:
- How many operators have enrolled under the waiver?
- What is their identification number?
- How many nonfilers did you notify to apply under the agricultural waiver?

(b) Did you submit electronically semiannually to the Regional Water Board a list with the names of facilities notified to apply for the waiver?

Ensuring Compliance of Critical Sources

(a) On how many sites did you determine that a BMP is infeasible, and require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges?

(b) For critical sources that discharge to ESAs or that are tributary to CWA § 303(d) impaired water bodies, does the Permittee require operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to exceedences of Water Quality Standards?

Investigation of Complaints Regarding Facilities – Transmitted by the RB Staff

(a) How many investigations were conducted as a result of USEPA or Regional Water Board staff referrals of violators to the Permittee?

(b) Was the investigation initiated within one business day of being contacted?

(c) What were the results of each investigation?

D. Planning and Land Development Program

Low Impact Development

(a) Did all new development and redevelopment projects integrate Low Impact Development (LID) principles into project design?
(b) How many did?
(c) How many did not?
(d) If not, Why not?

E. Numeric Hydromodification Mitigation Criteria

1. Hydrologic (Flow/ Volume/ Duration) Control

(a) Did the Permittees require all new developments and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems?

(b) How many did?
(c) How many did not?
(d) Why not?

2. Post Construction Storm Water BMP Program

(a) For each project, did each Permittee require that during the construction of a single-family hillside home, actions be taken to:
  (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? and
  (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability?

(b) Did each Permittee require that all development projects equal to 1 acre or greater be subject to conditioning and approval of post-construction BMPs as approved by the Regional Water Board in Board Resolution No. R 00-02?

(c) Did each Permittee require that the following development projects be subject to conditioning and approval of post-construction BMPs?
  (1) Retail gasoline outlets 5,000 square feet or more of surface area; How many sites?
  (2) Restaurants (SIC 5812) 5,000 square feet or more of surface area; How many sites?
  (3) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces; How many sites?
  (4) Automotive service facilities (SIC 5013,5014,5541,7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; How many sites? and
  (5) Redevelopment projects in subject categories that meet Redevelopment thresholds. How many sites?

(d) Did each Permittee require that post construction BMPs be subject to conditioning and approval for development projects located in or directly adjacent to or discharging directly to an Environmentally Sensitive Area (ESA), where the development will:
  (1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat.
  (2) Create 2,500 square feet or more of impervious surface area.

3. Numeric Water Quality Design Criteria

Projects disturbing land areas less than 50 acres

(a) Ho many did the Permittee require that post-construction Treatment Control BMPs incorporate, at a minimum, a volumetric and/ or hydrologic (flow based) treatment control design standard, as identified below to mitigate (infiltrate, filter or treat) storm water runoff as specified below?
(b) How many sites were exempted from the requirement?
(c) Why were they exempted?

Projects disturbing land area of 50 acres or greater

For sites 50 acres or greater how many did the Permittee require that post-construction Treatment Control BMPs be,

(a) Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate
(b) Rainfall intensity based on hourly rainfall records;
(c) An adjustment factor for within hour rainfall variability; and
(d) Hydraulics of BMP Performance.
(e) How many projects did this apply to?
(f) Were there any sites that were exempted from the requirement?
(g) How many sites were exempted?
(h) Why were they exempted?

4. Applicability of Numerical Criteria

Did the Permittee require all projects equal to 1 acre or greater and the following additional projects to design and implement post-construction treatment controls to mitigate storm water pollution for the following?:
(a) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area].
(b) 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.
(c) Restaurants (SIC 5812) [5,000 square feet or more of surface area].
(d) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces.
(e) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 2(d).

(f) Redevelopment projects in subject categories that meet Redevelopment thresholds.
(g) How many projects did this apply to?
(h) Were there any sites that were exempted from the requirement?
(i) How many sites were exempted?
(j) Why were they exempted?

5. Site Specific Mitigation
(a) List how many sites did each Permittee require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not identified in Section XX but which may potentially have adverse impacts on post-development storm water quality, with one or more of the following project characteristics:

(1) Vehicle or equipment fueling areas. How many?
(2) Vehicle or equipment maintenance areas, including washing
(3) and repair. How many?
(4) Commercial or industrial waste handling or storage. How many?
(5) Outdoor handling or storage of hazardous materials. How many?
(6) Outdoor manufacturing areas. How many?
(7) Outdoor food handling or processing. How many?
(8) Outdoor animal care, confinement, or slaughter. How many?
(9) Outdoor horticulture activities. How many?

(b) Were there any sites that were exempted from the requirement?
(c) How many sites were exempted?
(d) Why were they exempted?

6. Redevelopment Projects
(a) Did the Permittees apply the post construction BMP requirements, or site specific requirements including post-construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories?
(b) How many?
(c) Were there any sites that were exempted from the requirement?
(d) How many sites were exempted?
(e) Why were they exempted?

7. Maintenance Agreement and Transfer
(a) How many developments subject to post construction BMP requirements and site specific plan requirements actually provided 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?
(b) How many of each verification were received?

(c) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred?
(d) 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?
(e) 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?
(f) 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?
(g) 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?
(h) Another type of legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs?

8. Development Planning Coordination and Enforcement
(a) Did you inspect each new development and redevelopment project for post construction controls prior to approving and signing off for occupancy?
(b) How many?
(c) Were there any sites that were exempted from the requirement?
(d) How many sites were exempted?
(e) Why were they exempted?

9. Regional Storm Water Mitigation Program
(a) Have you applied to the Regional Water Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for on-site post-construction requirements?

10. Inspection and Tracking System for Post Construction Treatment BMPs
(a) Did you implement the required Geographic Information System (GIS) or other electronic system for tracking projects conditioned for post construction treatment control BMPs?
(b) Does include the following information? (Answer each separately)
(1) Municipal Project ID?
(2) State WDID No.?
(3) Project Acreage?
(4) BMP Type and Description?
(5) BMP Location (GPS coordinates)?
(6) Date of Acceptance?
(7) Date of O&M Certification?
(8) Maintenance Records
(9) Inspection Date and Summary?

(10) Corrective Action?
(11) Replacement or Repair Dates?

(c) Did you inspect all facilities to verify proper maintenance and operation of Treatment BMPs previously approved?
(d) Did you accomplish the following?
(e) BMP acceptance inspection to ensure proper installation?
(1) Inspection once every two years of high priority post-construction BMPs to ensure treatment effectiveness, hydraulic function, and vector risk minimization?

11. Developer Technical Guidance and Information
(a) List dates as to when the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures was last updated to include the following:
(1) Hydrologic (Peak Flow) Control criteria for volume control described herein and the interim criteria based on hydrograph matching?
(2) Expected BMP pollutant removal performance including consistent effluent quality and removal efficiency ranges (International BMP Database, technical reports and the scientific literature?
(3) Improved Correlation of BMPs with storm water POC?
(4) Data on Observed Local Effectiveness and performance of implemented BMPs?
(5) BMP Maintenance and Cost considerations?
(6) Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits?

12. Project Review and Inter Department Coordination
(a) Did you ensure that a detailed BMP review was performed including BMP sizing calculations, BMP pollutant removal appropriateness, for each plan submitted with a signed certification?
(b) How many?
(c) Were there any sites that were exempted from the requirement?
(d) How many sites were exempted?
(e) Why were they exempted?
(f) Did you ensure that a clear structure for communication and delineated authority are established between and among municipal departments which have jurisdiction over project review, plan approval, project construction, and site maintenance?
(g) Explain how?

13. California Environmental Quality Act (CEQA) Document Update

Did you incorporate into the CEQA process procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents? (Answer each below separately.)
(a) Potential impact of project construction on storm water runoff?
(b) Potential impact of project 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?

15. General Plan Update
(a) Was your General Plan amended, revised or updated to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended? (Answer each separately)
(1) Land Use?
(2) Housing?
(3) Conservation?
(4) Open Space?

(b) Did you provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or the General Plan was noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq*?
(c) When?

E. Development Construction Program

1. Did you implement a program to control runoff from construction activity at all construction sites within your jurisdiction to ensure that the following requirements are effectively implemented? (Answer each separately)
(a) For construction projects within or adjacent to an environmentally sensitive area (ESAs), did you prohibit grading between October 1 and April 15?
(b) For construction projects, which include grading on slopes greater than 5:1, that no grading shall occur between October 1 and April 15?

(c) All construction projects, which directly discharge into a sedimentation/ siltation impaired water body and is listed on the CWA §303 (d) list. No grading shall be occurring between October 1 and April 15?
(d) If grading operations were not completed before the rainy season began, was grading halted and erosion control measures put in place to minimize erosion until grading resumes after April 15?

2. Did you require construction site operators to seek separate coverage from the Regional Water Board wherever ground water dewatering may be necessary, is anticipated, or likely?
   (a) Small Construction Sites
      (1) For each construction site did you require and inspect to ensure that at each construction site, the minimum set of BMPs were implemented to minimize erosion and sediment loss, and prevent pollution from construction waste?

3. For each construction site 1 acre and greater:
   (a) Did you review and approve a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects?
   (b) Did you inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season?
   (c) Was the Local SWPPP reviewed for compliance with local codes, ordinances, and permits?
   (d) For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks?
   (e) If compliance had not been attained, did the Permittee take additional actions to achieve compliance (as specified in municipal codes)?
   (f) How many?
   (g) For small construction sites one acre and greater (or part of a larger plan of development or sale), did you require, prior to issuing any grading permit, demolition permit, building permit, or construction permit [or any other municipal authorization to move soil and/ or construct or destruct that involves soil disturbance], 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 CASGP and a certification that a SWPPP has been prepared by the project developer?
   (h) Does your agency accept a Local SWPPP as a substitute for the State SWPPP?
   (i) Is the Local SWPPP at least as inclusive in controls and BMPs as the State SWPPP?
   (j) Do you 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?
   (k) What system do you use to track grading permits issued by your agency?

4. Linear Construction
   (a) Do require for any linear construction project or projects (cumulatively) that will cause one acre or more of soil disturbance but not more than 5 acres that coverage be obtained under the Small Linear Underground/ Overhead Construction Projects General Permit?
   (b) Do you require proof of a Waste Discharger Identification Number (WDID) for filing a Notice of Intent (NOI) for coverage under the and a certification that a SWPPP has been prepared by the project developer, prior to issuing a grading permit, demolition permit building permit, or construction permit (or other authorization to move soil and/ or construct or destruct that involves soil disturbance)?

5. CASGP Violation Referrals
   (a) Did you make any referral of violations of the new development and redevelopment post construction requirements and municipal storm water ordinances to the Regional Water Board?
   (b) Did you make any referral for suspected violations of the CASGP or Linear Permit coverage requirements

F. Public Agency Activities Program

1. Sewage System Maintenance, Overflow, and Spill Prevention
   (a) Did you implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction that clearly identifies agencies responsible and telephone numbers and email for any contact?
   (b) How many overflows did you have?
   (c) How many did you respond to?
   (d) Do you own and/ or operate a sanitary sewer system?

   (e) If so, did you also Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4?
   (f) Did you implement procedures and maintenance schedules to prevent sewage spills or leaks from sewage facilities from entering the MS4?
   (g) If you are a Permittee with septic systems in your jurisdiction, how many do you have?
   (h) Did you implement the following for flows of septic leachate to surface waters within their respective jurisdiction, which shall consist at a minimum of the following:
      (1) Investigation of any complaints received?
      (2) Immediately respond to overflows for containment, upon notification?
      (3) Notification to appropriate agencies and public health agencies when a septic system fails and flows to the MS4?

2. Public Construction Activities Management
   (a) Did you comply with all the Development Planning Program requirements in at public construction projects?
   (b) Did you comply with all the Development Construction Program requirements at Permittee owned or operated construction sites?
   (c) Did you obtain coverage under the CSWGP for all construction activities for (non linear) capital improvement project(s), or contracts, that individually or cumulatively equals or surpass the 1 acre land disturbance threshold?
   (d) Did you obtain coverage under the Statewide General Permit for Storm water Discharges Associated with Construction Activity from Small Linear Underground/ Overhead Projects (Small LUP General Permit) for Small Linear Underground/ Overhead Projects disturbing at least 1 acre, but less than 5 acres (including trenching and staging areas)?

3. Vehicle Maintenance/ Material Storage Facilities/ Corporation Yards Management.

   (a) Did you implement the required BMPs for each maintenance yard and activity specified in the tables Permittee shall implement the following BMPs at all Permittee owned, leased facilities including but not limited to vehicle/ equipment maintenance facilities, material storage facilities, and corporation yards, and at any area that includes the activities as described in the tables below. Answer each separately.

Table(General Best Management Practices) continued on next page.

(b) Are all of your existing facilities that are not plumbed to the sanitary sewer with vehicle and equipment washing areas:
  (1) Self-contained? How many?
  (2) Equipped with a clarifier? How many?
  (3) Equipped with an alternative pre-treatment device? How many?
  (4) To be plumbed to the sanitary sewer? How many? When?
    (A) Are all new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas to be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency? If not state why.

4. Landscape and Recreational Facilities Management

Control Program for Registered Pesticides

(a) Did you adopt and implement policies, procedures, and/ or ordinances requiring the minimization of pesticide use and the use of integrated pest management (IPM) techniques in your operations and on municipal property?
(b) What was your previous year's pesticide use? Answer in gallons or pounds for each type used.
(c) Using estimated projections, what is your expected use this coming fiscal year? Answer in gallons or pounds for each type used.
(d) Do you have commitments to reduce or phase-out, and ultimately eliminate use of pesticides that cause impairment of surface waters? State for each, by when.
(e) Describe your Integrated Pesticide Management (IPM) program.
(f) Attach the program elements.
(g) Did you comply with the following requirements:?
  (1) Use a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers?
  (2) 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?
  (3) Ensure that no banned or unregistered pesticides are stored or applied?
  (4) Ensure that all staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?
  (5) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs?
  (6) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment?
    (A) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills?
    (B) Regularly inspect storage areas to ensure no environmental harm?

5. Storm Drain Operation and Management

Catch Basin Cleaning

(a) How many catch basins did you designate as one of the following:
- Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/ or debris?
- Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/ or debris?
- Priority C: Catch basins that are designated as generating low volumes of trash and/ or debris?

(b) Did you clean all 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? How many?
- Priority B: A minimum of once during the wet season and once during the dry season every year? How many?
- Priority C: A minimum of once per year? How many?

(c) Did you ensure that any catch basin that is at least 25% full of trash and/ or debris was cleaned out? How many?

For each type of catch basin (A, B, or C) state how much trash and debris was collected and state the units (wet tons, dry pounds, etc...)

(1) Did you require for any special event that they arrange for 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? How many events did this apply to?
(2) How much trash and debris was collected? (wet tons, dry pounds, etc...)

Trash Controls

(a) Did you install trash receptacles at transit stops as required?
(b) How many?
(c) How much trash and debris was collected? (wet tons, dry pounds, etc...)
(d) Did you install trash excluders, or similar devices upon catch basins to prevent the discharge of trash to the storm drain system?
(e) How many?
(f) How much trash and debris was collected? (wet tons, dry pounds, etc...)

Catch Basin Labels

(a) Did you inspect the legibility of the catch basin label by all inlets?
(b) How many?
(c) Were catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection?

(d) How many were recorded?
(e) How many were relabeled?

Storm Drain Maintenance

(a) Did you inspect all Permittee-owned open channels and other drainage structures for debris and identify and prioritize problem areas of illicit discharge for regular inspection?
(b) Do your maintenance activities assure that appropriate storm water BMPs are being utilized to protect water quality?
(c) Did you remove trash and debris from open channel storm drains before the storm season?
(d) Did you minimize the discharge of contaminants during MS4 maintenance and clean outs?
(e) How?
(f) Did you properly dispose of material removed?
(g) How much trash and debris was collected? (wet tons, dry pounds, etc...)
(h) Have you obtained coverage under the CASGP for Long-term maintenance programs for flood control channels (such as vegetation removal) if one or more acres of soil are disturbed by grading, clearing or excavation activities for an individual project or as part of several projects part of the Permittee's long-term maintenance plan?
(i) How many projects?
(j) Which projects?
(k) Were all municipally owned treatment control BMPs as maintained as necessary to ensure optimal pollutant reduction?
(l) Was any pooled water shall be discharged to the sanitary sewer system?
(m) Was any of the pooled water treated to remove pollutants and discharged to the storm drain?
(n) Was every discharge monitored to ensure compliance?

6. Streets and Roads Maintenance
   (a) Did you conduct street sweeping of curbed streets in commercial areas to control trash and debris at least 2 times per month?
   (b) How much trash and debris was collected? (wet tons, dry pounds, etc...)
   (c) Did you obtain coverage under the CASGP for long-term maintenance programs for roadside maintenance (such as: vegetation removal) if 1 or more acres of soil are disturbed including: grading, clearing or excavation activities that disturb 1 or more acres of land either for an individual project or as part of a long-term maintenance plan?

7. Parking Facilities Management

   (a) Were all Permittee-owned parking lots exposed to storm water cleaned to be kept clear of debris and excessive oil buildup and cleaned no less that 2 times per month?
   (b) How much trash and debris was collected? (wet tons, dry pounds, etc…)

8. Public Industrial Activities Management

   (a) Did you obtain separate coverage under the IASGP for any municipal activity subject to it for the discharge of storm water associated with industrial activity?
   (b) For how many facilities?
   (c) Which facilities?

9. Municipal Drinking Water System Discharges

   (a) From your municipal drinking system did you maintain the system by flushing hydrants or other fixtures?
   (b) How many gallons total were discharged in the year?
   (c) If the discharges in an annual period were less than 100,000 gallons for the entire city did you implement a BMP or suite of BMPs to ensure that the chlorine level of the discharge is 0.1mg/L or less?
   (d) Did you sample or take a test every time to ensure dechlorination of the water to 0.1mg/L or less?
   (e) Did you ensure that the BMP or suite of BMPs were implemented so that no erosion is caused by the discharge of the potable water?
   (f) What BMPs were implemented?

10. Emergency Procedures

   (a) Were there any emergencies that caused the Permittee to invoke this section? Explain the situation.

11. Municipal Employee (and municipal contractor) Training

   (a) Did you train all of your employees in targeted positions regarding the requirements of the overall storm water management program?
   (b) Did you promote a clear understanding of the potential for activities to pollute storm water?
   (c) Did they learn to identify opportunities to require, implement, and maintain appropriate BMPs in their work?
   (d) Did they learn the appropriate ways of identification, investigation, termination, cleanup, and reporting of illicit connections and discharges?
   (e) Will they ensure that the requirements of this Order are met?

(f) For those employees or contractors who use or have the potential to use pesticides (whether or not they normally apply pesticides as part of their work), which includes pesticides available over the counter, did you address the potential for pesticide-related surface water toxicity?
(g) Proper use, handling, and disposal of pesticides?
(h) Least toxic methods of pest prevention and control?
(i) Encourage the use of IPM?
(j) Require the quantifiable reduction of pesticide use?

(k) Training - All Permittees shall train all targeted employees who are responsible for on an annual basis. In public agency?

G. Illicit Connections/ Illegal Discharge Program

1. IC/ ID Program
   (a) Did you implement an IC/ ID Program?
   (b) The IC/ ID Program must be documented and available for review.
   (c) Did you map all permitted connections to the storm drain system?
   (d) Did you map all illicit connections and discharges on baseline maps?
   (e) Did you transmit this information to the Principal Permittee?
   (f) Did you use this mapping information to identify priority areas for further investigation?
   (g) Did you eliminate all known illicit connections and illicit discharges?

2. Public Reporting
   (a) Did you establish and maintain a phone hotline to receive illicit discharge/ connection complaints?
   (b) Did you establish and maintain an internet homepage to receive illicit discharge/connection complaints?
   (c) For all complaints received, did you document the location of the illicit discharge/ connection?
   (d) Have you documented the actions undertaken in response to all illicit discharge/ connection complaints?

3. Illicit Connections

   Screening for Illicit Connections
   (a) Did you conduct field screening of your storm drain system for illicit connections?
   (b) For those portions of the storm drain system consisting of storm drain pipes 36 inches in diameter of greater, how many miles did you field screen this year?
   (c) Out of how many miles total?
   (d) Did you conduct field screening for high priority areas identified during the mapping of illicit connections and discharges?

(e) How many miles were completed this year?
(f) Out of how many miles total?
(g) How much of the storm drain system that is 50 years or older in age did you field screen?
(h) Out of how many miles total?
(i) Did you submit to the Principal Permittee a GIS layer showing the location and length of underground pipes greater than 18" in diameter and channels within their jurisdiction?
(j) Did you also include the status of suspected, confirmed, and terminated illicit connections?
(k) Did you maintain a list containing all connections under investigation for possible illicit connection and their status?
(l) Did you attach that list to this Annual Report?

Response to Illicit Connections

(a) Did you complete an investigation within 21 days of notice of a suspected illicit connection?
(b) Did you determine the Source of each connection?
(c) Did you determine the nature and volume of discharge through the connection?
(d) Did you identify the responsible party of the connection?
(e) How many suspected illicit connections were there this year?
(f) Upon confirmation of the illicit nature of a storm drain connection did you terminate the connection within 180 days of completion of the investigation?
(g) Did you document all illicit connection discoveries and your response to each?

4. Illicit Discharges
   (a) Abatement and Cleanup
      (1) Did you respond and cleanup within 1 business day of discovery or of receiving a report of a suspected illicit discharge?
      (2) Did you keep records of all illicit discharge discoveries, reports of suspected illicit discharges and their response to the illicit discharges and suspected illicit discharges?
      (3) How many did you receive?
      (4) How many did you respond to?

   (b) Investigation
      (1) Did you investigate illicit discharges during or immediately following containment and cleanup activities, and take enforcement action as appropriate?

PART 5 - WATERSHED ECOLOGICAL RESTORATION PLANNING

1. Watershed Ecological Restoration
   (a) Did you develop Watershed Ecological Restoration Plans and Reports?
   (b) Did you develop Watershed Ecological Restoration projects or plans for:
      (1) The degraded stream segments of the Ventura River?
      (2) The degraded stream segments of the Santa Clara River?
      (3) The degraded stream segments of Calleguas Creek?

2. Did you include or attach the WMAs Watershed Ecological Restoration Plans Annual Reports, and include:
   (a) Background information?
   (b) Evaluation of site conditions?
   (c) Progress towards goals summarized and linked to specific stressors and measurements endpoints?
   (d) Bioassessment monitoring assessment(s)?

From: <vermyil_thomas@dailyjournal.com>
To: <twoods@waterboards.ca.gov>
Date: 2/16/2007 9:24:31 AM
Subject: Confirmation of Order 1091866

Dear Customer:

The order listed below has been received and processed. If you have any questions regarding this order, please contact your ad coordinator or the phone number listed below.

Customer Account Number: 120183
Type of Notice : GPN - GOVT PUBLIC NOTICE
Ad Description : PUBLIC NOTICE NO. 07-007
Our Order Number : 1091866
Newspaper : VENTURA COUNTY STAR
Publication Date(s) : 02/22/2007
Sales/Hrg Date : 03/07/2007

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CC: <vermyil_thomas@dailyjournal.com>

STATE OF CALIFORNIA
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

PUBLIC NOTICE

PUBLIC WORKSHOP ON PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN, (NPDES NO. CAS004002).

Public Notice No. 07-007

WHAT IS BEING PLANNED	NOTICE IS HEREBY GIVEN that the Los Angeles Regional Water Quality Control Board, (Regional Water Board) will hold a public workshop to receive comments on the proposed Waste Discharge Requirements (WDR) for Municipal Storm Water Discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein, (NPDES NO. CAS004002). Note the change in date and venue.
WHEN AND WHERE	April 5, 2007 at 9:00 AM City of Burbank Council Chambers 275 E. Olive Avenue Burbank, CA 91502-1232
AVAILABILITY OF DOCUMENTS	The WDR and accompanying file are available for review and copying as of December 27, 2006 between the hours of 8:00 am - 4:30 pm by appointment at the following address: Los Angeles Regional Water Quality Control Board 320 W. 4th Street, #200 Los Angeles, CA 90013-2343 213/576-6600 For an electronic copy of the WDR see the Regional Water Board's web site: www.waterboards.ca.gov/losangeles/html/permits/all_tentative_permits.html
PUBLIC COMMENT AND SUBMITTAL OF EVIDENCE	Persons wishing to comment upon, or object to, changes to the WDR (NPDES NO. CAS004002), are invited to submit them in writing to Xavier Swamikannu at the above address, or send them electronically to: April122007workshop@waterboards.ca.gov. The comment deadline is being extended from the previously noticed deadline of February 26, 2007. To be evaluated and responded to by staff, included in the Regional Water Board's agenda folder, and fully considered by the Regional Water Board, written comments must be received no later than close of business on **March 7, 2007**. Failure to comply with these requirements is grounds for the Regional Water Board to refuse to admit the proposed written comment or exhibit into evidence pursuant to section 649.4, title 23 of the California Code of Regulations.
HEARING PROCEDURE	Staff will present the matter under consideration, after which written and oral statements from parties or interested persons will be accepted and heard on the proposed action. Any person may present relevant statements or arguments at the public workshop. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. If necessary, time limitations on presentations may be imposed. The Board will take no formal action on the WDR (NPDES NO. CAS004002) at the public workshop. Adoption of the proposed WDR (NPDES NO. CAS004002) will be considered, at a subsequent Regional Water Board hearing.
FOR INFORMATION	For additional information or for an appointment to review the file please contact Xavier Swamikannu at 213/620-2094 or Tracy Woods at 213/620-2095.

California Regional Water Quality Control Board

Los Angeles Region

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

Dan Skopec
Agency Secretary

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

Arnold Schwarzenegger
Governor

February 15, 2007

California Newspaper Service Bureau, Inc.
P.O. Box 54310
Los Angeles, CA 90054

GOVERNMENT ACCOUNTS (FILE NO. 100.324)

Enclosed is a copy of a public notice we would like to publish in a daily newspaper of general circulation in the entire Ventura County area for one day on February 22, 2007.

We rely on your proofreading.

Please bill us in triplicate and provide us with three copies of the affidavit of publication (Attention: Pat Guokas).

Thank you very much for your assistance.

If you have any questions, please call me at (213) 620-2094.

Xavier Swamikannu
Chief, Storm Water Program

Enclosure

STATE OF CALIFORNIA
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

PUBLIC NOTICE

PUBLIC WORKSHOP ON PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN, (NPDES NO. CAS004002).

Public Notice No. 07-007

WHAT IS BEING PLANNED	NOTICE IS HEREBY GIVEN that the Los Angeles Regional Water Quality Control Board, (Regional Water Board) will hold a public workshop to receive comments on the proposed Waste Discharge Requirements (WDR) for Municipal Storm Water Discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein, (NPDES NO. CAS004002). Note the change in date and venue.
WHEN AND WHERE	April 5, 2007 at 9:00 AM City of Burbank Council Chambers 275 E. Olive Avenue Burbank, CA 91502-1232
AVAILABILITY OF DOCUMENTS	The WDR and accompanying file are available for review and copying as of December 27, 2006 between the hours of 8:00 am - 4:30 pm by appointment at the following address: Los Angeles Regional Water Quality Control Board 320 W. 4th Street, #200 Los Angeles, CA 90013-2343 213/576-6600 For an electronic copy of the WDR see the Regional Water Board's web site: www.waterboards.ca.gov/losangeles/html/permits/all_tentative_permits.html
PUBLIC COMMENT AND SUBMITTAL OF EVIDENCE	Persons wishing to comment upon, or object to, changes to the WDR (NPDES NO. CAS004002), are invited to submit them in writing to Xavier Swamikannu at the above address, or send them electronically to: April122007workshop@waterboards.ca.gov. The comment deadline is being extended from the previously noticed deadline of February 26, 2007. To be evaluated and responded to by staff, included in the Regional Water Board's agenda folder, and fully considered by the Regional Water Board, written comments must be received no later than close of business on **March 7, 2007**. Failure to comply with these requirements is grounds for the Regional Water Board to refuse to admit the proposed written comment or exhibit into evidence pursuant to section 649.4, title 23 of the California Code of Regulations.
HEARING PROCEDURE	Staff will present the matter under consideration, after which written and oral statements from parties or interested persons will be accepted and heard on the proposed action. Any person may present relevant statements or arguments at the public workshop. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. If necessary, time limitations on presentations may be imposed. The Board will take no formal action on the WDR (NPDES NO. CAS004002) at the public workshop. Adoption of the proposed WDR (NPDES NO. CAS004002) will be considered, at a subsequent Regional Water Board hearing.
FOR INFORMATION	For additional information or for an appointment to review the file please contact Xavier Swamikannu at 213/620-2094 or Tracy Woods at 213/620-2095.

California Regional Water Quality Control Board

Los Angeles Region

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Dan Skopec
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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.waterboards.ca.gov/losangeles

Arnold Schwarzenegger
Governor

December 13, 2006

California Newspaper Service Bureau, Inc.
P.O. Box 54310
Los Angeles, CA 90054

GOVERNMENT ACCOUNTS (FILE NO. 100.324)

Enclosed is a copy of a public notice we would like to publish in a daily newspaper of general circulation in the entire Ventura County area for one day on December 24, 2006.

We rely on your proofreading.

Please bill us in triplicate and provide us with three copies of the affidavit of publication (Attention: Pat Guokas).

Thank you very much for your assistance.

If you have any questions, please call me at (213) 620-2094.

Xavier Swamikannu
Chief, Storm Water Program

Enclosure

STATE OF CALIFORNIA
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

PUBLIC NOTICE

PUBLIC WORKSHOP ON PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN, (NPDES NO. CAS004002).

Public Notice No. 06-076

WHAT IS BEING PLANNED	NOTICE IS HEREBY GIVEN that the Los Angeles Regional Water Quality Control Board, (Regional Water Board) will hold a public workshop to receive comments on the proposed Waste Discharge Requirements (WDR) for Municipal Storm Water Discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein, (NPDES NO. CAS004002).
WHEN AND WHERE	April 12, 2007 at 9:00 AM City of Simi Valley Council Chambers 2929 Tapo Canyon Road Simi Valley, CA 93063-2117
AVAILABILITY OF DOCUMENTS	The WDR and accompanying file are available for review and copying as of December 27, 2006 between the hours of 8:00 am - 4:30 pm by appointment at the following address: Los Angeles Regional Water Quality Control Board 320 W. 4th Street, #200 Los Angeles, CA 90013-2343 213/576-6600 For an electronic copy of the WDR see the Regional Water Board's web site: www.waterboards.ca.gov/losangeles/html/permits/all_tentative_permits.html
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HEARING PROCEDURE	Staff will present the matter under consideration, after which written and oral statements from parties or interested persons will be accepted and heard on the proposed action. Any person may present relevant statements or arguments at the public workshop. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. If necessary, time limitations on presentations may be imposed. The Board will take no formal action on the WDR (NPDES NO. CAS004002) at the public workshop. Adoption of the proposed WDR (NPDES NO. CAS004002) will be considered, at a subsequent Regional Water Board hearing.
FOR INFORMATION	For additional information or for an appointment to review the file please contact Xavier Swamikannu at 213/620-2094 or Tracy Woods at 213/620-2095.

California Regional Water Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

Arnold Schwarzenegger
Governor

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

Notice of Public Meeting/Hearing

Thursday, April 5, 2007

9:00 a.m.

Meeting Location:

The City of Burbank
(City Council Chambers)
275 E. Olive Avenue
Burbank, California

Agenda

The Regional Board strives to conduct an accessible, orderly, and fair meeting. During the meeting, the Chair will conduct the meeting and establish appropriate rules and time limitations for each item. The Board will only act on items designated as action items. Action items on the agenda are staff proposals, and may be modified by the Board as a result of public comment or Board member input. Additional information about Regional Board meeting procedures is included after the last agenda item.

To ensure a fair hearing and that the Regional Board Members have an opportunity to fully study and consider written material, unless stated otherwise, written materials must be provided to the Executive Officer ***not later than 5:00 p.m. on March 29, 2007. Please consult the agenda description for specific items, because certain items may have an earlier deadline for written submissions. If you are considering submitting written materials, please consult the notes at the end of the agenda. Failure to follow the required procedures may result in your materials being excluded from the hearing record; however, failure to timely submit written materials does not preclude a person from testifying before the Board.***

Item 11 will be heard out of order and will not be heard before 1:00 p.m.

INTRODUCTORY ITEMS

1. **Roll Call.**
2. **Order of Agenda.** The agenda items are numbered for identification purposes only and may not necessarily be considered in this order.
3. **Approval of March 1, 2007 Draft Meeting Minutes.**
   [Ronji Harris, (213) 576-6612]
4. **Board Member Communications.**
   4.a. Ex Parte Disclosure. Board Members will identify any discussions they may have had requiring disclosure pursuant to Government Code section 11430.40.

4.b. Board Member Reports. The Board Members may discuss communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction.

5. **Executive Officer's Report.**
[Jonathan Bishop, (213) 576-6605]

5.a **Board Checklist.**

5.b **Update from State Board.**

6. **Public Forum.** Any person may address the Board regarding any matter within the Board's jurisdiction that does not appear elsewhere on this agenda. Remarks will be limited to five (5) minutes, unless otherwise directed by the Chair.

7. **Uncontested Items Calendar.** Items marked with an asterisk are expected to be routine and noncontroversial. The Board will be asked to approve these items at one time without discussion. Any person may request that an item be removed from the uncontested calendar. The Chair will determine the appropriate time to consider an item removed from the consent calendar.

UNCONTESTED ITEMS

Waste Discharge Requirements that Serve as Individual NPDES Permits

Renewal-

*8. Discharge of Treated Groundwater and Other Wastewaters from Investigation and/or Cleanup of Petroleum Fuel-Contaminated Sites to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties; General NPDES Permit No. CAG834001. (Comment submittal deadline was March 1, 2007) [Namiraj Jain, (213) 620-6003].

*9. Discharge of Treated Groundwater from Investigation and/or Cleanup of Volatile Organic Compounds Contaminated-Sites to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties; General NPDES Permit No. CAG914001. (Comment submittal deadline was March 1, 2007) [Gensen Kai, (213) 620-6651]

Other Business

*10. Consideration of a Proposed Resolution Approving the City of Los Angeles' Proposed Special Studies for the Hyperion Treatment Plant (Continuation Special Study, 2006, Documentation of Human-derived Sex Steroid Hormones in Southern California Bight Flatfish; Receiving Water Monitoring Plan for Diversion of 5-Mile Discharge to 1-Mile Pipe During the 5-Mile Pipe Inspection, and White Croacker Tissue Study) and the Terminal Island Treatment Plant (Determining Total Organic Halides in Los Angeles Harbor Sediment Samples and White Croacker Tissue Study.) (Comment submittal deadline was March 1, 2007) [Blythe Ponek-Bacharowski, (213) 576-6720]

WORKSHOP

11. A workshop will be held to solicit input and comments on the tentative Municipal Separate Storm Sewer System Discharge Permit for the County of Ventura; NPDES No. CAS004002. (Comment submittal deadline was March 7, 2007.) [Tracy Woods, (213) 620-2095]

ACTION ITEMS

Revision-

12. Browning Ferris Industries, Inc. (Sunshine Canyon County Extension Landfill), Sylmar; (File No. 58-076) (Comment submittal deadline was March 15, 2007) [Wen Yang, (213) 620-2253]

New-

13. Consideration of new Waste Discharge Requirements and Water Recycling Requirements for City of Santa Paula (New Santa Paula Wastewater Recycling Facility) (File No. 06-189) for discharge and reuse of domestic wastewater from a new waste water reclamation facility to be constructed by the Discharger. (Comment submittal deadline was February 28, 2007) [Orlando H. Gonzalez, (213) 620-2267]

CLOSED SESSION

14. As authorized by the Government Code section 11126, the Regional Board will be meeting in closed session. Closed session items are not open to the public. Items the Board may discuss include the following: [Michael Levy, (MJL), (916) 341-5193; Jennifer L. Fordyce (JLF) (916) 324-6682.]

14.1 *Cities of Los Angeles, City of Burbank v. Los Angeles Regional Water Quality Control Board*, Los Angeles County Superior Court, Case Nos. BS 060957 and BS 060960. [Challenging the Burbank, Tillman, and Los Angeles-Glendale Water Reclamation Plants' NPDES permits]. (MJL)

14.2 *Cities of Arcadia, et al., v. Los Angeles Regional Water Quality Control Board et al.*, San Diego Superior Court No. GIC 803631 [Challenging the Los Angeles River Trash TMDL]. (MJL)

14.3 *In Re Municipal Storm Water Permit for Los Angeles County,* Los Angeles Superior Court Nos. BS 080548, BS080753, BS 080758, BS 080791, BS 080792, BS 080707 [Challenging the Los Angeles County MS4 Permit]. (MJL)

14.4 *County of Los Angeles et al. v. Commission on State Mandates et al. and City of Artesia et al. v. State of California*, Los Angeles Superior Court, Nos. BS089769 & BS089785, Second District Court of Appeal No. B183981 [Alleging that the Los Angeles MS4 Permit created an unfunded state mandate]. (MJL)

14.5 *Boeing v. Los Angeles Regional Water Quality Control Board et al., Los Angeles County Superior Court No. BS106941* [Challenge to permit for the Santa Susana Field Laboratory]. (MJL)

14.6 *In re Halaco Engineering Company*, United States Bankruptcy Court, Central District of California, Northern Division, No. ND-02-12255 RR; [Regarding a CDO and CAO at the Oxnard Property]. (JLF)

14.7 *Cities of Arcadia et al., v. Los Angeles Regional Water Quality Control Board,* Orange County Superior Court No. 06CC02974 [Challenging the 2004 Triennial Review]. (MJL)

14.8 *Cities of Bellflower et al., v. Los Angeles Regional Water Quality Control Board et al.,* Los Angeles Superior Court No BS101732 [Challenging the Los Angeles River and Ballona Creek Metals TMDLs]. (MJL)

14.9 *People of the State of California Regional Water Quality Control Board, Los Angeles Region v. City of Santa Paula, Santa Paula Water Reclamation Facility, Ventura County Superior Court.* (JLF)

14.10 Consultation with counsel about:

(a) A judicial or administrative adjudicatory proceeding that has been formally initiated to which the Regional Board is a party;

(b) A matter that, based on existing facts and circumstances, presents significant exposure to litigation against the Regional Board;

(c) A matter which, based on existing facts and circumstances, the Regional Board is deciding whether to initiate litigation. (JLF)

15. • **Adjournment of Current Meeting.** The next regular meeting is scheduled for May 3, 2007, at the Metropolitan Water District of Southern California, 700 North Alameda Street, Los Angeles, CA.

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NOTICE

Additional information concerning hearing procedures, written submissions, and the record.

Hearing Procedures: The Regional Board follows procedures established by the State Water Resources Control Board. These procedures are established in regulations commencing with section 647 of title 23 of the California Code of Regulations. The Chair may establish specific procedures for each item, and consistent with section 648, subdivision (d) of title 23 of the California Code of Regulations may waive nonstatutory provisions of the regulations. Generally, all witnesses testifying before the Regional Board must affirm the truth of their testimony and are subject to questioning by the Board Members. The Board does not, generally, require the designation of parties, the prior identification of witnesses, or the cross examination of witnesses. Any requests for an alternate hearing process should be made to the Executive

Officer in advance of the meeting, and under no circumstances later than 5:00 p.m. on the Thursday preceding the Board meeting.

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Written Submissions: Written materials (whether hand-delivered, mailed, e-mailed, or facsimiled) ***must be received prior to the relevant deadline*** established in the agenda and public notice for an item. If the submitted material is more than 10 pages or contains foldouts, color graphics, maps, or similar items, 12 copies must be submitted prior to the relevant deadline.

Failure to comply with requirements for written submissions is grounds for the Chair to refuse to admit the proposed written comment or exhibit into evidence. (Cal. Code Regs. tit. 23, § 648.4(e).) The Chair may refuse to admit written testimony into evidence unless the proponent can demonstrate why he or she was unable to submit the material on time or that compliance with the deadline would otherwise create a hardship. If any other party demonstrates prejudice resulting from admission of the written testimony, the Chair may refuse to admit it.

***

Administrative Record: Material presented to the Board as part of testimony that is to be made part of the record must be left with the Board. This includes photographs, slides, charts, diagrams, etc. All Board files pertaining to the items on this Agenda are hereby made a part of the record submitted to the Regional Board by staff for its consideration prior to action on the related items.

***

Accessibility: Individuals requiring special accommodations or language needs should contact Dolores Renick at (213) 576-6629 or drenick@waterboards.ca.gov at least ten working days prior to the meeting. TTY/TDD/Speech -to-Speech users may dial 7-1-1 for the California Relay Service.

***

Availability of Complete Agenda Package: A copy of the complete agenda package is available for examination at the Regional Board Office during regular working hours (8:00 a.m. to 5:00 p.m. Monday through Friday) beginning 10 days before the Board meeting. Questions about specific items on the agenda should be directed to the staff person whose name is listed with the item.

***

Continuance of Items: The Board will endeavor to consider all matters listed on this agenda. However, time may not allow the Board to hear all matters listed. Matters not heard at this meeting may be carried over to the next Board meeting or to a future Board meeting. Parties will be notified in writing of the rescheduling of their item. Please contact the Regional Board staff to find out about rescheduled items.

***

Challenging Regional Board Actions: Pursuant to Water Code section 13320, any aggrieved person may file a petition to seek review by the State Water Resources Control Board of most actions taken by the Regional Board. A petition must be filed within 30 days of the action. Petitions must be sent to State Water Resources Control Board, Office of Chief Counsel; ATTN: Elizabeth Miller Jennings, Senior Staff Counsel; 1001 "I" Street, 22nd Floor; Sacramento, CA 95814.

***

Electronic Information and Updates: Our web site address is www.swrcb.ca.gov/rwqcb4. The site can also be accessed through the State Water Resources Control Board's web site at www.waterboards.gov/losangeles/, then clicking on "Regional Boards". Information available online includes the Regional Board's meeting schedule, a list of the Regional Board members, past and present Executive Officer reports, program information, a list of staff and phone numbers arranged by their work unit, and links to the Santa Monica Bay Restoration Commission's home page and other governmental agencies. Last-minute changes to the agenda, such as the continuance of an item, will be posted electronically. If you need further information, please contact Jack Price at (213) 576-6669.

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Pending Water Quality Certifications: A listing of pending water quality certification applications currently on public notice pursuant to Section 401 of the Federal Clean Water Act may be obtained by calling Valerie Carrillo at (213) 576-6759.

California Regional Water Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

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

Arnold Schwarzenegger
Governor

April 3, 2007

To: Interested Parties

From: Jonathan Bishop
Executive Officer

ITEM NUMBER 11 - ORDER OF WORKSHOP – REGIONAL BOARD MEETING APRIL 5, 2007

Dear Interested Parties:

The Los Angeles Regional Water Board will hold a public workshop to hear comments from the public on the December 27, 2006 draft municipal storm water discharge permit for the County of Ventura and incorporated cities therein. There will be no official Board action at this workshop. This is the order for the public workshop that will occur on April 5, 2007 at the meeting of the Los Angeles Regional Water Quality Control Board in Burbank, CA.

Order of Proceedings:	(Estimated Time*)
1. Opening Statement by Chair	5 minutes
2. Staff Presentation	40 minutes
3. Ventura County Permittees Presentation	40 minutes
4. Coalition for Practical Regulation	30 minutes
5. Building Industry Association Presentation	30 minutes
6. California Stormwater Quality Assoc. (CASQA)	15 minutes
7. Environmental Group's Presentation	30 minutes
8. Interested Persons' Comments	5 minutes each

*Estimated times set forth in the Order of Proceedings are intended to reflect anticipated limits for the respective presentations and are subject to limitation or extension by the Chair upon a showing of good cause. All are encouraged to coordinate their presentations. Additional time may be allotted for coordinated presentations. Repetitive testimony will not be allowed.

Any objections to these procedures should be submitted in writing to Xavier Swamikannu by noon on Wednesday April 4, 2007. If you have any questions, please contact Carlos Urrunaga at (213) 620-2083 or currunaga@waterboards.ca.gov or Xavier Swamikannu at (213) 620-2094 or xswamikannu@waterboards.ca.gov.

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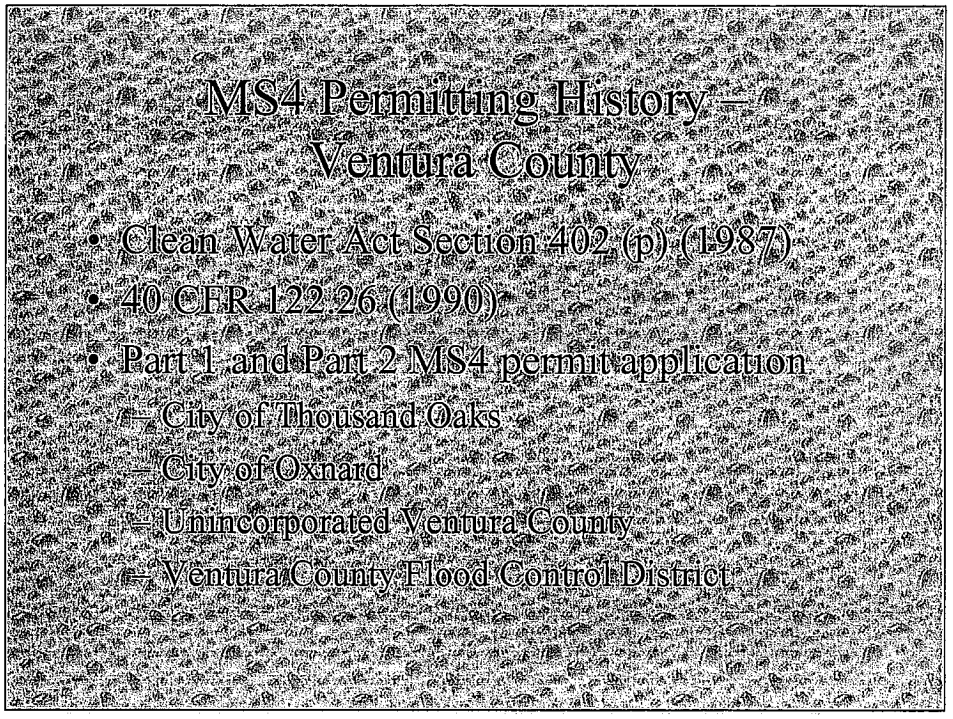
Proposed Renewal of the

County of Ventura "Municipal Separate Storm Sewer System" (MS4) Permit Workshop

Regional Water Quality Control Board

Los Angeles Region

April 5, 2007



Good Afternoon Chairwoman Diamond and Members of the Los Angeles Water Board:

I am Xavier Swamikannu, Chief of the Storm Water Permitting Program.

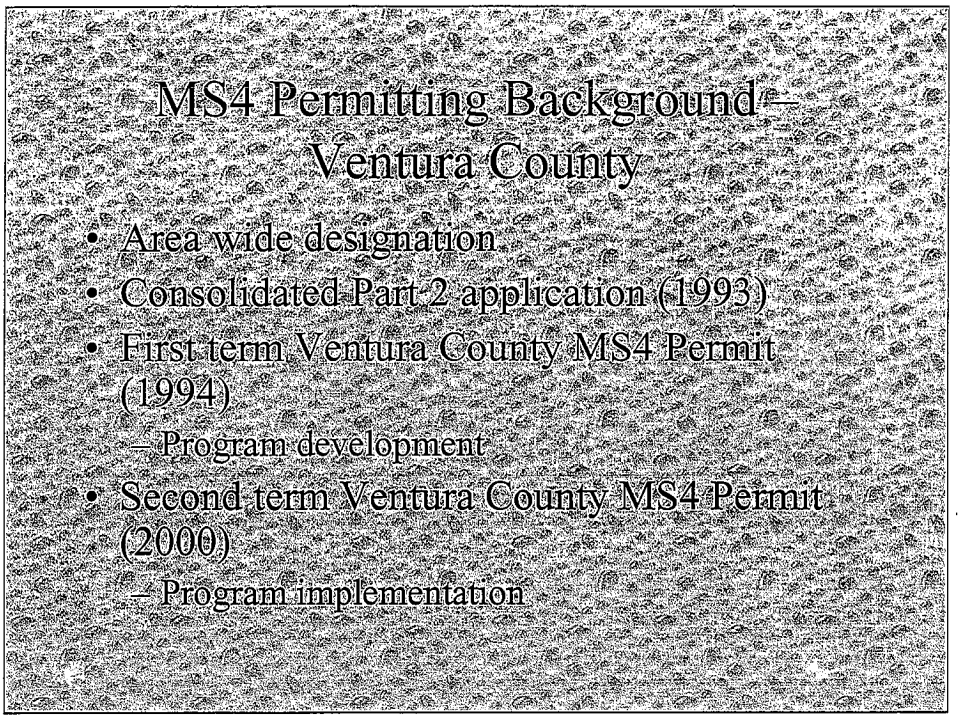
With a team of my colleagues, and Ms. Tracy Woods as Program Leader, we will present an overview of the Ventura County MS4 Program at this Workshop, its current status, objectives, and proposed advancements.

I will begin by giving you a brief history of municipal storm water permitting in Ventura County.

In 1987, the U.S. Congress amended the Clean Water Act to specifically require storm water discharges including those from municipalities with populations 100,000 or greater, conveyed by a separate storm sewer system to be addressed as point sources of pollution under the NPDES. These municipalities were required to reduce the discharge of storm water pollutants to the maximum extent practicable. [commonly referred to as the MEP standard].The U.S. and California Courts have since interpreted federal statutes to give the permitting authority the discretion to also require compliance with water quality standards. In addition, conditions in NPDES permits must be consistent with the assumptions of TMDL WLA's that have been adopted.

The USEPA issued the Final Storm Water Regulations in Nov 1990, which required medium and large municipalities to submit a two part application. The first part required basic system description and ownership identity information. Part 2 required storm water pollutant discharge characterization data from one wet season, and a proposed storm water quality management plan.

In 1990, populations in Oxnard, Thousand Oaks, and Unincorporated Ventura County met the Census definition of medium size municipalities.

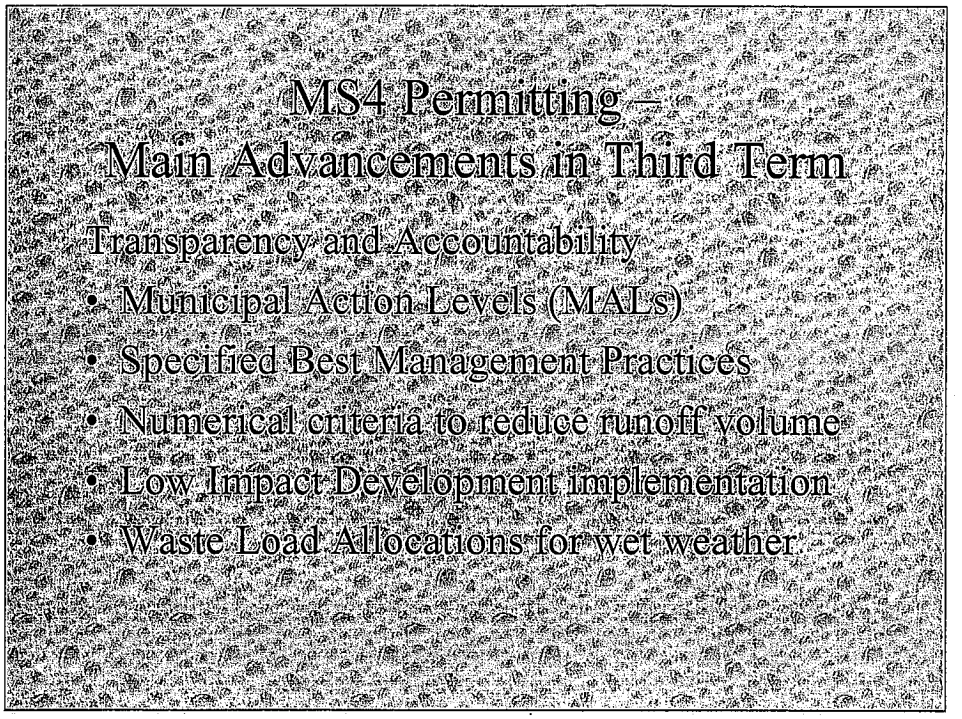


The City of Oxnard submitted a Part 1 application in 1991. After discussions with the Ventura County Flood Control District, and the City of Thousand Oaks, the Water Board decided that the VCFD as Principal Permittee would submit a system wide Part 2 application on behalf of all the municipalities in Ventura County, because of the interconnected nature of the flood control system.

A consolidated Part 2 application was submitted in 1993, and the Water Board issued the first term system-wide municipal storm water permit for Ventura County in 1994.

The focus of the 1994 MS4 permit was to require Ventura County municipalities to develop storm water pollution control programs in the areas of public involvement/ education; business/ industry outreach; development planning; development construction; public agency activities; and illicit connection/ discharge elimination, in addition to implementing a basic monitoring program to characterize the quality of municipal storm water discharges.

The second term MS4 permit was adopted in 2000, and the focus of the permit was the implementation of a comprehensive storm water quality management program, to reduce the discharge of storm water pollutants to the MEP, and to meet water quality standards. The monitoring program was expanded to assess mass emissions of pollutants from Ventura County Rivers to coastal waters, and to better understand the quality of wet weather discharges and their adverse impacts.



No doubt the Ventura County MS4 Program, under the leadership of the Ventura County Watershed Protection District has made significant strides in implementing programs to reduce storm water pollution. Yet, more than a decade after the first permit was issued, we continue to see exceedances of water quality standards for storm water pollutants such as bacteria, and heavy metals. In addition, the Ventura County MS4 program having run its second term is a step behind that of Los Angeles County, which closed out its third term last December.

Consequently, the draft permit includes some important advancements that will improve evaluating the adequacy of implementation of storm water controls and hold Permittees accountable for not doing enough to clean-up storm water from a national perspective.

The draft permit for the first time includes Municipal Action Levels, derived using the USEPA's monitoring dataset for large and medium MS4s, and is a numerical measure of the MEP standard.

The permit identifies a default set of specific storm water BMPs that industry, construction, and public agencies must implement based on activity to reduce the discharge of storm water pollutants.

The draft permit also set's a numerical standard of no more than 5 percent of directly connected impervious area for new development and redevelopment projects to reduce storm water runoff volume and thus pollution.

It promotes the implementation of LID strategies for new development and

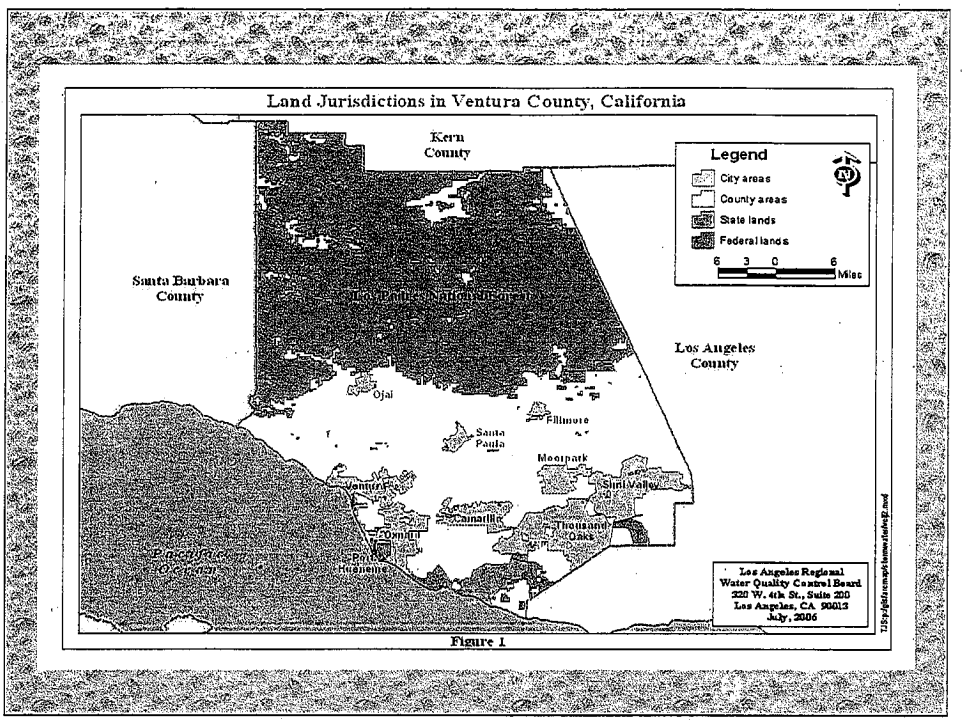


Figure 1

•Ventura County has a total area of about 1,200,000 ac.

•The area covered by this Permit includes all areas within Ventura County boundaries and all areas within the Municipalities' boundaries that are within the Los Angeles Water Board's jurisdiction except for agricultural lands, estimated at 330,000 ac, and forest lands estimated at 550,211 ac.

•Provisions of this Permit apply to the urbanized areas of the municipalities and areas undergoing urbanization.

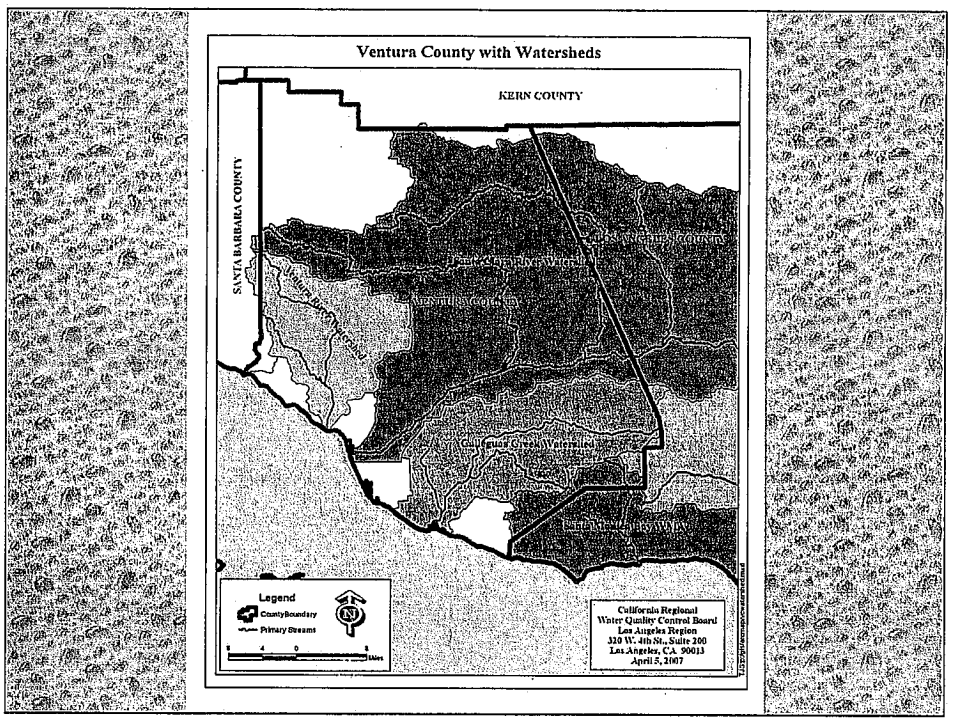
•The County's population is estimated around 817,000.

•The majority of the county's population lives in its southern protion, within 50 miles of the Ocean.

•The County can be separated into two major parts, East County and West County.

•The East County cities are Thousand Oaks, Moorpark, and Simi Valley.

•The West County cities are Camarillo, Oxnard, Port Hueneme, Ventura, Ojai, Santa Paula, and Fillmore.



Ventura County has five Watershed Management Areas (WMAs), which are largely composed of natural features they are:

1) Ventura River - Ojai, Ventura, Unincorporated Ventura County

2) Lower Santa Clara River - Fillmore, Oxnard, Ventura, Santa Paula, Unincorporated Ventura County.

3) Callgeuas Creek - Camarillo, Moorpark, Simi Valley, Thousand Oaks, Unincorporated Ventura County.

4) Upper Malibu Creek - Thousand Oaks, Unincorporated Ventura County.

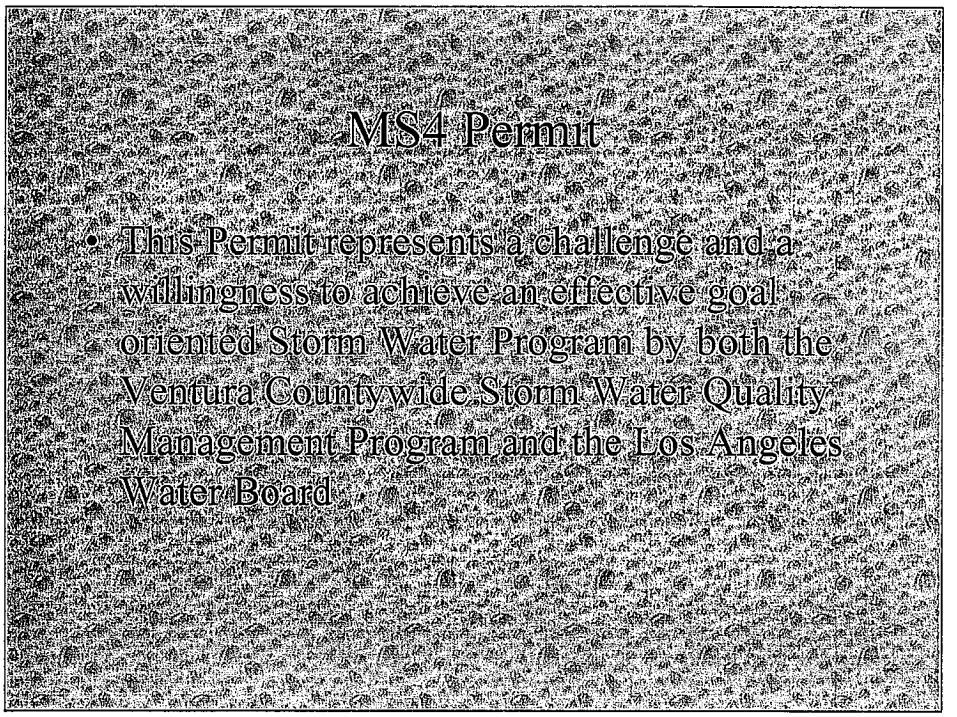
5) Miscellaneous Ventura Coastal - Oxnard, Port Hueneme, Ventura.

Municipal Storm Drain Systems Within Ventura County

CO-PERMITTEE AGENCIES	OPEN CHANNEL SOFT SIDE AND BOTTOM	OPEN CHANNEL HARD SIDE OR BOTTOM	OPEN CHANNELS HARD SIDE AND BOTTOM	UNDERGROUNG STORM DRAINS	DITCHES	GUTTERS	OTHER STORM DRAIN	TOTAL LENGTH in ft.
Principal Co-permittee								
VCWPD	409,728	307,296	204,864	102,432	-	-	-	1,024,320
Co-permittees								
City of Camarillo	-	-	-	400,00	32,178	2,956,800	1.095	3,390,073
County of Ventura	29,568	22,176	14,784	7,392	-	-	-	73,920
City of Fillmore	-	-	300	35,500	1,000	316,800	-	353,600
City of Moorpark	-	-	-	136,000	10,000	940,000	22	1,086,022
City of Ojai	-	-	7,920	31,680	-	337,920	-	377,520
City of Oxnard	63,360	15,840	26,400	211,200	-	2,112,00	-	2,428,800
City of Port Hueneme	5,000	-	-	66,000	-	440,000	-	511,000
City of Ventura	9,477	-	9,869	-	76,603	-	1,708	97,657
City of Santa Paula	582	-	-	96,817	18,174	633,600	-	749,173
City of Simi Valley	4,000	-	1,000	553,115	-	3,146,880	-	3,704,995
City of Thousand Oaks	-	534	-	790,164	-	5,533,440	-	6,324,138

•The 12 Permittees covered under this Permit were designated on a system-wide basis under Phase I of the CWA.

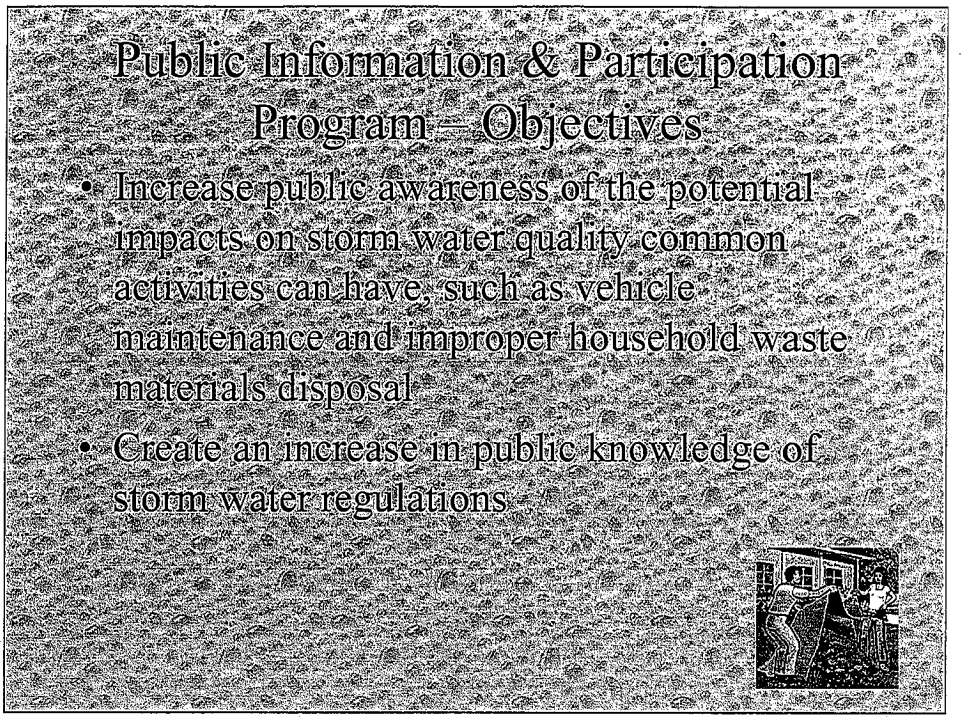
•The Municipal storm drain systems within the County have a combined total length of ~4,000 mi. (3, 811 mi.) & discharge either directly into the Pacific Ocean or one of the five Watershed Management Areas (WMAs).



•This MS4 Permit represents a challenge and a willingness to achieve an effective goal orientated Storm Water Program by both the Ventura Countywide Storm Water Quality Management Program and the Los Angeles Water Board.

•Specific requirements to the draft Ventura County MS4 Permit will be presented through the following presentations by Regional Board staff.

•Ivar Ridgeway will now discuss the Public Information & Participation Program, and The Illicit Connections & Illicit Discharges Elimination Program.



Good afternoon Madame Chair & members of the Board. My name is Ivar Ridgeway.

The objective of an effective Public Information & Participation Program is to inform the Public of the potential negative impact common activities can have on storm water quality and to provide guidance on how to mitigate the potential negative impacts.

Public Information & Participation Program – Current

- Existing Requirements
  - Designation of staff contact(s) to provide storm water quality information
  - Implementation of educational activities and participation in county wide events
  - Distribution of outreach materials to the general public and school children
  - Distribution of educational materials to industrial/commercial facilities

The current Ventura County MS4 Permit requires that Permittees distribute storm water educational material to the general public, school children and commercial/industrial facility operators.

Public Information & Participation Program – New Provisions

- Additional Pollutant-Generating Activities Targeted for Educational Outreach
- Organization of Watershed Citizen Advisory Groups/Committees
- Option to Provide Funds to the Environmental Education Account in Lieu of Providing Funding to School Districts

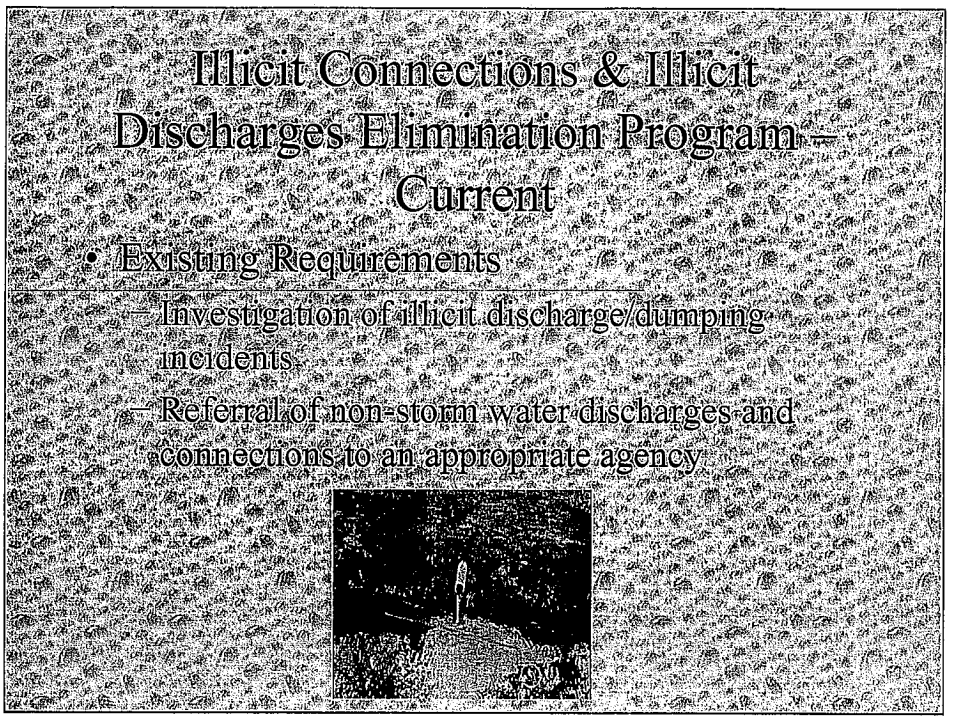
The objective of the Public Information & Participation Program revisions is to expand the storm water educational outreach to the [public and business community. The major revisions are: Additional categories have been targeted for education outreach, for example construction waste and pesticide application. In addition, the draft Ventura Permit specifies appropriate public counters for educational outreach, such as home improvement centers and pet shops. There is a requirement to organize Watershed Citizen Advisory Groups to aid in the development of effective public education methods and messages. In the proposed Permit, Permittees may opt to provide funding to the State's Environmental Education Account instead of providing funding or materials to School districts in the County.

Public Information & Participation Program – New Provisions

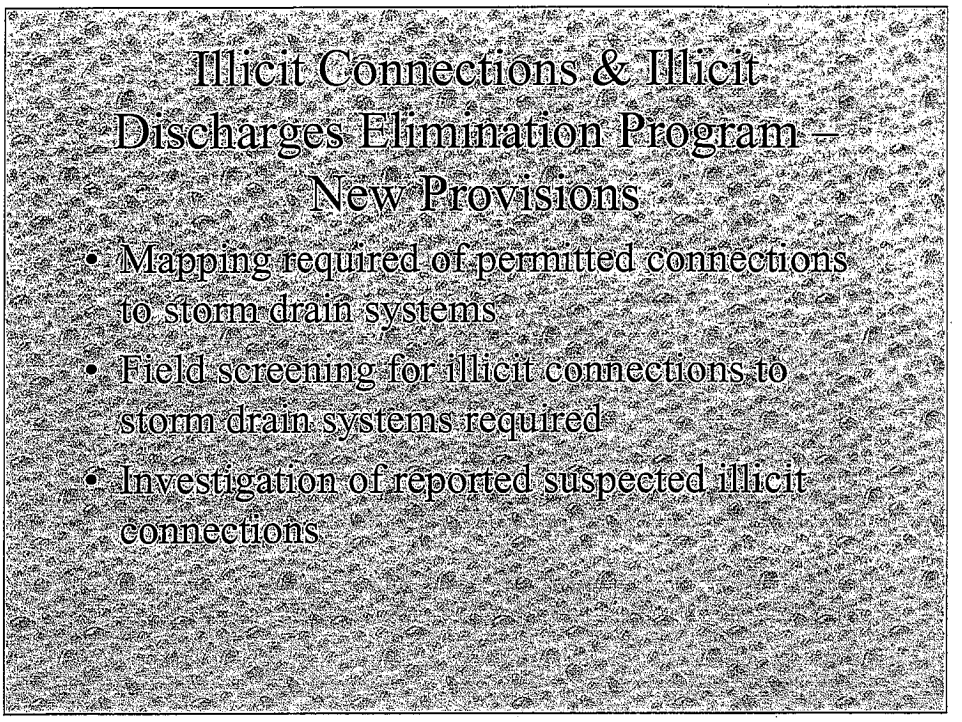
- Implementation of a Corporate Outreach Program

The draft Ventura Permit includes a Corporate Outreach Program targeting Retail Gas Outlet franchisers, home improvement center franchisers, and restaurant franchisers. The objective of this outreach is to make corporate management aware of storm water regulations and provide assistance with complying with storm water regulations.

The objective of an effective Illicit Connections and Illicit Discharges Elimination Program is to eliminate unauthorized non-storm water flows that can contribute pollutants to receiving waters.

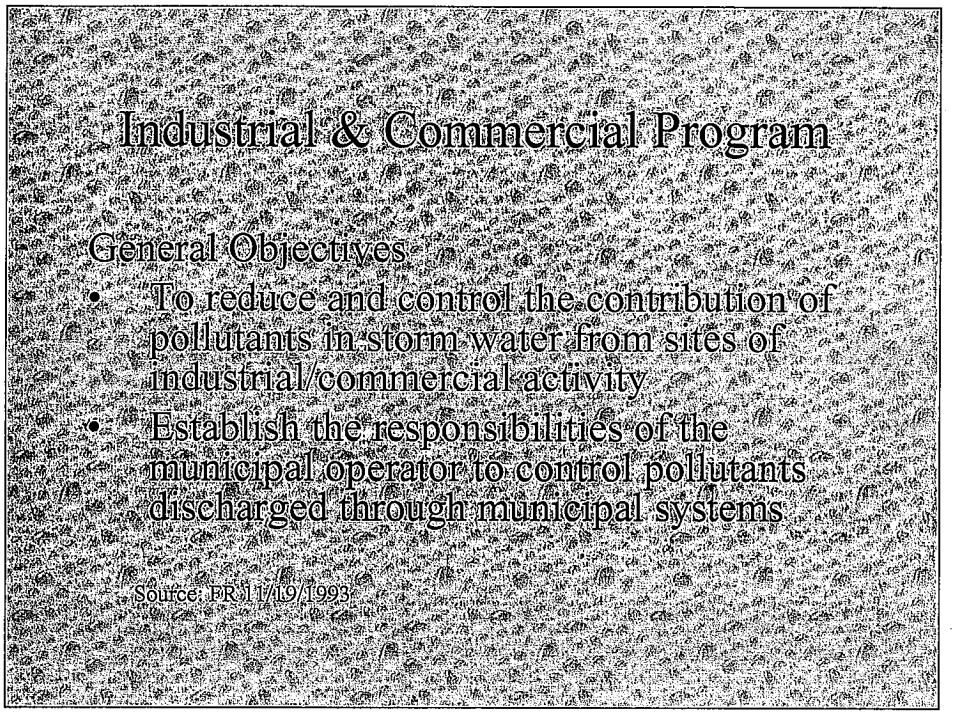


The current Ventura County MS4 Permit requires Permittees to respond to reports of illicit discharges and discoveries of illicit connections and take appropriate enforcement actions. Though the current Permit does not specify focused screening for illicit connections, the final Report of Waste Discharge submitted by Ventura County states illicit connections are identified and eliminated during storm drain maintenance activities.



The draft Permit requires storm drain mapping and field screening for illicit connections. The objective of storm drain system mapping and field screening is to facilitate the identification and elimination of illicit connections. Permittees are required to map permitted storm drain connections showing the location and length of underground pipes. Field screening for illicit connections is required, within 5 years, for high risk portions of the storm drain system, including sections consisting of pipes 36" or greater in diameter, high priority areas identified during the mapping of illicit connections and discharges, and portions of the storm drain system 50 years or older in age.

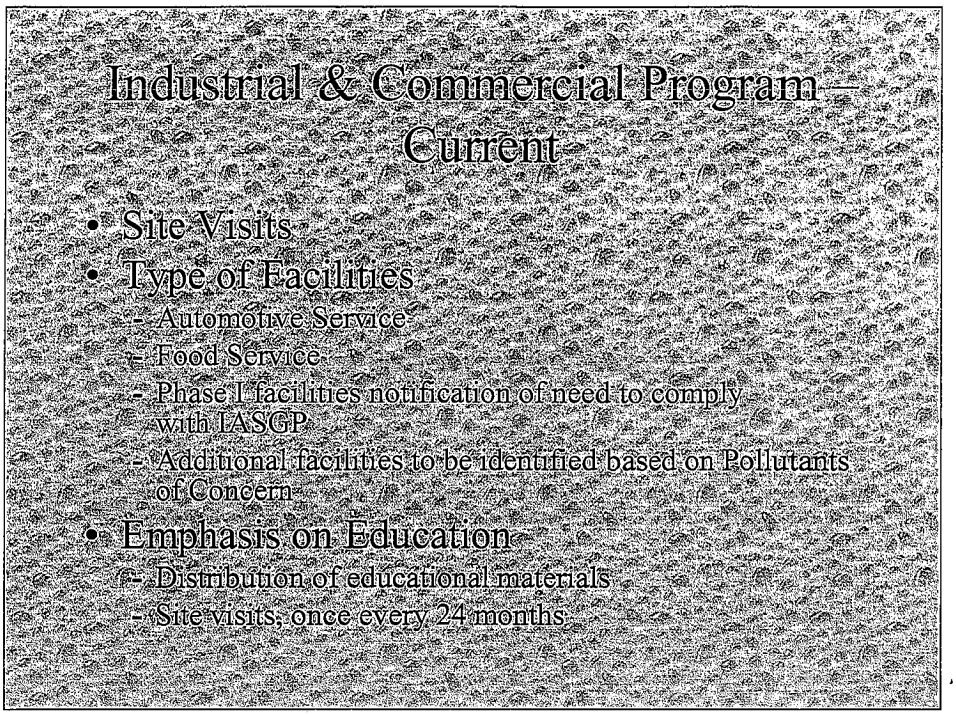
Now Dan Radelscu will discuss the industrial/Commercial Program elements.



Good afternoon Madam Chair, Board Members, my name is Dan Radulescu, I am a WRCE, and a licensed professional civil engineer.

As far back as early 1990's, U.S. EPA identified that the main goals of the industrial/commercial program are to reduce and control the contribution of pollutants in storm water from sites of industrial/commercial activity and to establish clear responsibilities of the municipal operators to control pollutants discharged through their municipal system.

We consider the industrial program an important component of the MS4 permits and its successful implementation is crucial for municipal compliance with the Maximum Extent Practicable, Municipal Action Levels and Water Quality Standards.



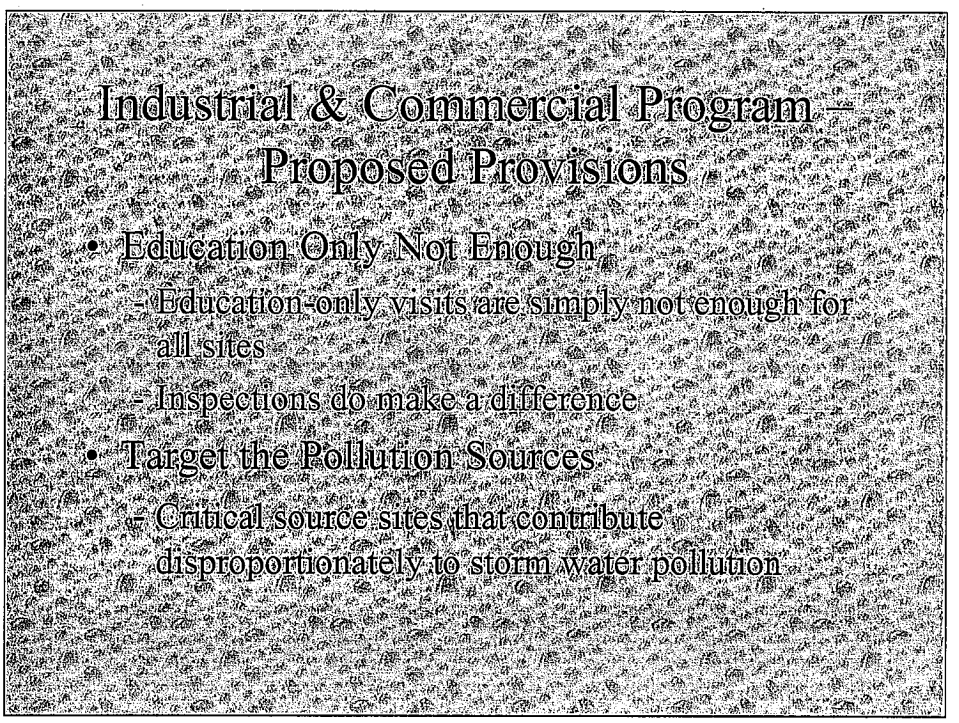
The current permit includes a requirement for site visits with an emphasis on education.

The type of facilities covered include automotive and food services operations. For phase I, heavy industrial facilities, there is a requirement to distribute educational materials and notify them of the obligation to obtain coverage under the general industrial storm water permit. One of the provisions of the existing permit is that Permittees will identify additional businesses to be included in the inspection program based on Pollutants of Concern source identification.

The frequency of these educational site visits was set at once every 24 months.

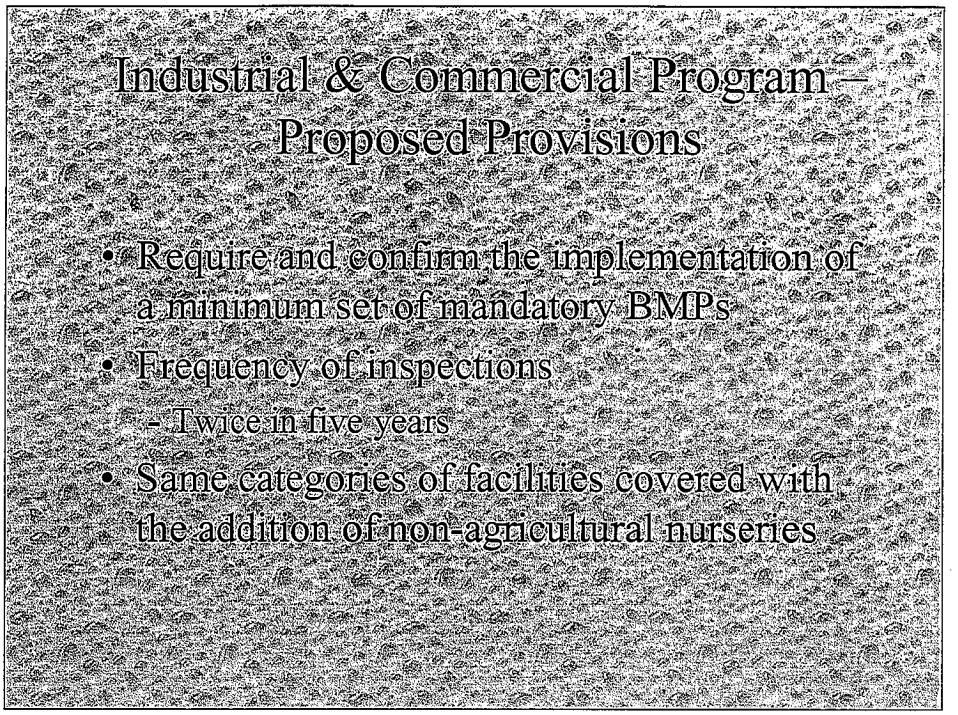
In the application submitted to the Regional Board the Permittees did not propose any enhancements to the industrial/commercial program and did not identify any other facilities that may contribute disproportionately to storm water pollution.

The results of the monitoring program revealed that pollutants typically associated with industrial/commercial activities, such as heavy metals, have been detected and at levels exceeding WQS.



Based on the previous findings the RB staff determined that education only activities are not achieving the desired goals, and statewide and nationwide experience on this topic demonstrated that compliance inspections do make a difference.

The inspections have the objective to target the pollution sources that typically contribute disproportionately to storm water pollution and provide for the implementation of pollution prevention and pollution control techniques close to the source.

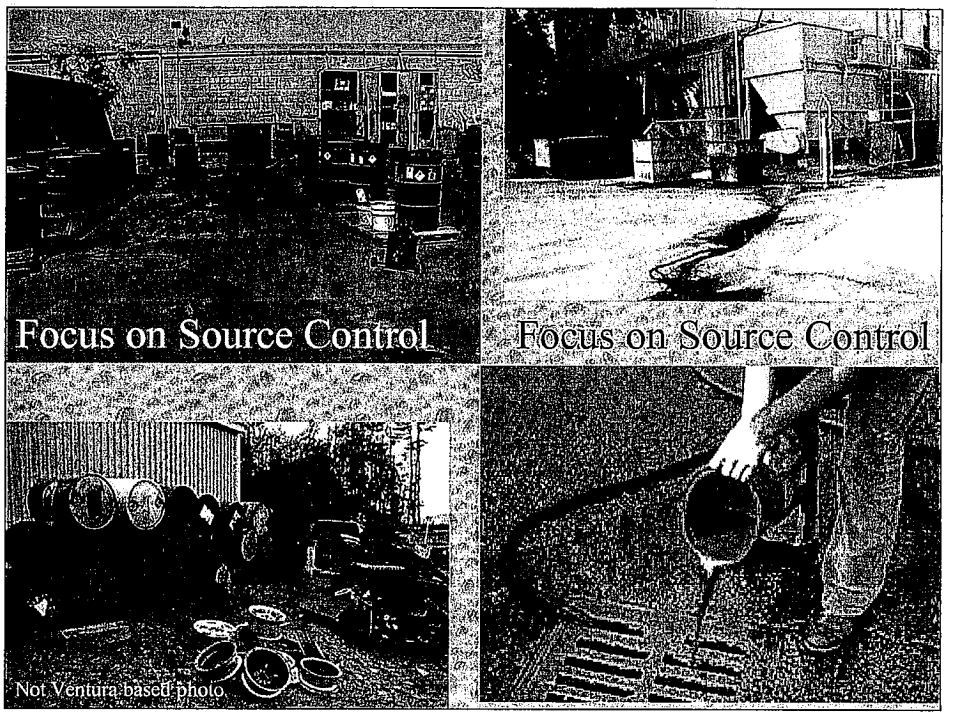


The proposed new program is moved forward by providing much more specific performance measures in this draft permit vs. the existing permit.

The intent is that Permittees ensure compliance with inexpensive pollution prevention source control BMPs. RB is authorized under 40 CFR 122.44(k)(2) to impose BMPs in lieu of numeric effluent limitations in NPDES permits.

In addition the Permittees will have to go on-site to ensure that adequate pollution prevention and source control techniques are implemented.

The same categories of facilities are covered with the addition of non-agricultural nurseries. Nurseries can be significant sources of storm water pollution and as a consequence the agricultural nurseries are subject to the RB's waiver program. Conditions in the MS4 permit as they pertain to nurseries assure a regulatory level playing field.



The success of the Permittees' business education efforts for the last 5 years has not been quantified - behavioral changes brought about by education aren't easy to measure.

But we do know that we continue to have problems with runoff from some businesses – studies identified problems in several industrial sectors, critical source monitoring programs confirmed the disproportionate contribution of pollution from certain industrial/commercial facilities and a review of the industrial monitoring data including sites in Ventura County also confirmed those previous conclusions.

The Regional Board staff determined that a more proactive approach is needed to assure that industrial/commercial sites are doing their part in preventing storm water pollution and it is also in the interest of the municipalities in their efforts that runoff discharges from the MS4s are meeting MEP, MALs and WQS.

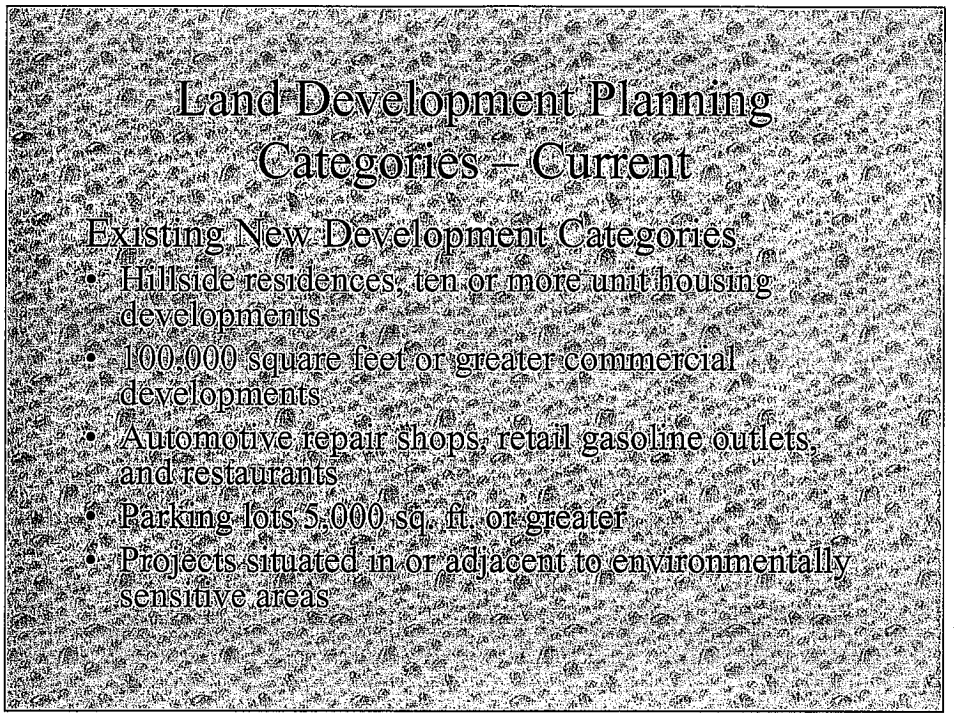
The focus of the program is on implementation of inexpensive source control BMPs and compliance verification inspections. The upgrades to the permit enhances also the coordination between cities' activities and the Regional Board's will assure an optimum allocation of resources between the agencies.

The conditions contained in the proposed permit are consistent with the conditions contained in the current Los Angeles MS4 permit.

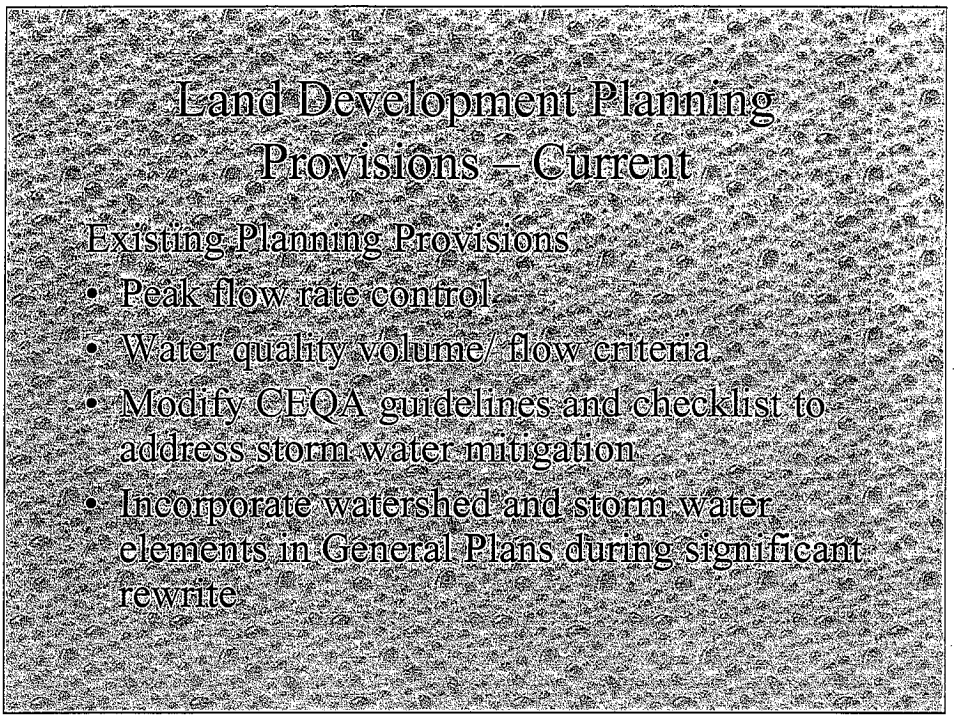
Now, I will turn the presentation over to Dr. Xavier Swamikannu who will discuss the Development Planning program.

The broad objectives of the land development planning provisions in the municipal storm water regulations are (i) to preserve the natural hydrological characteristics of development sites in order to minimize the adverse effects associated with land development changes, and (ii) to plan for implementation the most appropriate suite of storm water BMPs to control storm water pollution resulting from urban development.

Proper planning at the beginning will avoid the need for post-construction retrofit to control storm water pollution, and is very cost-effective.

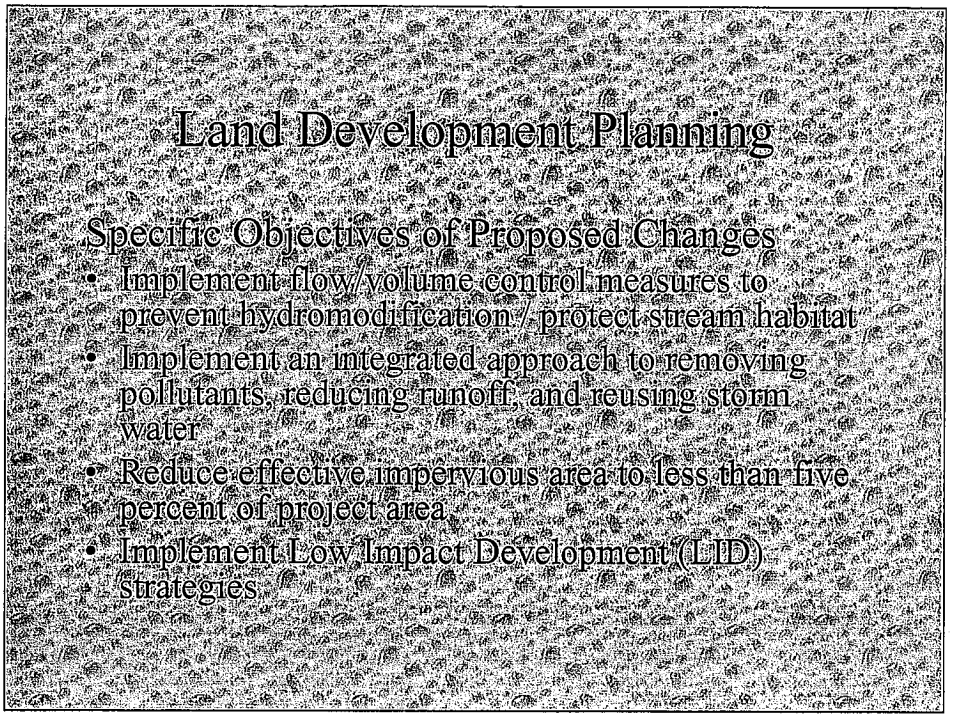


Presently, the development planning provisions apply to hillside properties, ten or more unit residential developments, and 2.5 acre commercial developments. In addition, they apply to certain categories of automotive related businesses, parking lots, and developments adjacent to environmentally sensitive areas. These categories largely reflect those that existed in the 1996 Los Angeles County MS4 permit..

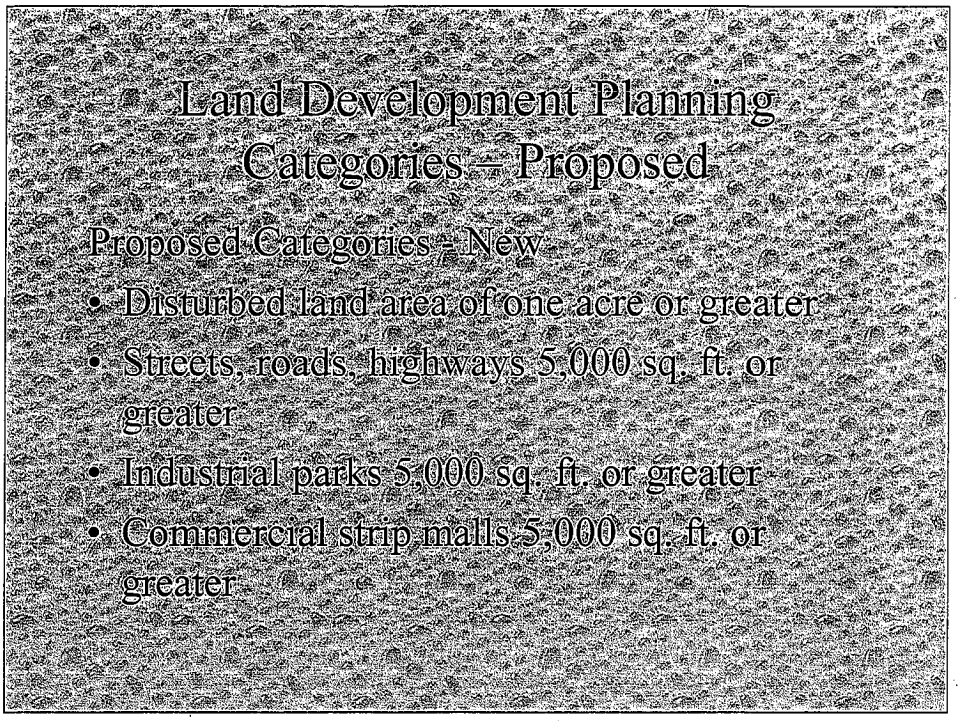


The development planning provisions in the current permit require the development of criteria for peak flow rate control, and the design of post-construction BMPs to mitigate storm water pollution based on numerical criteria.

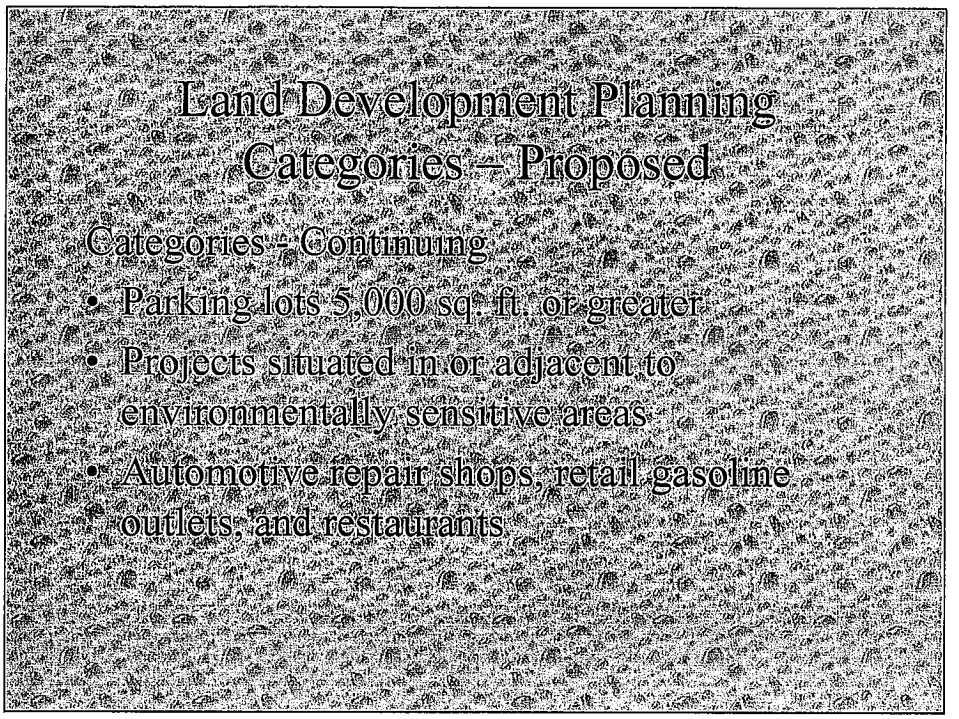
In addition, Permittees are required to modify CEQA guidelines and checklists to address storm water pollution mitigation, and to incorporate watershed and storm water quality considerations in General Plan elements.



The specific objectives of the proposed advancements for the land development planning provisions are (I) to provide measurable criteria for hydromodification controls, (ii) to promote consideration of multiple benefits - storm water pollution mitigation, reuse, and recharge, AND to reduce storm water runoff volume largely by implementing LID strategies.



The draft permit simplifies the land development planning categories by applying post construction requirements to all land development that disturbs one or more acres of land. We continue our focus on automotive intensity land uses and expand the 5000 square feet or greater threshold to include (i) street, roadways, and highway construction; (ii) industrial parks and (iii) commercial strip-malls.



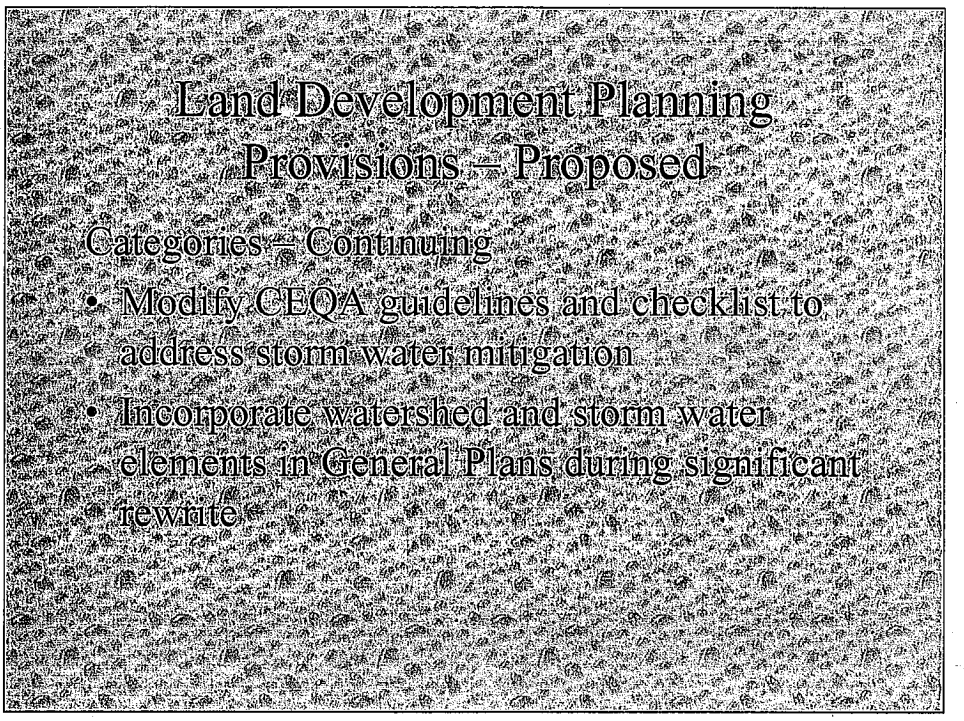
Parking lots, automotive related businesses, gas stations, and ESA project categories are continued from the second term Ventura County MS4 permit.

The proposed development planning provisions use a tiered approach for the application of the hydromodification control and storm water mitigation criteria. Development projects disturbing more than 50 more acres of land are required to conduct detailed analyses and modeling to address the potential adverse impacts of hydromodification and storm water pollution resulting from land development.

The proposed development planning provisions also seek to ensure that post-construction BMPs are properly maintained by requiring maintenance and transfer agreements, and post-construction BMP inspections.

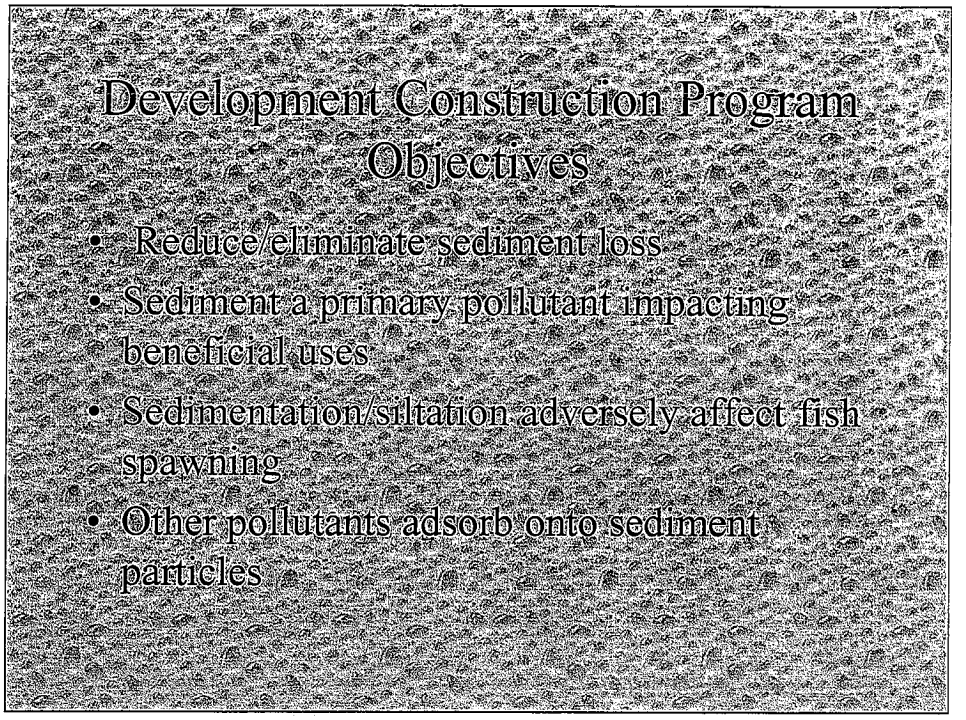
For redevelopment projects that may be limited in their ability to mitigate storm water pollution on site, or which incorporate multiple policy considerations such as affordable housing, brownfield development, and smart growth considerations, Permittees may submit as an alternative a Redevelopment Area Mitigation Plan for approval by the Water Board.

As in the current permit, we provide for a Regional Storm Water Mitigation Plan as an alternative to on-site storm water pollution control.



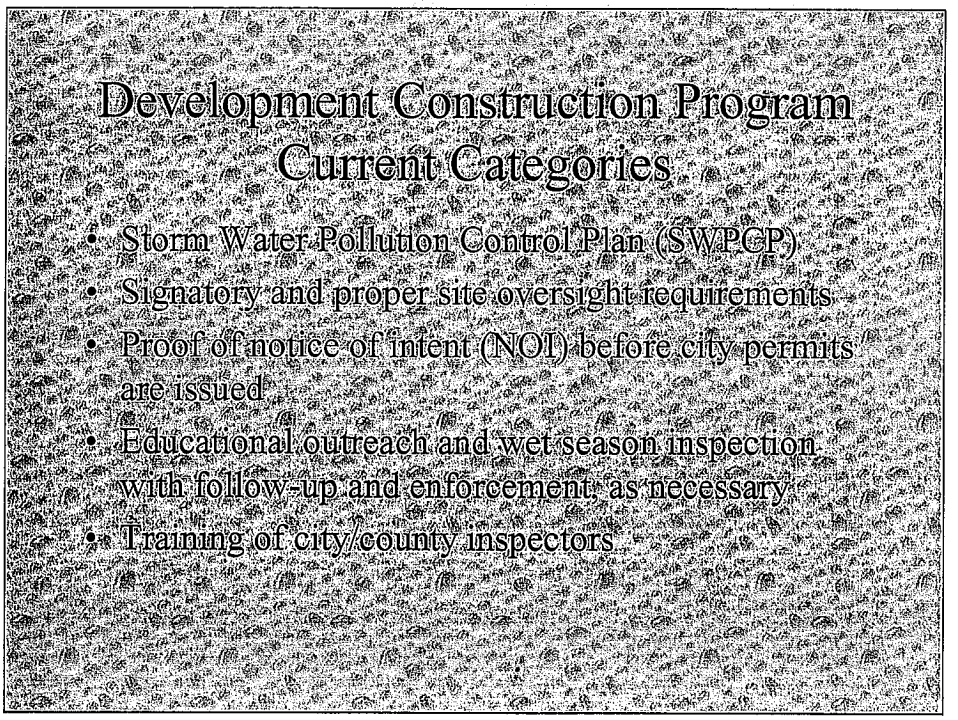
From the current permit, we continue the CEQA guidelines and checklist update requirements, and the incorporation of storm water mitigation considerations during update of General Plan elements.

I shall now turn the stage to Mr. Solomon, who will discuss the Development Construction requirements.



•In addition to fish spawning, and in time, siltation alters aquatic habitat

•Pollutants adsorbed onto sediment include pesticides, herbicides, fertilizers, and metals

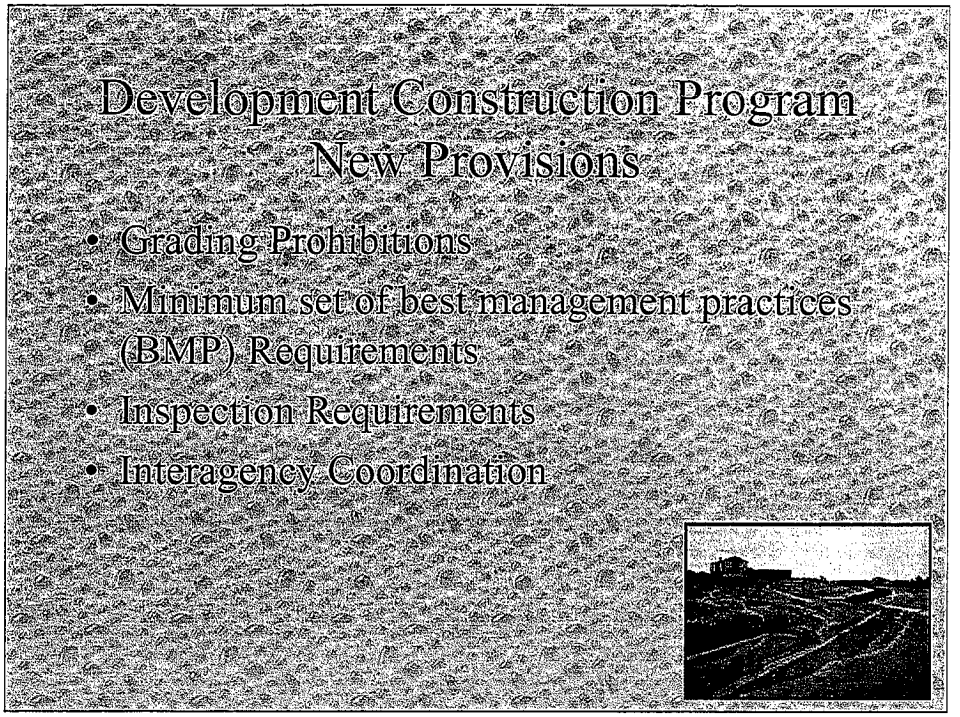


•SWPCPs required for 1 acre or greater;sites near ESAs and hillside development and for co-permittee sites too.

•BMPs were left to be selected by developers from sources such as CASQA, Caltrans, EPA database and ASCE database

•Containment of sediments, NSW, and construction waste on all sites required

•SWPCP preparer signs BMP statement, and landlord certifies his involvement in SWPCP provisions an implementation.



•Erosivity factor >50, erosion control preferred BMP

•1>x<5 =for erosion; mulch (wood,straw,hydraulic), seeding, binders, geotextiles; for sediment;gravel bag,fiber roll, sweep, inlet protection; NSW, wind, rumbles

•5 or greater; sediment= basins, check dam, rubmbles, NSW

•1 or less; erosion; scheduling, vegetation preserve; sediment; silt fence, sand bag, NSW, waste containment

•SWPCP is SWPPP in new permit, and if equivalent with the state, one document will do.

•Same certification requirements

•Roadbed work: restrict when wet unless emergency,protect inlets,prevent Release Agents: soybean oil, other oils or diesel,NSW, drip pans,cover with sheeting in rain "cold-mix" asphalt – premixed aggregate and asphalt binder,dust,stockpiles.

•Electronic tracking system of permits

•Inspection still at least once in wet season: review SWPPP for local contents, follow-up in 2 wks, enforcement, prior to COO issuance

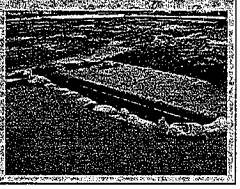
•Interagency: referral- after 2 followups and 2 NOVs/warning ltrs; nonfiler referral in 15 days – 1 day to respond to Rg.Bd. Referral, support Rg. Bd. In enforcement

Development Construction Program
Grading Prohibitions

- Wet season (October 1–April 15) land disturbance prohibition only at sites that fall in one or more of the following criteria:
  - Hillsides with 20% or steeper slopes
  - Sites directly discharging to a 303 (d) water body listed for siltation or sediment
  - Within or adjacent (200 feet) to an environmentally sensitive area (ESA)

Development Construction Program Additional Requirements

- Build upon the program already being implemented
- Optimize the inspectors presence onsite
- Standardize best management practices (BMPs) for construction activities
- Standardize legal requirements and enforcement countywide

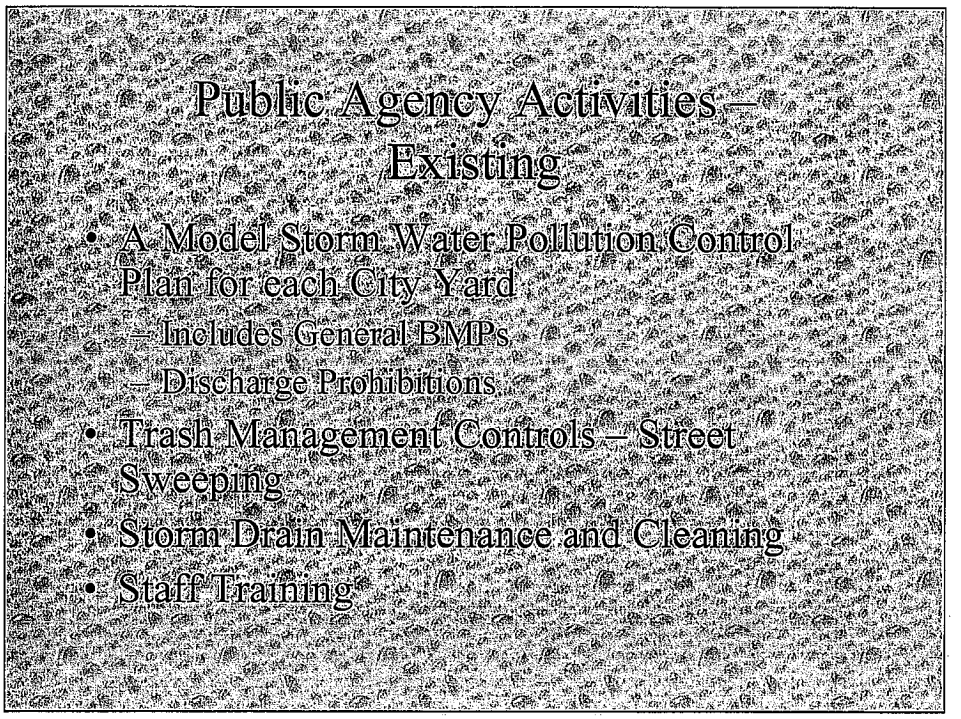


Development Construction Program Additional Requirements

- Site propensity to lose massive sediments in wet season despite best efforts
- Examples include a canyon residence tract and another site which impacted Malibu Creek
- Only approximately less than 8% of active construction sites in Ventura impacted by the prohibiuon
- Permittees may request Executive Officer for a waiver for good cause

Development Construction Program Minimum Set of BMPs

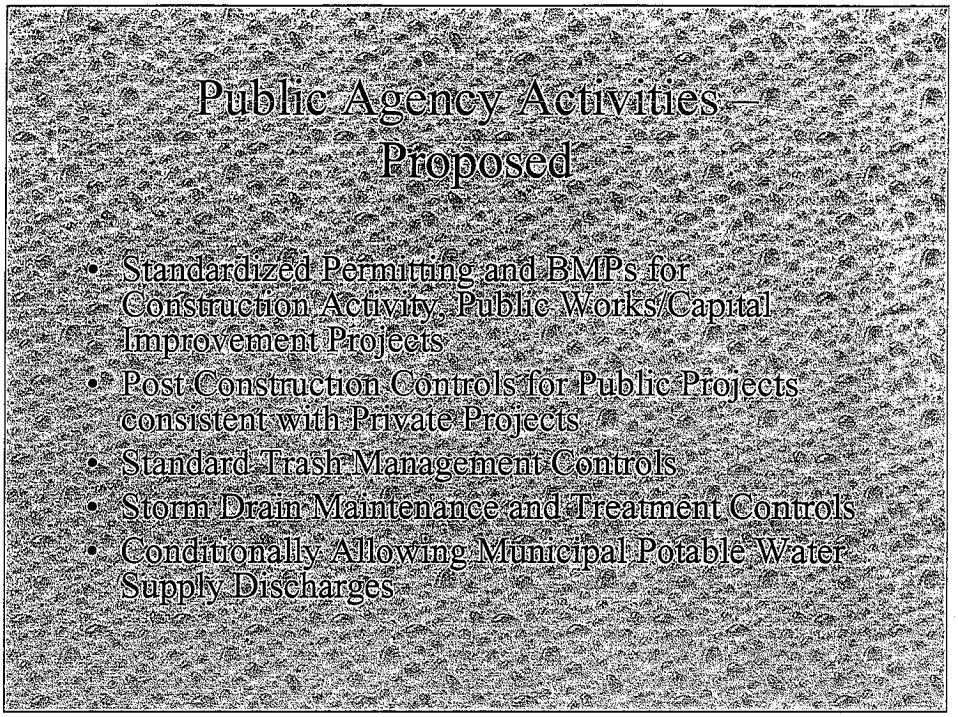
- Acreage - based approach
- Includes best management practices (BMPs) for roadway paving and repaving operations
- Commonly used BMPs and recommended by California Storm water Quality Association and Caltrans
- Provides the option of BMP substitution



Good afternoon Madam Chair, Members of the Board, Ladies and Gentlemen. I'm Carlos Urrunaga of Regional Board staff and I'll introduce you to the Ventura County draft Permit's Public Agency Activities Program. Both the Existing Program and staff's proposed changes.

The Goal of the proposed Public Agencies Program Requirements is to build upon the Program already being implemented countywide while being consistent with the LA Permit requirements and Caltrans' standard practices. We've also made changes as appropriate based on what we've learned over the years. The existing requirements did reduce pollutant loads from public agency activities but the changes we propose will further that goal by bringing standardization.

The current Permit requires important but basic requirements.



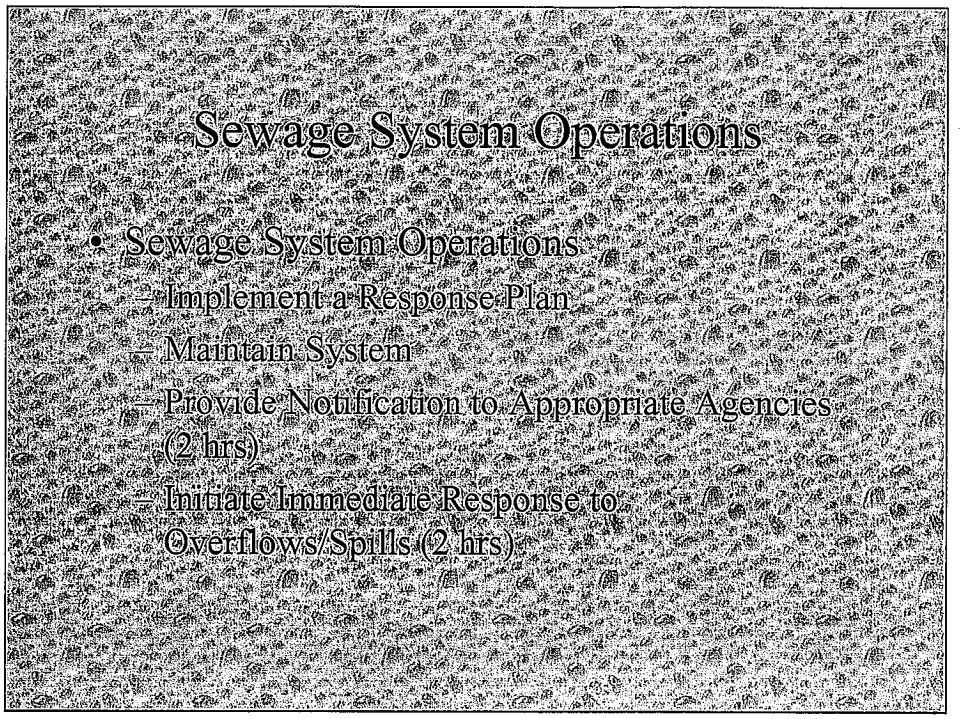
These are some highlights of the proposed changes to this program. They include

1. Standardized permitting for city and county projects including those on the Capital Improvement Program list.

2. The Implementation of Post Construction Controls on Public projects just as one would on Private projects.

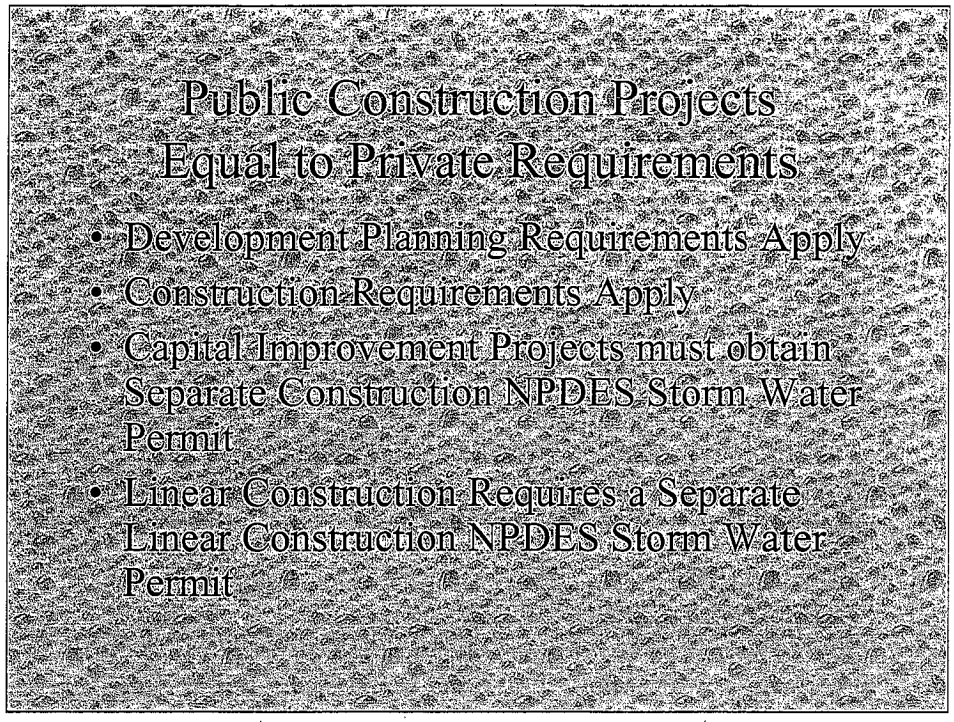
3. Implementation of standard trash management and storm drain controls and maintenance procedures.

4. And allowing certain discharges to the Storm Drainage System if certain conditions are met.



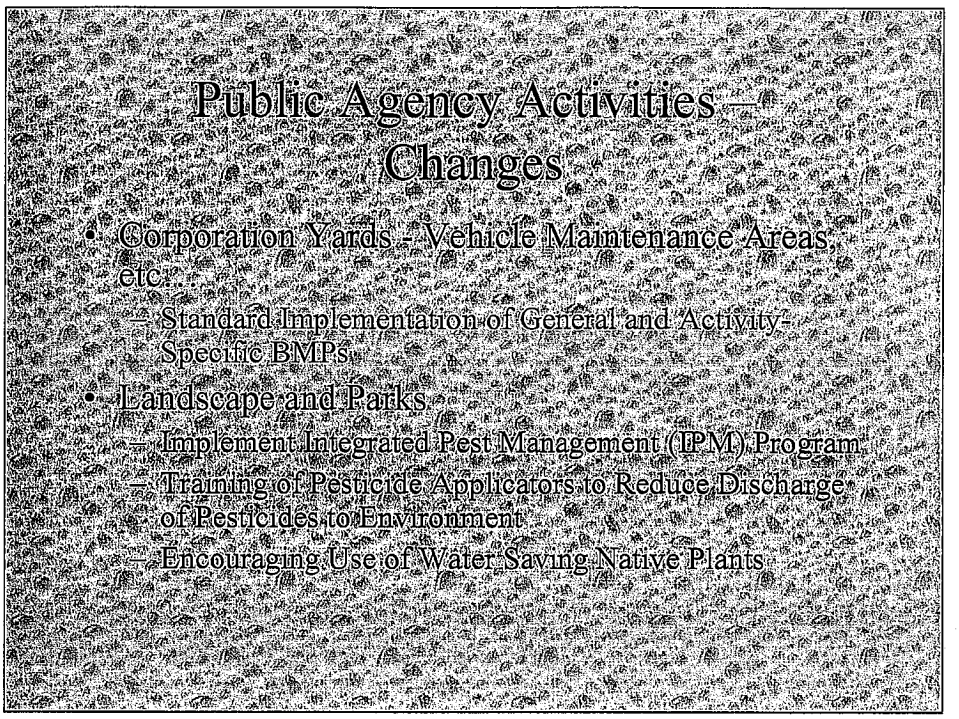
One of the new requirements is a Written response plan for Sewage System Operations. This Plan simply identifies who is going to respond if there is a sewage overflow or spill.

This Plan is consistent with the conditions in other current NPDES permits issued by the Regional Board and complementary to the provisions of the State Board Sanitary Sewer Overflow Waste Discharge Requirements.



There are activities that cities and the county undertake that are Construction activity and will be treated the same as private. Here, For example, the post development planning controls that Dr. Swamikannu spoke about, all apply to the municipalities for their projects.

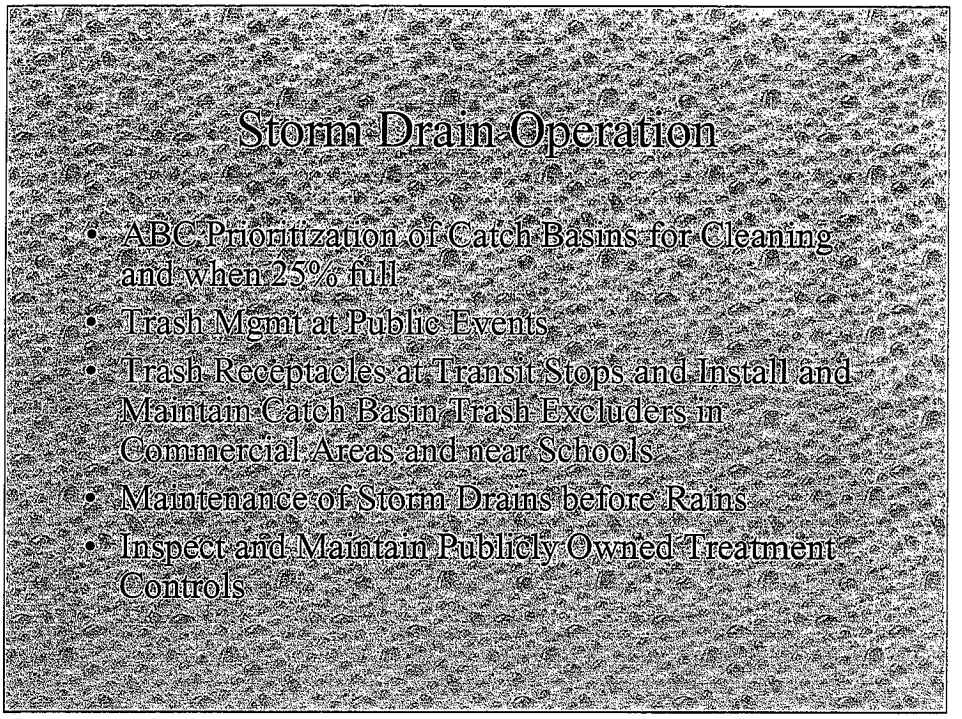
Agencies have a list of future planned projects in their Capital Improvement Project plan. In this draft, we are not adding the requirement but making it clear that a State Construction permit and the State Linear Construction Permit generally applies to Capital Improvement Projects as a whole. The Permittees must obtain coverage under the respective State Board Order.



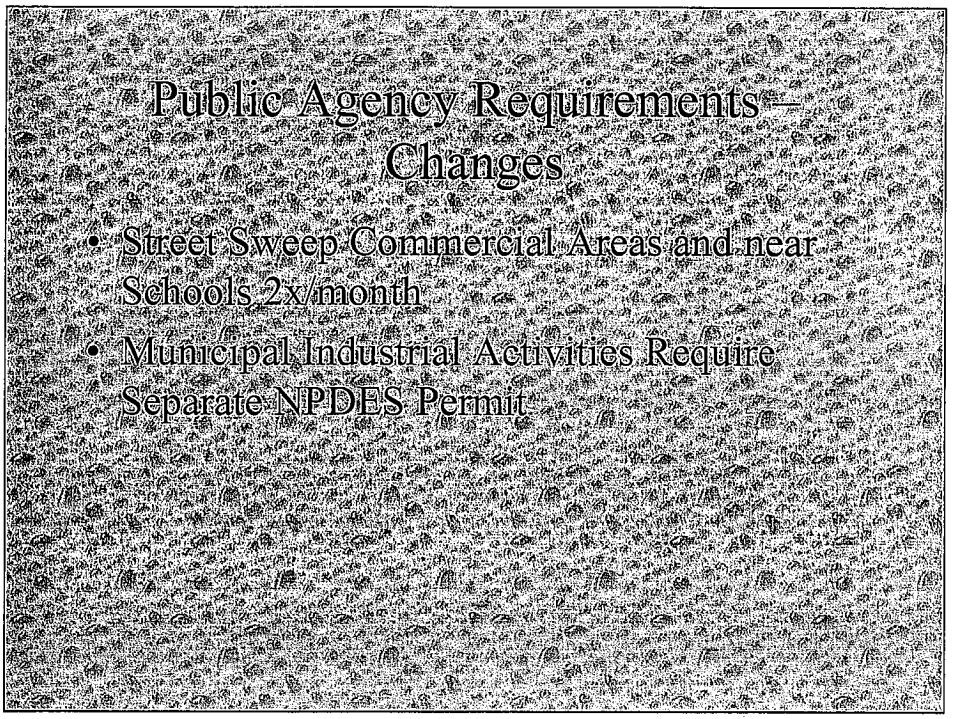
For City/County yards and storage facilities, we're proposing that specific BMPs be implemented if certain activities are occurring. This is already standard practice for Caltrans on a statewide basis.

For Landscape and Parks we are standardizing procedures and ensuring that sensitive operations such as those applying pesticides, are properly trained and reminded of the storm water program requirements.

Also, we are encouraging the use of Integrated Pest Mgmt (IPM) to control pests using effective and more natural and less toxic procedures.



For storm drain operations the greatest changes have to do with installing and maintaining trash controls in areas of typically greatest trash generation.



For Street Sweeping, we are concentrating on sweeping/vacuuming commercial areas and areas near schools.

And again, this is not a new requirement but making it clear that Industrial Activities that municipal permittees undertake need a separate State storm water permit.

With that, I'll turn the podium over to my colleague Tracy Woods who will now introduce…

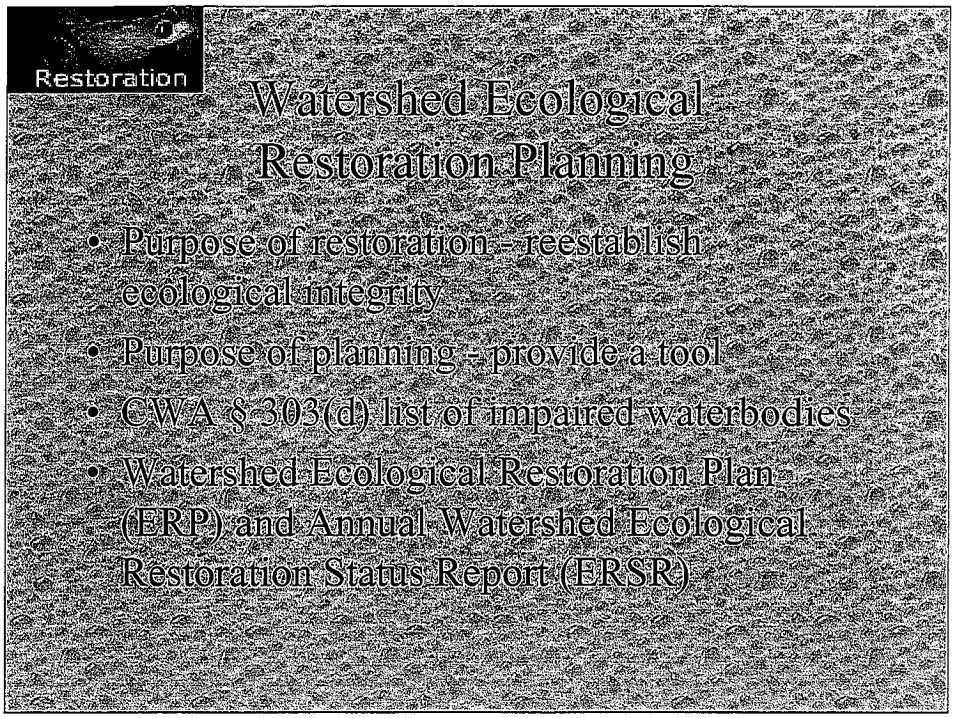
Watershed Ecological Restoration Plans;

The Total Maximum Daily Loads Provisions;

And the

Monitoring and Reporting Program.

Thank you



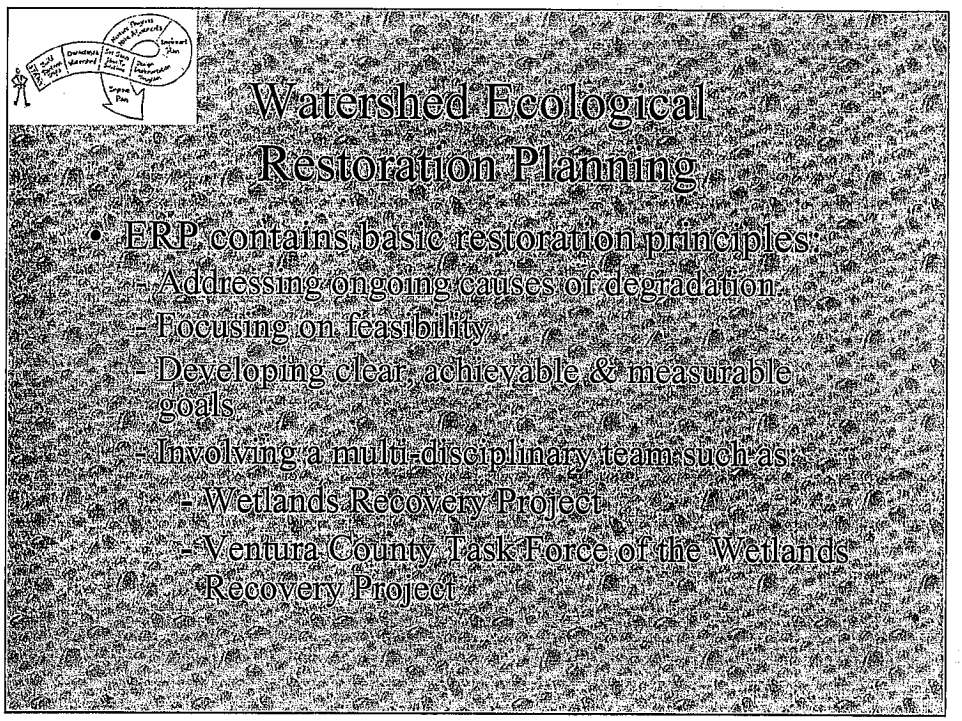
•Watershed Ecological Restoration Planning is a new section to the Permit.

•The purpose of restoration is to reestablish insofar as possible the ecological integrity of degraded aquatic ecosystems.

•The purpose of planning is to provide a tool that can produce improvements in the quality of our water resources to support diverse, productive communities of plants & animals that provide significant ecological & social benefits.

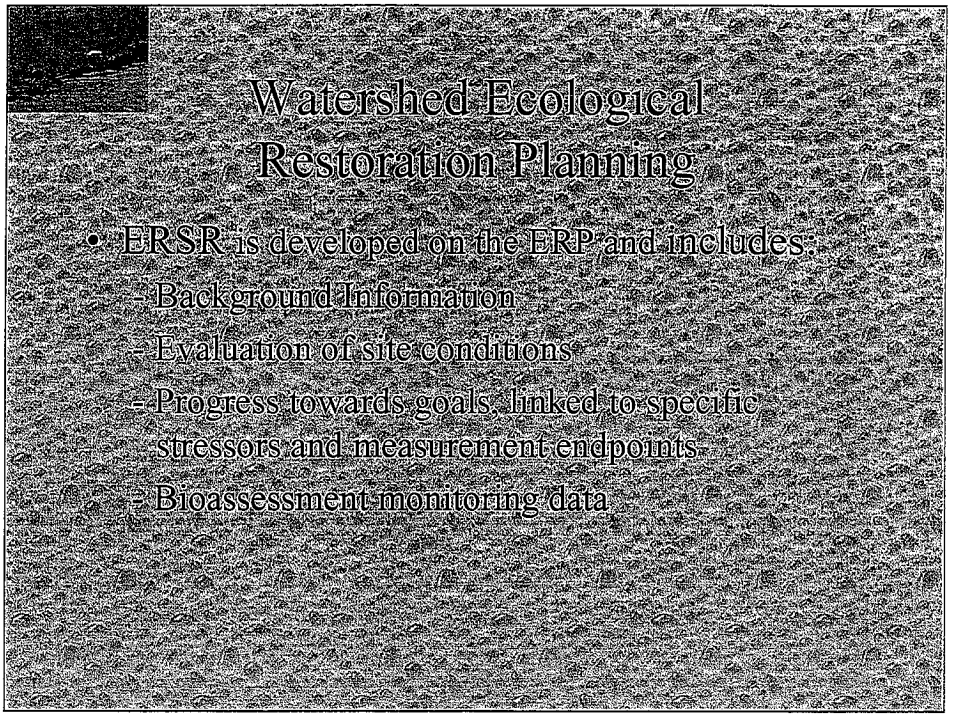
•The CWA § 303(d) list of impaired water bodies has several Ventura County stream segments listed that have polluted &/or disturbed ecosystems that can be assessed to evaluate their potential for ecological restoration.

•A Watershed Ecological Restoration Plan (ERP) & an Annual Watershed Ecological Restoration Status Report (ERSR) shall be developed & implemented for all stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring for 2 years in a row.



•The Restoration Plan (ERP) contains basic restoration principles that include, but are not limited to:

- Addressing ongoing causes of degradation
- Focusing on feasibility
- Developing clear, achievable & measurable goals
- Involving a multi-disciplinary team such as:
  - Wetlands Recovery Project;
  - Ventura County Task Force of the Wetlands Recovery Project.



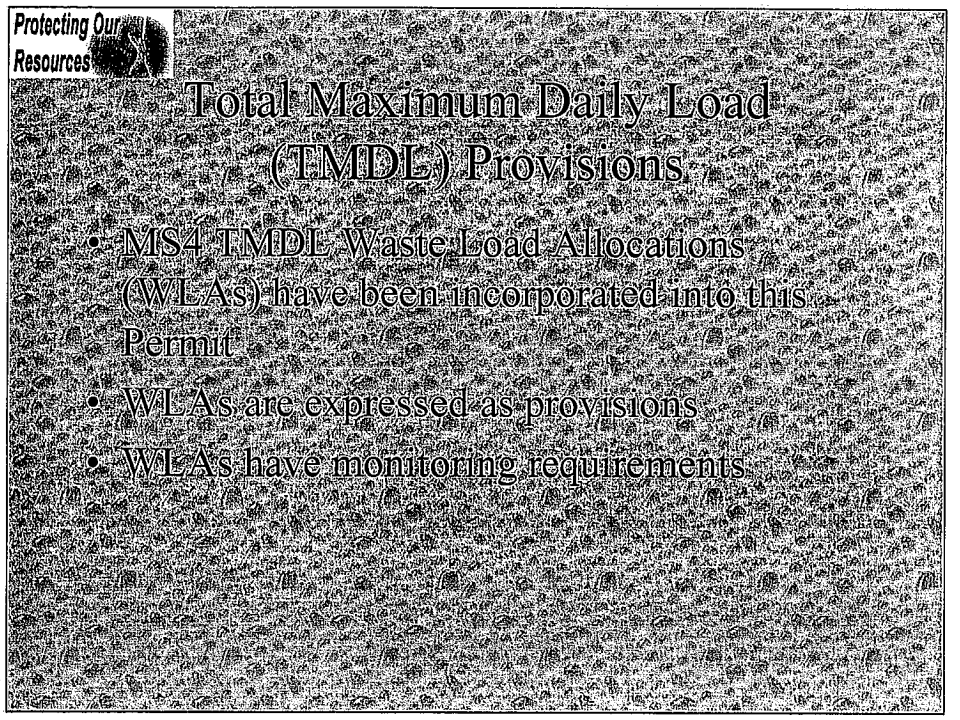
•The Status Report (ERSR) is developed on the Restoration Plan (ERP) & includes:

- Background Information

- Evaluation of site conditions

- The Progress made towards goals, which is linked to specific stressors & measurement endpoints

- Bioassessment monitoring data

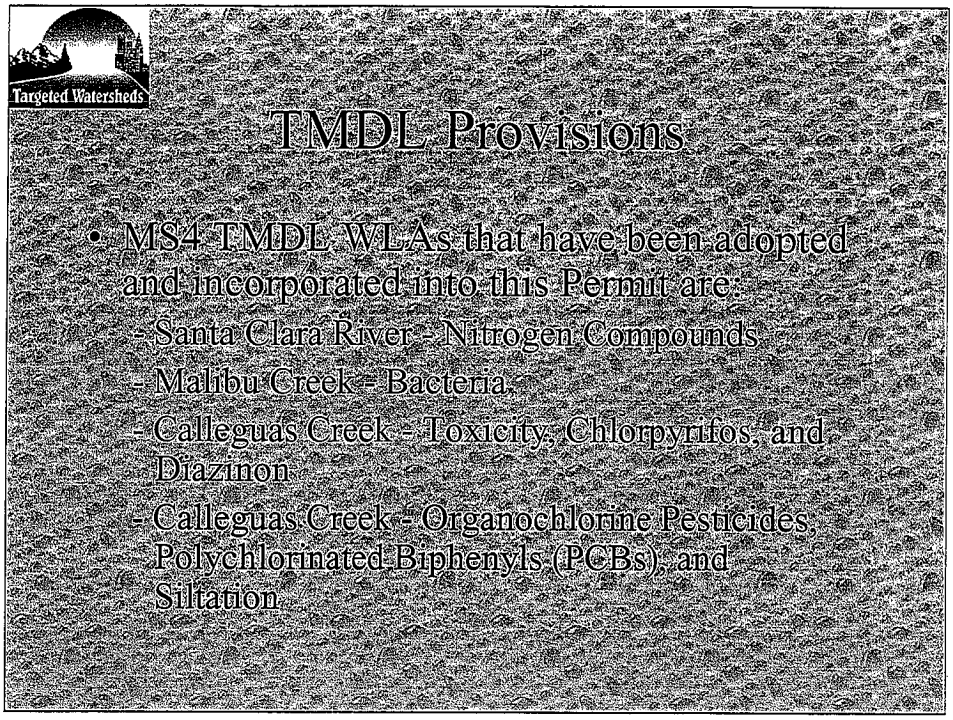


•Another new section to the Permit is the TMDL Provisions

•The MS4 TMDL WLAs that have been incorporated into this Permit are the ones that have been adopted by the Regional Water Board, approved by the State Water Resources Control Board, OAL & the USEPA, as required under the CWA § 303 (d) for water bodies within Ventura County.

•The WLAs are expressed as provisions that are consistent with the assumption and requirements of the relevant TMDLs.

•The WLAs have monitoring requirements associated with them, either as default WLA monitoring requirements, or where approved, TMDL Implementation Plan Monitoring Program requirements.



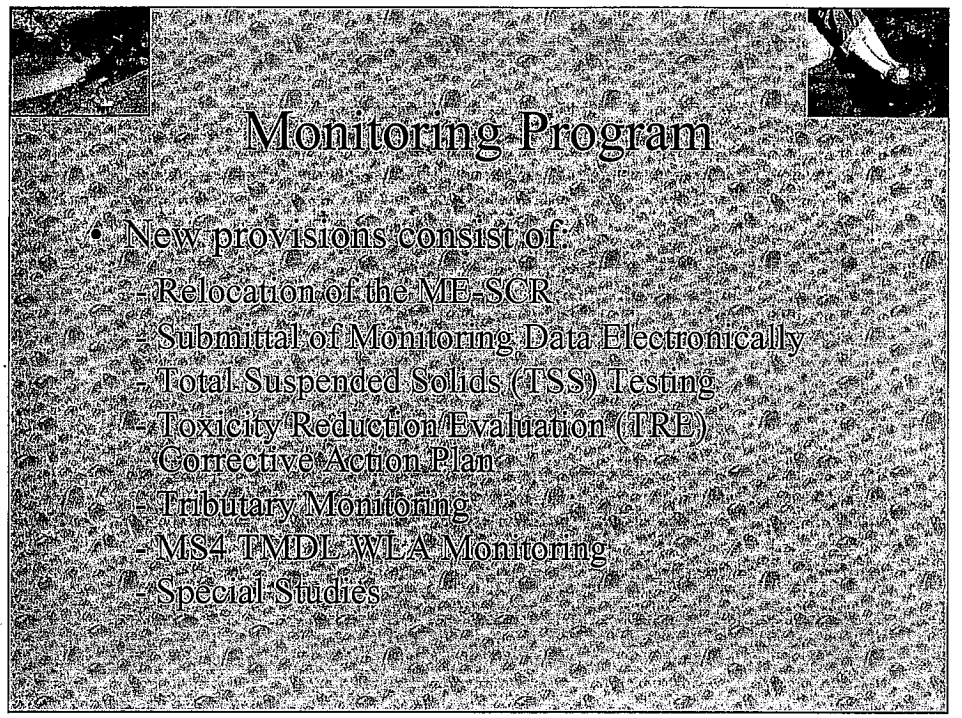
•The WLAs that have been adopted & incorporated into this Permit are for the following 4 TMDLs:

1) Santa Clara River - Nitrogen Compounds

2) Malibu Creek - Bacteria

3) Calleguas Creek - Toxicity, Chlorpyrifos, & Diazinon

4) Calleguas Creek - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), & Siltation



•The New provisions of the monitoring program consist of:

- Relocation of Santa Clara River mass emission station (ME-SCR), to include storm water discharges from the Cities of Oxnard & Ventura. Until the station is relocated, the Principal Permittee in coordination with the cities shall separately monitor mass emissions from the two urbanized areas.

- Submittal of monitoring data electronically within 45 days from sample collection date & transmitted in standardized formats.

- Total Suspended Solids Testing for all storms events, with least a quarter inch of rainfall.

- A Toxicity Reduction Evaluation (TRE) Corrective Action Plan submitted within 30 days after the source of toxicity is identified & appropriate BMPs to eliminate the cause are identified.

- Tributary Monitoring within the 3 major WMAs.

- MS4 TMDL WLA Monitoring that incorporates the adopted storm water WLAs.

- 5 Special Studies

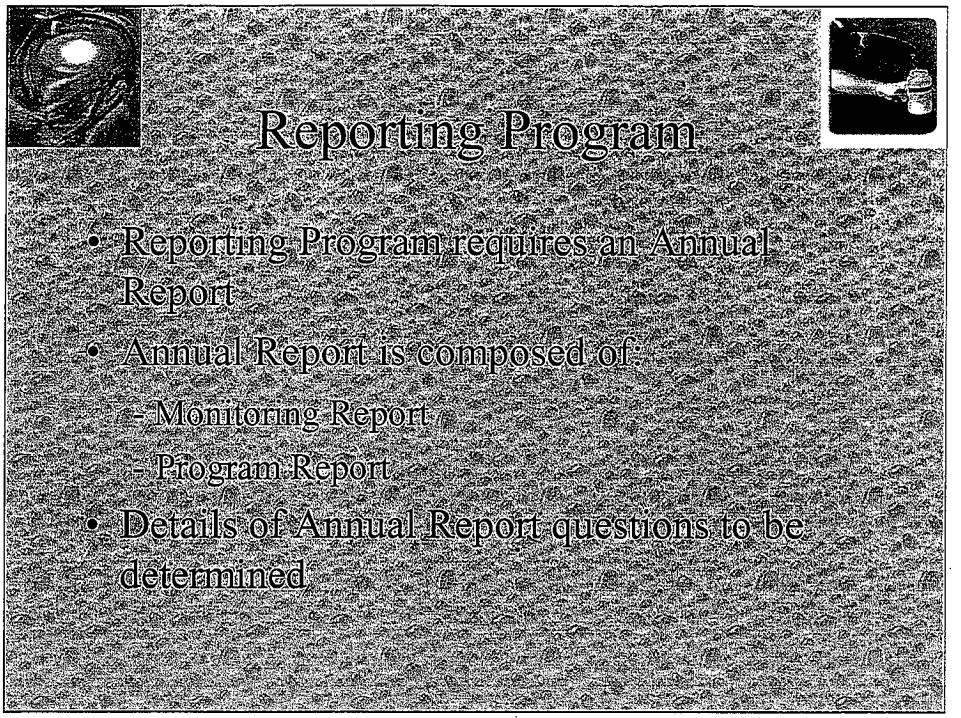
1) Expanded Bio-assessment monitoring

2) Trash and debris

3) Pyrethroid insecticide

4) Hydromodification

5) Low Impact Development



•The Reporting Program requires an Annual Report that is a Public Document Required under Federal Regulations

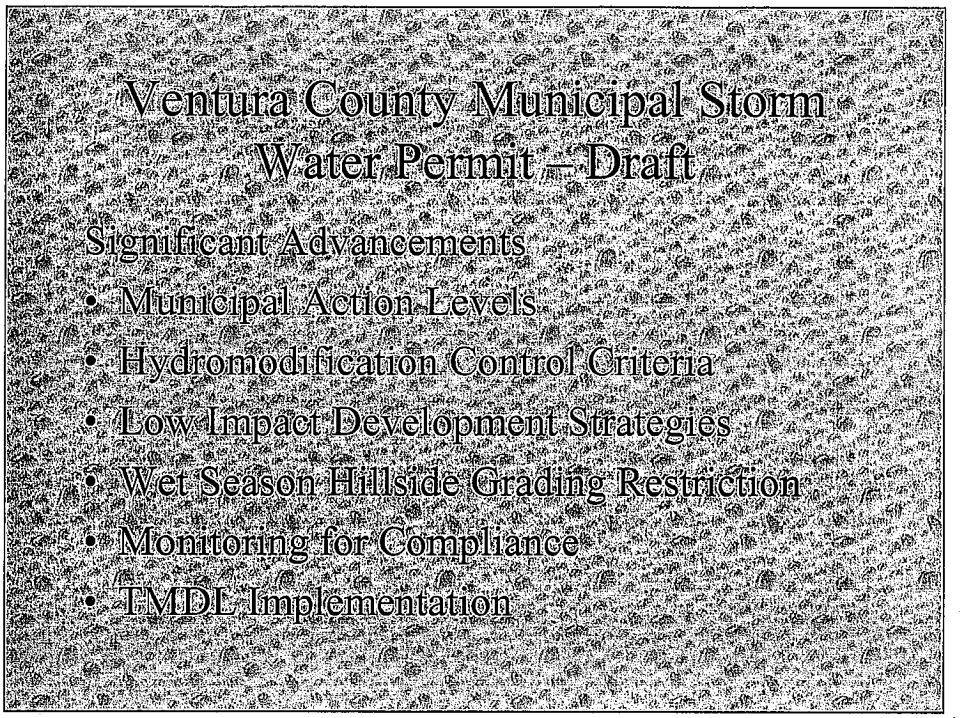
•The Annual Report is composed of:

- A Monitoring Report that contains the results that are to be used to refine BMPs for the reduction of pollutant loading, & for the protection & enhancement of the beneficial uses of the receiving waters within Ventura County.

-A Program Report to track and oversee the progress each Permittee is making towards full compliance with the various requirements of the MS4 Permit.

•Details of the Annual Report questions are to be determined in future meetings with Permittees.

•And Dr. Swamikannu will conclude.



The draft permit has several changes. These changes have been proposed based on the nearly 17 years of experience of controlling municipal storm water discharges in this region. The public comments you will hear next focus on the most significant of these changes. These are:

Municipal Action Levels which are a numeric expression of the MEP standard

Numerical criteria for hydromodification control to protect stream habitat and avoid downstream erosion.

Low Impact Development methods to minimize the adverse effects associated with land development and urbanization

Grading restrictions on hillside developments during the wet season

Adequacy of the monitoring program as proposed to evaluate compliance

And, TMDL WLA implementation for storm water discharges.

I conclude.

Ventura Countywide Stormwater Quality Management Program

Presentation to the RWQCB-LA

Ventura Countywide Program Municipal Stormwater Program and Draft RWQCB Permit

Presentation Overview

- Program Highlights and Successes
- Characteristics of Ventura County Are Unique
- Ventura County is a Leader in Watershed Based Planning
- Concerns with Current Permit Structure
  - Use of Municipal Action Levels
  - Water Quality Protection and NPDES permitting
- Conclusion

Ventura Stormwater Permit

1992 - Implementation Agreement Signed Between:

- **Watershed Protection District**
- **County of Ventura**
- **10 Cities in the County of Ventura**

Camarillo	Fillmore
Port Hueneme	Moorpark
Ojai	Oxnard
San Buenaventura	Santa Paula
Simi Valley	Thousand Oaks

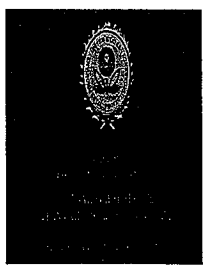
Principal Co-Permittee: Ventura County Watershed Protection District

Ventura Program History

- Mature and Comprehensive Stormwater Management Program;
- Modified Over-Time to Address Local Water Quality Issues;
- Permits Issued in 1994 and 2000 Reflect Character of the Program.

Ventura Program Recognition

- 2003 National U.S. EPA Award for Excellence;
- Reflects Program's Commitment to Improve and Protect Water Quality in Ventura County.



Public Outreach

Public Outreach Highlights

Participation in Coastal Cleanup Day

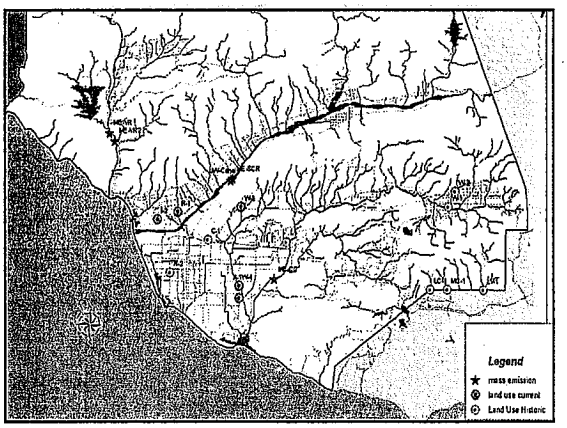
- 2,000 volunteers participate
- 47 miles of inland watersheds and coastal shorelines
- More volunteers & less trash each year

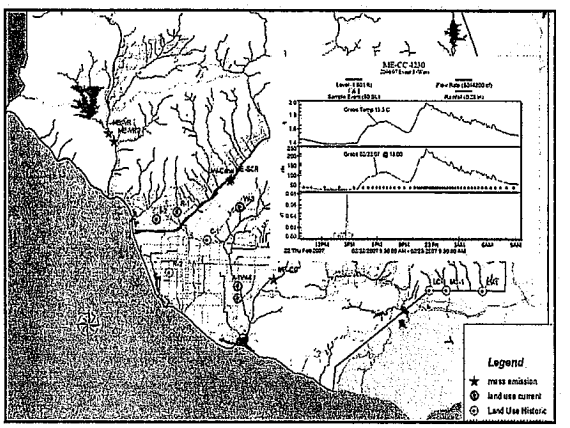
Successful Media outreach campaign

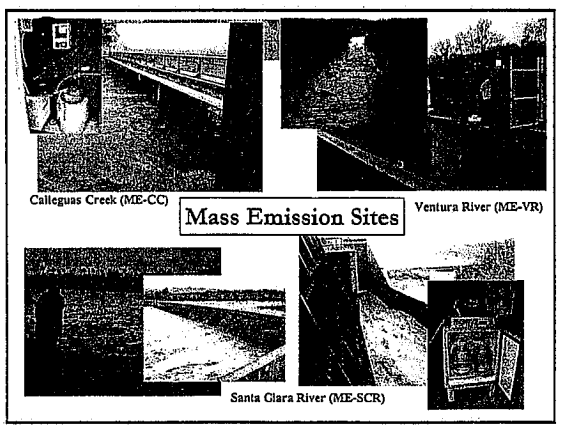
- Three 60 second TV Commercials
- 8 million impressions
- Public Service Announcement
- Advertising Artwork and Posters
- Continue to develop new Commercials and Print Material

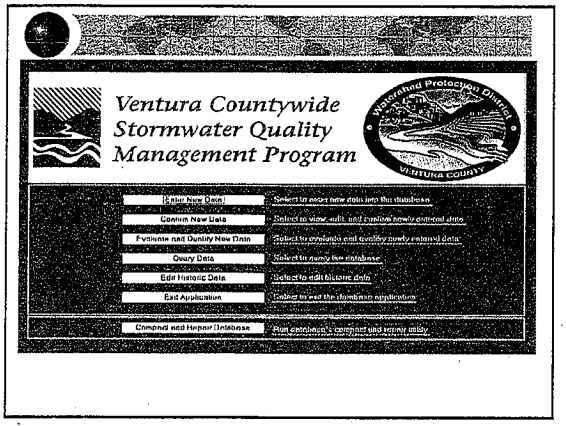
Stormwater Water Quality Monitoring

- Conduct 6 sampling events (4 wet / 2 dry weather)
- Macroinvertebrate Bioassessment Monitoring
- Completion of Trend Analysis for Pollutants of Concern
- Database

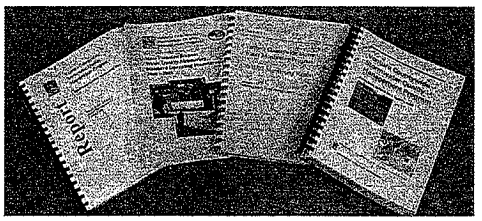






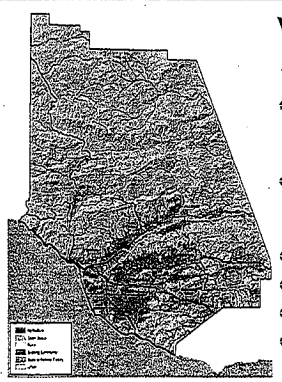


Program Evaluation



Characteristics of Ventura County Are Unique

- Significant Open Space;
- Rural Character;
- Valuable Agricultural Land;
- Total Population of the entire County is 817,346 persons (2006)



Ventura County by Land Use

- Open Space (Including Federal Land) - 79%
- Urban Area (subject to NPDES SW permit) - **12%**
- Agriculture - 8%
- Rural - .008%
- Military - .006%
- Harbor(s) - .0003%

Characteristics of Ventura County Are Unique

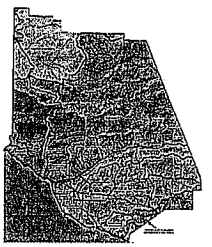
- SOAR - From 1995-2002, the residents of Ventura County adopted "Save Open-Space and Agricultural Resources", ...
- Greenbelt agreements;
- Thus, the urban areas of Ventura County are unlikely to expand significantly.

Ventura County is a Leader in Watershed Based Planning

- Watershed Based Planning Since the 1970s;
- Numerous Water Quality, Wetland Restoration & Reclamation Projects;
- Numerous Individuals and Agencies Involved.

Ventura County is a Leader in Watershed Based Planning

- Watersheds Coalition of Ventura County (WCVC) formed in 2006;
- WCVC adoption IRWMP;
- WCVC received $25 million grant;
- Other Watershed Groups:
  - Calleguas Creek Watershed Management Plan Steering Committee;
  - Santa Clara River Watershed Committee and;
  - Ventura River Watershed Council.



Appreciation of Board Staff's Intent

- Importance of Water Resource Protection
- Enhancement of Current Program
- Performance-based Measurement Criteria
- LID Preferred Method (Smart Growth)
- Cost-effective Methods to Improve Water Quality

Primary Concern w/ Draft Permit Compliance Structure

- Use of Municipal Action Levels (MALs)
- Consistency with TMDL Program

Use of Municipal Action Levels

- Policy Concerns
- Technical Concerns

Policy Concerns w/ MALs

Municipal Stormwater Compliance Standard

- Municipal stormwater program is required to reduce pollutants in its discharges to the maximum extent practicable (MEP).
  - *Clean Water Act, Section 402(p)*
  - *Draft Permit Provision A.2*

Definition of MEP

Broadly defined to be a highly flexible concept that balances numerous factors Including

- *Technical feasibility*
- *Cost*
- *Public Acceptance*
- *Regulatory Compliance*
- *Effectiveness*

(BIA of San Diego County v. SWRCB (2004) 124 Cal.App.4th 866, 889.)

Draft Permit Uses MALs to define MEP

- MALs expressed as Water Concentration Levels
- MALs used to define MEP (Finding F.11 and Permit Part II)
- Stormwater must meet MALs at "end-of-pipe"
- Two exceedances presumed to be a violation of the MEP standard

MALs = Numeric Effluent Limits Used to Define MEP

Numeric Limits Contrary to EPA Policy

"In regulating stormwater permits the EPA has repeatedly expressed a preference for doing so by way of BMPs, rather than by way of imposing technology based or water quality based numerical limitations." (Divers' v. SWRCB (2006) 145 Cal.App.4th 246, 256.*)*

Technical Concerns w/ MALs

MALs Contrary to Blue Ribbon Panel

"It is <u>not feasible</u> at this time to set <u>enforceable numeric effluent criteria</u> for municipal BMPs and in particular urban discharges.....

For catchments not treated by a structural or treatment BMP, <u>setting a numeric effluent limit is basically not possible</u>."

Blue Ribbon Panel Use of MALs v. Draft Permit Use of MALs

Panel Use of MALs	*Draft Permit Use of MALs*
Use to Identify need for follow-up action	Defines MEP
Not to be used as enforceable limit	Enforceable numeric limit
Develop using local data, if available	Developed using national database

Cadmium – MAL vs. CTR Criteria vs. Runoff Concentrations

Cadmium	*Value, ug/L (dissolved)*
Acute Water Quality Objective (avg. hardness)	7.1
Acute Water Quality Objective (95% hardness)	3.2
Ventura County rivers and creeks (54 of 55 samples)	<2.5
Ventura Urban Runoff (average)	0.8
MAL	0.55

TMDL Program Consistency

TMDL Program

- Clean Water Act program for ensuring compliance with water quality standards
- Based on sound science and stakeholder involvement
- Considers all point and nonpoint sources of impairment
- Establishes waste load allocations and load allocations
- Includes implementation program
- NPDES permits are required to be consistent with approved TMDLs

Draft Permit Inconsistent w/ TMDLs

- MALs misdirect focus and resources of the Countywide Program
- MALs are inconsistent with TMDL approved Targets and Waste Load Allocations
- Prescriptive Permit is inconsistent with TMDL implementation program for municipal stormwater

MALs vs. TMDL targets

Constituent	Municipal Action Levels [1]	TMDL Target Limits[2]
Copper (dissolved, ppb)	12.8	26.3-41.6
Zinc (dissolved, ppb)	104	90-324

1 Attachment C to Draft Ventura Stormwater Order.
2 Attachment A to Resolution No. R4-2006-012.

Draft Permit vs. TMDL Implementation

Prescriptive Draft Permit	TMDLs
Retrofit all catch basins w/ excluders	No adopted trash TMDLs Small % of water bodies listed
Prescriptive BMP measures for street sweeping, inspections, outreach, etc.	Requires achievement of targets; not method of compliance
Time Schedule – 6 months for majority of BMPs	Time schedule – 2 to 20 years for achievement of targets

Need to Focus on Local Issues of Concern

Constituent	Draft Permit MALs	Ventura County Developed POCs	TMDL
TSS	X		
Siltation			X
COD	X		
Metals (Cu, Pb, Zn)	X	X	X
Metals (Cd, Cr)	X		
Bacteria		X	X
Mercury			X
Selenium			X
Organics (PCBs)			X
Pesticides (OC)		X	X
Pesticides (OP)		X	X
Nutrients		X	X
Toxicity			X
Salts			X

Cost Implications of Prescriptive Permit and MALs

Program	Annual Cost $/Household			
	Current Effort	Draft Order Baseline	Baseline + Trash Excluders	Baseline + Excluders + MAL Compliance
Statewide Study				
Range	$18-46	–	–	–
Mean	$29	–	–	–
Ventura County				
Range	$18-44	–	–	–
Mean	$35	$60	$87	$213

Other Issues of Concern

- Expands Geographic Area of Coverage
- Ecological Restoration Planning and Implementation
- Land Development Requirements
- Time Frames
- Monitoring Program

Ventura Countywide Stormwater Quality Management Program

Any Questions?

Summary of Primary Concerns

- Municipal Action Levels as MEP
  - Inconsistent with EPA policy and Court decisions
- Municipal Actions Levels as Compliance End Points
  - Contrary to Blue Ribbon Panel recommendations
  - Disconnect between local water quality issues

Summary of Primary Concerns

- Inconsistent with TMDL Program
  - Focus of the program
  - MALs vs. TMDL Target
  - Prescriptive implementation requirements vs. flexible strategies

Draft Ventura County Municipal Permit – The Municipal Impact

A Presentation to the Los Angeles Regional Water Quality Control Board

By

Larry Forester

City Councilmember, City of Signal Hill

on behalf of the

Coalition for Practical Regulation

Burbank, CA

05 April 2007

CPR's Interest in the Ventura Permit

- Our cities are very interested in the Draft Ventura Permit because we see it as a potential model for our next permit or permits.
- As a councilmember, I must assure my constituents that I am spending the public's monies wisely.
- The current Draft Permit would be prohibitively expensive to implement and will expose cities to third-party litigation.
- The California Constitution recognizes the countless services a city must provide its citizens, and the strain on local funds from the numerous public programs to be conducted by cities.

Unfunded Mandates Jeopardize Cities' Ability to Provide Essential Services

- Police and fire protection, ambulance and paramedic services, and public libraries and parks all compete for the same General Fund monies used by water quality programs.
- The California Constitution prevents State entities, including the State and Regional Boards, from imposing additional obligations on municipalities without first providing a funding mechanism or funds to address the mandates. In other words, the State may not impose unfunded mandates.
- The Draft Ventura Permit recognizes the need for funds to meet Permit requirements, but does not provide a funding mechanism. It instead asserts that cities must find the money themselves.

Non-Federally Required Elements of the Draft Permit Should Not Be Imposed Upon Cities Until Appropriate Funding Has Been Provided

- We recognize that a Permit is required by the federal Clean Water Act, but a number of expensive program requirements contained in the Draft Permit are not federal requirements.
- The Municipal Action Levels (MALs) are not required by federal law, and will cost millions, if not billions, of public dollars for compliance.
- Additional expensive provisions in the Draft Permit that are not required by federal law, include: (1) provisions under Parts F and D requiring strict compliance with water quality standards, (2) TMDL provisions requiring strict compliance with numeric waste load allocations, (3) Permit terms obligating cities to effectively be responsible for atmospheric deposition, and (4) programs such as the Industrial Facility Inspection Program, the Pesticide Program, the Watershed Ecological Restoration Program, the SUSMP requirements, and the Low Impact Development requirements.

Continued

Non-Federally Required Elements of the Draft Permit Should Not Be Imposed Upon Cities Until Appropriate Funding Has Been Provided (Continued)

- The Fiscal Resources Section should be modified to require cities to implement the non-required programs only after sufficient funds have been allocated by the State and made available to the cities so as to not diminish funds that are to be available for other important public services.
- The statement in Part 3.C.1 that states: "The Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this Order" should be removed from the permit.

Major Policy Issues with the Ventura Permit

A presentation to the Los Angeles Regional Water Quality Control Board

By

Richard A. Watson, A.I.C.P.

on behalf of the

Coalition for Practical Regulation

Burbank, CA

05 April 2007

Municipal Action Levels (MALs) and Numeric Effluent Limits (NELs)

- The proposal in the Draft Ventura Permit to establish municipal action levels (MALs) as statistically derived numeric effluent limits (NELs) is inconsistent with the iterative process in State Water Board Order 99-05.
- The proposed use of MALs is contrary to the findings of the State Water Board's Blue Ribbon Panel that found that "it is not feasible at this time to set enforceable numeric criteria for municipal BMPs and in particular for urban discharges."

The Draft Ventura Permit Proposes Inappropriate and Unlawfully Applied Action Levels

- The municipal action levels in the Draft Permit are based on nationwide monitoring data.
- Action levels should be based on watershed-specific or even waterbody-specific data that reflect natural background and local conditions.
- The municipal action levels, as proposed, are really numeric effluent limits that trigger permit violations and enforcement.
- Action levels should only be used as triggers for the application of enhanced management measures as part of the iterative process.

We Need a Good Working Definition of Maximum Extent Practicable

- The draft Ventura Permit operationally defines MEP on the basis of exceedances of Municipal Action Levels derived from nationwide monitoring data. This ignores the need to comply with the provisions under the Porter-Cologne Act, and ignores local factors and characteristics.
- MEP is a general guideline, and the Permittees believe it should be applied consistent with the factors set forth in the Porter-Cologne Act, including only imposing requirements "that could reasonably be achieved."
- In the absence of a statewide definition, this Regional Board could take the lead in developing a good working definition of MEP.

The Draft Ventura Permit's Definition of MEP (Maximum Extent Practicable)

- The Draft Ventura Permit has a short definition of MEP referring to the Clean Water Act, State Board Order no. 2000-11, and the Browner Decision:

  > "Maximum Extent Practicable (MEP) – means the standard to implement the storm water municipal programs to reduce pollutants in storm water. CWA Section 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."

- In year three after permit adoption, two or more exceedances of a MAL will be considered a violation of the MEP provisions of the Order, regardless of whether or not the discharges were in accordance with the maximum extent practicable standard or whether the MALs were truly reasonably achievable.

The New San Diego Permit's Definition of MEP (Maximum Extent Practicable)

- The San Diego Permit contains a long definition of MEP that is partially based on the 1993 Elizabeth Jennings memo defining "MEP." The Permit says, in part:

  > "MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense)... MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their urban runoff management programs (all runoff, collective and individual activities) and required pursuant to the urban runoff management programs becomes the proposal for MEP as it applies to all of the runoff efforts as well as, to specific activities. In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP."

  (Continued)

The New San Diego Permit's Definition of MEP (Maximum Extent Practicable) (Continued)

- The San Diego Permit goes on to note that useful factors to consider in selecting BMPs to achieve the MEP standard include effectiveness, regulatory compliance, public acceptance, cost, and technical feasibility. (From 1993 memo entitled "Definition of Maximum Extent Practicable" by Elizabeth Jennings, Senior Staff Counsel, SWRCB.)
- The Regional Board or the State Board has the final determination as to whether a municipality has reduced pollutants to the MEP, but permittees have the opportunity to propose their own definition as applied to their overall efforts and to specific activities.

SB 1342 (2002) Proposed Definition of MEP

Section 2(b):

The "maximum extent practicable" standard means the maximum degree of pollutant reduction achievable through the application of practical, technologically feasible, and economically achievable best management practices, including but not limited to, pollution control techniques and system design and engineering methods.

SB 1342 (2002) Definition of Technologically Feasible and Economically Achievable BMPs

Technologically feasible and economically achievable best management practices are those practices that satisfy all of the following criteria:

(1) Demonstrate effectiveness in removing pollutants of concern.

(2) Demonstrate compliance with subsection (p) of Section 1342 of Title 33 of the United States Code.

(3) Demonstrate the support and acceptance of the public served by those best management practices.

(4) Demonstrate a reasonable relationship between the cost of the best management practice and the pollutant control result to be achieved.

(5) Demonstrate technological feasibility to effect the intended pollutant removals, considering soils, geography, topography, water resources, and such other limiting physical conditions as may exist.

(6) Demonstrate economical achievability through the identification of available funding sources or through a proposed funding plan, or both, considering the need for the continuation of existing municipal services and the application of fee restrictions for approval of new sources of funding consistent with the state law and federal regulatory requirements prescribed under subsection (d) of Part 122.26 of Title 40 of the Code of Federal Regulations.

Recommendations

- Direct staff to only use municipal action levels (MALs) as triggers for the application of enhanced management measures.
- Direct staff to work with interested parties to develop a draft statewide framework for determining maximum extent practicable.

Permit Implementation

A presentation to the Los Angeles Regional Water Quality Control Board
By
Dr. Gerald E. Greene, DEnv, PE, QEP
City of Downey
on behalf of the
Coalition for Practical Regulation
Burbank, CA
05 April 2007

General Questions about Municipal Permit Implementation

- In a May 10, 2000 letter from the California Business, Transportation, and Housing Agency to CalEPA, Secretary Contreras-Sweet noted to Secretary Hickox that,
  - "Failure to comply with the Clean Water Act exposes California's municipalities and citizens to enforcement actions and fines and third-party lawsuits... Full compliance in the near term may not be technically or economically feasible for California or any municipality."
- This letter further raises several broad policy questions:
  - What strategies should local agencies and state agencies who discharge storm water, and state and federal agencies who enforce the Clean Water Act, follow to achieve compliance with water quality standards and objectives and permit requirements?
  - How can implementation of state and federal clean water laws avoid becoming a water shed litigation and cement activity?
  - What is the best way for Californians to pay for these water quality investments? How can the needed investments be balanced with other community needs?

(Continued)

General Questions about Municipal Permit Implementation (Continued)

What approaches should we collectively be following?

- What is the best way to implement needed water quality improvements while balancing the many services that Californians demand?
- What strategy do we follow to avoid further litigation?
- These fundamental questions remain for the most part unanswered seven years later.

TMDL Implementation Should Be Separated from Permit Implementation

- Current MS4 Permits are already unwieldy and combersome.
- Finding E6 ties the Draft Permit to the 1999 Consent Decree between USEPA, NRDC, HBF, & SMBK.
- The Draft Ventura Permit states that the TMDL waste load allocations are to be expressed as wet weather numeric limits and prohibitions against all dry weather discharges.
- Permittees are to implement "all control measures" to achieve TMDL waste load allocations by the effective dates.
- The TMDL Consent Decree does not require implementation or enforcement of TMDLs through NPDES Permits.
- The Clean Water Act gives great flexibility to the States in implementing and enforcing TMDLs.

TMDLs Should Be Implemented Through MOUs

- USEPA stated that TMDLs can be implemented through a variety of voluntary agreement mechanisms (e.g. MOUs).
- Cities are rightfully concerned that implementing and enforcing the TMDLs through waste load allocations and receiving waters prohibitions in the NPDES permit will result in many lines of SSO and in third party litigation.
  - Recent "differing" interpretation of SUSMP and infiltration.
- Implementation of the TMDL program is in its infancy and that there is still much experimentation necessary in the construction and operation of capital improvements and in devising source control programs. It is too early to subject local government to third party litigation for investing in the iterative process.

TMDLs Should Be Implemented Through MOUs (Continued)

- MOUs should be the preferred TMDL implementation strategy.
  - MOUs can set forth BMPs to be implemented by the cities.
  - MOUs allow Board enforcement through Supplemental Environmental Programs (SEPs) that consist of programs designed to enhance water quality.
  - MOUs can give the Board adequate enforcement power.
- We request that Finding E6 of the Draft Permit be revised to specify that implementation of the TMDL program will be through MOUs between the Regional Boards and local governments rather than through the Permit.

Atmospheric Deposition and Its Role in the Permitting Process

Presented by
Lisa Rapp
Director of Public Works
City of Lakewood

Los Angeles Regional Water Quality Control Board
April 5, 2007
Burbank, CA

Atmospheric Deposition and Water Quality

- There is increasing recognition of the connection between atmospheric deposition and water quality.
- Multi-media problems demand multi-agency planning and policy coordination.
- CARB and the State Water Board had an historic joint workshop in February 2006.

Continued...

Atmospheric Deposition and Water Quality (Continued)

- The State Board has acknowledged the importance of atmospheric deposition in meeting water quality objectives.
  - "We will not be able to fully address these impaired water bodies, until the component of atmospheric deposition is understood and quantified."
  - "As was made apparent by our atmospheric deposition workshop, U.S. EPA's air regulation structure needs to include atmospheric deposition's known impact on water quality."

Source: April 4th 2006 letter from Celeste Cantú, Former Executive Director, State Water Resources Control Board to U.S. EPA

NRDC Pushing for Action on the Air-Water Interface

- NRDC petitioned the Los Angeles Regional Board to request technical information from industrial aerial emission sources.
- NRDC says that failure to issue 13267 letters by 15 May 2007 will be considered a "failure to act" under CWC Section 13320(a) for purposes of appeal to the State Water Board.
- NRDC gathered data on emissions of six chemical and metal pollutants in 303(d) listed waterbodies from EPA's Toxic Release Inventory.
- NRDC requested that 13267 letters be sent to the top 10 dischargers of each of the selected constituents.
- NRDC cited scientific studies illustrating the problems of atmospheric deposition in the Region's waterbodies.

Water Pollutants Identified as Significant for Atmospheric Deposition in at Least One Location

- Sulfur compounds
- Nitrogen compounds
- Mercury compounds
- Lead compounds
- Cadmium compounds
- Chlorpyrifos
- Copper
- Zinc
- Polychlorinated biphenols (PCBs)
- Diazinon
- Dioxins/furans
- Dieldrin
- DDT/DDE
- Hexachlorobenzene (HCB)
- a-hexachlorocyclohexane (a-HCH)
- Lindane
- Toxaphene
- Polycyclic organic matter (POM), incl. polycyclic aromatic hydrocarbons (PAHs)
- Atrazine

Source: USEPA, *Frequently Asked Questions About Atmospheric Deposition: A Handbook for Watershed Managers*, Sept. 2001

Local Governments Understand the Importance of the Air-Water Interface

- Permittees in the Los Angeles River Watershed are developing an atmospheric deposition research project related to the Los Angeles River Metals TMDL.
- The two-year project involves paired measurements of atmospheric deposition and storm flow.
- It is estimated that local governments will be contributing approximately $1.5 million to fund this atmospheric deposition research project.

Storm Water Permittees Caught in a Regulatory/Authority Bind

- The combination of directly connected impervious areas and atmospheric deposition of pollutants produces a "perfect storm" impacting water quality control.
- Removing all pollutants at the end of storm drains would be very expensive – many, many billions of dollars.
- The regulatory reality is that water boards can regulate permittees but don't have regulatory control over some of the major pollutant sources, such as the sources of atmospheric deposition.

The Water Boards and the Regulated Community Need Help from the Air Boards

- While water quality regulations have been broadening, air quality regulation has become more focused.
- Air quality regulation is increasingly focused on fine, breathable particles, but air deposition impacts on water quality involve both fine particles and coarse particles.
- Water quality practitioners need help from the Air Boards to monitor a wider range of particle sizes.
- The Air Boards need to acknowledge that water pollution is one of the public welfare effects that need to be addressed in regulating sources of atmospheric pollution.

Atmospheric Deposition Is Not Adequately Addressed in the Draft Ventura Permit

- Finding B.16 is a good start; it recognizes the importance of dry indirect deposition to water quality.
- Finding B.16 also indicates that the Regional Board will cooperate with the South Coast AQMD and CARB. Municipalities would like to work with the Regional Board to develop a strategy to stimulate more action by the air boards.
- Neither the Regional Board nor municipalities can control atmospheric deposition, and we won't be able to achieve clean water until it is controlled.

Continued

Policy & Implementation Concerns: Atmospheric Deposition Is Not Adequately Addressed in the Ventura Permit (Continued)

- The Santa Ana Regional Board recognizes that permittees can't control atmospheric deposition and other specified discharges:
  - 16. The permittees may lack legal jurisdiction over storm water discharges into their systems from some State and Federal facilities, utilities and special districts, Native American tribal lands, waste water management agencies and other point and non-point source discharges otherwise permitted by the Regional Board. The Regional Board recognizes that the permittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate pollutants present in storm water runoff may be beyond the ability of the permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear and leaching of naturally occurring minerals from local geography.

(From Santa Ana Board Order No. R8-2002-0010, Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and The Incorporated Cities of Orange County Within the Santa Ana Region Area-wide Urban Storm Water Runoff, Orange County)

- We ask that you include a similar finding in the Ventura Permit and the other MS4 permits you will issue later.

Environmental Impact Issues Associated with Infiltration

Presented by
Ray Tahir
TECS Environmental
on behalf of
The Coalition for Practical Regulation

Los Angeles Regional Water Quality Control Board
April 5, 2007
Burbank, CA

Draft Permit Requires Thorough Environmental Impact Analysis

- A CEQA clearance or other mechanism is needed to evaluate the impact of the next MS4 Permit in terms of:
  - Potential adverse impact on other Permittee programs and services resulting from excessive compliance costs associated with this MS4 Permit; and
  - Potential adverse environmental impacts resulting from required SUSMP provisions (e.g., impact of infiltration on ground water quality).

Continued...

Draft Permit Requires Thorough Environmental Impact Analysis (Continued)

- Draft MS4 proposes mandatory infiltration (through the 95% perviousness requirement)
- Infiltration cannot be mandatory because of infeasibility, such as:
  - Property line to line projects where there is no area to infiltrate
  - Projects that are situated in known areas of contamination (areas in the San Gabriel Valley)
  - Project sites where there is the possibility that an accidental release of caustic pollutants could enter the sub-surface and threaten ground water (automotive repair shops, gas stations, landfills, airports, certain categories of industrial facilities)
  - Areas where the water table is high (City of Cerritos will attest to this during public comment period)
  - Public and private streets

Continued...

Draft Permit Requires Thorough Environmental Impact Analysis (Continued)

- Need to evaluate appropriateness of infiltration controls within the context of specific types of projects and site conditions.
- Need to consider feasible alternatives and mitigation measures.
- Appropriate environmental evaluation will greatly improve permit implementation by:
  - Taking the guess work out of the process;
  - Better improving water quality; and
  - Reducing if not eliminating the need for litigation.

Construction Industry Coalition on Water Quality

Alternative Approaches to the Proposed Planning and Land Development Program in the Draft Ventura County MS4 Permit

By

Mark Grey, Ph.D., Technical Director, CICWQ/BIASC

Introduction

- Municipal Action Levels
- New Development and Redevelopment
  - Spatial Scales of Development Projects
  - Low Impact Development Implementation
  - Hydromodification Control
- Construction-phase Requirements
  - Wet Season Grading Ban
  - Consistency with CGP and BMPs

Shared Objectives

- Protection of Water Quality and Beneficial Uses
- Implementability
- Limit need for interpretation
- Consistency of approach

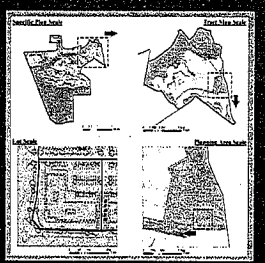
Municipal Action Levels

Issues with this provision include:

1. Whether the MALs, based on national dataset, are appropriate benchmarks for implementation of MEP in Ventura County.
2. Whether using a central tendency (median) with limited variability of observed urban runoff quality (COV ≤2) is appropriate for setting MALs.
3. Whether a permit violation is the appropriate remedy for two exceedences of an MAL (in-stream).

		Southwestern US Data
Pollutant	**Proposed MAL**	**90th Percentile**
TSS (mg/l)	106.2	513
COD (mg/l)	58.3	361
Cadmium Total (ug/l)	2.0	3
Cadmium Dissolved (ug/l)	0.55	0.8
Chromium Total (ug/l)	10.5	34
Chromium Dissolved (ug/l)	1.5	3.8
Copper Total (ug/l)	32.0	120
Copper Dissolved (ug/l)	12.8	33
Lead Total (ug/l)	30.6	225
Lead Dissolved (ug/l)	6.0	22
Nickel Total (ug/l)	9.6	54
Zinc Total (ug/l)	232	1,120
Zinc Dissolved (ug/l)	104	1,300

Low Impact Development and Imperviousness



- Consider project scale
- Consider percent imperviousness at all scales
- Consider the special needs of infill and redevelopment projects

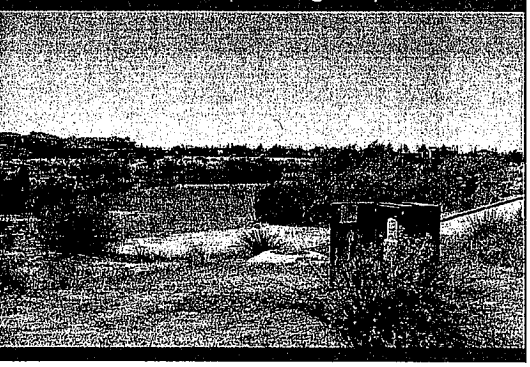
Disconnecting Impervious Surfaces

- Typical urban development reduces evapotranspiration and infiltration, creating large increases in runoff volume
- Need to recreate the "sponge" in vegetation and non-compacted soils
- Disconnection of impervious surfaces mimics the pre-development evapotranspiration rate by managing the "sponge" in landscaped areas or vegetated BMPs
- This sponge can exist anywhere on the landscape - the receiving water can't tell if it is "on-site" or "regional"

Bioretention/Swale (One Street)

Vegetated Swale (Small Neighborhood)

Wet Pond (Sub-Regional)



Infiltration Basin (Regional System)

Hydromodification Impacts

- Increase in runoff peak flow, volume, and flow durations
- Intensifies sediment transport and erosion processes

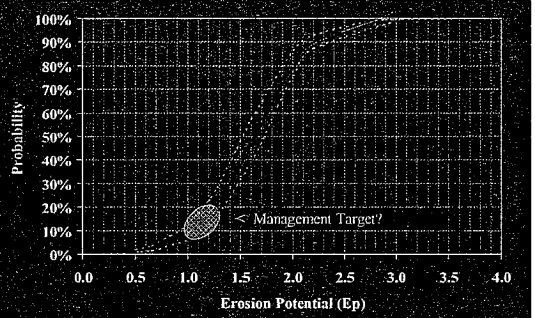
Hydromod Issue #1

- Requirement
  - All projects shall maintain pre-development stormwater runoff flow rates and durations
- Issue
  - Does not consider stream channel susceptibility

Hydromod Issue #2

- Requirement
  - All projects in natural drainage systems must meet Ep = 1
- Issues
  - Ep = 1 does not account for effect of changes in sediment supply
  - Lacks practical tolerance value using risk-based approach

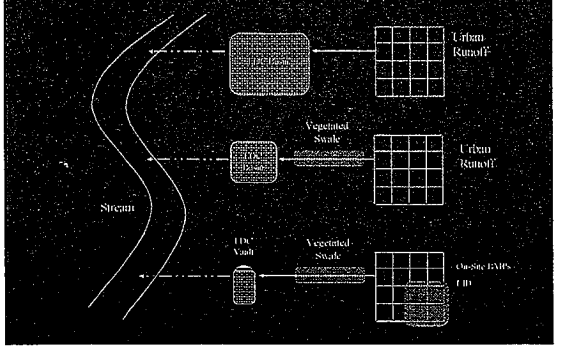
Risk of Channel Instability



Hydromod Issue #3

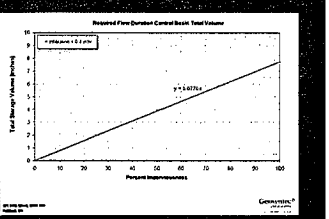
- Requirement
  - All projects shall maintain Effective Impervious Area <5%
- Issue
  - Mandates one of many tools to achieve numeric Ep standard and is redundant with numeric Ep standard

Hydromodification Control Options



Hydromod Issue #4

- Requirement for Interim hydrograph matching standard not protective of stream channels



- Propose replacement with nomograph tool based on Ep method

Construction Grading Restrictions

- Wet Season Grading Ban
  - There are between 23 to 28 days within the 6½ month (approximately 195 day) wet season on which rain occurs
  - Require a two-tiered approach to BMP implementation, with more stringent BMPs required in the wet season for sites with a high erosion potential
- Consistency with Construction General Permit and BMPs

Summary Points

- Revise approach to setting Action Levels.....actions, not violations
- Consider project scales in implementing LID and hydromod approaches
- Consider watershed and waterbody characteristics in setting hydromod standards....consider real risks...
- Construction requirements consistent with General Permit....no ban, please

CICWQ

Municipal Action Levels & Assessing Compliance and Effectiveness

Geoff Brosseau
California Stormwater Quality Association (CASQA)
April 5, 2007

Presentation Outline

- California Stormwater Quality Association
- MALs – Purpose and Derivation
  - California Water Board's Expert Blue Ribbon Panel Findings
  - Ventura MS4 draft permit
- Quantifiable Measures for assessing Permit Compliance and Program Effectiveness

California Stormwater Quality Association

- Founded as the Stormwater Quality Task Force – official technical advisory body to State Water Board
- Nonprofit public benefit 501(c)(3) corporation
- Professional member association dedicated to the advancement of stormwater quality management through:
  - collaboration,
  - education,
  - regulatory review,
  - implementation guidance,
  - and scientific assessment
- Specific purpose is to assist those entities charged with stormwater quality management responsibilities with the development and implementation of stormwater quality goals and programs
- Practitioners of stormwater quality management
- Technical focus

Collaboration / Education / Implementation guidance / Scientific assessment

- Meetings
  - General Membership meetings (1991-)
  - Workshops (BMP Handbooks, ASBS)
  - Conferences (2005-)
- Guidance
  - BMP Handbooks (3/93 and 1/03)
  - Retail Gasoline Outlet (RGO) BMP Guide (3/97)
  - Construction Stormwater Sampling & Analysis Guidance (10/01)
  - Effectiveness Assessment White Paper (10/05)
  - Resource Library – Public education materials (12/05)
  - Stormwater Monitoring and Research Priorities (3/07)
  - Effectiveness Assessment Manual (4/07)

Municipal Action Levels – Purpose and Derivation

Expert Blue-Ribbon Panel Findings

"It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges……

For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible

Expert Blue-Ribbon Panel Findings (cont')

- Action Level as defined by Panel
  - Used to identify the "bad actor catchments"
  - Functionally same as an "upset value"
- 3 approaches suggested for developing action levels
  - Consensus based
  - Ranked percentile distribution (90% value)
  - Statistically based population parameters

Expert Blue-Ribbon Panel Findings (cont')

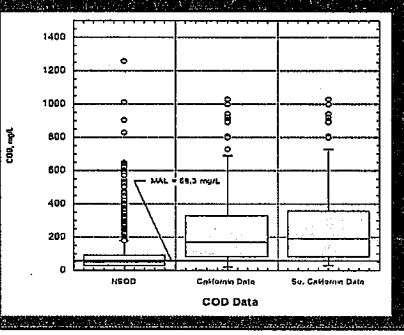
- Recommended Database for establishing "upset values" (in order of preference)
  1. Local urban stormwater monitoring data
  2. Combine municipal permit monitoring data when insufficient local data
  3. National database
- Ventura draft permit reflects the third preferred dataset

National vs. Local Datasets

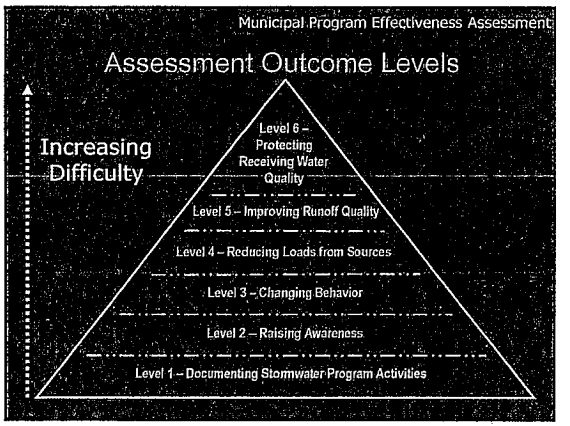
- National datasets demonstrates local differences (COD)

EPA Rain Zone	Location	Average (mg/L)
3,7	SE and NW	44
2,4,5	TX, MidAtlantic	72
1	AL, AZ	111
National		74

California Data is Different (> 99.9% probability that means are different)



Quantifiable Measures for assessing Permit Compliance and Program Effectiveness



Attributes of Assessment Method

- Assess
  - Effort (Outcome Level 1)
  - Achievement (Outcome Levels 2 - 6)
- Type
  - Narrative or qualitative
  - Numeric or quantifiable
- Progress
  - Effort → Achievement
  - Qualitative → Numeric or quantifiable

Challenges to measuring stormwater program effectiveness (Cause –?→ Effect) (Action –?→ Outcome)

- Degrees of separation phenomenon
- Complicating effects of integrating all inputs
- Outcome Level is defined by:
  - Type of BMP being measured
  - Power of BMP

Implementation Success Story: Pesticides and Stormwater

- By 2006 – Aquatic toxicity and diazinon concentrations in urban creeks have decreased dramatically – in many cases below TMDL targets - Level 6 Outcome – Protecting receiving water quality
- USEPA and DPR changing the way pesticides are regulated to address/prevent water quality problems / Retailer data show less-toxic product sales 1 - Level 3 Outcome – Changing behavior
- Surveys - Level 2 Outcome – Raising awareness

Action Levels – Draft Examples

Program Element	Outcome Level	Goal	Examples of Defining Quantifiable Measure	Action Level
Construction	Level 1 – Documenting Activities	Provide frequent inspection of construction sites	Percentage of all construction sites inspected according to specified schedule during wet season	90
	Level 3 – Changing Behavior	Increase the number of construction sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of construction sites in significant compliance with local construction stormwater requirements	(75% >1 ac. / 50% <= 1 ac.)
			Percentage of State permitted sites that have a completed SWPPP for each site (document during inspection)	80

Action Levels – Draft Examples

Program Element	Outcome Level	Goal	Examples of Defining Quantifiable Measure	Action Level
Illegal Discharges / Illicit Connections	Level 3 – Changing Behavior	Respond rapidly and efficiently to illicit discharges	% of illicit discharges impacting human health responded to within 24 hours upon receiving notification	80
		Eliminate all illegal connections	% of illegal connections eliminated or permitted once detected	80

Summary

- MALs are numeric effluent limits with significant implications for MS4s
- Draft Ventura Permit differs from the Blue Ribbon Panel Recommendations
  - Purpose of "Action Levels"
  - Application to MS4s
  - Dataset for developing MALs inappropriate

Opportunity

- There is a viable approach for developing quantifiable measures for program implementation and demonstrating progress towards water quality protection
- Embraced by San Diego Water Board; incl. in State Water Board Construction General Permit; considered by other Water Boards
- CASQA is fleshing out the details now

Thank you

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Comments on the Draft Ventura County MS4 Permit

Heal the Bay

NRDC

April 5, 2007

Positives

- Inclusion of Low Impact Development (LID) Requirements
- Hydromodification Control Provisions
- Watershed Ecological Restoration Planning



Municipal Action Levels (MALs)

Receiving Water Limitations (RWLs):

- If in compliance with MALs, "the Permittee does not have to repeat the procedure for continuing or recurring exceedences of the same water quality standard…."

Instead:

- Remove and clarify that BMP implementation process isn't complete until RWLs are met

MALs (cont.)

Includes:

- pH
- TSS
- COD
- Total Coliform
- E. Coli
- Metals

Missing:

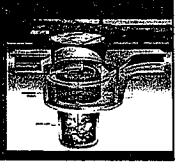
- Hg
- OP pesticides
- PAHs
- Nutrients
- Chlorides

Performance Criteria

The Order is intended "to reduce the discharge of pollutants in storm water to the MEP and achieve **water quality objectives**…."

Proposed Change:

- Add performance based criteria in response to RWL exceedence



TMDLs and Waste Load Allocations (WLAs)

- "The WLAs in the Order are expressed either as a numerical limitation, or a **suite of BMPs** that have been determined as providing a reasonable expectation that the WLAs will be achieved for wet weather flows, or as a prohibition for dry weather flows." (P.88)
- "This Order translates MS4 TMDL WLAs…by use of alternative temporal increments, concentrations, **presumptive BMPs**, …" (P. 21)

Proposed Action:

- Express WLAs in numeric form

TMDLs (cont.)

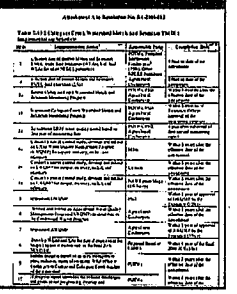
Missing TMDLs:

- Calleguas Creek Nitrogen TMDL
- Calleguas Creek Chloride TMDL
- Santa Clara Chloride TMDL
- Malibu Creek Nutrients TMDL
- Calleguas Creek Metals and Selenium TMDL

TMDLs (cont.)

Missing Implementation Requirements:

- Interim WLAs
- Monitoring Program
- Required Special Studies
- Annual Progress Reports
- Work plans



Monitoring

Prohibitions:

- Discharges causing or contributing to a condition of pollution, contamination or nuisance
- Discharges causing or contributing to exceedences of receiving water quality objectives

Monitoring (cont.)

- 3-5 mass emission stations
- Rotating tributary stations
- Rotating bioassessment

Proposed Action:

- Increase number of locations
- No rotation
- Year-round sampling
- Revise toxicity triggers

LOW IMPACT DEVELOPMENT (LID)

What Is LID?

General LID Principles

- LID is an ecologically-friendly approach to site development and stormwater management that helps prevent impacts to land & water resources.
- LID conserves the natural systems and hydrologic functions of a site.
- LID focuses on prevention rather than mitigation.

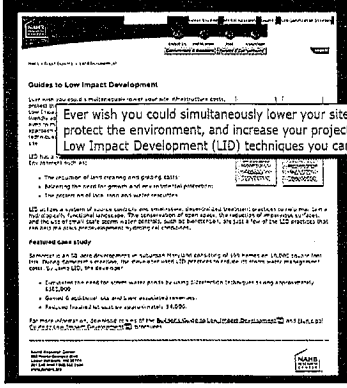
10 Common LID Practices:

1. Reduce & disconnect impervious surface (*Effective Impervious Area*)
2. Soil amendment
3. Permeable pavers
4. Rain gardens & bioretention
5. Sidewalk storage
6. Vegetated swales, buffers, & strips
7. Roof leader disconnection
8. Rain barrels & cisterns
9. Rooftop gardens
10. Pollution prevention & good housekeeping

Examples of LID In Practice

Why LID?

LID Is Cost-Effective

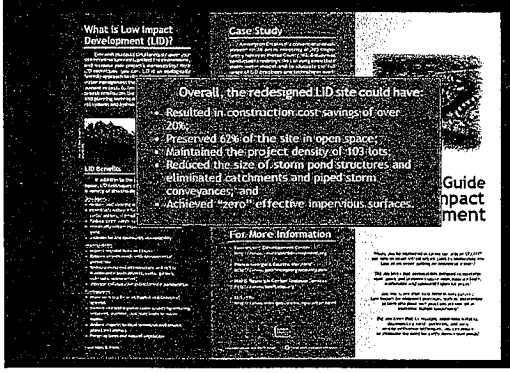


Guides to Low Impact Development

Ever wish you could simultaneously lower your site infrastructure costs, protect the environment, and increase your project's marketability? Using Low Impact Development (LID) techniques you can.

Featured case study

LID Is Cost-Effective



What is Low Impact Development (LID)?

Case Study

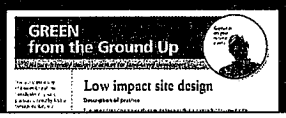
Overall, the redesigned LID site could have:

- Resulted in construction cost savings of over 20%;
- Preserved 62% of the site in open space;
- Maintained the project density of 103 lots;
- Reduced the size of storm pond structures and eliminated catchments and piped storm conveyances; and
- Achieved "zero" effective impervious surfaces.

LID Benefits

For More Information

LID Is Flexible



Appropriate site conditions

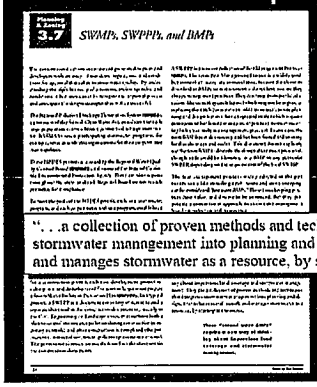
One of the best attributes of low impact site design principles and techniques is that they are extremely flexible. They can be incorporated into any site; the unique characteristics of a site will dictate what practices are best suited to a particular project. These practices work in highly constrained urban areas as well as on sites with larger lots and valuable natural resources.

LID Can Be Implemented Now

Over 100 LID reference documents are in the record that demonstrate that LID is ready to implement:

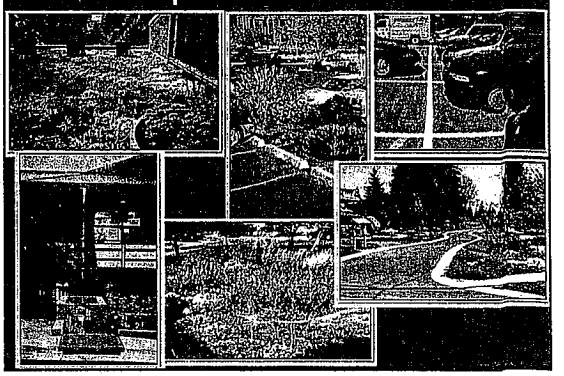
- Case studies
- Technical manuals
- Scientific studies
- Industry reports & guidelines

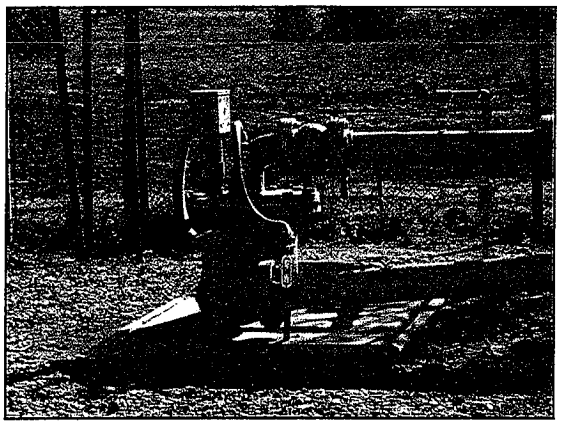
LID Can Be Implemented Now

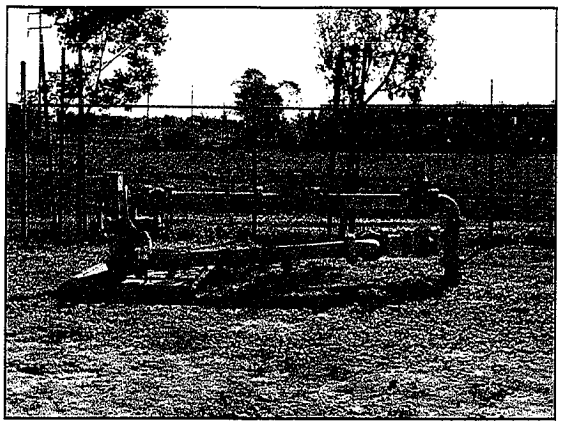

3.7 SWMPs, SWPPPs, and BMPs

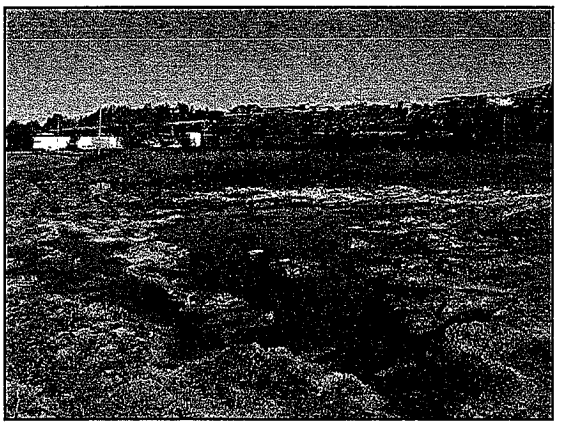
"...a collection of proven methods and techniques that integrates stormwater management into planning and design, reduces overall runoff, and manages stormwater as a resource, by starting at the source."

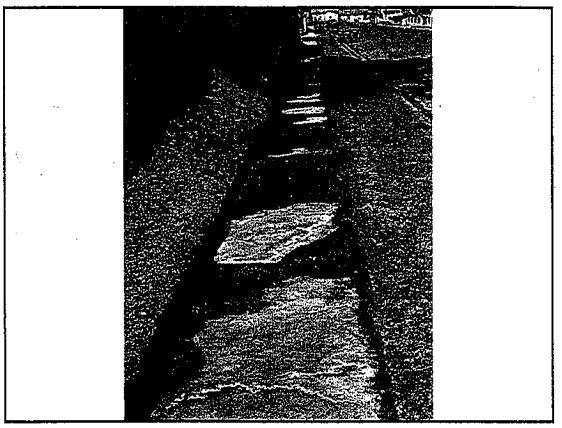
Examples of LID In Practice











BOARD MEETING

STATE OF CALIFORNIA

LOS ANGELES

REGIONAL WATER QUALITY CONTROL BOARD

THE CITY OF BURBANK

CITY COUNCIL CHAMBERS

275 E. OLIVE AVENUE

BURBANK, CALIFORNIA

THURSDAY, APRIL 5, 2007

9:10 A.M.

TIFFANY C. KRAFT, CSR, RPR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 12277

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

APPEARANCES

BOARD MEMBERS

Ms. Francine Diamond, Chair

Ms. Mary Ann Lutz, Vice Chair

Ms. Maribel Marin

Mr. Bradley Mindlin

Mr. H. David Nahai

Mr. Leo Vander Lans

Mr. F.W. Dick Richardson

STAFF

Mr. Jonathan Bishop, Executive Officer

Ms. Jennifer Fordyce, Staff Counsel

Ms. Ronji Harris, Executive Assistant

Mr. Michael Levy, Staff Counsel

Mr. Rod Nelson, Chief, Groundwater Permitting and Landfills Section

Ms. Wendy Phillips, Chief, Groundwater Cleanup and Permitting Section

Mr. Dan Radelescu, Staff

Mr. Ivar Ridgeway, Staff

Mr. Ejigu Solomon, Unit Chief, Storm Water Compliance and Enforcement Unit

Mr. Xavier Swamikannu, Chief, Storm Water Permitting Program

Mr. Carlos Urrunaga, Staff

APPEARANCES CONTINUED

STAFF

Ms. Tracy Woods, Staff

Mr. Wen Yang, Staff

ALSO PRESENT

Mr. Vaikko Allen, Contech Stormwater Solutions

Dr. Wayne Aller

Ms. Dorothie Alsentza, NRDC

Mr. Peter Anderson

Mr. Arnie Ansaw, Ventura County Public Works Agency

Mr. John Bejan, City of Simi Valley

Ms. Becky Bendikson, Granada Hills resident

Ms. Nicole Bernsen, Councilmember Greig Smith

Ms. Carrie Bluth, Water Quality Unit, California Coastal Commission

Mr. Matthew Breiner, John Laing Homes

Mr. Brian Brennan, Councilmember, City of San Buenaventura

Mr. Geoff Brosseau, California Storm Water Quality Association

Ms. Jan Chatten-Brown, North Valley Coalition, Sierra Club, Planning Conservation League, Environmental Law Foundation, International Brotherhood of Teamsters

Ms. Terri Davis, City of Moorpark

Mr. Mike Driller, Department of Water Resources

APPEARANCES CONTINUED

ALSO PRESENT

Mr. David Edwards, BFI, Sunshine Canyon

Mr. Larry Forester, City Councilmember, City of Signal Hill

Mr. Craig George, City of Malibu

Dr. Gerald Greene, City of Downey, CPR

Mr. Mark Grey, Construction Industry Coalition on Water Quality, Building Industry Association of Southern California

Mr. Andrew Henderson, BIA of Southern California

Ms. Nancy Hoffman, United Chambers of Commerce, Greater San Fernando Valley Chamber of Commerce

Mr. Gerhardt Hubner, Ventura County Watershed Protection District

Mr. Matthew Holly, resident, Ventura County

Mr. Brendan Huffman, Valley History and Commerce Association

Mr. Wade Hunter, North Valley Coalition

Ms. Kirsten James, Heal the Bay, NRDC

Ms. Carly Katoya, Yvonne B. Burke, Supervisor, Second District

Mr. Ed Kavazanjian, Department of Civil Engineering, Arizona State University

Mr. Ralph Kroy

Ms. Anita Kuhlman, City of Camarillo

Ms. Kathy Long, Ventura County Board of Supervisors

Ms. Carrie Mattingly, Director of Utilities, City of Port Hueneme

APPEARANCES CONTINUED

ALSO PRESENT

Mr. Joe Mello, Land Disposal Program Manager, State Water Board

Ms. Vicky Musgrove, City of Ventura

Mr. Rich Ney, Ney and Nelson, Incorporated

Mr. Mark Pumford, City of Oxnard

Ms. Lisa Rapp, Director of Public Works, City of Lakewood

Ms. Holly Schroeder, CEO, Building Industry Association Greater Los Angeles/Ventura Chapter

Mr. Jay Spurgin, City of Thousand Oaks

Mr. Ray Tahir, Tec Environmental

Ms. Kim Thompson, community member

Mr. Jim Thorsen, City of Malibu

Mr. Richard Watson, consultant, CPR

Mr. Bert Rapp, Public Works Director, City of Fillmore

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PROCEEDINGS

CHAIRPERSON DIAMOND: Good morning. And welcome to the Regional Water Quality Board meeting. We are going to start out with the Pledge of Allegiance. I'm going to ask Ms. Maribel Marin to please lead us in that. Please stand.

(Thereupon the Pledge of Allegiance was recited in unison.)

CHAIRPERSON DIAMOND: Would you please take the roll, Ms. Harris?

SECRETARY HARRIS: Ms. Diamond?

CHAIRPERSON DIAMOND: Here.

SECRETARY HARRIS: Ms. Lutz?

VICE CHAIRPERSON LUTZ: Present.

SECRETARY HARRIS: Ms. Marin?

BOARD MEMBER MARIN: Here.

CHAIRPERSON DIAMOND: Mr. Mindlin?

BOARD MEMBER MINDLIN: Here.

SECRETARY HARRIS: Mr. Nahai?

Mr. Richardson?

BOARD MEMBER RICHARDSON: Here.

SECRETARY HARRIS: Mr. Vander Lans?

BOARD MEMBER VANDER LANS: Here.

CHAIRPERSON DIAMOND: The first thing I would like to do this morning is to call up Ms. Junko Sams.

Would you like to come forward, please?

Junko, last month, our Board was very honored to have a Resolution in memory of your husband, Bob, Bob Sams who was just a wonderful, wonderful member of this staff, who's much beloved and missed. And we were hoping that you would be able to be here this month so that we could tell you personally what a valued member he was and what a tremendous asset he was to our Board, as a lawyer, and as a friend, and as a co-worker. And we thought that perhaps our legal counsel, Mike Levy, who knew and worked with him best of all might be able to say a few words to you on our behalf and his behalf and on behalf of the staff as well.

STAFF COUNSEL LEVY: Thank you, Fran. I'll stand where I can be heard. Can everybody hear me?

I'm pleased and very most honored to do this on behalf of staff and on behalf of the Board to just share with you and with everybody here what Bob meant to our organization and to us both professionally and personally.

Bob was an absolute gentleman in every respect. He was absolutely polite. He was absolutely friendly. He was prepared and very articulate and understanding and patient. He worked on some of our most extremely controversial and complex issues, and he did so without acrimony and he did so with understanding and he did so with respect for everyone involved.

He let an effort which yielded actually the largest fine for a spill in the history of the Regional Board. And he yielded that through a settlement. He led the team on organizing the prosecution. And that was for the Manhattan Beach spill last year, that big sewage spill last year. And Bob's efforts actually resulted in a $2.7 million settlement, most of the money going to fund a Discovery Center inside the Whittier Narrows area which is going to focus on youth education programs and watershed education. And that's the type of a settlement that doesn't get facilitated unless you have people who are willing to work very closely and carefully who understand all the issues. That's just one minor example. It's huge, but it's one small example of the work Bob did for this Board.

He was an outstanding member of our team, our legal team, well respected by every single one of the lawyers in the our office and well respected by everyone of our staff in Regional Board and up and down the state. And from folks that we know that worked with him at the Department of Toxic Substances Control, that's how he carried himself throughout his life. He was absolutely a pleasure to work with in this Board, the Board itself, and the staff and everyone who worked with him. And all of the stakeholders in the Los Angeles region are far more

richer because of his service to us and to you. We really, really appreciate all that he did. And we really, really share your loss and not having him with us any more. So thank you for sharing him with us for many years. Thank you.

CHAIRPERSON DIAMOND: Thank you, Junko.

This is a big month for us at the Water Board, because not only do we have this tremendous loss as you just all heard with our attorney, Bob Sams, but we also are now going to be -- well, John Bishop, get up there, please.

Recognizing both the talent and the achievement of our Executive Director, the State Board has decided to take him away from us, has hired him -- has hired John Bishop to be the Chief Deputy Director of the State Board. I think I got that title correct.

And so I think we take a lot of pride in this, John, even though we're very conflicted to know that you won't be with us because you have been such an amazingly talented member of this Regional Board staff for 23 years. And I wanted to acknowledge not only the fact that you're leaving, but the abundance and the quality of the work that you have given through your dedication and devotion and extreme talent. You started out as an entry-level engineer 23 years ago in the Permit Section and then went

on to develop the Well Investigation Program. And then you headed up the Data Management Unit. And then of course you lead the TMDL Unit, which has been an unbelievably successful and fruitful productive section. And then you went on to head-up regional programs and then to the EO.

And after having served for three years as EO, your talents and also the achievements of this Board through your direction has been recognized by the State Board. And I have it on good word from the Chair of the State Board that she would like you to be there. And the reason they have asked you to come there is to duplicate as much as possible throughout the state the kinds of things that we've been doing in this region. And so we take a lot of pride in the fact that you have been given this position, although we will miss you tremendously. And this region will miss you tremendously.

So I wanted to congratulate you, because this will be the last meeting that you will be at here as an Executive Officer. And while it's very quick for us and quick for you, I didn't want to miss an opportunity to tell you how much we appreciate you and thank you and have tremendous gratitude for all that you've done for us and wish you well and to let you know we're really going to miss you.

EXECUTIVE OFFICER BISHOP: Thank you very much.

You know, it was a very difficult decision for me. This has been the highlight of my career as being Executive Officer here, working with all of you and with the fabulous staff we have here. And my goal has always been to improve water quality and to make a difference, and I think that together that's what we've done. And I wouldn't have been able to do it without the Board and the staff. And I've been doing that for 23 years. This is what I consider my home, and it's going to be a big change for me.

But I hope to take what I've learned here and try to duplicate it more around the state. And I plan to be back, and I'll be around. One of the things that I'd like to see is that the folks in Sacramento get out a little bit more to the regions and see where the front line work is done. So I plan to visit you all in the future. Of course, I have to come back when you adopt Boeing again just to watch.

CHAIRPERSON DIAMOND: Well, John, we don't want to let you off the hook, because now we have to ask you for the last time to go over the order of the agenda.

EXECUTIVE OFFICER BISHOP: First, we will be hearing Item 11 in the afternoon at 1:00. That's the workshop on the municipal storm sewer. So we'll take that

out of order. And then Item 13, waste discharge requirements for Santa Paula, are continued until next month to make some refinement in that permit.

And I do believe that's the only change in the order of the agenda.

CHAIRPERSON DIAMOND: Can I have a motion to approve the order of the agenda?

VICE CHAIRPERSON LUTZ: So moved.

BOARD MEMBER VANDER LANS: Second.

CHAIRPERSON DIAMOND: It's been moved and seconded. And I'll ask for a unanimous vote on that. All those in favor?

(Ayes)

CHAIRPERSON DIAMOND: Motion passes.

Now go on to the approval of the draft meeting minutes for the March 1st Board meeting. Are there any changes?

Can I have a motion?

BOARD MEMBER RICHARDSON: So moved.

BOARD MEMBER VANDER LANS: Second.

CHAIRPERSON DIAMOND: All those in favor?

(Ayes)

CHAIRPERSON DIAMOND: Opposed?

Motion passes.

Now we'll go on to Board member ex parte

communications. Does anybody have any ex parte communications to report?

Does anybody have any other communications to report during the last month?

Ms. Marin.

BOARD MEMBER MARIN: I attended the City of L.A.'s quarterly environmental meeting where they discussed some work that they're doing, the studies that they're doing on a number of ongoing projects related to soil erosion and the master water quality plan.

CHAIRPERSON DIAMOND: Okay. Any others?

I just wanted to report that there was a strategic planning meeting in Sacramento that I attended as well as Board Member Lutz. This is for the Strategic Plan for the State Water Board and the Regional Boards will be participating. We will be participating in our own regional workshop next month as a part of the planning for the Strategic Plan.

And the State Board Chair, Tam Doduc, will probably be here. At least other people from the State will be here next month. So I'm hoping all of our Board members and stakeholders who want to participate in the strategic planning for the next five years of the Water Boards will be at our next meeting in May. And that will be the afternoon session.

Now, John, do you have an Executive Officer's report?

EXECUTIVE OFFICER BISHOP: Of course. I wanted to bring to your attention a couple of items for the Executive Officer's report.

First is as we've been discussing over the last year and a half our needs to improve our resources for brownfields. And we had put forward a number of initiatives, one of which was a request for additional staffing. That BCP, or budget change proposal, was approved and included in the Governor's budget for this coming year. And out of the 20 positions that were approved state-wide, our region will get ten of those. And so I think that will be a 20 percent increase in our staffing because of the fabulous addition to our Brownfields Program. Those positions will be coming as soon as the budget is signed for the upcoming year, so probably June, July, August time frame.

And then on a not-so-happy note, the Paradise Ranch issue is still unresolved. They have not completed taking all of the septic systems off line, and the treatment plan is not totally up and running. They've run into a couple of design problems. They undersized their plant, and they have a problem with the chlorination.

At this point, they're still estimating six to

eight weeks off. And to give you a ballpark figure, at this time, I think we're at about three-quarters of a million dollars in penalties. And that will continue to grow as we move forward.

CHAIRPERSON DIAMOND: This is the Paradise Cove?

EXECUTIVE OFFICER BISHOP: Paradise Cove septic systems.

And with that, I think given that we have a very full agenda today with Sunshine Canyon in the morning, I would end my Executive Officer report at this point, unless there's any questions the Board has.

CHAIRPERSON DIAMOND: I do want to make an announcement that if there's anybody that's going to be here for more than 20 minutes --

EXECUTIVE OFFICER BISHOP: Two hours.

CHAIRPERSON DIAMOND: Two hours they should be parked on the third level. Just so that you know that if you're going to be here longer than that, you should move your car to the third level of the parking structure.

With that, we're going to go on to the public forum. I have several cards.

The first card is from Jim Thorsen and Craig George from the City of Malibu.

MR. THORSEN: Good morning, Chair and members of the Board. Can you hear me?

First of all, it's a pleasure to be here. As stated, my name is Jim Thorsen. I'm the City Manager for the City of Malibu. I have with me Craig George. Craig is our Deputy Building Official, is also responsible for all of our wastewater permitting division.

We came here for two reasons today: One, to give you an update on Legacy Park, which I know you're all interested in, as well as to be able to answer any questions you may have about commercial projects within our city that have been before this Board in the recent past.

First of all, with regards to Legacy Park, the City is moving full speed ahead with that project. It's a very complicated project. As you know, we've purchased 15 acres in the heart of Malibu in early 2006. The site was purchased with the specific goals to utilize the vacant land as a means to implement an integrated water management plan. In essence, we're going to use this site to treat and store storm water, to use the site where we can discharge Title 22 treated water. We'll also use this site as an educational opportunity and restore natural habitat and do some linear park trails for our city.

In October of 2006, we hired a well-respected engineering team led by RMC Engineering, and they have begun the preliminary designs for all the components of

the park. This includes the storm water, the wastewater, the linear parkways, the habitat restoration, and many other features.

In addition to that, they have a well-respected team on staff at their disposal to help with this project.

The team of professionals will also be preparing at the same time in parallel with the project the EIR for this project. We've already completed much work as of to date, and we still have a lot yet to accomplish.

We'll be holding our first community meeting on the 19th of this month, and we invite all of you to attend if you have the time.

We've also been doing a large outreach to all of our HOAs in the area as well as throughout the city. We've established some community focus groups made up of -- comprised of business leaders, homeowners, and environmental groups.

We also established a technical advisory team made up of many respected, well-educated professionals within their field of storm water and wastewater and habitat reconstruction. As you know, we opened up our storm water treatment facility in January of this year. We just need a little bit of rain, and we can make sure it's working. But it's up and running and functioning. We know it does work. It's just a matter of getting some

rain.

At this point in time, we're looking forward to completing the EIR and the preliminary designs and have those approved in early 2008. We are aggressively pursuing all of our funding opportunities. As you can imagine, this is a very, very expensive project for the City.

We're also doing an outreach and fund-raising within our own community in anticipation that we can raise another two-and-a-half million dollars for the project. We'd like to begin putting shovels into the ground by the end of 2008, or sooner, if possible. Counsel have given direction and has supported this project and looking forward to starting the groundbreaking on that. And we anticipate maybe we can even get Jonathan back at that time.

The first phase of construction is anticipated to be really the development of the park, which is the storm water component, the habitat reconstruction, as well as the linear park lines. It is anticipated the wastewater component will be the second phase of construction. This is a much more complicated task, involves many, many property owners. It's also much more expensive to construct.

With that, I would just like to open up to any

questions that you may have of previous projects or this project and thank you for allowing me to speak today.

CHAIRPERSON DIAMOND: Thank you. We're very glad you're here, because there have been several meetings in the past, as you may have heard, where there were developers and property owners that were complaining about the City of Malibu and not being able to get their permits and kind of taking a lot of time and basically pointing the finger back towards the City for the delays in their projects.

And we were very sorry that the City of Malibu was not there to answer the -- I don't want to say charges. But to give the City's position. So we asked in very strong language, very strong terms that the City of Malibu come here today. And I believe that you had a phone call from our Executive Officer requesting that on behalf of the Board.

I know the Board has some questions, so I'm going to open it up to the Board for questions for you on some of the things that have come before us in the past few months.

Who would like to -- Ms. Lutz.

VICE CHAIRPERSON LUTZ: My first question is -- and this is all related to the Paradise Cove issue. And we had come before us. Ms. Diamond and I came with

Jonathan Bishop to your City. We talked about it. Seemed like everything was moving along and we were going to be able to progress. And then they come back, and we hear that there's more problems with permitting and getting things done. And again, we weren't able to ask you what the problems were, so I'm wondering if you could help us out with that situation.

MR. GEORGE: First of all, I apologize we weren't here. We were given information it was an informational only item. We didn't realize there would be discourse back and forth or allegations made towards the City. It wasn't an action item, but we will make sure we are here on any of the things in future. Again, apologize for that.

In regards to Paradise Cove, there is a lot of misinformation that has been disseminated in regards to permitting there. I know we've had some previous discussions. Ever since the permit was issued, the first permit was issued back in I think July of '04 to initiate construction -- so they've had permits. They've had authorization to be moving forward since then. Paradise Cove has chosen to move at a very -- what I would consider a snail's pace to get this installation completed.

They've had a lot of construction issues. They've had a lot of problems that they've brought upon

themselves. It was nothing to do with the permitting. The permitting has been completed for that for approximately 18 months, the additional permits that were required. So there's no permitting issues whatsoever. There's no outstanding permits to be issued.

There are some revisions that we've asked for a survey, an as-built survey. We have not received that. There may be some plan check issues or whatever to verify what they're doing. But we repeatedly ask for information to be provided to us, and that has not been provided.

We have actually gone now directly back instead of dealing with Paradise Cove, dealing directly with their engineers to try to get that information. Fortunately, these are people we work with on other projects, so they're very willing to at least inform us of what's going on.

There are some design issues that have come up. Two things I'm aware of -- one of the things is in the very beginning of the plan review that they thought we were being obstinate about it was a specific tank size for holding effluent as it's delivered before it goes into the treatment facility. We agreed to let the permits go and start construction. And low and behold, it becomes a problem. It's kind of our motto that no good deed goes unpunished, but we wanted to move forward with the

project.

The second issue I'm aware of, and again, struggling to get the information from them, is the final treatment from the Purolator is the company that supplied that. They provided a different situation or product than was originally approved or originally proposed. And now they found that they have issues with the oxygen generators and the oxygen they need for the ozone treatment for the final phase of that. Again, we've asked for information. We have not been granted that information. We are going to their engineers. They are responding to us, but we don't have the full picture yet.

CHAIRPERSON DIAMOND: John, would you like to say something about that?

EXECUTIVE OFFICER BISHOP: I just wanted to remind the Board that last month what we were talking about was the Country Marts I, II, and III and not the issues with the Paradise Cove permitting. And that may be an area that the Board wanted to question.

CHAIRPERSON DIAMOND: Right. I was going to say that it wasn't just Paradise Cove that gave concern. In fact, after last month's meeting or at last month's meeting because there were other concerns brought by people involved with the Country Mart and Malibu Creek --

EXECUTIVE OFFICER BISHOP: Country Mart I, II,

and III.

CHAIRPERSON DIAMOND: There were issues of concern for those people too with the City of Malibu. So that's -- and I'm happy that you said that you will be coming to future meetings. Information items very often become public forum items, and information items very often become of interest to the Board because problems arise and issues are raised. And so I would suggest very strongly that every month you read the agenda, and if Malibu is on it, that somebody comes from the City of Malibu.

MR. GEORGE: We will do that. I've asked if your staff members are preparing a staff report that they think may be controversial they do contact us. And I mean, we'll make every effort to be here.

CHAIRPERSON DIAMOND: If you get the agenda, I think a telephone call can be made.

MR. GEORGE: And I'm not trying to make excuses. But in the last one, it took a number of phone calls to finally get the staff report so I could see what that was about.

CHAIRPERSON DIAMOND: Mr. Richardson, do you have a question? No.

BOARD MEMBER MINDLIN: With respect to Paradise Cove -- to make sure I'm correct on it. This is the

mobile home park in Paradise Cove?

MR. GEORGE: That's correct.

BOARD MEMBER MINDLIN: Do the individual homeowners know what's happening?

MR. GEORGE: In the process of having the permits issued, we had a series of meetings with the homeowners. They formed kind of an Ad Hoc Committee, and we used to have meetings with them on a weekly basis, that turned into a monthly basis as we pressed along. We kept them informed of what was going on. I think a lot of them were misinformed by the Paradise Cove, the owners there.

BOARD MEMBER MINDLIN: That's what I'm getting to. There's one person who has a home there, and she doesn't know anything about this. She doesn't know there's fines coming. Maybe she didn't go to the meetings.

MR. GEORGE: I know that the homeowners hold monthly meetings and they discuss it. There is a group of people that are well educated about the whole process and what's going on. There's others who choose not to be concerned with it, and wastewater isn't their favorite topic.

But I think the meetings that we've had, we've tried to inform them of what's going on, what the process is, not only of permitting, but the process of the

wastewater stream they're using there and the technologies they're using.

BOARD MEMBER MINDLIN: Thank you.

CHAIRPERSON DIAMOND: Are there any other questions?

VICE CHAIRPERSON LUTZ: Just with regard to Country Mart, I'm hoping that you did read the staff report, you read our minutes, and you have an understanding of what occurred last month?

MR. GEORGE: Yes, I do.

VICE CHAIRPERSON LUTZ: Can you tell us some of the things that were said that we weren't able to get information from you? Could you tell us from your perspective where you are with Country Mart and how is it going to be progressing?

MR. GEORGE: I would be very glad to, actually. I think in the report -- unfortunately, in the staff report the information that was provided was provided by the applicant, not by the City. So all of the views that were expressed there were per the applicant from Malibu Country Mart I, II, and II and the process going on.

We've been dealing with Malibu Country Mart and trying to get them to do something with their system -- there's three separate systems that are currently under review -- for quite some time, well over ten years. They

finally have agreed to make a submittal. My understanding is there was significant pressure by the Board and understandably so. So what they did is initially came in, had some meetings with us about the process, what they need to submit, what they need to do. We explained that. We have a handout that lists on these larger systems every component, all the information, all the plans, all the documentation, all the engineering that will be required to have a complete submittal into the City. Steven McNellis that represents Koss Development there came in. We had some meetings. He wanted to get the process rolling. Again, no good deed goes unpunished. We allowed them to make a submittal that was not a complete submittal.

We've been struggling with them. I have a time line. Basically, in October of 2006, they came in with the first submittal. Knowing it was incomplete, we accepted it just to get the process started so we weren't accused of detaining them in any way. We couldn't get the second response until December of '06. It was still an incomplete submittal, but it was some additional information we required. They knew full well of all the information that we needed. And as we progress through, the last submittal was in March of '07. They submitted a supporting geology letter which is one of the initial

things we had requested. Their submittal is still incomplete.

So all of the timelines that they're saying that we're delaying them, we don't have the information completed to even begin the process of reviewing. We have started reviewing what we can. But there is no way we can have a complete system or complete understanding of what they're trying to do until we get all of the information.

BOARD MEMBER MINDLIN: What do you do in that kind of situation to force somebody to abide by what you want?

MR. GEORGE: We really haven't got a lot of teeth in that. We kind of fall back in some senses on the Board. We go back to these TSO issues. We go back to the teeth that the Board has.

We've argued with them. We've struggled with them through the years. They're finally making progress and finally making submittals. That's a good thing. But we just aren't getting all the information. We keep sending letters back to them requesting further information. They keep using that as we're delaying them or holding them up or the process is too long.

A complete submittal say on Malibu Country Mart I, which is the larger plant there, if they gave a complete submittal, we have contracted -- I think this is

one of the misinformation that was in there. We contracted with the firm Colorado RTW. And they've had over 25 years experience with SBR, sequencing batch reactors. They designed them throughout the country. They do peer review. We've utilized them to do that.

On a complete submittal, if everything was there on the first go-round, it takes about six weeks to get a complete plan check and turn around for permit issuance. I know they claim that it takes a year to get a permit, which is totally false. So if all that information -- and even now today they came in with the rest of the information, we sent that to this company, they'd already initiated reviews, I would say within four weeks we could have a permit issued for installation.

VICE CHAIRPERSON LUTZ: One final question. Is there anything that you as a City need from our Board and our staff to help move this along? Because it's not getting anybody anywhere. So if we collaborate a little more, I would like to know.

MR. GEORGE: I would hope that can happen. I would very strongly encourage this to happen. Whoever it is -- and I don't know on your staff that's dealing with them directly. I would be glad to meet with them, telephone conversation or personal meeting, and figure out what the best strategies would be. I think that would be

very helpful. I'm open to doing that.

CHAIRPERSON DIAMOND: John, would it be possible -- because we've heard this so often now. I mean, we have tried and I think have successfully been working with the City of Malibu. Over the course of the last few years, we've had a real change in working partnership with the City and the Regional Boards. Things have really moved along. And now we've been hearing that there are problems from people who are complaining about the timing with their permits. And we're not saying that -- we're not pointing fingers. We're saying these are issues that are raised, and we need to figure out what's going on. And it sounds like we need to be involved in helping it move forward. Could we participate in some way in meetings, as Ms. Lutz suggested, so that perhaps we're -- I don't know. Like a broker or a mediator so these things can move forward without this tremendous time lag?

EXECUTIVE OFFICER BISHOP: Well, of course, we can facilitate.

CHAIRPERSON DIAMOND: That's the word.

EXECUTIVE OFFICER BISHOP: But what I would suggest is that we -- or with the City's permission ask to convene a meeting with Country Mart and the City and then in that set up some timelines for Country Mart to get information

in. That allows us to then monitor those submittals and report back to you on how well it's doing so we're not in a position in six months of, say, having, you know, Country Mart come in and say, "We gave this stuff." And the City come in and say, "This wasn't complete." If we can insert ourselves a little bit in that process to try to help facilitate.

And also as the City has mentioned, the TSOs are the hammer. And we will be bringing those back to you with that schedule. It would make sense for us to work with the City and with Country Mart to finalize that schedule in the next month and bring something back to you in I would say the July time frame. Because we need enough time to get that figured out and noticed to bring it back to you.

CHAIRPERSON DIAMOND: We'll leave that to staff to decide who from staff will be that person. And that would be very helpful to us and possibly to you.

MR. GEORGE: I think it would be very helpful. And John said exactly what I would say. The TSO is really the teeth, the hammer, whatever. If the City is kept consistently to be made to look like we're delaying that, then I can understand you wanting to extend the TSO. But if we have those timelines and we can get them to cooperate with that, we'll certainly do everything on our

part.

CHAIRPERSON DIAMOND: Are there any other questions?

Thank you for being here.

MR. GEORGE: Thank you.

CHAIRPERSON DIAMOND: I have another speaker card. This is from Becky Bendikson.

If anybody else has a card to fill out on an item that's before us, please see either Mr. Cain or Ms. Harris and fill out a blue card. Thank you.

MS. BENDIKSON: Good morning, Madam Chair and Board members. My name is Becky Bendikson, and I'm a 16-and-a-half-year resident in the northern part of the community of Granada Hills.

While my interest in the subject I come to testify before you today was precipitated by the negative impacts I personally experienced relating to the Sunshine Canyon Landfill, the issue may be --

CHAIRPERSON DIAMOND: Excuse me. We are going to be hearing Sunshine Canyon --

MS. BENDICKSON: This is something different.

CHAIRPERSON DIAMOND: If this is to do with Sunshine Canyon --

MS. BENDICKSON: I'm saying it's precipitated but it may be applicable to landfills throughout the state.

I'm not sure you're aware of this.

CHAIRPERSON DIAMOND: If you're talking about Sunshine Canyon, I would appreciate --

MS. BENDICKSON: That's my last reference to Sunshine Canyon. I going to go into what I'm here to talk to you about today.

My time is stopped?

EXECUTIVE OFFICER BISHOP: Yeah, it's stopped. I just want to warn you, you won't be on the record for Sunshine Canyon.

MS. BENDICKSON: No. I don't want it to be on the record for Sunshine Canyon. I think if you hear what I say, you'll understand.

I was the sole caregiver for my husband after his cancer diagnosis in 2003 for three-and-a-half years, the last three months of which were hospice --

BOARD MEMBER VANDER LANS: A little slower, please.

MS. BENDICKSON: Sorry.

While I had no formal medical training, I became concerned with the information provided by the hospice service from our medical provider, the largest HMO in the state, and did not believe the instructions for disposing of waste materials were sufficient to protect the public.

I very much appreciate you reviewing the

instructions we received to handle needles, syringes, and lancets being placed in hard plastic or metal containers with a screw on or tightly secured using heavy-duty duct tape, as well as the soiled bandages, dressings, disposable underpads, diapers, gloves to be placed in a securely fastened plastic bag and then disposed in our other household trash.

From my experience, plastic bags are not very secure for containing such items. Just observe when one filled with contents is dropped on the roadway. It usually splits open and many of the contents scatter, and some may be picked up by the wind.

Also, when a caregiver is consumed with life or death issues every day, these instructions may not be interpreted as they should. Coffee cans today can be made of cardboard with a metal circle on the bottom and plastics lift-off lids. Will taping it securely secure it properly?

Another concern is the disposal of medicines when no longer needed or expired. There were no instructions advising the caregiver not to flush them down the toilet or sink or toss them in the trash. When caring for a loved one, we shouldn't have to call the City or County and be transferred from one place or another to find out where they should be disposed of and where and when the

next hazardous waste collection is scheduled.

Having such items in your home can be an attraction for unsavory persons observing the hospice nurses arrive at your home, assuming that heavy-duty pain and other medications are in the household. We have enough worries with the care we provide without having to worry about a break-in or someone offering to purchase the prescription medication.

A recent article in the ARC bulletin says trace levels of chemicals for prescription drugs were found in 80 percent of the streams in the country. It is suspected most of it comes from discarding medications into household toilets.

When I provided the material that I brought here today for you to see to a BFI employee, I suggested that the hospice service should pick up these waste materials, as I assume is done in hospitals and clinic settings. I was informed they would have to have a permit to do so. It is my opinion that is a small price to pay to protect the public and water supply for millions of people.

As we read in the newspaper, we may not have enough water to supply the state if significant rainfall does not happen within the next year. Let's work together to protect the people of the state of California. Keep inappropriate medical waste items currently disposed of in

residential trash bins out of landfills and away from our precious water resources.

Thank you. May I give this to someone?

EXECUTIVE OFFICER BISHOP: Yes.

CHAIRPERSON DIAMOND: I have one card here from -- one more card from a Dr. Wayne Aller. And I'm just going to ask you again is this to do with Sunshine Canyon?

DR. ALLER: It's probably more closely related to Sunshine Canyon, so I will wait.

CHAIRPERSON DIAMOND: Okay. Thank you very much.

I have the uncontested items calendar, Mr. Bishop. Are there any changes?

EXECUTIVE OFFICER BISHOP: There are no changes. But for the record, the uncontested items calendar is Items Number 8, 9, and 10.

CHAIRPERSON DIAMOND: Can I have a motion to accept that?

BOARD MEMBER MARIN: So moved.

BOARD MEMBER RICHARDSON: Second.

CHAIRPERSON DIAMOND: All those in favor?

(Ayes)

CHAIRPERSON DIAMOND: Motion passes.

Mr. Levy.

SENIOR STAFF COUNSEL LEVY: Madam Chair, can we

just do that motion again? Instead of a motion to accept the agenda, a motion to approve or adopt the staff recommendation.

CHAIRPERSON DIAMOND: We need two motions?

SENIOR STAFF COUNSEL LEVY: The way you worded it, it sounded like a motion to approve the agenda.

VICE CHAIRPERSON LUTZ: As opposed to the items.

BOARD MEMBER MINDLIN: I'll move to accept the staff recommendations on the uncontested items.

BOARD MEMBER RICHARDSON: Second.

CHAIRPERSON DIAMOND: All those in favor?

(Ayes)

CHAIRPERSON DIAMON: Opposed?

Motion passes.

Now we are going to move on to Item Number 12, which is the Browning Ferris Industries, or Sunshine Canyon Landfill.

Ronji, will you read the opening statement and open up this hearing, please?

SECRETARY HARRIS: This is a public hearing to receive evidence and testimony on the following matter: Item 12, Consideration of Revised Waste Discharge Requirements for Browning Ferris Industries, Incorporated, for Sunshine Canyon County Landfill Expansion.

Copies of the tentative orders were sent to

interested persons. The order of presentation of testimony at this hearing will be Board staff, BFI representatives, and other interested parties.

The Board will consider all testimony. However, in the interest of time, it is requested that all repetitive and redundant statements be avoided. The time limits have been set by the Board.

Madam Chair, will you now please open the hearing and administer the oath?

CHAIRPERSON DIAMOND: Yes, I will. Will everyone who is going to testify in this matter please stand and raise your right hand? Repeat after me.

(Thereupon all prospective witnesses were duly sworn to tell the truth, the whole truth, and nothing but the truth under penalty of perjury.)

CHAIRPERSON DIAMOND: Thank you.

We'll begin with the staff report.

EXECUTIVE OFFICER BISHOP: Madam Chair, they are going to be coming up to adjust the mikes as soon as they can get someone up here.

CHAIRPERSON DIAMOND: We'll speak loud while they do that.

(Thereupon an overhead presentation was presented as follows.)

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF

PHILLIPS: Good morning. We're on Item 12, tentative waste discharge requirements for WDRs for BFI. That's Browning Ferris, Inc., the operator of the Sunshine Landfill and our discharger.

My name is Wendy Phillips. I'm the Chief of the Groundwater Cleanup and Permitting Section of the Regional Board. And I'm part of the team working on Sunshine Canyon. Also on the team is Dr. Wen Yang whom you'll hear from in a moment. He's in charge of the permitting issues for this particular WDR. And he'll be highlighting the key technical provisions of the permit. And also here is Rod Nelson. Rod is our Chief of the Groundwater Landfills Unit and also of our Groundwater Permitting Unit now. And he'll be coming on at the end summarizing our issues and recommendations.

We'll take about 20 minutes to go through the staff report. Then I understand BFI has requested 15 minutes, and the North Valley Coalition representing the community has requested 15 minutes. I'm not aware of any other speakers.

--o0o--

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: The landfill is at the mouth of Sunshine Canyon. It's on the eastern tip of the Santa Susanna Mountains. BFI owns about 11,000 acres -- 1,100 acres in

the canyon. There you see the 1,100 acres in the yellow. And that property straddles the boundary between the City of Los Angeles and Unincorporated County. And within that yellow boundary you have two separate landfills, one landfill operator.

The landfill footprint is restricted by land use control issued by the City and by the County so that -- there's a red outline there. I hope you can see that. The footprint is less than one half of the entire property owned by BFI here. In other words, it's restricted to 451 acres. And the WDR before you today will allow BFI to expand by 46 acres within the 451-acre footprint.

Now I'd like to point out some other land uses on this map. The Granada Valley homes, you can see the homes abut up to the yellow line, the property boundary. There is about half a mile between the landfill operations and the closest home there.

Then there's some other features on the map. The big highway going through, that's the Caltrans corridor for 5. You see 14 shooting off, that's the Antelope Valley freeway. The lower left-hand corner, all those dirt roads there, those are access roads for an oil production property.

And let me also show you the L.A. aqueduct coming down off the mountains. And then there's the Jenson

filtration plant, and then the reservoir owned and operated by the City of L.A.

And then there's about 900 acres that BFI has deeded over to the Santa Monica Mountains Conservancy. It's to the southwest of the property boundary there.

--o0o--

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: We're talking about the County portion today. In the County portion, BFI accepts about 6,000 tons per day of waste. For the entire landfill, that is the City and the County, the daily tonnage doubles to 12,600 tons per day. And this makes Sunshine one of two mega-landfills in the Region Four. The other mega landfill is Puente Hills. And I might add that Puente Hills and Sunshine are among the largest landfills in the nation.

At Sunshine, BFI accepts waste from the city of Los Angeles, plus many other L.A. County cities. It does not accept waste imported from other counties.

Now one of our Board members was interested in progress that municipalities have made with recycling. And I did include in the back of your handout some statistics on the achievements of waste diversion targets set by Integrated Waste Management Board under AB 939. This is recycling legislation back in 1989.

CHAIRPERSON DIAMOND: Excuse me, I don't see the handout.

VICE CHAIRPERSON LUTZ: Is that something we received today?

MR. YANG: It's attached to the slide.

CHAIRPERSON DIAMOND: Do you have a hard copy of the slides?

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: We'll get those to you.

VICE CHAIRPERSON LUTZ: Just the yellow change sheet.

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: We have a hard copy, and the audience has a hard copy. I'm sorry we didn't get that to you.

The last two pages of the table I talked about showing the city by city estimate of diversion rates. And let me just summarize, statewide, we are at 52 percent. In the county of Los Angeles, we squeaked by at a 50 percent rate for the county as a hole. You'll see a lot of variation from city to city.

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GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: Now I'd like to review the structure for regulating landfills. There are two State agencies that regulate Sunshine along with other California landfills.

First, you have the California Integrated Waste Management Board. We call that the Waste Board, one of our sister agencies. The Waste Board regulates daily operations of landfill such as daily tonnage, dust control, load checking, traffic control, other nuisance prevention measures. And to do this, the Waste Board works through Local Enforcement Agencies. In this case, that would be both the City of Los Angeles and the County of Los Angeles.

Then secondly, of course there's the Water Board, our agency. And our role is to make sure the landfill structure contains the waste. That is, it prevents contact with surface water and groundwater. To do that, we set requirements to line the bottom of the landfill, the sides of the landfill, and to cover the waste. Then we set monitoring requirements to make sure that the design, construction, and operating requirements are working.

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GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: I'm going to remind you again the landfill falls in two jurisdictions. For the City portion, we have a WDR waste discharge requirement adopted in December of '03. And this WDR required the Board to specify that the discharger, BFI, must install a double composite liner

system.

The tentative permit before you today does not effect the WDR. Rather, the tentative permit you're considering today will replace a permit issued back in 1991, and it will allow a 42-acre expansion on the County side. It will also incorporate corrective action from a Cleanup and Abatement Order issued in 2004 for landfill gas migration that was detected in subdrain water.

Besides these two specific permits I talked about, we also regulate BFI through a Super Order 93-62, which the Board adopted for all Class III landfills in this region. And then BFI is regulated by storm water permits for construction and industrial activities.

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GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: And there are other steps in permitting a landfill. There's CEQA, the California Environmental Quality Act, which requires the government agency, in this case the City of Los Angeles and the County, to disclose environmental impacts. And then there are land use controls set forth in conditional use permits, CUPs.

For Sunshine, the County and the City went through these processes between 1993 and 2006, in its CUPs. The County established conditions under which BFI would be allowed to operate at a landfill. And these

conditions are actions together with comparable action taken by the City envision that landfill activities in the County portion and the City portion would eventually be combined into one single landfill by bridging the border zone in the middle. It's important to remember this when we get to the final cover issues that we'll need to discuss later.

I'm now going to turn it over to Dr. Wen Yang. He's going to show you the 42-acre expansion area and how it's part of this bridging effort.

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DR. YANG: This is recent air photo that was taken in 2005. And that's the lower portion you can see. This is the City of Los Angeles. And about the red line, County of Los Angeles. And there's a red line.

Next.

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DR. YANG: This is the old City side landfill, and it's now referred to as City's Landfill Unit I. And this portion of the landfill started receiving waste in 1958, and it was closed in 1991.

And next.

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DR. YANG: This is the active County extension landfill. This is one through four. This portion of the

landfill started receiving waste in 1996, and it is still active. And this portion of landfill is on composite liner system. And the lower part, this old portion, is not lined.

This portion of the County extension landfill is going to be filled pretty soon. The landfill operator proposed a City/County landfill.

Next.

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DR. YANG: As shown is the red line to connect the two portions of the landfill. As the fourth step, in 2005, BFI started operation of City Landfill Unit II.

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DR. YANG: And the Regional Board required a double composite liner system. WDR issued in 2003. County extension landfill is going to be filled to its capacity pretty soon. The operator proposed that 42-acre expansion.

Next.

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DR. YANG: As shown in this red area, it's going to be developed in three phases, Phase 5, 6, and 7. As you can see, between these colored portions, there are some gaps. And this is called the bridge area. And BFI is expected to apply for additional permit to develop the

rest of this area.

Next.

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DR. YANG: The tentative WDRs that we prepare is essentially the same as what we have required for the City Landfill Unit II and the County extension landfill. The difference is that we are going to require a double composite liner system for this 42-acre expansion area, just to be consistent with the City Landfill Unit that we approved in 2003.

Another difference is that we are going to require all slopes in this new area to have a factor of safety of 1.5 or more. Previously, we have allowed some lower factors for preliminary slopes. But in this new permit, all slopes will be 1.2 or more.

A difference is that this new permit will allow BFI to recycle landfill liquids including leachate and glass containers back to the double composite lined area.

BFI currently produces about two million gallons of landfill leachates in the area treatment system liquid to be used on site for dust control or send it to the sewer system to be treated in POTWs of the city. This new permit will allow them to mix this liquid with trash and deposit it in double composite liner area.

Next.

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DR. YANG: This slide shows you that difference between the existing liner system for the County extension landfill and the proposed for the expansion area. As you can see below, the trash, we have protective soil layer, and then a leachate collection layer, liner, compacted the clay, and prepared a great system.

The new system, as you can see, has many more layers. We have a layer of sand, another layer of plastic, that's HTP geosynthetic liner, and compacted the clay. Just in case the upper layer leaks, the lower layer will capture all of the liquid and extract it out of the system.

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DR. YANG: This slide shows you the slope liner system. This is a single composite liner system, and this is double. As you can see, we have two more levels, plastic and geosynthetic clay layer.

Next.

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DR. YANG: What is not changed? Other than the changes I just mentioned, the permit is essentially the same. The type of waste that is allowed for this expansion area is still going to be just municipal solid waste. No hazardous waste will be allowed.

And the tonnage of waste that is allowed to be accepted at this portion of the landfill is not going to be changed. It's going to be 36,000 tons per week.

And the seismic stability standard is going to be the same as required for the City Side Landfill II. It's similar to those requirements for hazardous landfill.

And the monitoring and reporting requirements is going to be the same. And the existing corrective action program for the remediation of contaminated subdrain water is going to be incorporated into the new permit.

Next, I will hand over the presentation to Rod Nelson, and he's going discuss some of the issues.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: Good morning. It came to my attention that I've actually been involved with Sunshine Canyon for 20 years this year. I didn't used to need glasses to read this stuff.

Anyway, the slide here gives us some background as to how these permits or this permit specifically was developed. BFI, they're the discharger, submitted an application. We frequently call it a joint technical document, or JTD, in case you hear that language later in 2003. It was revised in 2005. The JTD was reviewed by both the Waste Board and their local enforcement agency,

in this case, the County Environmental Health Department, and the Water Board staff.

Regional Board staff determined that the JTD was complete in September 2006 and began preparation of this tentative Board order. It was mailed out to interested parties on February 2nd of this year.

On March 8th of this year, staff facilitated a community meeting in Granada Hills in the neighborhood of the landfill to present the tentative order and collect comments. The public comment period ended March 15th. And staff's response to comment was sent to Board members and interested parties last Friday.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: During the public comment period, staff received comments from 27 interested parties, including those received at the March 8th, 2007, community meeting. We have addressed all of those comments in our response to comments that was sent to interested parties and the Board last Friday. In the interest of time, I'll only address the key issues listed here.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: The first one concerning financial assurance for known or reasonably foreseeable releases.

In California, landfill operators are required to reserve funds to assure that a landfill will be properly closed and maintained. One such fund is for the financial assurance for closure and postclosure maintenance to ensure a landfill will be properly closed and maintained for a period of at least 30 years after closure.

The other financial assurance is for known or reasonably foreseeable releases from a landfill. Like most Class III landfills in this region, BFI has established assurance for closure and postclosure of the County extension landfill, but has not established a dedicated financial instrument for a known or reasonably foreseeable release, largely because of ongoing corrective actions at the site.

Currently, BFI maintains a $100 million pollution liability insurance policy that covers all of their landfills in the United States. This fund is available and of which $10 million is dedicated exclusively to Sunshine Canyon. This fund is available for BFI to remediate any pollution that may be caused by the release of pollutants from the site.

In addition, BFI maintains a separate $58 million financial insurance bond with the Waste Board for the final closure and postclosure maintenance of the Sunshine Canyon Landfill.

The tentative permit requires BFI to submit such assurance to this Regional Board within 30 days from the adoption of this permit. The amount of assurance must be acceptable to the Regional Board's Executive Officer. Once that amount has been determined to be appropriate for a reasonably foreseeable release, then it is forwarded to the Waste Board for their determination as to if the financial mechanism proposed for this amount is appropriate.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: This figure -- and I won't go into the different layers, but you can see them there. And it's also identified as Figure 5 on page 12-36 of your binder. This figure shows the initial preliminary final cover design for the closure of the County landfill. That's a mouthful, initial preliminary final cover design. But I'll get into that on the next slide. You may care to refer to your binder if you want to keep looking at this picture.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: As shown on the previous slide, the proposed final cover design includes a one-foot thick vegetative layer on the top. Concern has been raised that

this layer may not be adequate to support a healthy plant cover given the arid climate in southern California, particularly recently. However, if the thickness of the vegetative layer is increased too much, for example, up to two feet, the final cover slope may not be stable during a strong earthquake. The vegetative layer may slide downhill along the interface with the underlying geomembrane and cause some damage to the final cover. However, this is not implying the entire final cover would slide. It's just the dirt layer on the top.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION

CHIEF NELSON: Another big concern for the community involved health issues. The environmental impact of the Sunshine Canyon Landfill has been analyzed in the final Environmental Impact Report certified by the County of Los Angeles in 1993 and the subsequent EIR certified by the City in 1999.

In addition to the FEIR and the SEIR, the County of L.A. Department of Health Services submitted to the County Board of Supervisors a final report on community health concerns and the Sunshine Canyon Landfill on February 22nd, 2005. The DHS investigation included an analysis of cancer data by the University of Southern California Cancer Surveillance Program, low birth weights,

birth defect data from the California Birth Defects Monitoring Program, childhood asthma, a household health survey, a cancer case verification, and a literature review. With the exception of an increase in self-reported asthma among women, which was determined not to be attributed to the landfill, the DHS investigation did not find evidence of an usually high rates or unusual patterns of disease in the concerned community relative to disease rates and patterns seen countywide. Regional Board staff relies on the expertise of the County and City of Los Angeles to determine whether the landfill has had a significant health impact on the community surrounding the landfill.

Adoption of the tentative WDRs would not increase the amount of solid waste currently being accepted at the landfill and would not increase the number of trucks driven to the site and other impacts such as dust and odor problems.

At the March 8th, 2007, community meeting, Board staff also received complaints stating the landfill had caused serious dust problems in the community. Because the Local Enforcement Agency, the LEA, has direct responsibility for ensuring that BFI undertakes appropriate dust control practices, staff forwarded the complaints to the City and County LEAs and requested them

to contact the two homeowners who complained about the problem and to conduct site inspections. Related correspondence is documented in Attachment 3.

Also Regional Board staff conducted a storm water inspection on March 14th and found that BFI had adequate wind erosion control at the site at that time.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION

CHIEF NELSON: In conclusion, staff believes the tentative WDRs are consistent with State and federal regulations municipal solid waste disposal facility. The tentative WDRs contain appropriate provisions to protect ground and surface water resources. And the concerns from the public regarding the proposed landfill have been addressed.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION

CHIEF NELSON: The Board has the following options: Adopt the tentative WDRs as proposed; adopt them with changes; do not adopt them; or continue this item to a future hearing.

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GROUNDWATER PERMITTING AND LANDFILLS SECTION

CHIEF NELSON: Board staff believes the tentative revised WDRs will protect the water resources at this site. We therefore recommend the Board adopt the tentative WDRs as

proposed.

Now I, Wendy, and Wen will be glad to answer any questions now or following other presentations.

CHAIRPERSON DIAMOND: As our usual procedure, we will move onto the discharger presentation and I'll ask BFI to come up and make their presentation. After that, we will have the North Valley Coalition.

SENIOR STAFF COUNSEL LEVY: Madam Chair, just to clarify, the staff referenced a 30-day period to submit the financial assurance that appears in the change sheet that's before you and has been circulated.

CHAIRPERSON DIAMOND: Thank you.

Please identify yourself for the record.

(Thereupon an overhead presentation was presented as follows.)

MR. EDWARDS: Good morning. My name is David Edwards. And I'm the project manager for BFI Sunshine Canyon.

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MR. EDWARDS: Good morning, Madam Chair, Board members. I want to thank the Board for allowing BFI to present its request for approval of waste discharge requirements for the extension of landfilling within the County portion of Sunshine Canyon landfill. I want to point out that this is an extension of an already

operational and fully permitted landfill, and this is not to be considered an expansion.

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MR. EDWARDS: The area shown here in brown is the subject of our discussion today. It is entirely within the currently approved and fully permitted County side of the landfill, which is outlined here in red.

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MR. EDWARDS: The expansion of the landfill is consistent with all environmental reviews and land use approvals already received. All of these agencies listed here have agreed the landfill is stable and protective of the environment, including water resources. In addition to the extensive reviews by these agencies, the County side landfill has a local enforcement agent who daily verifies the compliance with the permit requirements.

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MR. EDWARDS: We have attended more than 80 community meetings held by various agencies over the past 10 to 15 years, including the most recent public workshop held by your staff on March 8th. Our presentation today will cover the issues that have been repeatedly brought up and reviewed by the community and the regulatory agencies listed in the previous slide.

Dr. Ed Kavazanjian, Professor and Chair of the

Department of Civil Engineering at Arizona State University and a recognized expert in landfills, will discuss specific components of the landfill design and its demonstrated seismic performance.

MR. KAVAZANJIAN: Thank you, Dave. And good morning, Madam Chair and Board members. My name is Ed Kavazanjian. And I've been involved with a design of the Sunshine Canyon County Landfill since 1994. I was the engineer of record for the design of the first two waste units on the County side of the site.

The landfill design in front of you today is the same design that has been reviewed at least three times since 1996. All of these reviews, including the most recent review by the Department of Water Resources, have shown that this design meets or exceeds all applicable standards, even considering concerns about the interactions of the double composite liner system recently raised by the opponents of the landfill.

Not only has this design been thoroughly vetted, its seismic performance has been proven. There was no significant damage to the unlined City landfill, including its steep cover slopes in the North Ridge earthquake. The lined Lopez Canyon Landfill just down the freeway from Sunshine Canyon and similarly close to the epicenter of the North Ridge event was designed in the same manner as

Sunshine Canyon and came through North Ridge earthquake without any damage.

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MR. KAVAZANJIAN: This is a picture I took of the Lopez Canyon Landfill -- I was also the engineer of record for that site -- the day after the North Ridge event. The landfill was fully operational as the picture shows, and this landfill has sleeper slopes on both the liner and the cover in Sunshine Canyon.

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MR. KAVAZANJIAN: There has been much ado about the seismic performance of the cover system for the County extension landfill. First, the cover of the City landfill, which is significantly steeper than the proposed slopes on the County side, came through the North Ridge earthquake unscathed.

Second, in the unlikely event that isolated sections of the cover do slump in an earthquake, there will still be substantial environmental protection from one foot of clay and two foot of compacted soil beneath the geomembrane.

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MR. KAVAZANJIAN: This is the cross section of the proposed cover system, the same one that Rod showed before. I note the three foot of soil beneath the

geomembrane that I just referred to. It provides substantial environmental protection even without the geomembrane and vegetative soil cover.

The vegetative layer above the geomembrane is one foot thick, and that one foot thickness exceeds federal standards of six inches, meets the State's standard, and has been successfully employed at other southern California landfills to sustain vegetation.

While the use of a thicker vegetative layer may sound like a good idea, it provides no actual benefit and would be counterproductive to seismic stability and environmental protection.

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MR. KAVAZANJIAN: Now I want to talk about the engineering features and systems included in the design that ensure the ultimate protection of ground and surface water at the site.

The ground water protection system employs a double composite liner system composed of multiple layers that total eight feet of thickness on the base of the landfill. It includes compacted clay, two HDP synthetic liners, a leachate collection layer, and a leak detection layer over the entire footprint of the waste area.

This liner system exceeds the comprehensive requirements established by the State of California and

U.S. EPA under Subtitle D.

There is no MSW landfill in the state of California that surpasses the level of protection to groundwater provided by this liner system. The construction costs of the double liner for this phase of the landfill extension will be approximately $11 million, almost twice as much as the prescriptive single composite standard under Subtitle D.

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MR. KAVAZANJIAN: Additional groundwater protection is provided downstream of the County landfill by an extraction trench and a cutoff wall that extends several hundred feet across the mouth of Sunshine Canyon. In the unlikely event that contaminants do escape from the County landfill and impact ground water, the cutoff wall will sever any groundwater connection between Sunshine Canyon and the outside and facilitate collection and treatment of the impacted groundwater. The cutoff wall was filled with bentonite and has a geomembrane in the middle of it, creating a barrier that's every bit as effective as the composite liner of the landfill.

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MR. KAVAZANJIAN: The groundwater monitoring system for the landfill includes 18 groundwater monitoring wells. Fifteen of them are downstream of the landfill to

monitor for any contaminants that may escape from the landfill. The other three are up gradient and provide background monitoring. Ten of the downstream monitoring points are between the County Landfill and the cutoff wall and five more downstream of the cutoff wall. All 18 wells, both sides of the cutoff wall, and the groundwater extraction trench are regularly monitored in accordance with the waste discharge requirements for the site.

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MR. KAVAZANJIAN: The landfill also includes an extensive landfill gas recovery system with more than 400 wells and approximately six miles of collection lines.

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MR. KAVAZANJIAN: There is a comprehensive surface water management system at the site that removes sediment from surface water before it leaves the site. This system including the very large sediment basin.

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MR. KAVAZANJIAN: Next to the front gate that's shown in this slide, if this basin was much bigger, it would be regulated by the State Department Division of Damn Safety as a dam. There's also an extensive parameter drainage channel system that prevents surface water from running onto the landfill, collect surface water that runs off the landfill --

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MR. KAVAZANJIAN: -- and conveys all of this water away from the landfill and into the sedimentation basin. The drainage system is capable of containing not only the 24-hour capital storm --

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MR. KAVAZANJIAN: -- required by State and federal regulations but both water and eroded soil from a 96-hour capital storm. In total, these engineering controls combined to provide an unsurpassed level of environmental protection for the Sunshine Canyon County Landfill.

MR. EDWARDS: Thanks, Ed.

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MR. EDWARDS: The net results of all of these controls as confirmed by our monitoring and the two LEAs that monitor the landfill daily is that there is no evidence of any impacts to groundwater from the County extension landfill. Furthermore, discharges of surface water and storm water are fully compliant with the NPDES permit issued in accordance with the Federal Clean Water Act and California Water Code.

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MR. EDWARDS: Similar to our extensive groundwater and surface water system, we also have

extensive systems and operational procedures to help ensure the best air quality possible.

Air quality impacts were fully analyzed in both EIRs in 1993 and in 1999. An independent air monitor has measured for methane and particulates in a nearby school, and results show the levels are no different than levels found by the South Coast Air Quality District at monitoring locations around the areas in non-landfill communities. In fact, the community monitor showed the highest levels of PM10 and diesel particular exhaust occurred when wind blew from the freeway instead of from the landfill.

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MR. EDWARDS: Those are some of our systems and procedures that are conducted at the landfill to control air quality in and around the area. If the winds are too high, we close the landfill and we stop any construction activities. There are continual water applications during the day to keep dust down. We use a soil sealant to prevent wind-blown dust in nonoperational areas. We have installed tree berms between the landfill and our neighbors, and we keep operations below the ridge lines.

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MR. EDWARDS: Another point I'd like to clarify, Sunshine Canyon does not accept untreated medical or

hazardous waste. We are a Class III solid waste facility taking mainly residential and commercial waste, and we have a stringent load-checking program to ensure that unacceptable wastes are not admitted to the facility.

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MR. EDWARDS: BFI is concerned about health and safety at the landfill and in the surrounding community. In the immediate BFI family, we have more than 50 staff members who work at the landfill daily. It is critically important to us that they remain healthy and safe, and this health and safety concern extends beyond the boundaries of the landfill and into the surrounding community and the rest of the region.

There have been several studies conducted by the County and by independent researchers to address claims that the landfill is the cause of adverse problems in the surrounding area. Research physicians selected by this Regional Board have testified in front of this Board and provided in depth reports of the methodology and the results of those reports. Scientific research has shown repeatedly that the operations and landfill cannot be linked to any of the health claims made.

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MR. EDWARDS: Moving on, BFI has been a significant contributor and supporter of forest

preservation and re-forestataion. Over the past 15 years, we have contributed more than 900 acres of forest property in East and Bee Canyons and recently 400 acres of woodlands in Elsmere Canyon. We have planted or donated more than 25,000 oak and other trees at the landfill and in the surrounding community. BFI has its own nursery on the property and started promulgating oak trees like the one you see here as part of its mitigation program. These trees were planted in areas shown here in 2005 and to illustrate the success of our program --

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MR. EDWARDS: -- these are trees planted more than ten years ago, creating new oak woodlands in and around the ridges of Sunshine Canyon.

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MR. EDWARDS: In 2004, BFI conducted an extensive cleanup of Bull Creek. More than ten tons of debris were removed. And under the direction of a biologist, non-native plants and trees were replaced with approximately 200 native trees.

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MR. EDWARDS: The Arroyo Seco project was part of the development of the County side landfill. It encompasses over 22 acres of mitigation and woodland including four acres of stream zones and wetlands.

The Chatsworth Nature Preserve will be the site of the development of a mitigation project associated with the development of the City landfill. Our design for this project has been completed and approved by the Army Corps of Engineers and California Fish and Game. Construction of this mitigation project will commence following approval of a long-term maintenance program by the City.

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MR. EDWARDS: Throughout the history of the site, we have worked with the City and the County to provide for improvements to the community. BFI has worked with the City and County to provide significant monetary support for the community.

Listed on the slide are major categories of financial support provided by Sunshine Canyon to programs like waste diversion, parkland, traffic improvements, community benefits, and conversion technologies. In addition to what is listed on this slide, six percent of the City landfill receipts go to the Community Amenities Trust Fund, which in 2006 was $1.5 million.

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MR. EDWARDS: Regarding plans, infrastructure, and funding mechanisms for closure and postclosure of the landfill, BFI has in place financial assurances for closure and postclosure activities that fully meet Title

27 requirements for both the City and the County landfills.

The design features including the cutoff wall, extraction trench, and water treatment system that BFI has in place accounts for any foreseeable release from the County extension landfill. BFI has in addition closure/postclosure assurances, a $50 per occurrence pollution liability insurance policy, plus an additional $10 million policy specific to Sunshine.

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MR. EDWARDS: In summary, the design of the landfill has been thoroughly evaluated. It has repeatedly been reviewed by regulatory agencies and the community at more than 80 public hearings. These hearings and input have helped shape the comprehensive system that meet or exceed applicable standards. The landfill's operation performance is proven and highly supervised. We have two full-time LEAs at the site.

I'll try to hurry up here.

The design is fully protective of groundwater and surface water. The landfill is not impacting air quality in the surrounding community, which is supported by multiple sampling events. All questions have been answered multiple times and are supported with a documented response.

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MR. EDWARDS: In conclusion, we respectfully request that the Board approve BFI's request for waste discharge requirements for the extension of landfilling within the County portion of Sunshine Canyon. We are here to answer any questions as well.

CHAIRPERSON DIAMOND: Thank you.

We're going to move on to North Valley Coalition.

MS. CHATTEN-BROWN: Good morning, members of the Board. My name is Jan Chatten-Brown. I'm here on behalf of both North Valley Coalition, Sierra Club, Planning Conservation League, Environmental Law Foundation, and the International Brotherhood of Teamsters.

I want to thank the Board. The news is new to me about Jonathan's departure. I congratulate him, although I can appreciate you're going to miss him. We appreciate what the staff has done in terms of making time. But if you saw our letter dated March 15th, which I'm hoping you had a chance to review, we strongly requested a continuance of this matter. Because contrary to the statements made by -- excuse me if I butcher the name -- but Dr. Kavazanjian, Doctors Timothy Stark and Dr. Greg Richardson, two prominent nationally-respected landfill experts, do not believe that this landfill proposal provides any reasonable level of protection for the

waters, the area, and for the public health.

And because of that, we had -- there's a series of correspondence in the record both by Dr. Timothy Stark and the June 22nd 2006 letter from Dr. Greg Richardson and then another January 21st letter from Dr. Richardson. We submitted an additional letter summarizing these to you in time for the March 15th cutoff, but we had asked for an independent review. And the independent review, admittedly preliminary by its own terms, that was conducted by Mike Driller of the Department of Water Resources was not available to us at the deadline for comments.

We wanted to give our expert an opportunity to comment upon that review. We think it's a very, very critical issue. Even though Mr. Driller, with all due respect to him, is not a landfill expert. He is a seismic expert. And we think that his statements regarding what would happen if there was an increased cover required, greater footage for vegetative support is very significant.

We received Mike Driller's memo, even though it was dated the day before the deadline, we received it afterward. We provided that to Dr. Greg Richardson. Yesterday afternoon, I received a letter from him critiquing that. And we would like to have that be

introduced into the record. I will attempt to summarize it today, but I think it's very, very important. I did submit copies of that as well as a pie chart that we created to kind of summarize some of the data.

So I don't want to cut into my time, but Jonathan indicated this would be a legal question of whether or not you could review that data. I will be not be able to adequately summarize it within the time frame provided, especially since Peter Anderson really needs to address the critical issue of the financial assurance.

CHAIRPERSON DIAMOND: Well, our legal staff -- we can stop the time while legal staff responds.

SENIOR STAFF COUNSEL LEVY: Chair Diamond, the hearing notice was somewhat equivocal on when the deadline was. It said a deadline of March 15th for receipt of comments. But it also said that if comments were received after that date, they would be provided to the Board. So you are at liberty to review that.

We strongly encourage folks to get their comments in by March 15th so there could be adequate analysis of it and Board consideration. We said if they're received after that time or submitted after that time we can't guarantee the level of analysis that would be possible on it. So it is up to your discretion about whether to receive it and how to consider it. I don't have it in

front of me, so I can't tell you how to respond to it at this point.

MS. CHATTEN-BROWN: I did provide copies earlier and I found I have a couple of additional copies. I believe I gave nine copies to staff.

CHAIRPERSON DIAMOND: My understanding of the way we handle this is that anything can be added to the record today and anything can be considered by the Board that is presented orally. But clearly, we would not have an opportunity to read the material at this time and consider it in that way.

SENIOR STAFF COUNSEL LEVY: I've just been handed a copy of it. It includes two pages, several charts, about another dozen pages or so of diagrams and photographs. And I'm not sure that staff has reviewed it, had a chance to digest it. No, we haven't. So if she wants to summarize it, she's free to summarize it.

CHAIRPERSON DIAMOND: I think if you can summarize the two pages and we can accept this for our record, that's administrative record.

SENIOR STAFF COUNSEL LEVY: Except to the extent if you accept it and you can't consider it, you shouldn't accept it. So if you're not going to look at it, take the time to look at the pages that are being submitted and read the text, you probably shouldn't accept the document.

You shouldn't accept the document because the record will include materials that we have not considered in the analysis. So if you want to take the time to look at it or have staff evaluate it, we can do that to the extent that's possible. Otherwise, you shouldn't accept it.

CHAIRPERSON DIAMOND: If you're saying to us that the staff indicated that it was possible for us to take it, then I think I always like to operate with more information rather than less. And I think that other members of the Board agree with that. So is it possible for us to take, say, five minutes to look at this material now?

MS. CHATTEN-BROWN: It might be most beneficial if I could go through it or maybe give us a little bit more time and I'll try to walk you through the letter.

I do think, just to make it clear, we couldn't make these comments previously, because we didn't have the information. He's a busy man. He would have been here himself today but for the fact he had a North Carolina Governor's Task Force he had to attend. So he's relying upon me, and I only got it yesterday afternoon.

BOARD MEMBER MINDLIN: The only issue I see is once you get information, then the applicant doesn't have a chance to review it and comment back on it.

MS. CHATTEN-BROWN: We certainly have no

objection to the matter being continued. We would strongly request it.

CHAIRPERSON DIAMOND: I'd like to ask John to comment.

EXECUTIVE OFFICER BISHOP: We anticipated this concern, because we weren't sure that -- we were pretty sure we would not be able to get a review by Mr. Driller prior to the close of comments. So we included a reopener proposal in the permit so that this individual item can be fully vetted by us and by the applicant and by the community and brought back to the Board so that it wouldn't be this rushed.

So that was included in the permit. That is part of the permit. We have discussed this with both the applicant and with the East Valley Coalition that that was our proposal.

I would still strongly suggest that's the approach that we take, because I'm concerned about us trying to digest both their comments by our seismic expert and the review of that in five or ten minutes and make that part of the decision. We can look at this and consider this now. I'm not opposed to that. But I would strongly suggest that we have the reopener to stay in the permit to fully evaluate it.

CHAIRPERSON DIAMOND: I think we can probably do

both, consider it and have the reopener.

SENIOR STAFF COUNSEL LEVY: Just to clarify, the reopener is proposed and as amended on the change sheet vests the authority to approve the cover design in the Executive Officer. And, of course, if it's the Board's will, it can come back to the Board. But as proposed, there's not contemplated to be another Board meeting on this item.

BOARD MEMBER MINDLIN: What we're saying is that we're going to review everything now and then get new information and then possibly have to review it again in the next couple meetings.

CHAIRPERSON DIAMOND: I don't think it's going to come back to us.

BOARD MEMBER MARIN: Is this related -- John, Mike, this is related to the final cover. And I think that one of the issues is a clear understanding of the difference between the preliminary final cover and the final cover and how the reopener relates to all of this. And I think that maybe -- I would certainly want to see the document. And maybe we can postpone the decision about the other questions about continuing, about approval process until we hear some more information. Because I think there's a lot of things are not clear right now and we're trying to decide how to proceed when we don't have

all the information in front of us. So I would suggest that we do get the material, take the five minutes to review it before you talk about it.

CHAIRPERSON DIAMOND: Yeah. That's what I would like to do. Again, I think that most of us are in agreement with having more information. And if you have this, I'd like to spend five minutes for all of us to look at it.

SENIOR STAFF COUNSEL LEVY: Madam Chair, I'd ask the commentor give a copy to BFI as well and give them an opportunity to respond to anything that they want to comment to.

CHAIRPERSON DIAMOND: I was going to say obviously the discharger BFI today also has an opportunity to respond to this.

BOARD MEMBER MINDLIN: They may not have their proper -- how can they respond to something they just got? They need to analyze it.

CHAIRPERSON DIAMOND: We're just going to be hearing it. They're going to be hearing it. I think it's all --

BOARD MEMBER MINDLIN: I'm questioning -- Michael, are we giving proper due process to BFI? They're getting new information right now. They haven't had time to review it and analyze and it get back to us at this

meeting.

SENIOR STAFF COUNSEL LEVY: I'm not sure about the substance of it. I know generally what their concerns are, because it's elsewhere in the record. And they've been conveyed to staff. And I'm not sure that BFI is going to have any complaints in that regard. If they do, they can voice them and we can address it.

CHAIRPERSON DIAMOND: I would like to suggest we take a ten-minute recess, during which time we will review this and then we'll come back and continue with the presentation. But the time will be stopped for the ten minutes. We're adjourned for ten minutes.

(Thereupon a recess was taken.)

CHAIRPERSON DIAMOND: We're back in session.

We've taken time to read this document, and I'd now like to ask Mr. Bishop for a recommendation.

EXECUTIVE OFFICER BISHOP: Madam Chair, as you having reviewed the documented, staff has reviewed the document, and our belief is that this relates to the final cover issues, the proposed final cover issues.

As I insinuated earlier, we anticipated concerns on this, and we have proposed a reopener to come back and fully vet just that issue. This is not a critical time issue for the permit. I would suggest that you accept the comments. You've read it, but that you keep in mind that

we are going to be coming back to you to look fully at just this issue and that that will be the more appropriate time to be going into detail on the concerns.

There is a change sheet that we will discuss at the end of all the questions and answers. But you might want to consider looking at that, because it relates directly to that. It's the final change item which discusses the reopener, and it poses that the Executive Officer make a decision about bringing this back. You may or may not want to consider just making a mandatory return to the Board or leaving it to the Executive Officer.

BOARD MEMBER MINDLIN: You're suggesting a non-discretionary reopener?

EXECUTIVE OFFICER BISHOP: Right now, it's discretionary. And you may want to consider, given the issue, changing that.

CHAIRPERSON DIAMOND: That decision about the reopener we can make in the motion for this item.

But so I'm interested in accepting this staff position as just explained by Mr. Bishop. Is there any other Board member who feels differently? Then that's what we will do. And this will go into the record for the time when this comes back to us as a reopener for consideration of that final cover.

So Ms. Chatten-Brown, would you like to come back

up? Your time stopped where you stopped.

MS. CHATTEN-BROWN: Thank you very much. I was told I only used two minutes and seven seconds.

Actually, I'd like to talk about the whole concept of the reopener. Because to us, that is a fundamental flaw. Approving this permit at this point and delegating to the Executive Officer, no matter how good he is -- and we don't know who it will be by the time it would come back -- is an abdication of the Board's responsibility.

BOARD MEMBER VANDER LANS: I don't think we said. We intend it to come back.

MS. CHATTEN-BROWN: Well, but the staff's recommendation that went out was simply that it be for the Executive Officer. If it comes back to you, that's better. But the best action by far is to defer issuance of the permit until the work group meets and until there is the conceptual recommendation as to a final cover.

You really don't have the evidence at this point to make a finding that this will not pose a threat to the waters of the area. You have to look at the weight of the evidence. There has been some testimony today, but we feel that the weight of the evidence by independent experts nationally known is that this cover as proposed will fail. And if you increase the footage to -- Dr.

Richardson recommends a minimum of 18 feet, probably two feet, 84 percent of the states that you saw on the pie chart require at least two feet of cover.

BOARD MEMBER MINDLIN: I just want to tell you the conversation we just had on the reopener is I think that everybody is going to vote to have a reopener mandatory to discuss the cover. I just don't want you wasting your time talking about the conceptual aspect of the cover right now.

MS. CHATTEN-BROWN: I'm trying to address the concept that we think it is inappropriate to approve to permit and there's not any need to approve the permit unless you have that analysis about the cover first. You cannot approve a project unless you determine the financial assurances, which is based upon reasonably foreseeable corrective action that might be required. What the cover is is integral to that decision.

Now, Peter Anderson is going to address the financial assurances. But this is the cart before the horse to issue a permit. Existing capacity is available on the City side. There should be no rush to judgment here. You should have all of the information before you decide to approve the permit. Because the cover, even a conceptual final cover, is something that the Board should have before you before you decide whether or not you

should act on the permit.

I mean, I just believe if you look at -- you've got an expert, Dr. Richardson, with 25 years of experience that has been intimately involved in the establishment of standards. He said this cover will fail. The expert from BFI -- I'm not going to even attempt to pronounce that again -- is talking about -- I mean, he made representations to you that we feel are extremely misleading. For example, Puente Hills Landfill didn't collapse during the '94 earthquake. Well, guess what? It didn't have a freeway next to it that did collapse. That occurred at Sunshine Canyon.

Dr. Richardson has said that Sunshine Canyon is the most seismically active area in the United States where a landfill is sited.

The statement that there had not been damage -- again from the BFI expert, there was not damage on the old City landfill. Well, the old City landfill does not have a geomembrane and does not have a final cover. Of course, there wasn't the kind of failure.

The diagrams that was attached to -- Diagram 2, the first one shows why Altamont and Kettleman are totally irrelevant, the examples given to Mr. Driller.

The Figure 2 shows what happens to the landfill gas collection system when there's a failure. The

landfill gas that's way down here on the left-hand side, when there is a release, it goes up. And as a result of that, you get the slides that are shown in photos one through four. We are going to experience that.

Now, whether or not the cutoff wall will succeed is highly questionable. Dr. Richardson does not believe that it will. But this was designed to handle the kinds of rains that routinely come down. If you have a massive slide of waste, everything is going to be clogged up, even if that system itself doesn't rupture. And in our expert's opinion, there is a real threat to the water supply of Los Angeles. And it is that that you are here to protect.

We strongly recommend that you not issue the permit until after a work group has been convened. We will make every effort to fund Dr. Richardson's participation telephonically in this work group and come up with a conceptual design for a final cover before this comes back to the Board. Doesn't have to take two years. I imagine it would take several months. But you've also been told that BFI will come back to you for financial assurances in 30 days. Why isn't the proposal made now so that the public can comment upon it?

I think -- I don't know what the time is now. But let me let Peter Anderson speak now, and then maybe I

could use the rest of the time. Wade Hunter also has a brief presentation.

I was going to go through the letter. Since you've just read it, I won't do that. You know, the documentation in again the previously submitted letters we feel is compelling evidence that it would be inappropriate to simply rely upon a reopener. But this issue should be addressed now. Once the waste is in place, even only the amount in phase five there would be tremendous cost to excavate that waste. If, in fact, the slopes have to be lowered -- and that's Dr. Richardson's contention is that you have to have at least 18 inches of soil above the geomembrane.

When you do that, it will be so seismically hazardous unless you dramatically lower the slopes of the landfill. And this may even go beyond, you know, what looking at just what the additional is, but what the future really is for Sunshine unless this issue is addressed. And so we're not asking for a long delay, but we do feel that a reasoned process and one where you fulfill your responsibility is to have this analysis before you before you decide on the permit.

I'll turn it over to Peter Anderson to talk about the other key decision, which is what financial assurances should be imposed.

CHAIRPERSON DIAMOND: How much time do we have left?

SECRETARY HARRIS: Five minutes.

(Thereupon an overhead presentation was presented as follows.)

MR. ANDERSON: My name is Peter Anderson.

Counselor Chatten-Brown was talking to you about what the engineers said with regard to the environmental issues in this case. I'm the numbers guy. And I'm here to talk to you about what the implications are on the flip side to the taxpayer.

But the importance of the managing risk is what I'm here about. And I do thank you for your time. And I've served on citizen boards before in Wisconsin where I come from. And I know the sacrifice you're making to do this. I want to say I really appreciate that. And I want to thank you for that.

But I want to express to you my grave concern that although you have an agency that you serve for, even though I'm 2,000 miles away, everyone around the country knows about the sterling record you have achieved with the L.A. River, the Santa Monica Bay. And no one wants to lessen that. But no agency can be perfect in all parameters.

And there are changes going on in the regulatory

process in regard to which I believe the agency that you are in charge of, the policy oversight, not the micromanaging, has not kept up with the changing landscape. And in terms of policy, it's the appropriate and compelling point where you need to intervene. Because you have a situation -- I don't know the specific budget numbers in California, but I know nationwide waste review agencies have had budget cutbacks of about 30 percent on their staff. And they're asked to do the same amount of work. So things are being left to slide that people know should not be left to slide but are being left to slide.

I got involved with California, because the California Waste Board staff back in 2003 found that it was unable to assure that the existing regulatory policies were going to protect the public with financial assurance in the way people thought, which I assume people here thinks that financial assurances are in place and protect the taxpayer. But what happened the last two years at BKK demonstrated in a very shocking way to the Legislature that something is not working substantially.

The Waste Board staff started working on this issue, and the Waste Board members said the dialogue should have a full debate. Sierra Club California got asked to participate, and they in turn hired me as a consultant. And that's why I'm involved with this

financial assurance issue and become quite conversant with it.

But the issue here is -- and I know if I put myself in your shoes as opposed to an advocate's shoes, you're saying it may be true that Mr. Chatten-Brown's expert said this and their expert said that, even if you take just what you have on paper from your own staff in regard to Dr. Driller's memorandum and in response -- and the comments in response to the response to the comments, you will see high uncertainty as to whether that final cap will work.

Here you have a landfill which is probably the most ill suited landfill site in the whole country. There may be something worse, but it's hard to imagine a worse site, number one.

Number two, it's going to be among the very largest sites. Whatever means is going to compound and magnify.

Number three, they're taking unprecedented risks in having this very ultra thin cover and the consequences cascade from that.

Now the staff has basically -- and I hesitate to paraphrase for someone else. But if I were to paraphrase, I would say, they're saying, "Well, if we tweak it, work it, it might work."

What's missing from your regulatory review process as a matter of policy is the other side of the equation. Yes, it might work, if you ignore Mr. Richardson. But it also means it might not work. And what you're not doing here -- and this is where financial assurance mediates the issue. You're not saying what's the probability of it not working. What's the consequences? Are the taxpayers protected? Because under the financial assurance rules, that's your role.

Flip to the next slide.

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MR. ANDERSON: The key thing about a landfill, unlike a factory, is when it closes, it remains a threat for no one really knows how long. Let's say over 100 years for purposes of discussion.

Next slide.

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MR. ANDERSON: The current practice about financial assurances only covers minor maintenance and only for 30 years, number one.

Number two, there are very weak funding mechanisms that essentially allow -- not in this case, but many other cases corporate IOUs.

And number three, which is the point I want to get to here, because those two things before are the Waste

Board. Corrective actions are largely ignored.

Next slide.

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MR. ANDERSON: EPA only requires assurances when corrective actions are known, which is the kind of worthless process. Because after it's known, it's too late -- I asked two other people, Madam Chair, if they could donate their time to me.

BOARD MEMBER MINDLIN: We don't do that.

CHAIRPERSON DIAMOND: Go ahead.

MR. ANDERSON: Barb Iverson and Mary Ellen Crosby, if that can be added to my time.

CHAIRPERSON DIAMOND: These are people who filled out cards and they want -- and so they each were to get five minutes. Those two people will not take their five minutes.

MR. ANDERSON: That would be my understanding.

CHAIRPERSON DIAMOND: Okay. Continue.

MR. ANDERSON: California alone, of all the states which is exemplary here, requires not only known assurance but reasonably foreseeable. And that is the instrument that lets you mediate that enormous uncertainty which is not being covered by the present regulatory philosophy. But the problem is that responsibility largely relies unexercised in the Regional Water Boards.

Next slide.

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MR. ANDERSON: In the mid-1990s, in terms of mega-fills -- this is why it's so important. The landfill industry scale up the size of landfills by 100 times, and when they did so, the potential risks -- because they become too big to fix, for example. And cost increased in tandem. And the assurance practices developed back in 1991 when the Subtitle D regs were passed never caught up with those changes.

Next slide.

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MR. ANDERSON: So you have enormous complications that can occur in terms of site stability. That's the most famous in the U.S. There are more around the country. It's called the Rumpke Landfill in 1996 that collapsed. Fortunately, in that case, it collapsed on an inside wall.

But you have a situation where Superfund under EPA's 1991 presumptive guidance has allowed only pallet of care. So the $25 million you see for Superfund remediation has only been to put a cover on fence around bottled water. The problem is still and going to persist.

We have a huge landfill of these size and proportions, and you have stability issues, which

earthquakes magnify and make much more precedent in time, you can no longer paper them over. You have so much more waste coming down into the public area.

Next slide.

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MR. ANDERSON: So the thing that Sunshine Canyon presented to you is enormous size earthquake fault proximity, and what's done about it?

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MR. ANDERSON: When you review the files that have been approved by your predecessors in 1993 and in 1999 and you look at the line for reasonably foreseeable corrective action for the most dangerous landfill in the country, or a least among the most dangerous and largest to be, this is what you see: Not applicable.

What does the statute say? The statute says -- administrative rules says in 27 Section 20380(b) "In accordance with the requirements, waste discharge requirements for units subject to the section shall contain" -- and the word advise is mandatory by counsel -- "shall contain a provision which requires a discharger to obtain and maintain assurances."

You have no discretion, as your Executive Officer is asking you, to issue this order today until you have addressed the issue of what those risks are and how to

protect against it.

I know time is tight. But let me go to the next slide and indicate that --

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MR. ANDERSON: -- there is an answer we need. If you're going to have the taxpayer protected from mammoth risks that can be hundreds of millions of dollars or more and you have such a huge site, you need to have protection against worse case. But because this is a probabilistic event, we can say use insurance or other risk management instruments which multiply the coverage times a probability of the event.

My wife has a horse. I wanted a million dollar umbrella policy for people riding it. That cost me $250 a year. Doesn't cost me a million dollars a year.

If the risks are, in fact, as low as Mr. Edwards states to you, let's have an independent insurance industry trained risk managers -- and most important, these are the people whose policies of coverage put their own money behind it. It is unseemly and inappropriate to ask the applicant who is in a zero-sum relationship with you, gentlemen and ladies, as to what the risk is. Their fiduciary responsibility to the stockholders is to put the risk on the public. Your job is to assess independently.

I really found disturbing the staff's implication

they simply filed the application from the company as to what it represents. That is inappropriate. You have situations where this is just a complete abdication. You have minor amounts posted: $3 million for West Bradley; Sycamore down to 100,000. But even Mesquite, which is in the desert with fewer people than jackrabbits, has $3.2 million reported. It's total chaos. No one has addressed the issue. I know Mr. Mello wants to, just like the staff of the Waste Board, but it is not addressed yet. To chicken out now before you made sure the taxpayers are protected is not only inappropriate in terms of where your responsibilities lie, but it is not allowed by the rule, as I've been advised by the statute.

Now, I'm an economist. I'm not oblivious to the concerns of companies. They by having a site here have about a $20 million advantage, because it's closer when West Bradley closes. And then they'll be able to get their stuff to a landfill cheaper than their competition. It makes sense for them. It also makes sense to get the bridge area going because they have flexibility of operation. Those are all concerns that are legitimate for them to have.

But you have to decide what's your responsibility: To facilitate a competitive advantage; to facilitate convenience; or to ensure that the taxpayers

are protected. And that's exactly what the statute provides, and I would certainly hope you would do it.

The insurance issue is actually more complicated. And if any of you ladies and gentlemen would like more detail, I would certainly welcome any questions to explain those complicates.

But I think the point is made. And I stand here ready to answer your questions if you may have any.

CHAIRPERSON DIAMOND: We usually have our questions at the end after everybody has presented.

Is there anyone else representing the North Valley Coalition? I mean, I'm only saying that because there are four minutes left. If you would like to use the four minutes, you have four minutes.

MR. HUNTER: Do I get five as the public? I'll wait until the open comments.

CHAIRPERSON DIAMOND: We'll start over now. Now we're going to go to the speaker cards. And I have a number of them. I'm going to start with Carly Katoya. I hope I pronounced that correct. Probably haven't. Representing Supervisor Yvonne Burke.

CHAIRPERSON DIAMOND: I believe we're doing --

EXECUTIVE OFFICER BISHOP: Five minutes.

CHAIRPERSON DIAMOND: Five minutes for each.

MS. KATOYA: Good morning, Madam Chair and

members of the Board.

CHAIRPERSON DIAMOND: But we'll take less.

MS. KATOYA: I will be less.

My name is Carly Katoya. I'm the Deputy for Supervisor Burke, and I've been asked to read a letter from Supervisor Burke into the record for you today.

I'd like you to also note my colleagues from Lori Molina's office and Don Knabe's office were here but had to leave for meetings. But they brought similar letters of support.

"Dear Ms. Diamond, I'm writing in support of the approval of a solid waste facility permit for the 42-acre extension area within the county side of Sunshine Canyon Landfill. The extension of landfilling in this area is consistent with all environmental reviews and land use approval already received for the landfill.

"The Board of Supervisors approved the conditional use permit for the County landfill in 1993 and envision that the City side of the landfill would reopen and two sides would be combined into a single facility. The City side of the landfill resumed operations in July 2005. Prior to this, the County landfill was accepting up to 1.5 million tons each year of City waste

due to diminishing waste capacity countywide. Now this County side of the facility is nearly out of space.

"Approval of the extension area would provide about six more years of capacity, allowing Browning Ferris Industries to combine with the two individual operations into a single operation. A combined operation will eliminate the redundancies inherit in two separate working faces and create a more efficient and environmentally sound waste disposal site. It also allows for the most effective utilization of available capacity within the already approved footprint.

"Sunshine Canyon is a regional resource whose value should be maximized in order to serve the needs of the residents and businesses within the county. I strongly urge the Waste Board to approve the solid waste facility permit.

"Sincerely, Yvonne Burke."

Thank you.

CHAIRPERSON DIAMOND: Thank you.

Nicole Bernsen.

MS. BERNSEN: Good morning. Thank you. I'm speaking on behalf Counselmember Greig Smith, who would

have liked to have been here himself today, but I'll be reading a letter from him.

"Dear Chair Diamond and Board members, I'd first like to acknowledge that it was this Board that showed their responsiveness to my concerns and those of the residents of Granada Hills by requiring the City side of the landfill be double lined and that the DWRs contain a reopener clause in case they needed to be more protective. Beyond that, you made provisions for local wetlands mitigation when the only parcel that could accommodate the acreage requirements was not within proximity of the landfill. For these actions, I and the community I represent remain eternally grateful.

"In reviewing the DWRs for the County expansion, I see that the Board staff has taken steps to extend the protection of the double liner to this project as well. Though I would have liked to have seen a more thorough analysis of the unique seismic issues of the landfill, particularly as it applies to slope stability and the final cover issues, I appreciate the requirement for the standards to exceed the required MPE standards and meet the MCE

standards. I also appreciate the inclusion of a reopener clause to further look at seismic issues upon the establishment of a final closure plan.

"I would like to ask this Board strongly consider a second reopener for the area of financial assurance. Though BFI and the landfill currently meet State requirements for assurance, the State Legislative Counsel is currently reviewing these issues. It is my sincere hope that should the State come back with stricter conditions for financial assurance that create more protection for cities and the State from financial responsibility for failed landfills and the resulting environmental damage that this Board will retroactively apply those requirements to these WDRs.

"Thank you for your attention to these matters.

"Sincerely, Greig Smith, Councilman, Twelfth District."

CHAIRPERSON DIAMOND: Thank you.

Joe Mello.

MR. MELLO: Good morning, Madam Chair, members of the Board. My name is Joe Mello. I'm Land Disposal Program Manager at the State Water Board. I did take the

oath.

As Mr. Anderson noted, he was present at a Waste Board meeting I was attending where they were adopting a permit. And we are, unlike one of the slides that was shown, we at the State are very interested in the financial assurance at Sunshine Canyon.

Over the last year, actually one year ago, we sent each of the program managers a list of sites that had financial assurance and did not have financial assurance. At that time, it was 40 percent. It has since moved up to 45 percent. So yes, we do have less than half of our landfills at that. We are working on correcting that. We gave a training class for financial assurance yesterday in northern California to program managers and staff of the Water Boards. We will be doing the same thing in southern California next month toward the end of the month in Riverside.

We are working at the State level on suggested language with Regional Board program managers for corrective action, what should go in the WDRs.

And should make one comment. Several of our program managers at the Regional Board level said they thought that 45 percent level was low, that they thought there were -- the ones in northern California have the new list of who has financial assurance for corrective action.

And they thought some of their sites that had it was not on the list. So one of the things they requested us to do is send out a letter to the Regional Boards requesting that they ask for which financial assurance documents they have submitted dischargers, so that if they have something that we don't have copies of, we will have them. That is expected within the next, I'd say, 45 days we should be able to get something out.

That's all I have to say. And if there's any questions from the Board they'd like me to answer, I'm available.

CHAIRPERSON DIAMOND: Thank you.

Brendan Huffman.

MR. HUFFMAN: Good morning. I'm Brendan Huffman. I'm President of the Valley History and Commerce Association, VHCA. And I'm here to support express our support for the permit before you today.

A lot of the comments I've been listening to this morning I think are questioning the existence of this landfill, but that's not what we're here for today. This landfill is here for better or worse. And it's up to us to find the best way to make this landfill work efficiently, be environmentally sensitive, and be in full compliance with the law.

I don't need to tell you that California

thankfully has the strictest environmental regulations in the world. This permit has been reviewed carefully by the L.A. City Council, the County Board of Supervisors, and many other environmental agencies. Many of the people who have already signed off on this permit have very strong environmental credentials. I want you to be aware of that.

Anyway, I'll keep my time short so more people can chime in here. But I do want to re-emphasize VHCA is in strong support of this permit. It will help them operate more efficiently, more environmentally sensitive. And, lastly, we're not talking about expanding the capacity of this landfill. The limits are already set about how much they can accept. Instead, we're talking about again making this landfill operate more efficiently and more environmentally sensitively. Thank you.

CHAIRPERSON DIAMOND: Thank you.

Nancy Hoffman.

MS. HOFFMAN: I'm also speaking on behalf of the Richard Leyner from United Chambers of Commerce who had to leave. I with the greater San Fernando Valley Chamber of Commerce. I'm the CEO. And I'm trying to combine two people.

Sunshine Canyon Landfill serves the entire San Fernando Valley and the adjacent regions for the general

benefit of the community at large. While many of the landfills in the area are closing, Sunshine provides a much needed in-county waste disposal capacity.

The development of the County expansion area in between the active County and City landfills will provide an additional six years of capacity. And it is a crucial step in continuing the two separate landfills into a single cost-effective and environmentally-sound operation.

Currently, there aren't alternatives to landfills that will have a lower significant impact on businesses. Businesses have a heavy burden as it is in waste disposal. And the current alternative available will put another unnecessary burden on businesses, which they can't afford in California.

As residents and businesses, we all generate surprising amounts of waste. And despite our best efforts, the majority of the waste ends up in landfills. As we continue our efforts to reduce, reuse, and recycle as a whole as we investigate and implement alternatives to landfilling, it's crucial that we maintain access to the in-county waste disposal.

So we urge your approval on the WDR for the county extension of Sunshine Canyon.

CHAIRPERSON DIAMOND: Thank you.

Richard Leyner had to leave. You were speaking

for him. So we'll go on now to -- Peter Anderson already spoke. Wade Hunter.

MR. Hunter: Thank you, Madam Chair and members of the Board. My name is Wade Hunter. I'm President of the North Valley Coalition.

I would obviously rather that you not approve the waste discharge permit or at least at best continue it to another occasion. But if you do deem that you want to do this, there's some things I think you should consider.

The issue of revegetation, dust, trash, and litter has already been raised to this Board. Indeed, you know, we've raised this to a whole series of agencies over the years, and they have tried to put rules and protections in place. But pretty much, they've been circumvented. They've been watered down -- and there's no pun intended on that -- or modified and put off to some future date by the manuverings of BFI.

And these issues of revegetation, dust, trash, litter that I speak of just over the last six months have been raised at the County Citizens' Advisory Committee, the Citizens' Advisory Committee for the City, the Technical Advisory Committee, the California Integrated Waste Management Board, and the Board of Supervisors.

And I know one would reasonably ask, well, you know, why would you raise it again? Why would you

continue? Because these issues are not being resolved.

Do you have number three, that one that I told you to key up Dr. Yang's presentation of the landfill? I think this is -- you really need to look at that picture that he had. Basically, what's happening for us is that, you know, we do have a great fear that even though we're talking about final closure and things, nothing has happened. I mean, this landfill has been operation since the early '60s. If you look at the pictures of any landfill, you want to take any aerial shot past, you see this huge area unrevegetated, you know. And our fear is that BFI is going to slip the rules again, and that's why we're asking you to make sure that they indeed comply.

Look. This is a recent photo. This is all bare. If I showed you a picture of this area before, this is riparian woodland. Thousands of oak trees, gone. Nothing. I mean, there's other kinds of trees too, but the oak trees are the most important. That 25,000 trees they planted, that's nothing. You take a mature oak tree out, how long does it take for you to grow one or two replacement trees to be as large as that tree? And over the years, it's going to take 70, 100, 150 years before those trees mature enough to produce the amount of clear air those would have done.

In the mean time, they took down dust and things

like this just naturally. So we're left with this huge area, unrevegetated. And we're concerned. And we do want to see it closed. And we want to make sure they have no way of escaping. Because right now they stop short of their elevation. If you look at Dr. Yang's information, you would see that Phases I through IV, which have been complete because now they're asking to go to others, that's not been covered. Why not? Well, because they stopped ten feet short of the final elevation, so it's going to remain bare forever. Plus, if any portion of the landfill remains empty according to state landfill they don't have to cover anything and they are going to comply.

And I don't think this Board needs to be considering this -- this is like incremental approval of the entire project. We jump and we dance across from the City to the County and the County to the City. But it's all really one landfill in the same canyon, two of them sitting there.

And this is a point I want to bring out to you. And I think it's important. When the City approved a 90-million ton expansion, okay, what was said at the time was 16.9 million tons, okay, in the County. That is their old one they're talking about. This expansion falls within what we call the bridge area. And as such, there's a five-year prohibition on them from even starting to do

any work at all in that area between the existing footprint, the 16.9 million, and the new City landfill. There's a five-year prohibition. So from the time that the landfill opened, the City landfill opened in 1995 -- sorry, 2005, they have to wait until 2010 before they can get into that area.

One of the other things that I'd like to sort of talk about is the amounts of water that are being now diverted. By BFI's numbers, I believe they said they took out six million gallons a year at the cutoff wall. That's water that's no longer going back into the valley recharge area at all. You know, they are also sewering water, because they're removing water from the underdrain system which the single liner system is leaking. And you know, that contamination continues. So they're sewering water. So I think that you need to demand that they have a water replacement water, makeup water to mitigate for this lost resource. You know, Los Angeles is losing huge amounts of water.

And lastly, I'd like to ask for -- I was asked to mention by the lady that couldn't get to speak that right next door to the dump is O'Melveny Park. It is the second largest park in the City of Los Angeles. And really the impacts to the hikers and any horse riders or anything, the horses themselves, you know, from the effects of this

landfill are not really being discussed. And I think it's incumbent upon us. I tried to get BFI out there because trash was blowing out and getting hung up in there and they couldn't get to it because the area is pretty rugged. But we're contaminating City property. This also happens for you with the removal of the monitoring wells that are down gradient. Basically going to allow the City property to become contaminated by a leaking landfill.

Double liner in the new section is not correct, because with the landfill behind it, which is single liner, is leaking. What good does putting a double liner in the expansion? Does not stop that contamination from coming down once you remove the monitoring wells and any way to extract it.

Thank you very much. I appreciate the little extra time you gave me.

CHAIRPERSON DIAMOND: Thank you.

I notice I still have a card for Mary Edwards. You gave up your time. Oh, was that Mary Ellen. Then the next person I have actually is Dr. Wayne Aller.

DR. ALLER: Thank you, Madam Chairman, members of the Board.

First of all, I'd like to thank the Board for its past action, the directives some four years ago requiring BFI to undertake a mitigation project to compensate for

the wetland habitat that it was destroying on the landfill site. And this mitigation project I'm talking about is the Bull Creek nature walk as we understood it to be. It's still got a lot of ways to go. I want to thank Wendy Phillips and her staff for convening a walk-through that followed our March 8th hearing that she held. She had almost everybody there: Dr. Yang, Steve Cain, Rod Nelson, about ten other people, and it was instructive.

It was our understanding that BFI was mandated to maintain that nature walk for a five-year period. It hasn't been maintained. There was all kinds of garbage, broken tree limbs. Actually, the County got out there about two or three days before we had our walk-through a week ago Saturday and removed a lot of the things, so it looks better. But we would like to see BFI required to maintain that for the community as a mitigation area that's fairly close to the landfill. The Arroyo Seco or whatever is a long ways away and Chatsworth is quite a ways away. So this does help the feeling of those of us that live near the community.

I would also like to just ask the Board to carefully reconsider your approval of the proposed expansion. You may know that the U.S. Geological Survey and Cal Tech -- incidentally, my son was on the staff at Cal Tech during the North Ridge earthquake and reported

that right at the site, GPS data show that the land rose 26 inches, then dropped seven, and moved nine inches north. There are advisable fishers that I could take you to right now and show you they still exist. This is the most seismically active site in the entire United States. And unfortunately we have a landfill there.

I think that you need to look very carefully at some of these new data that you've been provided on seismic stability. I don't know what the increase from 12 inches to 18 inches of top cover would do. It might require a less steep slope for seismic stability, but I think these are very important issues.

The other thing I would like to bring to your attention, I was a consultant with the County Board of -- pardon me -- Public Health in designing this little health study that was done. It was constrained by budget to a very small group. Mr. Edwards said that reported health concerns cannot be linked to the operation of the landfill, that's simply not true. They have not been linked. But with a larger sample size, there's no doubt that they could be linked.

We had only 100 people in the target area, compared to 100 people about six miles away. I did a meta analysis. And actually, if you do the analysis using a slightly different statistical technique,

there are statistically significantly greater health problems in that area even though it's a very small sample.

The other thing is the sample looked at almost no children. And we all know that toxic waste, toxic issues, whether it's airborne or water borne, are much more critical for children than they are for adults, unless you're really old and then you've got respiratory issues.

When Rod Nelson said that the self-reported asthma increase among women was determined not to be attributable to the landfill, I don't think that's true. I realize that's an airborne issue and not a water borne issue, but I think it's something you should take into consideration.

Thank you very much for your time.

CHAIRPERSON DIAMOND: Mary Edwards, followed by Ralph Kroy.

MS. EDWARDS: I'll speak loudly because I always do.

I think over time we have been so disenchanted by the processes that we have gone through trying to control the landfill that the one place we've never been able to look for that has really gotten some help has been this Water Board. That is why it's so important because the mitigation that you've helped us with, like making a

nature walk and things of that nature, are very, very important to us.

We would like to also recommend that you abandon the practice of self-monitoring on these landfills and ask BFI to fund instead agency monitors that would do the split sampling and the important things for the water. Because when you put that kind of responsibility on the proprietor to self-monitor, you get into a situation where there's real conflict of interest. And reports are always written to say this is so good that God created the stainless steel bowl on the seventh day and he wonders why it truly is it could be that way.

We would like to ask that you would prohibit burying the medical waste on site. Now that would include the red bags that come in. The red bags that come in carry untreated medical waste. And they're routinely now buried on site, which we really think that that is a bad practice. And also as Ms. Bendikson pointed out, which is also statewide the fact that using -- which is now I think a real money saver to these hospitals -- but using these huge hospitals to put their untreated sharps, their untreated needles in and then sending them, this is a real source of contamination and really ought to be taken care of.

Also, I would like to ask that we have a deep

ground testing monitor below the batos zone, because the groundwaters under there are substantial. And there's no looking beyond to the very deep storehouse of water. As we all know sitting here that water is probably the most important.

One thing I wanted to ask the Board, one of the things that confuses us when we look at the reports is the fact that there's no conversion factor for converting yards to tons and most of us think in terms of tons. Could someone here tell us what the conversion factor is?

CHAIRPERSON DIAMOND: We might have to ask staff. We ask the staff questions. We'll note your concern.

MS. EDWARDS; You look at these. Well, this is so many cubic yards. And it's hard to know what factor they use to convert to tons. And that makes it much more understandable for people if they know what the actual tonnage is.

CHAIRPERSON DIAMOND: We'll have staff get back to you on that.

MS. EDWARDS: That would be really nice. And I guess we prohibit the hospitals from taking their sharps.

We would also like to ask the Board to work with -- get the reservoir cover, because this is one of the only reservoirs in the United States that doesn't have a proper cover on it. And it's open. And it is storing

in that reservoir the water that is all ready to go into your taps. And we feel that if we make the request that DWP cover that reservoir it would be extremely important for the safety of everyone concerned.

Well, there's some other issues that I won't go into, though I could for a long, long time. But I appreciate you being here, and I really appreciate the fact that staff has -- Mr. Cain has been working with us, helping us go through the process and understand what is included there. Thank you so much.

CHAIRPERSON DIAMOND: Thank you.

Ralph Kroy, followed by Kim Thompson. That's the last card I have.

MR. KROY: My name is Ralph Kroy. The required --

CHAIRPERSON DIAMOND: Mr. Kroy, can you please speak up?

MR. KROY: The required Bull Creek mitigation by BFI is what I wanted to talk to you about. During your recent walk-through of Bull Creek with the Water Board, County, City, and neighborhood representatives, it was pointed out that Bull Creek is a flood control channel and that the public access is prohibited. No trespassing signs are posted, $1,000 fine. The gate is locked. It makes it difficult for even BFI to go in there and do its

job.

We talked with Arthur Vander, Principle Engineer, Flood Maintenance Division, to discuss the situation. The County is willing to prevent access under agreement with the City Council. I have contacted -- or Greig Smith, Twelfth District Counsel, has been contacted, and he is working pursuing this issue. And I think it is almost completed, but this has to be done. We do need to have a meeting in May perhaps to define the process in details of the Bull Creek mitigation that is part of the requirement that we have here.

Thank you. I'd like to donate the rest of my time to Wade Hunter.

CHAIRPERSON DIAMOND: Mr. Hunter, do you have more to add?

MR. HUNTER: Actually, you might like this. I just -- I was trying to go so fast and give you information that I forgot to thank the Board and your staff, I mean, especially Stephen Cane. He's done an excellent job working with the community and organizing all the stuff and at least making our voices heard. And I just want to remind you it was a past Board that heard our plea for a double liner. And we hold out hope -- that was with the City. And we hold out hope that you can once again make BFI comply with the intent of the added

protections that the community has demanded. So again, thank you.

CHAIRPERSON DIAMOND: Thank you.

Kim Thompson. And then I do have one more card, Mike Driller.

MS. THOMPSON: Hi. My name is Kim Thompson, and I'm speaking on behalf of the community, although I am the former Vice Chair of the North Valley Coalition, currently the Chair of the neighborhood counsel. There was a couple things.

I too want to thank the staff, especially Stephen Cain. They were tremendously accommodating in getting to our community and getting us information and setting up meetings that were close to home.

First of all, I wanted to say that -- and I'm sure you know Supervisor Antonovich strongly opposed the expansion of the landfill because of the significant outstanding questions about the safety. They didn't send someone here to speak.

Also, I don't know that you got the Mayor Viaragosa's letter that asked for you to adopt the most stringent standards. Maybe it didn't make it into the record by the 15th. If you don't, I can send it.

I heard Mr. Huffman state this particular permit had been reviewed by the City. And this particular permit

has not been reviewed by the City of Los Angeles.

And I also found it interesting what Mr. Mello said about financial assurance, because the regulation requiring that became effective in 1991, 17 years ago. So 17 years later, I ask that you not approve the permit without having financial assurance. Thank.

CHAIRPERSON DIAMOND: Thank you.

Mike Driller. That's the last card that I have.

MR. DRILLER: I didn't think I was going to talk today, so I actually didn't get sworn in. Is that a problem?

CHAIRPERSON DIAMOND: I'm sorry? You weren't sworn in? Then I will have to swear you in. Would you raise your right hand and repeat after me?

(Thereupon Mr. Driller was sworn to tell the truth, the whole truth, and nothing about the truth under penalty of perjury.)

CHAIRPERSON DIAMOND: Thank you. And please speak up.

MR. DRILLER: I'm Mike Driller, and I performed the review for the Regional Water Quality Control Board. So what I'd like to do is -- for my review, I contacted both parties. And I got as much information as I could from them over the phone. And I just wanted to read through the findings that I came up with.

The failure of the cover liner would likely involve the geomembrane and would not expose refuse. It appears unlikely that leachate or refuse would adversely effect water quality down slope of the landfill, including the Los Angeles aqueduct or Van Norman Complex.

Language contained within the tentative discharge requirements includes a reopener clause to allow for future evaluation of the seismic stability. Properties of the proposed final cover system or any alternative final cover system proposed for the County extension landfill.

Concluding remarks. At this point, DWR staff feel that the cover design is likely adequate for the preliminary closure plan and the associated cost estimate. There is comfort knowing that there is a reopener clause and that additional design and review will take place after the preliminary closure plan is approved. And I did look quickly at the information that was provided today, and I didn't see anything that really would change the review that I performed.

CHAIRPERSON DIAMOND: Thank you.

Those are all of the cards that we have. At this point, we go to questions from the Board. And I think that it's 12 o'clock, but I think we -- if the reporter can continue, we ought to move forward with this item and start with Board questions. So I'm going to start here on

this side.

BOARD MEMBER RICHARDSON: I have questions for staff.

CHAIRPERSON DIAMOND: Before we do that, let me just ask the Board whom they're going to want to ask questions from.

BOARD MEMBER RICHARDSON: Staff and BFI.

BOARD MEMBER MARIN: Staff.

BOARD MEMBER MINDLIN: Peter Anderson.

VICE CHAIRPERSON LUTZ: Staff, BFI, Peter Anderson.

BOARD MEMBER VANDER LANS: Same.

CHAIRPERSON DIAMOND: Mr. Richardson.

BOARD MEMBER RICHARDSON: First, are we going with staff first?

CHAIRPERSON DIAMOND: Yes. Let's ask staff first, followed by the applicant and then Mr. Anderson.

BOARD MEMBER RICHARDSON: Just a clarification. Are all of the extensions proposed all down gradient from the original permitted landfill?

EXECUTIVE OFFICER BISHOP: Are the extensions down gradient from the --

GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: The original landfill started in the late '50s is entirely within the City portion of that 451-acres

footprint. The operating county portion of the landfill and the proposed extension, the 42-acre extension, is up gradient of the City landfill.

BOARD MEMBER RICHARDSON: Okay. What is the tie-in then between the proposed and the original? What's the actual tie-in?

GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: I don't understand.

BOARD MEMBER RICHARDSON: The bridge.

GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: How do you mean the tie-in? What about it?

BOARD MEMBER RICHARDSON: We're talking about single liner versus double liner and how --

GROUNDWATER PERMITTING AND LANDFILLS SECTION CHIEF NELSON: Oh, I'm sorry. If that should proceed, the City has an existing double composite liner. The extension of the County landfill, which will be connecting with any proposed bridge, has a double composite liner. So in between they'd be -- the double composite liner would continue.

BOARD MEMBER RICHARDSON: And this is probably for Jonathan, or even legal counsel --

EXECUTIVE OFFICER BISHOP: I was hiding.

BOARD MEMBER RICHARDSON: What oversight does this Board actually have over the insurance issues for a

catastrophic event?

SENIOR STAFF COUNSEL LEVY: There's two parts to that answer. The first part is that where our responsibility is is in setting that number. And then it's up to the Waste Board to determine how to implement that number. And like we have Water Code Section 13360 that prohibits us from dictating the manner of compliance, there are a variety of ways that BFI can comply with that provision. However, if BFI chooses one of those ways, each of those ways have criteria associated with them in the regulations. And if they meet the criteria, whether it's for a bond or an insurance policy or posting of a trust or any other mechanism, if they meet the criteria, the Waste Board has to approve it.

The Waste Board undergoes periodic reviews of the adequacy of those. We determine the amount and we require in the permit that financial assurances be required. And if they don't actually maintain the financial assurances, they would be in violation of our permit and we could enforce on that as well.

BOARD MEMBER RICHARDSON: Okay. Thank you.

Those were the only questions I have for staff.

CHAIRPERSON DIAMOND: We're going to go through with questions for staff and then go back to the applicant and then Mr. Anderson.

BOARD MEMBER MARIN: Related to the financial assurance, the requests that the North Valley Coalition is making to us is that we -- it's more than a request. The statement they're making is that we do not have the authority to decide today without having that financial assurance number. And I want to understand what our authority really is. What is it that allows us to postpone that decision until later?

SENIOR STAFF COUNSEL LEVY: I'd like to read from the regulations itself, 20380(b) of the Title 27, which is the Waste Board's regulations that apply to landfills, Waste Board's and our regulations. What it says is that the waste discharge requirements shall contain a provision which requires the discharger to obtain and maintain assurances of responsive financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases. The regulations do not require that the financial assurances be obtained as a condition proceeding the issuance of the permit. The permit has to include provisions that require that they be obtained and maintained. And that's what the permit does.

BOARD MEMBER MARIN: So then the next issue that's being raised around this financial assurance is who the decision goes to. And right now, the staff recommendation is that the decision for that number go to

the Executive Officer.

SENIOR STAFF COUNSEL LEVY: You know, this has not been done before by the Water Board. Traditionally, issues related to issues like financial assurances or approving the interim conceptual final cover design would be staff decision.

And in terms of the financial assurances for closure, that's a Waste Board decision. And so we just in making the proposal proposed it be administered by the Executive Officer. Certainly, the Board could have that determination made by the Board itself, and we could bring it back with a staff presentation and have you set the number yourselves. And that's at your discretion.

With respect to the final cover, those are routinely done. The proposed -- not the proposed -- the proposed conceptual final cover, those are routinely done administratively by staff, because generally there's not a policy issue involved. It's generally just technical determinations. But again, you've asked that come back to you -- you seemed to have asked that come back to you.

BOARD MEMBER MARIN: We'll get to that in a second. Let's just deal with the financial assurance.

The other requirement is that financial means being provided for 30 years out. In this new financial assurance process, is there anything that allows the Board

to extend that period, or is it just a matter of deciding how much?

EXECUTIVE OFFICER BISHOP: We're talking about two different financial assurances. We should be clear about that. There is the catastrophic, which is the one we're asking to come back. There is also a 30-year postmaintenance closure requirement. That is based on, my understanding, on the regulation itself has a 30-year time frame.

BOARD MEMBER MARIN: That has also a 30-year time frame?

EXECUTIVE OFFICER BISHOP: That's a different issue.

BOARD MEMBER MARIN: The catastrophic which is what we're talking about coming back to us potentially does not have a time limit, does not have a time period attached to it?

EXECUTIVE OFFICER BISHOP: We haven't talked about any time frame attached to that.

BOARD MEMBER MARIN: Is that part of the decision? We decide a number and potentially a time period for which that number has to be maintained?

EXECUTIVE OFFICER BISHOP: I have to think about that.

BOARD MEMBER MARIN: Does Mr. Mello know?

CHAIRPERSON DIAMOND: Mr. Mello, if we want you, we'll call you up.

EXECUTIVE OFFICER BISHOP: I think that's something we have to look into. I'm being blunt --

CHAIRPERSON DIAMOND: Maybe staff could consult with Mr. Mello while --

SENIOR STAFF COUNSEL LEVY: Could I add one more thing? Unlike an NPDES permit, this is State waste discharge requirements under 13263. You can reopen this permit any time you want to, irrespective of whether you have a reopener. So with an NPDES permit, if you don't have a reopener, you can't touch the permit until it expires. This permit you are allowed at your will on your own motion to reopen whatever you like.

BOARD MEMBER MARIN: But the financial assurance, that's not part of the reopener as the staff recommendation currently stands?

SENIOR STAFF COUNSEL LEVY: For the closure, financial assurances are already set and in place for the entire landfill.

BOARD MEMBER MARIN: This is just the catastrophic.

SENIOR STAFF COUNSEL LEVY: Postclosure financial assurance and what that is.

BOARD MEMBER MARIN: That is going to be taken up

with the reopener? We haven't--

STAFF COUNSEL FORDYCE: Are you referring to the reasonably foreseeable corrective action, not the catastrophic. The catastrophic was referred to that new legislation as of January. So the reasonably foreseeable corrective action.

BOARD MEMBER MARIN: I'm talking about the one that doesn't have the 30-year time limit. I'm talking about the new one. Yes, I am talking about the new.

STAFF COUNSEL FORDYCE: That's not the permit right now?

SENIOR STAFF COUNSEL LEVY: Part of the new legislation is -- let's clarify -- there are rules that have required financial assurances for reasonably foreseeable risks of release and as the commentor noted they have been in place for some time. There's been new legislation that Counselmember Smith referred to and the legislation is AB --

STAFF COUNSEL FORDYCE: 2296.

BOARD MEMBER MARIN: It's in the tentative permit they're supposed to come back with something. That's what I'm referring to.

SENIOR STAFF COUNSEL LEVY: No. What's in the permit is within 30 days they're going make a proposal to staff.

BOARD MEMBER MARIN: Right. And then it goes to the Executive Officer?

SENIOR STAFF COUNSEL LEVY: Right. And the executive would determine what the number should be.

BOARD MEMBER MARIN: So the question is in this process whether it's the Executive Officer or whether we bring it back to the Board, just because the authority expansion to not just the number, but the time period for which that number stands?

EXECUTIVE OFFICER BISHOP: Yes. The answer to that question is yes. As long as the waste poses a threat to water quality, we can impose requirements on them.

BOARD MEMBER MARIN: So we could say that the threat should be covered for a hundred years, and that number should be there for --

EXECUTIVE OFFICER BISHOP: Right.

SENIOR STAFF COUNSEL LEVY: We're not talking about catastrophic. We're talking about reasonably foreseeable, which is why we're confused.

BOARD MEMBER MARIN: So reasonable foreseeable has some implication of time in it?

SENIOR STAFF COUNSEL LEVY: No, but there's different rules that apply. So catastrophic is something that's not necessarily reasonably foreseeable. You know, magnitude ten earthquake might be catastrophic but not

foreseeable. And magnitude seven might be reasonably foreseeable. And the new rules that we're adopting with AB --

EXECUTIVE OFFICER BISHOP: While he's looking that up, I want to clarify for the Board there has been requirements that reasonably foreseeable events be financial assurance. That is what we're talking about in coming back to a reopener.

This is another issue that Michael is talking about. And I just didn't want to confuse you any more, because it confuses me a little bit.

SENIOR STAFF COUNSEL LEVY: The other issues came from Councilman Smith. That is is in response to AB 2296. And that was adopted in September of last year. And what it requires is the Waste Board to adopt subsequent regulations relating to what the reasonably foreseeable risk is likely to be and the costs to the State of abating that.

And so those regulations are intended to be adopted. There's two sets of them: One on January 1st, 2008, and the other on July 1st, 2009. And those regulations may weigh upon whether or not you want to adjust the number of how much financial assurance should be. So the Councilman asked that you include a reopener to say that after those regulations are adopted we would

consider re-evaluating the amount of financial assurances.

BOARD MEMBER MARIN: Okay. So there's actually two different things that are new here?

EXECUTIVE OFFICER BISHOP: Yeah. That's right.

BOARD MEMBER MARIN: Okay. Well, it looks like staff is already recommending that rather than the 90 days that was originally in the tentative that we get something back within 30 days which I think is a big improvement.

I would also like to understand if we bring it back to the Board, it would be a presentation and want to make sure I understand will there be an opportunity for the community, the public to review what's submitted and to comment on that?

EXECUTIVE OFFICER BISHOP: That would be up to the pleasure of the Board. If you would like that to come back to the Board, it would come back with a full public notice and public comment period. If the Executive Officer reviewed it, we could set up a procedure for public review and then the Executive Officer could approve it like we do with closures where we send it out, we hear comments, we evaluate those, but it doesn't come to a hearing. Those are the two options that allow for comment.

BOARD MEMBER MARIN: Okay. Let's talk about the closure, because I think that there's similar confusion

about the closure in terms of the final closure versus the preliminary closure. And we're just talking about what's happening. I mean, it's all linked to the comment on revegetation or the lack of revegetation. And I think that it bears a little more explanation as to why there is -- there are no trees being planted, for instance, and why that -- the way that I interpret it, this doesn't happen until the final cover is put in place.

EXECUTIVE OFFICER BISHOP: Right. And I agree with you. There are two issues. There's the preliminary design for proposed final cover, which is what is in the application. And that's there so that there is clear understanding that there is a final cover and that it has some adequacy.

There is the issue of when does final cover get put in place for portions of the landfill that are not really being utilized at this point. And then there is the issue of the final cover for the whole integrated approach. I heard the comments today, and I think that all three of those need to be addressed as part of this proposed reopener, which we had originally narrowly focused on the proposed preliminary final cover seismic issues. But I think there are some other issues that bear discussion and also bear consideration by the staff and by the communities. And I would suggest that it is

appropriate to bring those back to you, not to have it be the Executive Officer's decision on that issue. So that --

BOARD MEMBER MARIN: And not to go through the whole explanation right now, but I want to ask a question related to again the statement made by the North Valley Coalition that we are not empowered to decide today on this issue until we have a final cover.

SENIOR STAFF COUNSEL LEVY: That is not what the regulations state. The regulations state that there be a proposed final cover -- conceptual final cover in place. Again, what's in dispute is the final cover related to here. And the slope determinations that are controversial are right here on the side. And noting that this area is already entitled by conditional use permits for landfill, but if you don't approve -- and ultimately, they will come back to you for a request report of waste discharge -- I think they have filed it -- requesting you issue waste discharge requirements to fill in here. And if this is filled with garbage, then this slope issue on this side will be basically not an issue anymore because it will be covered with refuse.

Also, if you don't approve the waste discharge requirements, there's room in here during the final -- when the final cover is actually being adopted, the plan

for the final cover to grade this and have this through engineered soil placement a less steep grade. So there's lots of opportunities that could happen.

And what's important to note is the proposed conceptual final cover, as part of the plan, as part of the process of adopting a landfill -- so it shows we've already got a plan on how we're going to close this thing, it's got to be reviewed every five years. And then the final, final cover plan has to be adopted two years before closure. So there's going to be a repeat occurrence to look at this. And the final cover, if BFI's proposals are actually implemented, will include this entire area. And not just the area in red and the adjacent sides here, which is why staff is proposing that it's fine. Let's talk about the final cover. We'll convene a work group. We'll talk not just about this, we can talk about the whole thing. And we can have the contingency set up and in place.

BOARD MEMBER MARIN: The slope failure that's being referred to is just in that portion. And so when we're talking about the final cover not being sufficient, they're also only talking about the preliminary design. And the slope failure associated with the preliminary design wouldn't take effect until after the landfilling operation ceased, and that preliminary, if that was all we

were going to put on, until that time happened; right?

SENIOR STAFF COUNSEL LEVY: Right. And the slope failure they're talking about is the soil cover on top of the other cover parts, not the integrity of the cover itself.

BOARD MEMBER MARIN: So ultimately the decision that we're going to be making when we do this reopener and we have the actual plans delivered is, what is the appropriate adequate design? And at that point we take into consideration all these studies and all these comments that have been submitted about the proposed design, which may even change when we get more documents related to the actual final cover. And so this whole issue really gets discussed in the reopener.

EXECUTIVE OFFICER BISHOP: Right. That's correct. I do want to make sure I've been clear with the Board that we won't have the final, final cover until they get two years before final closure.

SENIOR STAFF COUNSEL LEVY: 2011.

EXECUTIVE OFFICER BISHOP: That's the way it's set up. But we will be looking at the preliminary proposal and the seismic effects of that and different alternatives to that. And I would suggest that we also add in what is happening on the areas of the landfill that are no longer being actively filled and can we get some

vegetative growth.

BOARD MEMBER MARIN: Okay. So we will have the opportunity then as a Board to determine whether the final cover is adequate or not.

EXECUTIVE OFFICER BISHOP: Yes.

BOARD MEMBER MARIN: All right. So that makes me comfortable. But we are going to change the staff recommendation to have it come back to the Board if we want to do that.

SENIOR STAFF COUNSEL LEVY: We'll be doing that.

CHAIRPERSON DIAMOND: That will be part of the final motion for changes.

BOARD MEMBER MARIN: I'm getting down to the close here.

The other issue that was raised often in both the comments and the testimony is the issue of Bull Creek restoration. And I understand that there has been a lot of discussion around it. There was an e-mail document that -- I'm not sure where it was -- but that kind of outlines some agreements and some understandings of what some of the obstacles are. I want to ask what the status is right now of the discussion. Somebody mentioned that the County was willing to make access available if there was an agreement with the City, but can you discuss that a little bit more?

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: Yes. Again for the record, I'm Wendy Phillips.

I spoke to Don Wolf, who is the head of the L.A. County Department of Public Works yesterday afternoon. And Don Wolf did indicate to me that he believes that the public should have access to Bull Creek and that they would be cooperative in that regard. In fact, Don Wolf mentioned they suggested that to the City of L.A. as far back as 1973.

But Don Wolf did have a caveat, and that was that maintenance agreements should be worked out with other parties.

BOARD MEMBER MARIN: So currently if I could read the history of this whole landfill correctly, there is some -- in the City process, there was some money put into the community enhancements which included I guess Chatsworth Lakes and some other restoration. Is it possible to do something along the lines of Bull Creek restoration in this permit? Or what would be the process by which we could get some more detail on what would happen with Bull Creek if we were successful in getting BFI to agree on some maintenance and the City to agree to work with the County?

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: Well, the Board could do several options. They

could simply direct the Executive Officer and staff to follow through on this and work things out. If you want to formalize something, you could possibly do it through streambed alteration regulations and permits. Another way is to add a provision -- a finding and a provision to this permit that would direct the discharger to maintain the Bull Creek mitigation site for the life of the landfill, I would suggest, for use as a multiple functioning stream, including habitat restoration and recreation.

Now I would anticipate that BFI will say that this is really out of their control since they don't own the property. You know, we could also add something in there about that being contingent on cooperation from the County/owner.

EXECUTIVE OFFICER BISHOP: I do want to say they are -- my understanding is that under the City side permit, they had a requirement for this restoration and for five years of maintenance. And they're in year one of that.

VICE CHAIRPERSON LUTZ: When you say "they," you mean BFI?

EXECUTIVE OFFICER BISHOP: BFI. Excuse me. So there are some issues of this was required under a different permit. And what you would be saying is that with this permit we'd like to extend the maintenance.

BOARD MEMBER MARIN: Yes. Okay.

BOARD MEMBER MARIN: All right. So it sounds like I'm confused about my options, but the language that Wendy read sounds like it's something we can incorporate into this action.

EXECUTIVE OFFICER BISHOP: Well, you could propose it, and we could develop language.

BOARD MEMBER MARIN: Yes. Okay.

SENIOR STAFF COUNSEL LEVY: I have to just interject. Since that was mitigation for another project and not for this project, I would have to raise a question about the appropriateness of requiring mitigation for this project as a result, as opposed to dealing with it in the other permit.

CHAIRPERSON DIAMOND: Which was the City.

SENIOR STAFF COUNSEL LEVY: Which was the City. The BFI's permit for the City landfill.

CHAIRPERSON DIAMOND: So we could direct staff to talk to BFI about the City landfill separately from this and maintaining Bull Creek?

SENIOR STAFF COUNSEL LEVY: You could. And there's conditions in the City permit which is also subject to reopening. If you wanted to revisit the mitigation requirements for that project in the City's permit, in the permit for the City landfill, that would be

probably a better place to do it.

BOARD MEMBER MARIN: Okay. Could this be part of the discussion we're going to have later on the financial assurance and the final cover if we can't do that today?

EXECUTIVE OFFICER BISHOP: I think from what Michael is suggesting I think that what would be most appropriate would be if it's the Board's pleasure to direct staff to talk to BFI about the mitigation and the length of that and come back with a report to you on that issue, and then you can make a determination if you want to reopen the City side to deal with it. And then we keep them separate, because they are separate permits at this point.

BOARD MEMBER MARIN: All right. The other issue is on monitoring and the split sampling. Now, I was looking at the change sheet, but I think in the tentative permit it's already in there that we are going to be doing split sampling with BFI's monitoring.

EXECUTIVE OFFICER BISHOP: No. It is not in the -- as we have discussed before, we always have the ability to do that. There is not any requirement right now in the permit for that. My understanding is that we have some language that could do that and that as soon as I find --

SENIOR STAFF COUNSEL LEVY: It's on page -- we

would add on page 12-49 in Section II, "required monitoring inspections," at the end of the paragraph before Section A, "In addition, Regional Board staff shall conduct annual testing appropriate to confirm the accuracy of the discharger's self-monitoring."

BOARD MEMBER MARIN: That normally implies split sampling?

SENIOR STAFF COUNSEL LEVY: Split sampling means basically there's a side-by-side sample or a separation of a grab sample the discharger may have taken. And the split is basically to control for the discharger. So they know what's going on when we do our testing. We can do it as a split sample, or we could go any time we like to and say we'd like to sample and grab a sample. They want to do a split, they can do a split and have their own control sample to what we're doing. We don't really care from a technical standpoint whether it's a split sample or our own single sample.

EXECUTIVE OFFICER BISHOP: Let me clarify that. Because what it allows is for us take split samples, but it also allows us to go take our own samples that are not split samples. And if we say split sample --

BOARD MEMBER MARIN: Then you have to do a split sample. So you're suggesting that there be at least one per year?

SENIOR STAFF COUNSEL LEVY: One per year for the purpose of ensuring that the self-monitoring is accurate.

BOARD MEMBER MARIN: Okay. I think -- oh, there was one other thing. The water diversion issue, about the water being diverted from the cutoff wall because of the contamination with the VOCs from the landfill gas.

EXECUTIVE OFFICER BISHOP: Right. The question is that we have a certain amount of groundwater that is pumped out from behind the cutoff wall and not allowed then to percolate. And my understanding is, Rod, you talked to the water master.

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF NELSON: Again, for the record, I'm Rod Nelson. I spoke with somebody named Mark Makowski who is the Water Master for upper Los Angeles area basin. And I also spoke to someone from Department of Water and Power, and they had not actually even considered this issue. They weren't aware of it. And I gave them some very rough numbers we got just from the volumes of material they pump from the cutoff wall and from the subdrain and the County.

Any kind of liquids they were taking out of, I added them, and it was a fair amount. And they said, "We hadn't really thought about that." And the Water Master said he's going to discuss this with Department of Water and Power and they will be contacting BFI. They didn't

say what they would do, but they're going to look into the issues.

BOARD MEMBER MARIN: It doesn't sound like it's something we necessarily need to address

EXECUTIVE OFFICER BISHOP: I think what Rod neglected to say is the basin is an adjudicated basin and that all the rights to that basin are adjudicated. And the Water Master is the court-appointed agent to deal with water quality. That's the piece he left out of that explanation. They've been informed of this. They're going to look at if their replacement water is needed or what we could expect.

BOARD MEMBER MARIN: Okay. All right. I think that's it.

BOARD MEMBER MINDLIN: I don't have -- I don't think there's anything else.

CHAIRPERSON DIAMOND: Leo, do you have any questions?

VICE CHAIRPERSON LUTZ: I have two really minor little questions, because Maribel was so thorough. Thank you.

CHAIRPERSON DIAMOND: And we appreciate it.

VICE CHAIRPERSON LUTZ: That's right. And they're just basic clarifications I think, because there seemed to be a lot of comments coming to us about issues

that really aren't ours or that are already kind of settled. And I just want to make some clarifications.

With regard to the approval for this expansion to actually happen, that's not what we're doing. We're approving the liner and the discharge of it. The Waste Board actually approved the expansion; correct? And the City and the County. And that was already done. And we have a copy of their paper.

EXECUTIVE OFFICER BISHOP: They approved it. We are a part of the approval process. And for them to move forward, they have to get approval from us also.

VICE CHAIRPERSON LUTZ: So if we don't approve our portion, what happens?

SENIOR STAFF COUNSEL LEVY: Expansion doesn't happen.

VICE CHAIRPERSON LUTZ: Okay.

EXECUTIVE OFFICER BISHOP: Each step of the process there's essentially be veto power at each agency. So the local implementing agency has to do the land use decision, the Waste Board has to approve the expansion. We have to approve the expansion.

VICE CHAIRPERSON LUTZ: Okay. There was a lot of discussion in a lot of different ways about the kind of things that are put into the landfills, such as the medical waste and the sharpies and things like that. When

I read the solid waste permit from the Waste Board, they address both of these issues. And am I correct this is not something we would be all to address here? This is really their domain?

EXECUTIVE OFFICER BISHOP: I think there's overlapping. I think you have the authority to make some discussion about it. But I do believe there's already stuff in the permit.

VICE CHAIRPERSON LUTZ: That's what I was looking for and couldn't find.

GROUNDWATER CLEANUP AND PERMITTING SECTION CHIEF PHILLIPS: This is an issue that is addressed by the Waste Board in the local enforcement agency. And we rely on the local enforcement agency largely to make sure that that is being addressed. In other words, that the discharger has the proper monitoring efforts in place. Load check, for example, to make sure that hazardous waste is not being brought into the site.

VICE CHAIRPERSON LUTZ: And I'm sorry. We do or do not have any authority? And if we do --

SENIOR STAFF COUNSEL LEVY: We do. I'll direct your attention to page 12-19, paragraph D5. There's a condition that says no infectious materials or hospital or laboratory waste, except that is authorized for disposal to land, by official agencies charged with control of

plant, animal, and human disease, shall be disposed of at the landfill.

VICE CHAIRPERSON LUTZ: Okay. Which is very similar to what the Waste Board has said.

EXECUTIVE OFFICER BISHOP: Right.

VICE CHAIRPERSON LUTZ: Okay. So I guess then I'm looking at two different agencies kind of concurring in the thought process there. And should this landfill not follow this correctly, how do we decide who addresses it and who --

EXECUTIVE OFFICER BISHOP: The local implementing agencies and the Waste Board are the inspectors. They are the ones that are there every day looking at load checking, making sure it's taking the acceptable waste and it's not taking unacceptable waste.

VICE CHAIRPERSON LUTZ: So they address it. They're the maintenance people. They're the spot checks.

EXECUTIVE OFFICER BISHOP: That's correct.

VICE CHAIRPERSON LUTZ: Great. That is all I have.

CHAIRPERSON DIAMOND: I just quickly wanted to follow up on that.

Do we get reports from these local inspectors that some medical waste is getting through? Because we've had people here claim that medical waste --

EXECUTIVE OFFICER BISHOP: You had two different claims. There is the -- they're not allowed to take untreated medical waste, Class III. And there is a difference between untreated and treated. And that was one of the comment letter issues.

You also had a comment today about concerning household-derived medical, waste which is a different issue. The load checkers are not going to find that. It's not precluded. That's a different issue that you may or may not want us to talk to the Waste Board about and see if jointly we want to recommend legislation or regulations that would address hospice-generated waste. But that's not something --

CHAIRPERSON DIAMOND: That's not something before us. That's not something we can do in this permit today.

One brief thing. Somebody mentioned -- I think it was Mr. Hunter -- that the other phases of the landfill are not -- they fill them up just almost to the top, but not to the top. So therefore they don't have to deal with the cover. What is your response to that?

EXECUTIVE OFFICER BISHOP: Well, as I insinuated earlier, I think that is an issue we want to be looking at in the revegetation. They're not going to apply the final cover until they have the final contours. But there are intermittent things they could be doing at the landfill.

And then I think that is an issue that we should be looking at when we come back with the reopener. I would like to do that. It's not something we have considered in the past. But I think it's worth considering as we move forward.

CHAIRPERSON DIAMOND: Okay. We do have questions for BFI. And I'm going to start over here with Mr. Vander Lans. Would the representatives from BFI please come forward?

Mr. Vander Lans, when you're ready.

BOARD MEMBER VANDER LANS: This business of financial has been brought up for some time I'm sure. And you may have some guarantees posted; is that correct?

MR. EDWARDS: That's correct.

BOARD MEMBER VANDER LANS: Do they cover the 30-year period?

MR. EDWARDS: Well, it's more extensive than that. What the regulations say is that we have to provide closure and postclosure financial assurances for a minimum of 30 years or until the landfill is deemed safe by the Water Board and by the LEA or by the State. So it's at their discretion at a period getting close to 30 years that if additional time needs to be added on for financial assurances, the Water Board as well as the Waste Board has complete authority to extend that period.

BOARD MEMBER VANDER LANS: And your guarantees in effect provide for that?

MR. EDWARDS: Yes. I mean, we provide all the financial assurances for a minimum of 30 years. I mean, a lot of this has to do with our ability to provide the financial mechanism or the financial assurances. You're not going to get an insurance company to insure for in perpetuity. They'll insure for a period of time. And then after review, if that time is extended, we would be able to secure financial assurances for that extended period of time.

BOARD MEMBER VANDER LANS: You do that with insurance?

MR. EDWARDS: Yes. Yeah, primarily for closure/postclosure insurance.

BOARD MEMBER VANDER LANS: And that depends upon your paying premiums.

MR. EDWARDS: Yes.

BOARD MEMBER VANDER LANS: What if you stopped paying premiums?

MR. EDWARDS: Well, I mean --

BOARD MEMBER VANDER LANS: What guarantee exists?

MR. EDWARDS: That's a very tough question to answer, because we are a responsible company. A lot of, you know, the protection, our design, the double composite

liner, all of those things goes toward us being a responsible operator. So we have 160 landfills within our system. They are all open. They are viable. We are going to be paying our premiums. It's insurance on insurance, and that's a tough question to answer. But --

BOARD MEMBER VANDER LANS: What I meant by that, I trust nothing will occur, but sometimes things happen in companies. And should you not continue, is there something in place presently that requires that you've already committed for this money? Or is it simply your premium payments that guarantee it?

MR. EDWARDS: Well, in regard to closure and postclosure, we as a company accrue money for closure/postclosure because we have our engineer establish what the closure and postclosure costs are going to be. And then we accrue money for those costs. So on a dollar or cents per ton, whatever that happens to be, we accrue that internally to pay for those costs.

BOARD MEMBER VANDER LANS: And those reserves are held how?

MR. EDWARDS: Within our company.

BOARD MEMBER VANDER LANS: Within the company?

MR. EDWARDS: Yes.

BOARD MEMBER VANDER LANS: You have a comment?

SENIOR STAFF COUNSEL LEVY: I do. I think what I

understand the issue is --

MR. EDWARDS: And insurance is on top of that. I sorry.

SENIOR STAFF COUNSEL LEVY: We've done a lot of study of these regs recently. There are very limited circumstances under which an insurance company can drop coverage for one of those policies. And they're in the regulations. When they accept the policy, it's got many conditions in it. One of the conditions is that even if non-payment of premiums, they can't drop for ten days and the BFI has to report within ten days they're being canceled. When the premiums stop, we get ten days' notice of it before the carrier can stop. The Waste Board gets ten days' notice before they can stop the coverage.

Likewise, there's a provision that bars the carrier from stopping the coverage in bankruptcy. There are extensive provisions. If it happened and they stopped paying the premium, we can enforce and so can the Waste Board on the permit conditions or we could force closure of the facility at that time.

BOARD MEMBER VANDER LANS: Thank you. Go ahead.

VICE CHAIRPERSON LUTZ: My questions are really along the same line. And actually it may even be something Mr. Levy might be able to help us with.

MR. EDWARDS: He did a great job.

VICE CHAIRPERSON LUTZ: Because I know that a lot of this issue has come about because of an unfortunate situation with BKK, a company that went bankrupt. And the provision Mr. Levy just read about the insurance not being able to cancel should there be a bankruptcy, I'm also remembering in the bill that was passed last year, there was something in there about a -- and I'm going to call it a bond -- and it's probably not the right thing -- that puts something in abeyance that has the money held somewhere or they're asking the Waste Board to do that. Am I correct?

STAFF COUNSEL FORDYCE: Actually for a trust fund for --

VICE CHAIRPERSON LUTZ: So can you tell me what your provisions are in that regard? Because I heard insurance, but I have not heard the other.

MR. EDWARDS: It is insurance. Our mechanism or our instrument for financial assurance is insurance.

VICE CHAIRPERSON LUTZ: So trust fund would be insurance?

STAFF COUNSEL FORDYCE: It's one of the financial mechanisms allowed in the Title 27. There's a variety of mechanisms including surety bond, a letter of credit, insurance, et cetera.

VICE CHAIRPERSON LUTZ: Okay. And that was not

changed in this legislation?

STAFF COUNSEL FORDYCE: No.

VICE CHAIRPERSON LUTZ: It was not.

STAFF COUNSEL FORDYCE: Those financial mechanisms remain.

VICE CHAIRPERSON LUTZ: I just need to say that the reason I think everybody is alarmed is because of the situation that is known with BKK where the local government had to really bail out the whole situation, the whole issue. So it is definitely something that I think we need to be cognizant of. And I'm glad to hear that you have all of your ducks in a row, so to speak.

I guess I want to ask you if the provisions change, if the Water Board -- or the Waste Board does make other provisions, are you able to meet those provisions should they change? And how readily available would you be able to do that?

MR. EDWARDS: Well, we are bound by regulation. So I can assure you that our company will ensure that we are consistent and in compliance with those regulations, whatever they would be.

VICE CHAIRPERSON LUTZ: Okay. Thank you.

CHAIRPERSON DIAMOND: Mr. Richardson.

BOARD MEMBER RICHARDSON: No.

BOARD MEMBER MARIN: I just had one question.

You heard us talking about the Bull Creek restoration and the maintenance of it with an understanding you have the five years commitment in the City permit. I just wanted to hear from you about your willingness to explore maintenance beyond the five years, given that, you know, we are -- sounds like we're making progress with the County regarding access. And hopefully we'll make the same progress with the City.

MR. EDWARDS: I'm glad you asked about Bull Creek, because we as a company feel that we have done a great job working with the community and working with the counsel district. And actually, if you read the strict provision in our 401 permit, we have met those provisions. And that was to restore Bull Creek, meaning take out the non-natives and put in the natives.

And as part of that, as part of putting in new native trees and plants, you know, we're responsible for making sure those native plants are sustained. So our agreement to any maintenance of that had to do more with making sure that those trees that we planted were growing, they could live on their own, and they were sustainable.

So, you know, for us, I mean, we have met our requirements under the 401. Now, our willingness to work with the community, absolutely. We have worked with them all along. There has been some confusion I think about

what our responsibilities have been. But we're willing to work with your staff. We're willing to work with the community. But it has to be something that is reasonable for us given the fact that we feel that we've already met the minimum requirements or the requirement for us under the 401 provision.

BOARD MEMBER MARIN: Okay.

MR. EDWARDS: So what I'm saying is we will work with the community. We'll work with your staff. We'll make sure that at least the intentions of what was approved at the time of the 401 are met.

BOARD MEMBER MARIN: Well, you know, that has to happen, because that's part of the requirement in that previous permit. So what we're talking about right now is going beyond that. And my question was more towards your willingness to go beyond that.

MR. EDWARDS: Yes. I mean, we're willing. But we'd like to be able to sit down with your staff and the community and determine what's reasonable for us. I mean, certainly we have a landfill. We don't mind accepting waste as a benefit to the community. We're willing to extend all of those as options for our relationship with the community.

BOARD MEMBER MARIN: I just wanted to be clear that you're stating your willingness to explore going

beyond that.

MR. EDWARDS: Yeah.

BOARD MEMBER MARIN: Okay.

CHAIRPERSON DIAMOND: Thank you. I think that's it for now.

We had some questions for Mr. Anderson. Mr. Richardson, I'm going to start on your side.

BOARD MEMBER RICHARDSON: I didn't have any questions.

BOARD MEMBER MINDLIN: Mr. Anderson, in your presentation, you gave us information about how we're not doing our job and the issue of costs and risk mitigation and stuff. But I didn't see it in your presentation any suggestions. Just the world was falling, but nothing clear on what you would like to see.

MR. ANDERSON: What I would like to see is this: You first have to have the predicate about what the risks are. And I think counselor Chatten-Brown is exactly right. Without having some specificity with regard to the final cover where the issue of corrective action is most salient, you would not be able to do the process. But once you have -- to make a responsive answer to you. Once you do have -- and under your process just as the staff is describing today, you would know something definitive to work with in two years. That's the process that John was

laying out for you.

At that point, you take that issue and say is that a certainty we're having or is that a possibility? And is there a risk factor? If there's a risk factor, there's a worse-case event. You would use that worse-case event that's realistic to define what you believe. If and to the extent you agree with me that your job is to protect the taxpayer from any recurring cost, you would specify your amount in the WDR that amount. Say it's $100 million for purpose of discussion. And then as Mr. Levy quite properly pointed out, that thing goes to the Waste Board to specify details about financial capability and the mechanisms. But your job as I see it, to answer your question, is once you know the issues two years from now about the financial assurance and about the final cover to assess probability and to assess the worst-case episode that needs to be covered and specify that as a number.

BOARD MEMBER MINDLIN: I don't know if that's what Mr. Bishop said. Mr. Bishop I think said that we'll get the information on the final cover two years before closure, which is four years from now; isn't that correct?

EXECUTIVE OFFICER BISHOP: That is correct. I said two years before closure when you get the final design. But we are proposing to be working with this group work on the preliminary design and getting a better

handle on that as we move forward.

BOARD MEMBER MINDLIN: Of course. And as technology changes and maybe new processes are discovered, that would be helpful to us at that period of time. So there's really no way to get to that risk mitigation now if we're going to keep this as a functioning landfill.

MR. ANDERSON: I think what you're asking is what does the word preliminary final cover and final, final cover mean. And I would disagree with saying it's conceptual. I think to have anything that's rational and usable as a regulatory tool, preliminary means with what we know today. Can we have a cover that will meet the specifications of the statutes and rules provided? And the word final, final means if something comes up later that makes it better or cheaper but effective, we're not precluding ourselves from changing.

But the working predicate, until that later issue is resolved about final, final, is not a conceptual. It is an actual design that has been tested by the experts and you decide is credible. It's not a concept. It's a preliminary. So what you're working with two years from now is a firm design about which you're going to have different experts saying different things. And you -- and recommendation to you to have to make or say that is not definitive assurance. There is a risk factor out there,

and I want that risk factor covered, because it's the financial assurance that mediates that difference. Because obviously in the real world it is extraordinarily difficult to get 100 percent certainty. And that is where that reality exists is where you come into play.

BOARD MEMBER MINDLIN: But I don't think the decision today -- and this is my question to you -- is going to effect any of that risk. This is an already operating landfill. This is not something that we're saying, you know, how would this closure be different versus being an operating landfill versus expanding this area. We're still talking about that same exact risk I believe.

MR. ANDERSON: No. There's much more material to the mix. And that adds to the problem, and it adds to the quantity difference. That's why it's a legal matter that kicks in. Because as a substantive matter, I would not say the fact you have N/A in 1993 and 1999 would rank up there along with what you've done commendably in Santa Monica Bay or the L.A. River. It's the exact opposite.

I'm not trying to be critical. I know there are limitations. I'm trying to be helpful. I saying that in the most constructive sense I can, sir.

BOARD MEMBER MINDLIN: No. I think you are trying to be helpful. I'm getting the view from you

hearing all the things that go wrong, but you are not giving us any solutions.

MR. ANDERSON: No. I am. I'm saying when you have this -- I understood the process from Mr. Bishop that in two years he will know with some firm certitude what the preliminary final cover looks like. And at that point you would know whether you can do it. But the problem you have here, one of the things -- until you know the certitude about the preliminary final cover, you can't make the assessment about financial assurance. And one ties to another.

EXECUTIVE OFFICER BISHOP: We're in total agreement. I think we don't need to continue this. I'm in total agreement. The preliminary proposed cover will be evaluated as if it's going in.

MR. ANDERSON: Exactly.

EXECUTIVE OFFICER BISHOP: And I agree. Until you actually finalize that, you don't know what the risk associated with it is and you can't set a financial assurance for that risk associated with that. But there are other risks. And we're going to do financial assurances based on other risks in the interim. But we have the ability to continue to evaluate and we will. I don't think there's a need to continue this.

BOARD MEMBER MINDLIN: And this thing about that

too is then use Mr. Smith's suggestion and have a reopener for the risk.

EXECUTIVE OFFICER BISHOP: This is a WDR. We have reopeners at all time.

BOARD MEMBER MARIN: The point is that these open questions don't preclude us from making the decisions.

EXECUTIVE OFFICER BISHOP: That's correct.

BOARD MEMBER MINDLIN: That's what I'm getting to.

MR. ANDERSON: I hate, Madam Chair, when I serve on Committees, to have people stick things like a fish slice -- but if I could add something. I think you have to have -- it's important to understand, and that is that the interpretation that you've been given by Mr. Levy before I think was based upon a confusion about what I said, and it led to his statement to you being misstated. And that is what does 20380(b) say? And he interpreted my statement to be, as I heard him answer you, was I was arguing to have the assurances in place before the WDR was approved.

I was never saying that. I was saying that the WDR itself has to have as one of its paragraphs what the number is for corrective action. And corrective action is sometimes shorthand as catastrophic, because it's something other than routine.

And the argument question you have to do to address this is because they told me they intend to press this issue as strongly and consistent as they can. If the rules says -- and Mr. Levy agrees with me -- that the number has to be there, not the assurances in place -- with the WDR, and if one of the things you need to know about maybe 100 or $200 million worth of damages will not be known for perhaps two years, I do not believe you have the authority to proceed.

And that's the fact I think you have to address, is if the big enchilada on risk is something that's not going to be known for two years and you're going to say -- you have to remember, if I can get back to a point that Mr. Vander Lans made is in year 2000 a major catastrophe happened in this balance, and Safety Clean couldn't pay the premiums to Frontier. And EPA tried, like Mr. Levy said, to go after Safety Clean. And they found in bankruptcy court it was just a rubble to pick through. And they simply -- although they had the capacity to go after the applicant who was supposed to continue making these premiums, the practical ability to implement that legal authority was essentially meaningless.

CHAIRPERSON DIAMOND: I'm going to ask Mr. Levy to respond, because I think we understand your point.

SENIOR STAFF COUNSEL LEVY: I have not seen

anything to indicate the number must be in the WDRs before the WDRs are issued.

CHAIRPERSON DIAMOND: Thank you.

CHAIRPERSON DIAMOND: Any other questions?

MR. ANDERSON: Thank you for your time.

CHAIRPERSON DIAMOND: All right. This concludes the Board's questions. And now we will deliberate. And I'm going to ask Ms. Marin, since she has been really incredibly productive with her questions, to begin this process perhaps by making a motion, which we can then open up for discussion.

BOARD MEMBER MARIN: I'm going to need some help on this one.

I want to start by moving that we adopt the tentative order with the following changes -- with the change sheet and with the additional following changes.

The first is the language, Mike, that you quoted or referenced for page 12-49 regarding the Water Board monitoring once annually.

SENIOR STAFF COUNSEL LEVY: "In addition, Regional Board staff shall conduct annual testing appropriate to confirm the accuracy of the discharge's self-monitoring."

BOARD MEMBER MARIN: Okay. The next --

SENIOR STAFF COUNSEL LEVY: That's in Section II

on page 12-49 under the first full paragraph above A, environmental monitoring methods.

BOARD MEMBER MARIN: Okay. The next change -- and I'm sorry I don't have the section readily to reference -- is to have the cover design issue come back to the Board as opposed to the OE.

SENIOR STAFF COUNSEL LEVY: That would be page 12-30. And what we're going to do if you're looking at the change sheet, the last item on the change sheet referring to requirement Number M1, we're going to change that requirement. You'll see the words are already added "after consideration of comments offered by the work group, the discharger shall submit a conceptual final cover design for the County extension landfill for the" -- we're going to strike, "Executive Officer to approve." We're going to insert, "Regional Board to approve." And then we're going to strike the next sentence because the Board meeting will be the workshop itself.

BOARD MEMBER MARIN: And then the next change similarly would be financial assurance for known or reasonably foreseeable release, to have that come back to the Board also.

SENIOR STAFF COUNSEL LEVY: And then on the change sheet again, agenda page 12-29 regarding requirement number L-12 on the first line at the end of

the first line -- at the beginning of the second line, we're going to strike the words, "Executive Officer," and add the words, "Regional Board."

Going down to the second from the last line, the addition that's underscored, "upon approval," we're going to add the words, "by the Regional Board." And the rest of it will remain the same.

BOARD MEMBER VANDER LANS: Michael, question, if I may. We're talking about making that a public hearing, are we not, with notice?

SENIOR STAFF COUNSEL LEVY: When the Regional Board approves it, it has to be a public hearing.

BOARD MEMBER VANDER LANS: With notice, can that be done in 30 days?

BOARD MEMBER MARIN: It's not coming back to us in 30 days. It has to go back to the staff in 30 days.

SENIOR STAFF COUNSEL LEVY: Be submitted for proposal to the Regional Board.

BOARD MEMBER MINDLIN: While you're doing that, I wouldn't mind also having what Greig Smith recommended, since we're having a reopener.

SENIOR STAFF COUNSEL LEVY: At the end of that paragraph, we'll add the sentence, "The Regional Board shall reconsider the amount after the promulgation of the regulations by the Integrated Waste Management Board as

required by Public Resources Code Section 43050 and 43501."

BOARD MEMBER MARIN: And then finally not part of the permit, but I want to make sure that it's clearly understood that we want to direct staff to work with the community, the permittee, and the City and the County regarding Bull Creek restoration and to come back to us at the time of the hearing of these other issues with a report on the progress.

EXECUTIVE OFFICER BISHOP: That's well understood, and we will do that. And it will be on the checklist for your next Executive Officer to follow up on.

VICE CHAIRPERSON LUTZ: I second the motion and ask for a clarification or maybe just something to add.

I'm wondering if it makes sense for us to add when the reopener comes for the cover that we evaluate financial aspects as well.

BOARD MEMBER MARIN: They come together.

VICE CHAIRPERSON LUTZ: They come together. Do we need to specifically note that in there?

CHAIRPERSON DIAMOND: Can we?

VICE CHAIRPERSON LUTZ: Can they?

CHAIRPERSON DIAMOND: Can they come together? What happens if they're not ready and one is ripe before the other?

SENIOR STAFF COUNSEL LEVY: So there's two aspects to this. Of course, staff can bring it back to you at one time if you'd like, except with respect to the part Counselmember Smith referred to, because we don't know when the Waste Board is actually going to adopt those regulations. Statute says when, but we don't know.

VICE CHAIRPERSON LUTZ: Exactly. And I'd like to have Counselmember Smith's definitely in there. But I also would like to have -- when we have the reopener for the cover that we evaluate it again at that time. Because then we will know as we've been talking about the risk, we'll have a better idea. And so it may be they are back to back. It may be that one follows the other. I don't know, but I want to make sure that we do it then too.

EXECUTIVE OFFICER BISHOP: My impression from what the Board -- sense of the Board is that we will -- when we come back with the final cover evaluation, we will include evaluation of the risk and a proposal for any additional financial assurance. That will be separate from anything that comes under the other aspect that the regulations are being promulgated. That will bring back as soon as it's feasible when that regulation --

VICE CHAIRPERSON LUTZ: Do we need to put that in there?

EXECUTIVE OFFICER BISHOP: No.

SENIOR STAFF COUNSEL LEVY: Your staff has that.

VICE CHAIRPERSON LUTZ: Okay.

CHAIRPERSON DIAMOND: Are there any other comments or additions?

VICE CHAIRPERSON LUTZ: I seconded.

CHAIRPERSON DIAMOND: All right. It's been moved and seconded, the motion before us. And I'd like to take a vote. All those in favor?

(Ayes)

CHAIRPERSON DIAMOND: Opposed?

Motion passes.

EXECUTIVE OFFICER BISHOP: Two things. First --

SENIOR STAFF COUNSEL LEVY: Closed session, Madam Chair, Item 14.1, L.A./Burbank and Item 14.8, Los Angeles River Metals TMDLs.

EXECUTIVE OFFICER BISHOP: And I would like to suggest since we are running a little behind that we make closed session and lunch as short as you think you can do that.

CHAIRPERSON DIAMOND: Forty-five minutes.

EXECUTIVE OFFICER BISHOP: So we'll reconvene in 45 minutes. And that's when we'll start the workshop.

(Thereupon a lunch recess was taken.)

CHAIRPERSON DIAMOND: Good afternoon. We are all here. Sorry you all don't have a place to sit. But if

there are any seats next to anybody, would you raise your hand so somebody can have a seat?

This is Item 11, which is a workshop for the County of Ventura Municipal Separate Storm Sewer Discharge Permit. So we will not have to swear in anybody. And so we'll start with the way we're going to do it is we are going to have the following order of presentation: Staff presentation for 40 minutes; followed by discharger presentation for 40 minutes; the building industry, BIA, 30 minutes; CPR, 30 minutes; the environmental community 30 minutes; the coastal community, 7 minutes; and then speaker cards each will have five minutes. Following that, we will have Board questions and then discussion. And there will be no action taken today. This is a workshop.

Mr. Bishop, would you begin?

EXECUTIVE OFFICER BISHOP: Yes, Madam Chair and members of the Board, I just want to take a moment to describe this process for you. It's a little different than our normal hearing.

As you have noticed in your packet, we do not have a response to comments. What this is is a workshop to start our process for the municipal storm water permit for Ventura County. This is an initial workshop. What we would suggest is that this is an opportunity for you to

hear the basics of the permit proposed by staff, hear the concerns raised by many different groups, and then at the end for you to raise any concerns that you have with staff.

We are planning another workshop similar to this in August where we would then be concentrating on the details. We would hope folks would talk to many folks to concentrate on the big picture issues in this hearing. And we're not looking to change language now. So if there's certain language that concerns you, bring it up in general terms. And then we will be looking at much of the language will change between now and the next version based on the more bigger picture issues.

So with that, I will turn it over to staff. And we will try to move through this as expeditiously as possible. But this is a very important permit for us as we move forward.

(Thereupon an overhead presentation was presented as follows.)

STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: Thank you, John.

Good afternoon, Chairwoman Diamond, members of the Los Angeles Water Board. I'm Xavier Swamikannu, Chief of the Storm Water Permitting Program.

With a team of my colleagues, and Ms. Tracy Woods

as team leader, we will present an overview of the Ventura County Municipal Storm Water Permit Program at this workshop, it's current status, objectives, and proposed advancement.

I will begin by giving you a brief history of municipal storm water permitting in Ventura County. In 1987, the U.S. Congress amended the Clean Water Act to specifically require storm water discharges including those from municipalities with populations 100,000 or greater conveyed by a separate storm sewer system to be addressed as point sources of pollution under the national pollutant discharge elimination system, or NPDES.

These municipalities were required to reduce the discharge of storm water pollutants to the maximum extent practicable, commonly referred to as the MEP standard. The U.S. and California codes have since interpreted federal statutes to give the permitting authority the discretion to also require compliance with water quality standards. In addition, conditions in NPDES permits must be consistent with the assumption of total maximum daily load waste load allocations that have been adopted by this Board.

The U.S. EPA issued the final storm water regulations in November 1990, which required medium and large municipalities to submit a two-part application.

The first part required basic system description and ownership identity information. Part two required storm water pollutant discharge characterization data from one wet season and a proposed storm water quality management plan.

In 1990, populations in Oxnard, Thousand Oaks, and Unincorporated Ventura County met the census definition of medium-sized municipalities.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: The City of Oxnard submitted a part one application in 1991. After discussions with the Ventura County Flood Control District and the City of Thousand Oaks, the Water Board decided that the Ventura County Flood Control District as principle permittee would submit a system-wide part two application on behalf of all the municipalities in Ventura County because of the interconnected nature of the storm water drainage system.

A consolidated part two application was submitted in 1993, and the Water Board issued the first system-wide municipal storm water permit for Ventura County in 1994. The focus of the 1994 municipal storm water permit was to require Ventura County municipalities to develop storm water pollution control programs in the areas of public

involvement, education, business industry outreach, development planning, development construction, public agency activities, and elicit connection elicit discharge elimination, in addition to implementing a basic monitoring program to characterize the quality of municipal storm water discharges.

The second municipal storm water permit was adopted in 2000, and the focus of the permit was the implementation of a comprehensive storm water quality management program to reduce the discharge of storm water pollutants to the maximum extent practicable and to meet water quality standards. The monitoring program was expanded to assess mass emissions of pollutants from Ventura County rivers to coastal waters and to better understand the quality of wet weather discharges and their adverse impacts.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: No doubt the Ventura County Municipal Storm Water Program under the leadership of the Ventura County Watershed Protection District has made significant strides in implementing programs to reduce storm water pollution. Yet, more than a decade after the first permit was issued, we continued to see exceedances of water quality standards

for several storm water pollutants during wet weather. In addition, the Ventura County Municipal Storm Water Program, having run its second term, is a step behind the Los Angeles County Municipal Storm Water Program which closed out its third term last December.

Consequently, the draft permit includes some important advancements that will improve evaluating the adequacy of implementation of storm water controls and hold permittees accountable for not doing enough to clean up storm water from a national perspective.

The draft permit for the first time includes municipal action levels derived using the U.S. EPA's monitoring data set for large and medium municipalities and as a numerical measure of the maximum extent practicable standard.

The permit identifies a default storm water best management practices that industry, construction, and public agencies must implement based on activity to reduce the discharge of storm water pollutants.

The draft permit also sets a numerical standard of no more than five percent of directly connected impervious area for new development and redevelopment projects to reduce storm water runoff volume and dust pollution. It promotes the implementation of low-impact development strategies for new development and

redevelopment, which have the objective of maintaining pre-development hydrology and utilizing national controls to reduce storm water pollution. The draft permit incorporates total maximum daily waste load allocations consistant with U.S. EPA's TMDL policy.

I will now turn over the podium to Ms. Tracy Woods to lead the team presentation.

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MS. WOODS: Good afternoon, Madam Chair and Board members. My name is Tracy Woods, and I'll be introducing Ventura County.

The County of Ventura has a total area of about one million acres. The area covered by this permit includes all areas within Ventura County boundaries in all areas within the municipality boundaries that are within the Los Angeles Regional Water Quality Control Board's jurisdiction, except for agricultural lands estimated at about 330,000 acres and forest lands estimated at about 550,000 acres.

Provisions of this permit apply to the urbanized area of the municipalities and areas undergoing urbanization. The county's population is estimated around 800,000. The majority of the county's population lives in its southern portion within 50 miles of the ocean.

The county can be separated into two major parts:

east county and west county. The east county cities are Thousand Oaks, Moorpark, and Simi Valley. The west county cities are Camarillo, Oxnard, Port Hueneme, Ventura, Ojai, Santa Paula, and Fillmore.

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MS. WOODS: Ventura County has five watershed management areas which are largely composed of natural features. They are the Ventura River, the lower Santa Clara River, Calleguas Creek, upper Malibu Creek, and miscellaneous Ventura coastal.

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MS. WOODS: The twelve permittees covered under this permit are designated on a system-wide basis under Phase I of the Clean Water Act. The municipal storm drains within the country have a combined total length of about 4,000 miles. They discharge either directly into the Pacific Ocean or one of the five watershed management areas.

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MS. WOODS: This MS4 permit represents a challenge and a willingness to achieve an effective goal-oriented Storm Water Program by both the Ventura County Storm Water Quality Management Program and the Los Angeles Regional Water Quality Control Board.

Specific requirements to the draft Ventura MS4

permit will be presented through the following presentation by Board staff. Ivar Ridgeway will now discuss the public information and participation program and the elicit connection and elicit discharge elimination program.

MR. RIDGEWAY: Good afternoon, Madam Chair and members of the Board. My name is Ivar Ridgeway.

The objective of an effective public information participation program is to inform the public of their potential negative impact common activities can have on storm water quality and to provide guidance on how to mitigate the potential negative impacts.

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MR. RIDGEWAY: The current Ventura County MS4 permit requires that permittees distribute storm water educational material to the general public, school children, and commercial industrial facility operators.

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MR. RIDGEWAY: The objective of the public information participation program of visions is to expand the storm water educational outreach to the public and business community. The major revisions are additional categories have been targeted for educational outreach, for example, construction waste and pesticide application. In addition, the draft Ventura permit specifies

appropriate public forums for educational outreach such as home improvement centers and pet shops. There is a requirement to organize watershed citizen advisory groups to aid in the development of effective public education methods and messages. In the proposed permit, permittees may opt to provide funding to the State's environmental education account instead of providing funding or materials to school districts in the county.

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MR. RIDGEWAY: The draft Ventura permit includes a corporate outreach program targeting retail gas outlet franchisers, home improvement center franchisers, and restaurant franchisers. The objective of this outreach is to make corporate management aware of storm water regulations and provide assistance with compliance with storm water regulations.

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MR. RIDGEWAY: The objective of an effective elicit connections and elicit discharge elimination program is to eliminate unauthorized non-stormwater flows that can contribute to pollutants to receiving waters.

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MR. RIDGEWAY: The current Ventura County MS4 permit requires permittees to respond to reports of elicit discharges and discoveries of elicit connections and take

appropriate enforcement actions. Though the current permit does not specify focus screening for elicit connections, the final report of waste discharge submitted by Ventura County states elicit connections are identified and eliminated during storm drain maintenance activities.

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MR. RIDGEWAY: The draft permit requires storm drain mapping and field screening for elicit connections. The objective of storm drain system mapping and field screening is to facilitate the identification and elimination of elicit connections. Permittees are required to map permitted storm drain connections showing the location and length of underground pipes.

Field screening for elicit connections is required within five years for high-risk portions of the storm drain system, including sections consisting of pipes 36 inches or greater in diameter, high priority areas identified during the mapping of elicit connections and discharges, and portions of the storm drain system 50 years or older in age.

Now Dan Radelescu will does the industrial commercial program elements.

MR. RADELESCU: Good afternoon, Madam Chair, Board members. My name is Dan Radelescu.

As far as back as early 1900s, U.S. EPA

identified that the main goals of industrial commercial program are to reduce and control the contribution of pollutants in storm water from sites of industrial and commercial activity and to establish clear responsibilities of the municipal operators to control pollutants discharged through their municipal system.

We consider industrial program an important component of the MS4 permits, and its successful implementation is crucial for municipal compliance with the maximum extent practicable municipal action levels and water quality standards.

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MR. ROGLESKER: The current permit includes a requirement for site visits with an emphasis on education. The type of facilities covered include automotive and food services operation. For Phase I, heavy industrial facilities, there is a requirement to distribute educational materials and notify them of the obligation to obtain coverage under the general industrial storm water permit.

One of the provisions of the existing permit is that the permittees will identify additional businesses to be included in the inspection program based on pollutants of concern source identification. The frequency of these

educational site visits was set at once every 24 months.

In the application submitted to the Regional Board, the permittees did not propose any enhancements to the industrial commercial program and did not identify any other facilities that may contribute disproportionately to storm water pollution. The results of the monitoring program revealed that pollutants typically are associated with industrial commercial activities such as heavy metals have been detected and the levels exceeding water quality standards.

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MR. ROGLESKER: Based on the previous findings, the Regional Board staff determined that educational activities are not achieving the desired goals, and state-wide and nation-wide experience on this topic demonstrated that compliance inspections do make a difference. The inspections have the objective to target the pollution sources that typically contribute disproportionately to storm water pollution and provide for the implementation of pollution prevention and pollution controlled techniques close to the source.

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MR. ROGLESKER: The proposed new program is moved

forward by providing more specific performance measure in this draft permit versus the existing permit. The intent is that permittees ensure compliance with inexpensive pollution prevention source control best management practices. Regional Board is authorized to impose best management practices in lieu of NPDES permits.

In addition, the permittees will have to go on site to ensure that adequate pollution prevention and source control techniques are implemented. The same categories or facilities are covered as in the previous permit with the addition of non-agricultural nurseries. Nurseries can be a significant source of storm water pollution. And as a consequence, the agriculture of nurseries are subject to the Regional Board's waiver program. Conditions in MS4 permit as they pertain to nurseries assure a level playing field.

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MR. ROGLESKER: The success of the permittees' business education efforts for the last five years has not been quantified. Behavior changes brought about by education aren't easy to measure. But we do know that we continue to have problems from some businesses. Studies identified problems in several industrial sectors. Critical source monitoring programs confirm this

disproportionate contribution of pollution from certain industrial commercial facilities and the review of industrial monitoring data includes sites in Ventura County also confirm those previous conclusions.

The Regional Board staff determined that the more proactive approach is needed to ensure that industrial commercial sites are doing their part in preventing storm water pollution. And it is also in the interest of municipalities in their efforts that runoff dischargers from the MS4s are meeting the maximum extent practicable the municipal action levels in the water quality standards.

The focus of the program is implementation of inexpensive source-controlled BMPs and compliance verification inspections. The permit enhances also the coordination between cities' activities and the Regional Boards that will ensure an optimal allocation of resources between the agencies. The conditions contained in the proposed permit are consistent with the conditions contained in the current Los Angeles Municipal storm water permit.

Now I will turn the presentation over to Dr. Xavier Swamikannu who will discuss the development planning program. Thank you.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: Good afternoon.

The broad objectives of the land development planning provisions in the municipal storm water regulations are: To preserve the natural hydrological characteristics of development sites in order to minimize the adverse affects associated with land development changes; and to plan for implementation of the most appropriate suite of storm water best management practices to control the storm water pollution resulting from urban development.

Proper planning at the beginning will avoid the need for post-construction retrofit to control storm water pollution and is a very cost effective approach.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: Presently, the development planning provisions apply to hill side properties, ten or more units residential developments, and approximately 2.5 acre commercial developments. In addition, they apply to certain categories of automotive related businesses, parking lots, and developments adjacent to environmentally sensitive areas. These categories largely reflect those that existed in the 1996 Los Angeles County municipal storm

water permit.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: The development planning provisions in the current permit require the development of criteria for peak flow rate control and design of post-construction best management practices to mitigate storm water pollution based on numerical criteria.

In addition, permittees are required to modify CEQA guidelines and checklists to address storm water pollution mitigation and to incorporate watershed and storm water quality considerations in general plan elements.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: The specific objectives of the proposed advancements for the land development planning provisions are: To provide measurable criteria for hydromodification control, to promote the consideration of multiple benefits with storm water pollution mitigation, such as reuse, recharge, and aesthetic value; and to reduce storm water runoff volume largely by implementing low-impact development strategies.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: The draft permit simplifies the land development planning categories. Post-construction requirements now apply to all land development, one or more acres of land. We continue our focus on automotive land uses and expand the 5,000 square feet or greater threshold to include streets, roadways, and highway construction, industrial parks, and commercial strip malls.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: Parking lots, automotive-related businesses, gas stations, and environmentally-sensitive area project categories are continued from the second term to ensure county municipal storm water permit.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: The proposed development planning provisions use a tiered approach for the application of the hydromodification control and storm water mitigation criteria. Development projects disturbing 50 or more acres of land are required to conduct detailed analysis and modeling to address potential adverse impacts of hydromodification and storm

water pollution resulting from land development.

The proposed development planning provisions also seek to ensure that post-construction best management practices are properly maintained by requiring maintenance and transfer agreements and post-construction best management practices inspection.

For redevelopment projects that may be limited in the ability to mitigate storm water pollution on site, or which incorporate multiple policy conservations such as affordable housing, brownsfield development, and smog road considerations, permittee may submit as an alternative a redevelopment area mitigation plan for approval by the Water Board. As in the current permit, we provide for a regional storm water mitigation plan as an alternative to on-site storm water pollution control subject to approval by the Water Board.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: From the current permit, we continue CEQA guidelines and checklist update requirements and the incorporation of storm water mitigation considerations during update of general plan elements.

I shall now turn the stage over to Mr. Ejigu Solomon who will discuss the development construction

requirements.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: Good afternoon, Madam Chair and members of the Board. My name is Ejigu Solomon, and I'm the Unit Chief for Storm Water Compliance and Enforcement Unit. And I'm here to present the development construction program of the draft permit.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: The primary objective of the development construction program is to reduce or eliminate the discharge of sediments and associated pollutants. Sediments is one of the pollutants that originates from construction sites and impacts beneficial users. Siltation adversely affects fish spawning and harms aquatic life. Also, pollutants like pesticides, herbicides, fertilizers, and metals are absorbed onto sediment particles.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: Storm water pollution control plans are currently required for sites one acre or greater and also for sites near environmentally-sensitive areas and hillside developments.

Permitted projects are also required to have and implement storm water pollution control plans. The current requirements include pollution, a control plan certification, and the landowner acknowledgement of permit requirements. The requirements are show proof of and notice of intent before City permits are issued has helped reduce the number of sites that could have disturbed land without a permit.

Best management practices currently are selected by developers from sources such as California Storm water Quality Association, Caltrans, the EPA database, and the international storm water database.

Containment of sediments, prohibition of non-stormwater discharges, and containment of construction waste are required on all sites.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: The new permit requirements include the following: Grading prohibitions, minimum set of best management practices, inspection requirements, and interagency coordination.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: Grading prohibitions. The wet season for the region is defined of the period starting October 1 and

ending April 15. The land disturbance restriction applies only to sites that fall in the following categories. One, hillsides with 20 percent or steeper slopes. Two, sites directly discharging to a 303(d) water body listed for siltation of sediment. And three, within or adjacent to an environmentally-sensitive area.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: The goal of additional or new requirements is: To build upon the program already being implemented and discussed earlier; to optimize the presence of inspectors on site; and to standardize best management practices for construction activities; and to uniformly apply legal requirements and enforcement countywide.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: Also, there is a propensity for construction sites to lose sediments in wet seasons. Despite best efforts, examples include a canyon ridge construct and another site which impacts Malibu Creek. According to staff estimates, using the three criteria of restriction, only less than 8 percent of active construction sites in Ventura are impacted by the restrictions. And the draft permit provides permittees to request a waiver from the

restrictions from the Executive Officer if they are for certain conditions of the permit.

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STORM WATER COMPLIANCE AND ENFORCEMENT UNIT CHIEF SOLOMON: The draft permit requires a minimum set of BMPs on all permitted sites and the implementation of those best management practices is acreage based. The best management practices are once commonly used and recommended by California Storm water Quality Association and Caltrans.

The draft permit provides permittees the option of best management practices substitution. The implementation of the minimum set of BMPs would help construction sites to comply with the requirements of the new and revised general construction permit.

In conclusion, the requirements: Protect water quality, encourage interagency collaboration, and coordination in such areas as inspection and enforcement and show market improvement over the 2000 MS4 permit.

And now I'll turn it over to Carlos Urrunaga to present to you the public agency program of the draft permit. Thank you.

MR. URRUNAGA: Thank you. Good afternoon.

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MR. URRUNAGA: Good afternoon, Madam Chair,

members of the Board, ladies and gentlemen. I'm Carlos Urrunaga. I'll introduce you to the Ventura County draft permits public agency activities program, both the existing program and staff's proposed changes.

The goal of the proposed changes in the public agency program requirements is to build upon the program already being implemented countywide while being consistent with the L.A. permit requirements and Caltrans' standard practices.

We've also made changes as appropriate based on what we've learned over the years. The existing requirements did reduce pollutant loads from public agency activities, but the changes we propose will further that goal by bringing standardization. The current permit requires important but basic requirements.

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MR. URRUNAGA: As shown on the slide of model storm water pollution control plan for each city yard, trash management controls, including street sweeping, storm drain maintenance and cleaning, and generally staff training.

These are some highlights of the proposed changes to this program. They included standardized permitting for city and county projects including those on the capital improvement program list; the implementation of

post-construction controls on public projects just as one would on private projects; implementation of standard trash management and storm drain controls and maintenance procedures countywide; and allowing certain discharges to the storm drainage system if certain conditions are met.

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MR. URRUNAGA: One of the new requirements is a written response plan for sewage system operations. This plan simply identifies who is going to respond if there should be a sewage overflow or spill. This plan is consistent with the conditions in other current NPDES permits issued by the Regional Board and is complementary to the provision of the State Board's sanitary sewer overflow of waste discharge requirements.

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MR. URRUNAGA: There are activities that cities and counties undertake that are construction activity and will be treated the same as private. Here, for example, the post-development planning controls that Dr. Swamikannu spoke of earlier all apply to the municipalities for their projects. Agencies have a list of future planned projects in their capital improvement program plan. In this draft, we are not adding the requirement, but making it clear a State construction permit and the State linear construction permit generally applies to capital

improvement projects as a whole. The permittees must obtain coverage under the respective State Board orders.

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MR. URRUNAGA: For city and county yards and storage facilities, we're proposing that specific BMPs be implemented if certain activities are occurring. This is already standard practice for Caltrans on a statewide basis.

For landscape and parks, we are standardizing procedures and ensuring that sensitive operations such as those applying pesticides are properly trained and reminded of the Storm Water Program requirements. Also, we are encouraging the use of integrated best management to control pests using effective and more natural and less toxic procedures.

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MR. URRUNAGA: For storm drain operations, the greatest changes have to do with installing and maintaining trash controls in areas of typically greatest trash generation.

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MR. URRUNAGA: For street sweeping, we are concentrating on sweeping or vacuuming commercial areas and areas near schools. Again, this is not a new requirement, but making it clear that industrial

activities that municipal permittees undertake need a separate storm water permit.

With that, I'll turn the podium over to my colleague, Tracy Woods, who will now introduce watershed ecological restoration plans, the total maximum daily load provisions, and the monitoring and reporting programs. Thank you.

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MS. WOODS: Good afternoon.

Watershed ecological restoration planning is a new section to the permit. The purpose of restoration is to reestablish in so far as possible the ecological integrity of degraded aquatic ecosystems.

The purpose of planning is to provide a tool that can produce improvements in the quality of our water resources to support diverse productive communities of plants and animals that provide significant ecological and social benefits.

The Clean Water Act Section 303(d) list of impaired water bodies has several Ventura County stream segments listed that have polluted and/or disturbed ecosystems that can be assessed to evaluate their potential for ecological restoration. A watershed ecological restoration and an annual watershed ecological restoration status report shall be developed and

implemented for all stream segments that have obtained a score of poor and very poor from bioassessment monitoring for two years in a row.

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MS. WOODS: Restoration plan contains some basic restoration principles that include, but are not limited to: Addressing ongoing causes of degradation; focusing on feasibility; developing clear, achievable, and measurable goals; involving a multi-disciplinary team such as the Wetlands Recovery Project and the Ventura County Task Force of the Wetlands Recovery Project.

The status report is developed on the restoration plan and includes background information, evaluation of site conditions, the progress made towards goals, which is linked to specific stressors and measurement end points and the bioassessment monitoring data.

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MS. WOODS: Another new section to the permit is the TMDL, or total maximum daily load provisions. The MS4 TMDL waste load allocations that have been incorporated into this permit are the ones that have been adopted by the Regional Board, approved by the State Water Resources Control Board, the Office of Administrative Law, at the U.S. EPA as required under the Clean Water Act Section 303(d) for waters within Ventura County.

The waste load allocations are expressed as provisions that are consistent with the assumptions and requirements of the relevant TMDLs.

The waste load allocations have monitoring requirements associated with them, either as default waste load allocation monitoring requirements or, where approved, TMDL implementation plan monitoring program requirements.

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MS. WOODS: The waste load allocations that have been adopted and incorporated into this permit are for the following four TMDLs: Santa Clara River, nitrogen compounds; Malibu Creek, bacteria; Calleguas Creek, toxicity, chlorpyrifos and diazinon; Calleguas Creek, organochlorine pesticides, polychlorinated biphenyls, and siltation.

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MS. WOODS: The new provisions of the monitoring program consist of relocation of the Santa Clara River mass emissions station to include storm water discharges from the cities of Oxnard and Ventura. Until the station is relocated, the principle permittee in coordination with the cities shall separately monitor mass emission from the two urbanized areas.

Submittal of monitoring data electronically

within 45 days from sample collection date and transmitted in standardized formats.

Total suspended solids testing for all storm events with at least a quarter-inch of rainfall.

A toxicity reduction evaluation corrective action plan submitted within 30 days after the source of toxicity is identified and appropriate BMPs to eliminate the causor identified.

Tributary monitoring within the three major watershed management areas.

MS4 TMDL waste load allocation monitoring that incorporates the adopted storm water waste load allocations.

And five, special studies.

An expanded bioassessment monitoring, trash and debris, pyrethroid insecticide, hydromodification, and low-impact development.

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MS. WOODS: The reporting program requires an annual report that is a public document required under federal regulation. The annual report is composed of: A monitoring that contains the results that are to be used to refine BMPs for the reduction of pollutant loading and for the protection and enhancement of the beneficial uses of the receiving waters within Ventura County; and a

program report to track and oversee the progress each permittee is making for full compliance with the various requirements of the MS4 permit.

Details of the annual report questions are to be determined in future meetings with permittees. And with this, Dr. Swamikannu will conclude the presentation.

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STORM WATER PERMITTING PROGRAM CHIEF SWAMIKANNU: As has been presented to you today, the draft permit has several advancements. These changes or advancements have been proposed based on nearly 17 years of experience permitting municipal storm water discharges in the Los Angeles region.

The comments from permittees, the building industry, the environmental community, and others you will hear next focus on the most significant changes. These are:

Municipal action levels, which are a numeric expression of the maximum extent practicable standard.

Numerical criteria for hydromodification control to prevent down-stream erosion and protect stream habitants.

Low-impact development methods to minimize the adverse affects associated with land development and urbanization.

Grading restrictions in sensitive areas such as hillside developments during the wet season.

The adequacy of the monitoring program as proposed to evaluate compliance.

And total maximum daily load waste load allocation implementation for storm water discharges.

With that and thanking my team, I conclude.

CHAIRPERSON DIAMOND: Thank you, Dr. Swamikannu.

I've been told by staff that we need to take a ten-minute break.

But before we do that, if there is anyone other than people who are going to be participating in the discharger presentation, BIA, CPR, environmental community, Coastal Committee, anyone other than that who wishes to speak, please get a blue speaker card. You can get that from either Ms. Harris or Mr. Cain.

We will now be in recess for ten minutes.

(Thereupon a recess was taken.)

CHAIRPERSON DIAMOND: We're going to start now. I do need to make an announcement. Can I have your attention?

The fire marshals have told us that unless everybody has a seat, we will have to leave. So nobody can be standing. So I'm going to make a couple of suggestions. First of all, fill up every seat. And if

you are not here to speak, you might consider standing outside in the hall. Otherwise, when the dischargers finish their presentation and then they will be followed by BIA, some of you might be willing to leave so that people who are not able to be in here at the beginning can come back in. I kind of leave this to you.

We really, really would like to have this workshop. And unless there is -- if there are people standing, we cannot do that. So please take a seat. And please appreciate that some people would like to stay in. And when you're finished, perhaps you can leave and allow people who have been outside to come back in. That would be much appreciated. So I'm going to wait until I see that we have no one standing to begin.

And I will also tell you that the transcript of these proceedings will be up on our website. So for some reason if you don't get to hear a particular part that you want to, you can see that on your website. They'll be posted in the next day or two. I appreciate your helping us out here.

Stephen, are the people standing out in the hallway, are they okay here? If there are any seats available, would you raise your hand so we can notice where they are if there's something next to you? So as long as no one is standing, we can continue. If someone

comes in and stands, we will stop.

At this point I'd like to ask up the discharger. Who's going to be making the presentation for Ventura?

MS. LONG: Good afternoon, Madam Chair and Board members. And I invite you to Ventura County. We have a very large boardroom, and we broadcast out in our hallways.

CHAIRPERSON DIAMOND: We appreciate that. And ordinarily we would be there. And our next workshop we will be there. But as you know, we had an earlier presentation, and there were community members from Sunshine Canyon, most of whom are not employed by a City who voluntarily came out here. So that's why we had it here.

MS. LONG: I understand that. I know you've already had a long day, so I appreciate the opportunity to speak with you on the workshop today and start off with the Ventura County presentation.

I'm Kathy Long. And I'm a County Supervisor on the Board of Supervisors in Ventura, and I represent the Santa Clara Valley, City of Camarillo, City of Port Hueneme, and Lockwood Valley. I'm here today to speak on behalf of the Ventura County Storm Water Program and to thank you for hosting the workshop. As I started out, and I will conclude, to invite you to Ventura County for a

follow-up workshop.

Today, our presentation will come in four parts. We have four speakers. I will just do the introduction, and then Gerhardt Hubner from the Ventura County Watershed Protection District will highlight some of our County Storm Water Program successes. And then we will have Vicky Musgrove from the City of Ventura who will provide the technical presentation, including the program concerns with the draft order. And then we'll have a wrap up with Ventura the City of San Buenaventura Councilmember Brian Brennan. He will end the program presentation and provide concluding remarks.

As you heard from your staff, you had a brief overview of the demographics of our county. And we are very much a unique county, with agriculture still our strongest industry. Ten cities that are clearly separated by agricultural and open space lands. And we treasure that.

We feel that we are strong stewards of environmental protection statewide, and we are held up as an example of a county that has built over the last 30 years with a sustainable community design component with protecting agricultures and industry and also allowing the great values of having that agriculture and protecting it also with greenbelts and open space. It is highly valued

by our residents. And in fact, many places have been implemented by voters to implement curb limits around cities so that is protected and valued.

The next thing I would like to talk about is the -- in speaking about the uniqueness of our county, we since mid '70s when the guidelines were established that put development into the cities, we did that through a 70-member committee that formed, and it was citizen based, and they work very hard to establish that policy.

We are known for having wonderful cooperation, citizen engagement, communication, and doing the educational pieces with our citizens whenever we have new regulatory rules or statutes that we need to implement for the greater good, particularly for the protection of our environment. So we are a very much engaged community.

We have a countywide water coalition that has worked on water issues now for many years. We also have, as I said, a commitment to sustainable communities. One of the things that we participate in and I'm the current chair of is the Statewide Local Government Commission. And that Commission was responsible in working with many communities statewide to establish the Ahwahnee principles for sustainable growth, Ahwahnee principles for water resources. And we have adopted those in our county, and we are looking to implement and work with those in every

way we can to make sure they're very much an important part of our environmental success.

The ten cities in our county, as I said, work very well together. We have undertaken many watershed planning efforts. We have three watersheds, as you're aware of. And we have a watershed coalition for the Calleguas Watershed, for the Santa Clara River Watershed, and for the Ventura River Watershed.

We also were very successful in forming an Integrated Regional Watershed Management Plan, successful to the point of receiving a $25 million grant from the first round of Prop. 50. And that took a lot of cooperation and collaboration with our watershed leaders in the community to be successful in acquiring that grant.

We also have through the LGC just been picked as a pilot project to look at the inventory of land use decisions, put them up against our water use decisions, and see where we can do a better job. And I know what your staff is asking the communities to do is to do a better job and to set goals and to work to how we can achieve those goals to always improve our water quality in our community. And it's not necessarily the goals. We don't disagree on goals. It's really how do you get to the end result of reaching those goals.

The other thing we've been successful with in the

watershed is working across county lines. We work with the Los Angeles County leadership, the Public Works, the communities of Santa Clarita all the way up to the watershed beginnings of the Santa Clara River and Atcon. We work together and cross jurisdictions.

We work very much on ecosystem restoration. The Matilija Dam is a very significant dam in old Amador County, and we're working decommission that dam. We're doing that because there is a wonderful ecosystem that has gathered up behind that dam that will be of great value to the Ventura River watershed and to our beaches. And we've made great progress in doing the environmental work that an EIR that was worked on put forward and never contested. And we're moving ahead with identifying funds to decommission that dam.

And we also have a significant project for the removal of arundo in our watersheds. And that is again demonstrating our commitment to being good environmental stewards.

The other thing that we have done very well in looking at other cooperative environmental programs, we've established a Regional Energy Alliance in our community. And through that alliance, we've worked with our municipalities on developing alternative fueled vehicles on setting LEED principles with energy conservation,

recycled rubber asphalt used for our roadways, a water conservation reuse, the grape project in Oxnard, restoration projects such as the Hill Canyon Wastewater Treatment Facility, as I mentioned before, greenbelts and buffers. And again, that is regional cooperation that we're very proud of.

We have many -- much of this has been noted statewide and nationally. You received a letter to Mr. Bishop in response to the draft program, and that was sent out on March 6th. One of the things that noted is that we -- again, because of our stewardship, we have been noted nationally and statewide. We were the winner of the prestigious award, the H. David Nahai Water Quality Award for water quality conservation in 2001. In 2003, we won Environmental Protection Agency National Clean Water Act Recognition Award for Phase I of storm water management excellence. Those aren't won easily. We worked hard. We worked together, and we're committed to being good stewards and implementing the rules and regulations to achieve that excellent environmental balance in our community.

The new permit certainly is going to have challenges. And we'll take careful consideration I would hope in us working cooperatively together with staff and with our community. The uniqueness of our county is

not -- is very much unique in the sense of not being so large that we can't accomplish the goals that you're setting out for us. But we need to be able to work with you on the details and work with you on the communication pieces of it so that we can make sure that we agree with the goal, we agree in how to get there, and we do it because we have a cooperation in our community and folks are willing to work with us if it's not a command and control methodology of trying to get to the end result.

I would like to at this time again invite you to Ventura County for a workshop in the summer and to thank you for your time today. And I'll invite up our next presenter, Mr. Gerhardt Hubner from the Ventura County Watershed Protection District. Thank you.

CHAIRPERSON DIAMOND: Thank you very much.

(Thereupon an overhead presentation was presented as follows.)

MR. HUBNER: Thank you, Supervisor Long.

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MR. HUBNER: Gerhardt Hubner, Watershed Protection District. Good afternoon, Chair Diamond, Board members, members of the public. I'm here on behalf of the entire Ventura County Storm Water Program. And being Chair of that Committee, I appreciate the opportunity to

speak to you today.

As Supervisor Long stated already, on March 6th, 2007, the program submitted a cover letter and three attachments containing the collective comments of the permittees on the draft order. If you haven't seen that, I encourage you to get a copy of that. Many of the co-permittees will also be providing comments to you on the draft order and their impact to their individual agencies and committees.

I've already given you sort of a presentation overview of some the subjects we're going to be talking about today. I will do the highlights, talking about some of the unique characteristics of Ventura County, why we're a leader in watershed planning.

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MR. HUBNER: In 1992, the co-permittees collectively got together and signed an implementation agreement. That agreement is in place today. It defines the framework of how we work together, and this framework has made us work together in storm water pollution prevention, watershed protection district as the co-principle permittee. We do principle program administration, storm water monitoring, report preparation, and public outreach.

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MR. HUBNER: Our program is structured to be comprehensive and flexible to accommodate the diverse needs of the co-permittees and our local water quality issues. With time, our program has been modified to best reflect the conditions and needs of our community. The permits issued by you in 1994 and 2000 reflect these insights and efforts that we've made. We believe the program implements a cooperative approach to storm water pollution prevention, and we believe it provides a model for water quality protection.

Our program's data aids in identification of pollutant sources and highlights some of the program's improvement and effectiveness. And we've made a commitment to direct our resources towards activities that directly improve water quality.

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MR. HUBNER: As mentioned, in 2003, the program received the U.S. EPA's Award of Excellence. The award recognized municipalities and industry that demonstrate their commitment to protect and improve the quality of the nation's waters by implementing outstanding, innovative, and effective storm water control programs and projects.

And we believe the award reflects the program's commitment to water quality protection in Ventura County through comprehensive and constructive best management practice process.

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MR. HUBNER: Just put up this slide here to show one element of our public outreach program. This was my water quality manager in an earlier career role leading a group of children in Operation Raindrop. Children are acting as raindrops simulating runoff.

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MR. HUBNER: We participate in Coastal Cleanup day. Over 2,000 volunteers participated this year, 47 miles of inland watersheds and coastal shore lines. We had more volunteers and less trash than the year before. We had a successful media outreach campaign, three 60-second TV commercials. We made over eight million impressions, public service announcements. We have advertising, artwork, and posters. And we continue to develop new commercials and print material.

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MR. HUBNER: Turning to our Storm water Quality Monitoring Program, your permit requires us to conduct six

sampling events for wet to dry. We conduct macro bioassessment monitoring. We completed a trend analysis for pollutants of concern. And of course, we house the data in a database.

Next slide.

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MR. HUBNER: This slide shows our comprehensive storm water monitoring network. We have three massive emissions stations: Calleguas Creek, Santa Clara River, and Ventura River.

We have three land use sites: Industrial site, agricultural site, and residential site. And then an additional two receiving water monitoring sites.

What this slide doesn't show, however, is a variety of other monitoring that's conducted in Ventura County. There's beach water quality monitoring. There's wastewater treatment plant monitoring that goes on, TMDL compliance monitoring, and soon agricultural monitoring to be conducted under the Agricultural Waiver Program.

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MR. HUBNER: What do we do with -- well, what I wanted to show on this slide is again we have the ability through our sampling to look at flow and the weather. Again, this chart is showing rainfall flow temperature and

exactly when we take a sample.

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MR. HUBNER: Mass emissions sites I alluded to earlier. Again, little bit of a misnomer. They're receiving water sites. If you look closely, it shows a little bit of how flashy some of our watersheds are when it rains. We get a lot of rain. Each of our stations are fully automated to collect composite samples. We also collect grab samples.

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MR. HUBNER: This is our staff out collecting samples in all types of weather and applying vigorous quality control, quality assurance.

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MR. HUBNER: This is our bioassessment sampling on the Ventura River. In this effort, we assess the biological health of our in-stream communities and score them from poor to good. We have 15 sites depending on stream flow availability.

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MR. HUBNER: We house our data in a database.

Able to make new data, make queries, generate reports. This year, we created an automated data entry import tool. In the near future, we hope to make this web-based and link it with our program's website.

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MR. HUBNER: We do program evaluation. Very important to provide a comprehensive annual report to you each October 1st describing our activities and all the co-permittees. We have a storm water management plan that's a living document and submit monitoring reports to you twice a year. And we've conducted a pollutant of concern trend analysis. That's highlighted areas in our program where things are going well and things where we can focus our attention. The case being that monitoring should be conducted to answer a question and should not just be focused to conduct monitoring for the sake of monitoring.

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MR. HUBNER: Some of the characteristics of Ventura County, what make it unique. We have significant open space. We're rural in character. We have valuable agricultural land. Our population is approximately a little over 800,000, compare that with L.A. County which is a little over ten million.

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MR. HUBNER: Open space comprises 79 percent of our land. That's including the Las Padres national forest. Twelve percent of our total space is urban areas, agricultural followed closely by 8 percent. We have rural, military, and our harbor.

The point I want to make with this slide and I want to direct your attention to is low density countywide lack of connectivity between cities and how our cities are surrounded by agriculture, open space, and green belts.

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MR. HUBNER: And hopefully recognize too that the limited space is actually under the jurisdiction of the permittee.

County citizens voted in SOAR initiative, to Save Open Space Agricultural Resources. That's the definition of it. Without voter approval, no changes to the County General Plan can be conducted. There are greenbelt agreements to protect open space and agricultural lands so they don't prematurely be converted. We have smart growth policies in place promoting to reuse existing buildings and protect the environment for future generations. We have hillside conservation efforts all with the point the urban areas of Ventura County are unlikely to expand

significantly.

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MR. HUBNER: Ventura County is the leader in watershed-based planning. Since the 1970s, Ventura County has a long history of working together on water resource issues. That includes some of the early 208 planning efforts. For the past 35 years, there's been numerous water quality, water restoration, and reclamation projects that have been planned and implemented. Supervisor Long already described the Matilija Dam ecosystem restoration program. We have arundo removal project on the Santa Rosa Creek. We're working on some mitigation banking opportunities. We're working with numerous individuals and agencies to assure some effective management of our local resources.

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MR. HUBNER: And we have a coalition formed in 2006. Produced a document and adopted an Integrated Regional Water Management Plan. We did receive a grant of 25 million. We have other watershed groups that meet on the Calleguas Creek, Santa Clara River, and Ventura County Watershed Council.

And with that I'd like to turn over the presentation to Ms. Vicky Musgrove, City of Ventura. Thank you very much.

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MS. MUSGROVE: Good afternoon, Chair, members of the Board. I'm Vicky Musgrove. I'm here with the City of Ventura. I'm actually speaking on behalf the countywide program today.

First, I'd like to first give you an appreciation of staff's effort and intent they put into writing the permit. We really do understand and we adhere to the importance of water resource protection. We certainly expected a racheting up of our current program and enhancement of our current program. We are committed to performance-based measurement criteria and understand the need for that.

We do think that LID is the preferred method of growth. As you heard, our communities are very limited. We are not going urban sprawl direction. We are trying to be very concentrated and do smart growth. We are concerned about the concern about the smart growth type projects and how we would implement those projects with the current permit and how it's written.

We want to move towards cost-effective methods to improve water quality. We want to be leaders in the field, and we'd like to have the best permit in California.

Having said that, as indicated in our comment

letters which you probably saw, we do have some significant concerns about this permit as they are currently written. I'm going to focus my presentation today on our primary concerns with the permit.

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MS. MUSGROVE: The primary concern we have on the permit is the compliance structure. It's the use of municipal action levels and how they're called out in the permit and it's the consistency of the way the draft permit is written with our TMDL program.

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MS. MUSGROVE: Use of municipal actions, we have some policy concerns, and we have some technical concerns.

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MS. MUSGROVE: First of all, I'd like to talk about the technical concerns with the MALs, or the policy concerns with the MALs.

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MS. MUSGROVE: As we see in the Clean Water Act and the draft permit, the compliance standard for municipal storm water discharges is to reduce the discharge of pollutants to the maximum extent practicable. The question is not that. The question is how do we define maximum extent practicable and interpret this MEP standard?

Our concern with the draft orders use of MALs to define MEP is it's not consistent with State or federal policies and the intent behind maximum extent practicable MEP.

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MS. MUSGROVE: The courts have broadly defined MEP to be a highly flexible concept that balances numerous factors, including the technical feasibility, the cost, public acceptance, regulatory compliance, effective, and deals also with effectiveness. However, this draft order's use of MAL to define MEP is not consistent with this understanding certainly of MEP.

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MS. MUSGROVE: In the draft permit, MALs are used as numeric water concentration levels. MALs are being used to define MEP. Our runoff must comply with MALs at each of the outfalls greater than 36 inches with violation being defined as an exceedance of MALs two times. It seems clear that as this is written, those MALs are written in the draft permit as numeric effluent limits and are not consistent with the intent of MAP and storm water discharges.

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MS. MUSGROVE: In addition, whether they're used to define MAPs or they're considered as stand-alone

numeric limits, the use of numeric limits for regulating storm water permits is contrary to EPA policy which encourages the use of BMPs rather than the imposition of technology-based or water-quality based numeric limits.

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MS. MUSGROVE: I'm going to move now from policy. In addition to the policy concerns voiced, I'd like to briefly address our concerns with the technical aspects of the MAL concept as written.

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MS. MUSGROVE: In September 2005, the State Water Board convened a panel of experts, the Blue Ribbon Panel, to address the following question: Is it technically feasible to establish numeric effluent limitations or some other quantifiable limits for inclusion in storm water permits?

The Blue Ribbon Panel's report issued in June 2006 clearly states the position that numeric limits for municipal storm water discharges are not possible at this time.

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MS. MUSGROVE. However, the Blue Ribbon Panel did discuss the use of MALs. They clearly did. In this slide, we provide a side-by-side comparison between the proposed use and development of MALs as characterized by

the Panel and the proposed use and development of MALs by the draft permit. The Panel suggested that the MALs be used to identify the need for follow-up action. They also said they were not to be used as enforceable limits. The draft permit, however, uses them to define MEP and as enforceable numeric limits.

The Panel also said that we should develop -- the MALs should be developed using local data if available. And these MALs were actually developed using a national database.

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MS. MUSGROVE: This is just an example. Kind of gives you an example of how these work. On cadmium, the acute water quality objective under the California Toxics Rule, CRT, objective is 7.1. The average water quality objective with 95 percent hardness for cadmium is 3.2. Ventura County rivers and creeks and 54 of the 55 samples were less than 2.5 in concentration. The Ventura urban runoff average is .8, but the MAL in our new draft permit is .55.

It's important to note that in this case we have a water body that's well below the water quality objectives under the CTR, well below. But because our runoff is greater than the MAL, we would be judged to be out of compliance with our permit and would be required to

implement controls to reduce our cadmium concentration by 30 percent.

We don't think this makes sense. For years now, we've gathered and we've looked at the data, the water quality data in Ventura County. Our monitoring programs are and need to continue to be the backbone of our decision making. We want to use the knowledge that we gain from this monitoring to focus our issues and focus our resources in the right places, places that solve real Ventura County issues, not that solve issues like this based on national averages.

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MS. MUSGROVE: Next, I would like to discuss the importance of consistency between the MS4 permit and the TMDL program.

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MS. MUSGROVE: We know and agree that the permit must be consistent with our TMDL efforts. The TMDL program is a Clean Water Act Program for ensuring its compliance with water quality standards. It's based on sound science and stakeholder involvement. A stakeholder involvement that many of us have spent many, many, many hours and much resources in participating in. It considers all point and non-point sources of impairment and establishes waste load allocations and load

allocations and includes an implementation program.

NPDES permits are required to be consistent with approved TMDLs. And again, we know that's the case, and we definitely want that to happen. But we believe the draft permit is inconsistent with the TMDL program in a number of areas.

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MS. MUSGROVE: The MALs as written in our new permit misdirect focus and resources of the countywide program. They are inconsistent with TMDL-approved targets and waste load allocations and the prescriptive permit is inconsistent with TMDL implementation program for municipal storm water.

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MS. MUSGROVE: In this particular slide, we take two of the constituents are that are MALs in addition to the cadmium, copper, and zinc. We've compared the MAL versus the TMDL-approved targets for these constituents. This table reflects the TMDL targets for Calleguas Creek. As you can see, the MALs are in order of magnitude less than the target limits that have already been approved by the Regional Board and EPA. It would appear that the MALs are considerably more stringent than water quality based developed TMDL program.

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MS. MUSGROVE: And as you can see, those numbers make it clear.

We also have some concern about the prescriptive nature of the permit versus the requirements found in the approved TMDL. These are some examples of the disconnect. One of our prescriptive draft permits asked us to retrofit all catch basins with excluders.

Just a little bit on this. Our county has about 13,000 catch basin inlets. Costs about $1,000 a piece to do that. That's about a $13 million project.

As far as TMDLs go, we don't have any adopted TMDL for trash right now. We are working on a couple of them. And certainly a very small percentage of our water bodies are listed. Trash excluders may make sense in certain places and in certain areas. But in Ventura County to put a trash excluder on all 13,000 catch basins within the first six months of the permit may be an overreaching requirement that doesn't have as much to do with water quality as we would like to.

The draft permit has prescriptive BMP measures for street sweeping, inspections, and outreach and things like that. And certainly again we know and accept that we need some performance measures for those types of things. But the TMDLs on top of them require the achievements of targets and not necessarily the exact method of

compliance.

Our permit also has a time schedule that actually puts us at about six months for the majority of these BMPs. The one just used is a good example. It would be extremely difficult, certainly with the way the public has to do things and CEQA processes and purchasing processes, for us to move ahead with a lot of these activities within six months. And the TMDL has a time schedule that's been put together in a cooperative manner with the stakeholders that goes anywhere from two to 20 years. And some things we hope we can do in six months and other things we need two years and other things take longer.

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MS. MUSGROVE: To move on from that, and really why we're bringing these points to your attention, is that the countywide program does want to work with the Regional Board to address the water quality issues and protect the beneficial uses in Ventura County. However, as currently crafted the draft permits can require a significant amount of resources. And again we just want to make sure those resources are well directed towards getting that and solving Ventura County problems.

We want to focus our efforts. We want to make a difference in Ventura County. This summary table demonstrates the difficulty that the permittees will have

in focusing their efforts and resources. The first column of x's is what we actually have in our new draft permit as MALs. As you can see, the constituents are marked with the x's in our first column. The second column are the Ventura County pollutants of concern. Ventura County identified their pollutants of concern by looking at water quality criteria compared to what we were seeing in our monitoring data.

We looked at toxicity results. We looked at the practicability of control and the ability for us as municipalities to control them. We looked at the receiving water sensitivity, the 303(d) list, and we looked at some pollutants of special public interest. And we developed these pollutants as the ones that certainly we needed to do something about in Ventura County. The TMDL column on the other side shows you the pollutants that are listed in TMDLs, not necessarily specific to municipality, but certainly all of them that are involved that we have TMDLs in Ventura County that are involved in.

We feel like we've identified the pollutants that warrant our special attention. As you can see, the only constituents that are identified in all three columns are copper, lead, and zinc. If the performance measures are going to be used as a trigger for action, it's very important that they're based on appropriate local data and

focus on local issues of concern.

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MS. MUSGROVE: And last, the last issue that I have to bring in is cost. And this table provides preliminary estimates of the costs of this draft permit. While at first glance a little over 200, $213, per household doesn't seem horribly, horribly significant, I really need to put this in context. We presently, as you can see, spend above the statewide mean on our program. This new cost would be over six times what it is now.

The countywide program has been discussing moving ahead with the Prop. 218 vote to fund a property-related fee for clean water. We hired a consultant to perform a survey on this. In my city, we presently collect $5.80, which does not cover very much. It's covers about a fifth of the cost of the program for my city. So moving up to $213 is a significant jump.

Our survey that we performed showed Ventura County residents that we may be successful in getting the 51 percent of the population to vote -- on a Prop. 218 vote for a property-related fee if we kept it under $18 a year. This is a far cry from $213 that would be needed to implement the proposed program.

We're very serious about protecting our water resources. We recognize it's going to cost us more than

we're presently spending. We're not saying we don't want to spend more than we're presently spending. We're ready to be ratcheted up, but we're also obligated to direct public resources wisely. I'm really happy that the Board staff has agreed to meet with us and to hold another workshop and work with us on really directing those resources properly to things that we want to do.

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MS. MUSGROVE: Finally, and very quickly, I just want to mention a few other areas of concern. And you'll hear some of the Ventura County that speak on this more specific to them. And certainly have our letter, so I don't want to go into detail about all of many things we've commented on in our letter. But there are a few.

Expands the geographic area of coverage for us, very much. And it requires ecological restoration and planning and implementation. And I just want you to remember that when you hear these things that our county is 1,873 square miles. And 973 of this is national forest. We're only twelve percent urban. It's not a big area. Yet, when you expand it to the entire county, it becomes a huge area for 800,000 people to take care of.

And the rest of the list, land development requirements, we have some concerns about. Again, I mentioned the smart growth issues. And you'll hear some

of the cities talk about that. The time frame, I already mentioned that. They are very short time frames. And we need to be very reasonable about that. And then we do have an extensive monitoring program, as you heard Gerhardt talk about. And we want to make sure that our monitoring program really answers the questions that we need to answer and keeps us accountable for our storm water quality, but we need it to make sense.

We'd really like to ask you to ask your staff to work with the stakeholders. And I know they agreed to do that. But to really look at the permit, to revise the permit, and to specifically look very closely at how MALs are addressed in this permit. Again, we want to collaborate, and we want to work together and have the best permit in California. And I do thank you and your staff for agreeing to work with us towards that goal.

And then now I'm going to turn it over to Brian Brennan, one of our City of Ventura Councilmembers, to finish up. Thank you.

MR. BRENNAN: Thank you, Vicky. And Madam Chair, members of the Board, thank you for the opportunity to address you and your patience. I'll move through this rather quickly.

First of all, I'm here as a Councilmember. Like you, I also wear a number of hats in the community. I sit

on a National Advisory Board to the Environmental Protection Agency. I was a founding member of the Surfrider Foundation of Ventura County and was a chapter Chairman for two years up there. I only state that to say I get it. And I'm honored and proud to be a member of the community that gets it.

By the way, I would like to thank staff right off the bat for putting the disclaimer up there that those pictures where people were pouring all those stuff into the storm drains, for all the folks out there that didn't see it, that wasn't Ventura. Of course, I knew that because there was no stencils on the storm drains that said, by the way, this leads to the ocean. And as somebody that spent a number of Saturdays and volunteered time stenciling hundreds of storm drains, I knew that right off the bat wasn't Ventura.

Let me tell you again I'm honored and proud to represent the city. In a recent survey, 82 percent of the members in our community recognize that the number one thing to them in their community was the environment. Venturans are proud of the city's environmental track record. The city of Ventura is a national leader in smart growth and has one of the highest recycling rates in the state. We also just completed an award-winning general plan that took almost seven years, which involved 3500

people, and it's winning numerous awards. And we also already have incorporated into that general plan a number of best management practices. And more importantly, we want to be a leader, not just complying with what the permits want. We want to be a national leader in how to do it as a city. So we moving in that direction.

In addition to these and other great activities, we have proactively been involved in award-winning storm water quality programs since 1992. In 1992, the City of Ventura jointed a countywide storm water quality program ten years before legally required. So again, we got it. We needed to work cooperatively with our cities and our county to make sure we could move forward and bring measures that would work.

And again I'm honored to say that -- I'm proud to say I that was part of the -- Surfrider Foundation was one of those groups that helped as a stakeholder bring those folks to the table and say, look, we need to deal with what's going on up the pipe from the city and in Ventura. As a long-time surfer, certainly those were issues near and dear to my heart also.

In 1994, the first regulatory permit was issued to the countywide group by this Board right here. Again, it had some far-reaching requirements which at that time we thought, wow. This is really out of the box, and let's

see how we go about and do it. This group put their shoulder to the stone over those ten years and again came back for another permit. But managed to not only hit those marks, but managed to ratchet up again and say let's take a look at it and see if we can meet it. And not only did they meet it, they exceeded it.

So we have a track record. This group collectively will work together. And these are all the ten cities. I know you have lots of other areas say it's impossible. And there's not everything in this permit that works for everybody. But it's a question of saying let's buy off and see where we can go.

That's one of the biggest concern is as always the devil is in the details. When I looked at the first set of slides put on by staff, I said, my God. Who would not want this? We obviously want it. The question is when you break it down into its components -- you just heard a little bit about what the financial requirements are, some of those things. Again, when I got elected -- one of the reasons I ran for office was to clean up the water on the beach. And I figured that would take about two years, take down Matilija Dam which would take about three years. And by 2002, I could go back to my life of just surfing and travelling through the Caribbean.

Well, here I sit twelve years later still

struggling to get those issues out there. Not because of not wanting to do it, but because of resources and, of course, as an elected official waking up to the demands in the community of police and fire services looking at all the other things that were required by law and what we need to do. So trying to balance that against being a strong environmental community continues to be a challenge, not something we're backing away from, but continues to be a challenge.

Again, I say that we have some wonderful, wonderful opportunities. I think by taking this permit and racheting it up, you have every right to ask more of us. And we intend to go as far as we can in meeting some of those things. My only request here today is to ask you to ask staff to work with us cooperatively and earnestly to come up with something that is perhaps tiered to some degree. I look at what we can financially do in our community. I'm not here singing tales of woe. I just know exactly what we need to accomplish and those things we need to balance.

And staff has every right to ask those things of us and raise the bar. We want to meet that bar, and not only meet it, we want to exceed it. I want to say we can be proud and this Board can be proud. And we can come together and do that collectively if we can all work with

an open mind and appreciation of all that.

So thank you. I look forward to seeing you in Ventura in August. And the water is about usually 72 degrees. I would be happy to set up surf lessons for you. Thank you.

CHAIRPERSON DIAMOND: We're going to move on to BIA, 30 minutes; followed by CPR, 30 minutes. And I want to also assure that the CASCA, I didn't mention them before, but you do have 15 minutes to do a presentation as well.

(Thereupon an overhead presentation was presented as follows.)

MS. SCHROEDER: Thank you, Madam Chair, members of the Board. My name is Holly Schroeder, the CEO of the Building Industry Association Greater Los Angeles/Ventura Chapter. I represent about 600 companies that work to build homes for a growing population, including those who are doing business building homes in Ventura County. Many of my members are here today to show their interest and concern about this. I want to thank you for the opportunity to present today and for the amount of time you've provided to us.

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MS. SCHROEDER: I want to just start by establishing a little bit of context why this issue is so

important to our industry and the region, besides the obvious goal of the need and desire for clean water.

Southern California is also in a housing crisis. Ventura County alone has a deficit of 8500 homes. And this shortage has contributed to increases in housing prices and the fact Ventura County has one of the highest housing prices in our area, nearly $600,000. So we are concerned about any regulatory requirements that are going to excessively drive up housing prices.

We share the concerns that you heard in the previous presentation about whether or not the permit is cost effective in its strategies for achieving water quality. The permit as written we believe will be extremely expensive, and it's going to divert attention from other priorities and other needs in the cities in the community. It will focus city priorities solely on new development, excessively on new development, and not provide for regional solutions that will address previously developed areas of the cities.

But that's not to say that we can't protect water quality. I urge you to do a balancing analysis under Porter-Cologne 13241 and the analysis required when you set a technology-based standard such as MEP. These requirements compel you to consider a variety of factors before you finalize the permit, including economic

considerations, the need for housing, the environmental characteristics of the area, and whether water quality conditions can be reasonably achieved through the coordinated control of all factors affecting water quality.

In setting such standards, the Board has considered cost, availability, cost effectiveness, and technical feasibility of the requirements in the permit. And I ask that you complete and document these analyses. Because in doing so, I believe you will find there are alternative strategies that can be used that will more effectively and efficiently protect water quality.

This draft permit is extremely ambitious, and it tries to change how storm water management is done in Ventura County. The Storm Water Program by design is an iterative program. And each analysis, each plan, each permit through each of these steps we learned a little bit more about the most effective ways to protect water quality in our region. Unfortunately, in many ways, the draft permit takes a one-size-fits-all approach. As you're going to hear later, this actually works against some of the water quality goals that you hold and for controlling storm water. Because, in fact, there are many different sizes of projects and development going on in Ventura County. And we're going to talk about that in

just a moment.

While we understand that you're attempting to provide clarity by being specific about what is required given the dynamic nature of storm water and the variety of development patterns in Ventura County, I urge you to consider permit language that allows for more flexibility, analysis, and controls that are appropriate for the location and nature of the development that is occurring. This flexibility needs to be built in on the front end and not be an additional process that requires multiple levels of approvals or waivers from the Board or municipality.

Without this type of flexibility, many types of development, especially some of those as you heard from from the previous speakers, are what Ventura County residents say they want, in-fill, redevelopment, expansion of businesses, those types of developments are going to be deterred because you're going to be subject to an extended approval process. And it's going to be harder to achieve all of those types of developments given the nature of the requirements.

So I appreciate that you're going through this fact-finding process, and we look forward to working with you as you move into the next more formal phase of analysis and data selection and scientific rigor and future drafts and comment processes.

I'm going to turn the presentation over to Dr. Mark Grey who's going to provide additional information on the technical challenges with the permit as it's currently drafted.

Again, the BIA would like to continue to provide input that will help staff craft a permit that is reasonable, technically feasible, and implementable. If the resulting permit is none of these things, we all lose because resources are spent on ineffectual strategies.

Thank you for your time. I'd like to introduce Dr. Mark Grey. Thank you.

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DR. GREY: Thank you, Chair Diamond, members of the Board, staff. Appreciate being here today to introduce our alternative approaches to the storm water plan here.

The title of it is, "Alternative Approaches to Proposed Planning and Land Development Program in Ventura County." We're really happy to be here today. We're happy with the involvement we've had with staff so far. I wanted to say first off we've reached out for the past several months to the Ventura Watershed Protection District. A number of the local cities talked, worked together in crafting our alternative approaches and what you're going to hear today.

What I'm going to try to do today at 3:30 this late hour in the afternoon is to be as compelling as I can, to be as snappy as I can to get our point across as quickly as possible.

I'm Mark Grey. I'm the Technical Director for the Construction Industry Coalition on Water Quality. I also serve as the Director of Environmental Affairs for the Building Industry Association of southern California.

Next slide.

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DR. GREY: Our discussion today really focuses on three areas of the permit where we feel the development industry has substantial expertise and insight that will help you protect and improve water quality and will be feasible technically and financially. We offer alternative approaches in the following areas: Municipal action levels; new development and redevelopment concentrating on scaling issues; issues regarding low-impact development, issues regarding hydromodification control; and of course, our favorite subject from the CICWIC is the construction phase requirements, the wet season grading ban, and consistency with the general construction permit and the use of traditional BMPs. I'm also going to speak at the end very briefly on bioassessment monitoring protocol which we've also added

in our detailed comment packages that we submitted.

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DR. GREY: We have some shared objectives. And those shared objectives are protection of water quality and beneficial uses. And I think everyone understands that. We're very focused on shared objective of implementability. This permit needs to be implementable for it to be effective. We need to limit the need for interpretation. There needs to be clear lines for what needs to be done. We need a consistency in approach. When I come in front of you in the future and when I'm talking to the State Water Resources Control Board and I'm talking to the San Diego Board, Santa Ana, you're going to hear consistency from us. We're going to be consistent in our approach, consistent in construction BMPs, consistent in post-construction BMPs.

Next slide.

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DR. GREY: For municipal action levels, we have just a few issues with this provision. Number one, whether municipal action levels based on the national data set are appropriate benchmarks for implementation in Ventura County.

Second, whether using a central tendency, the median, with limited variability of observed urban runoff

quality with coefficient of variation at two is appropriate for setting municipal action levels.

And whether a permit violation is the appropriate remedy for two exceedances of a municipal action level in stream.

And I just want to emphasize that MAL, municipal action level, means action. Action means ability to do something. So 36-inch outfall monitoring that doesn't necessarily get at the heart of the problem. Remember, that outfall is an integration of both good and bad practices in the watershed. And I think we need to keep that in mind and the word action and municipal action levels and not violations.

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DR. GREY: We put together a table -- and I'll spend just a few moments on this -- that shows how statistics can be used in different ways to create an action level depending on what it is you're trying to achieve. An unintended consequence of setting too low a municipal action level would put the co-permittees in a guaranteed out-of-compliance situation with the result of legal battles that could follow. This would truly be a waste of time and effort. The intent of municipal action levels should indicate truly poor implementation of Storm Water Programs, not to force better program implementation

through the back-door use of numeric effluent limits.

The draft permit sets lower municipal action levels by using a national database which includes lots of data points from around the country, most of which do not have the same levels of development as southern California and the pollutant levels in their urban runoff, which may not be as high as here.

And I want to reiterate. I mean, in Ventura County, we have very highly alluvial systems. And also we have very high natural background loads of sediment and metals that are associated with that sediment. We have to consider that if you're going to use a municipal action level, we've got to consider those local factors.

Also the variability in the data was altered by limiting the variability around the mean to two. Typically, storm water data is highly variable. That's why you'll see on the 90th percentile columns there, that what is truly variable data. That is truly something that's out of the ordinary.

And what I'm doing with the circles, alternative municipal action levels are shown in this table as an example of how different they would be if you use a different statistical approach. The values on the right represent the 90th percentile of data for cities located in the west and Caltrans, Alameda County, Phoenix and

Tucson. These values ranges from 5 to 13 percent higher than those proposed in the permit. So you can see there's a tremendous amount of difference between the proposed MALs in the permit and then if you use a truly process upset value with the 90th percentile data. I think you'll see much different results if you use a local data set versus the national data set which includes Atlanta and Baltimore and New York City and Seattle. Very, very different.

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DR. GREY: So that concludes my discussion on municipal action levels.

Low-impact development and imperviousness; my main point here is we need to consider the use of low-impact development across all scales. My read, our read of the draft permit suggests that it's kind of a one-size-fits-all approach. And that it pushes regulation right up to the house level. We agree that LID be a pollutant treatment control hydromodification at the source is very important. We have to consider project scale in this. The literature has linked imperviousness to stream aspects at the watershed scale, not at the site scale. Let's not forget that.

LID should be addressed at a mix of scales. And it may not be as protective as possible if it's only

allowed to be done at a lot scale. And that's what this slide shows. I wish it was a little bigger so we can see, because we have lot scale, planning area scale, trap map scale, and specific plan scale. So when you look at that whole picture, low-impact development can be used across a spectrum of that planning scale, not just at the lot scale.

There will always be some areas that cannot do LID, streets, et cetera, that need some regional solution. So what we're asking for is that the permit allow that approach, allow that flexibility, allow that balance that you don't just look at things on a lot scale, that you integrate them across the landscape.

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DR. GREY: Next on disconnecting imperviousness. And also we need to consider the special needs of in-fill and redevelopment. I think Holly touched on that well. In-fill and redevelopment is at the heart of many city's growth strategies. This permit needs to recognize that in-fill and redevelopment have special needs. And let's account for that in the permit. And let's allow that. And let's foster that. Because that's going to allow us to get the density we need in cities and allow us get to home affordibility we need.

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DR. GREY: Moving on to impervious surfaces, I think there's the first three bullets. I think you know that. You hear this in every presentation. Typical urban development reduces evapa transpiration and infiltration and creates large volume of runoff. We need to recreate that sponge and vegetation and noncompacted soils.

By the way, let's keep using compost. Okay. Remember, we have to keep using compost in these landscape systems. Disconnection of impervious surfaces mimics the pre-development evaporation transpiration rate by managing the sponge in landscape areas or vegetated BMPs. What we have to remember here is that this sponge can exist anywhere throughout the landscape, not just on the site, just not on the lot scale. And again, that's what the -- when we read the permit and when we interpret the permit, it pushes this on the lot scale. Yes, it will work there, but it needs to work across that landscape.

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DR. GREY: And here's some examples of that, of the different differing types of BMPs that get at this point through different scaling. We have bioretention swale that serves one street. If you see better, they've used compost in this example. It helps increase infiltration in the soil, water holding capacity.

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DR. GREY: Vegetated swale, small neighborhood scale, this isn't at my house. This is in my neighborhood. I might do things on my own house, but here in the neighborhood we're doing things to help control pollutants and runoff.

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DR. GREY: Next is a wet pond. This is the subregional scale, very effective. And this is an example of a BMP as I said at a subregional scale that provides multiple benefits. Provides pollutant removal, provides hydromodification control, provides recreation, and it provides wildlife habitat. So we have to think about the integration of low-impact development across all scales in the landscape, not just on the house by house, lot by lot approach.

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DR. GREY: And finally, we have an infiltration basin which is an example on a regional scale. This is a picture in Fresno, California. The benefits include long-term maintenance by dependable, fundable agencies. And that's something I think too we need to recognize in these permits is if we put too much onus on the homeowner or on the house scale to maintain and maintain the functionality of these systems, unless they're very passive, I think we're rolling the dice in a way we don't

want to do that. If we have regional solutions integrated with site scale, that's a much better approach in our mind.

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DR. GREY: Moving on to hydromodification impacts, clearly hydromodification can result in a stream or channel because of increases in peak flow, volume, and flow duration. You're going to hear from me today some alternatives in terms of approach on how we get at this.

It intensifies sediment transport and erosional process. We all recognize that. We want to control hydromodification.

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DR. GREY: The first issue that we have in the alternative -- in terms of an alternative approach that we have is the -- the requirement in the permit is that all permits shall maintain predevelopment storm water runoff flow rates and durations. That's a great goal, but can we do that in practical practice? The issue: It does not necessarily consider stream channel susceptibility.

So what we're saying here is not all streams are created equal. While specification in the permit of "natural drainage" appears to eliminate requirements for project discharging to fully hardened channels, there are additional receiving water considerations which may

justify an alternative standard. That's what we're trying to point out here.

We must consider stream risk and project location in the watershed when we're analyzing hydromod impacts. If we're doing a housing development that drains into a hardened channel, that doesn't necessarily need hydromodification control. We've already got a hardened channel. We don't need to do expensive hydromod studies when we're discharging to something like this.

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DR. GREY: Number two, the requirement that all projects in natural drainage system must meet an erosion equal to one. Let me just remind you the erosion potential, EP, is a ratio of the work that's done on the stream, that's the work -- the erosion potential is the work that's done on the stream and pre-development conditions versus post-development conditions. So it's a ratio. All right. And the goal is a ratio of one.

Now remember, the -- and the requirement is that all projects and natural drainage systems must meet an EP of one. Our issue is that EP of one does not always account for the effects of changes in sediment supply and also doesn't always consider critical flow rates. So using the EP of one is just one phase of hydromodification control. There's a bigger broader approach to this. And

that's what we're suggesting and that's what are in our comments. Our comments spend a great amount of detail on an alternative approach to hydromodification.

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DR. GREY: This is an example of that in terms of risk of channel instability. And on the Y access -- on the Y access, we have the probability of occurrence. And on the X access is that erosion potential. Again, the ratio of work done on the stream pre-condition and post.

And you'll see where the management target is. And you'll see that the EP could vary by as much as 20 percent in that range and still have a low probability of creating channel instability.

So what we're asking for here is a consideration of a little more flexibility and broader consideration of all factors in hydromodification control beyond just setting a target at EP of one. Remember, it's a much bigger approach than just setting an EP of one and going to that standard. We've got to accept there's obviously some level of risk we need to accept and that management target reflects the moving nature of that.

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DR. GREY: Hydromod issue number three. And this relates to some of the low-impact development as well that all projects shall maintain effective imperviousness at

five percent. The issue here, it's a mandate, and it's one of many tools to achieve a numeric EP standard. And it's redundant with the numeric EP standard itself. And the next slide illustrates this very well.

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DR. GREY: And again this also illustrates the concept of scale. And I'll just take a moment to go through this. These are various hydromodification control options at different scales starting at the bottom where you have on-site BMPs where you're using low-impact development, and a vegetated swale with a small flow duration control. And that's an approach you'll see in our comments, flow duration control. It's a very important concept, one we believe in the interim period until the SCWRP study is completed at various municipalities. And I'll talk about that in a moment. That the municipalities can use the flow consideration control as a way to control impacts.

Back to this slide, the bottom is on-site BMPs incorporating low-impact development near site or in the project scale with vegetated swales with a small flow duration control vault emitting to the stream.

The middle example would be one of urban runoff or mid-scale where you don't have any on site LID where you route the water through a vegetated swale into a

larger flow duration flow basin and then into the stream. The top slide is urban runoff like -- and a picture with the flow duration control basin like we saw in Fresno, the large basin. That is another example of how we can still achieve hydromod control but do it on a different scale. Again, integrate throughout the landscape. Don't just mandate or force one approach. Use an integrated approach.

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DR. GREY: Hydromod issue number four, the requirements for interim hydrograph matching standard is not protective of stream channels. And we propose that we replace that with a nomograph tool based on this EP method.

Without getting too complex here and outsmarting not only myself but outsmarting you, what this is is a tool that could be used on a city level, on a subwatershed, on a watershed level basis to help appropriately size flow duration control devices in order to protect stream channels. And on the X access, you have percent imperviousness. On the Y access you have total storage volume in inches. And you've got a correlation line based on achieving a 0.4 inch per hour infiltration rate.

And this particular chart was developed for a

site in northern L.A. County with specific soils. Now, of course, infiltration rate and the soils would be different in those different locations, the city, the subwatershed, the watershed. This is an interim tool that can be used right now rather than the approach that's written in the permit. And so we offer this up as an alternative to get us through the period until the SCWRP study, which I'm sure you're all familiar with, until that's completed, which won't be until 2009-2010. And I must say we're delighted to be serving on the Technical Advisory Committee for that group along with many people in this room and your staff included.

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DR. GREY: Finally -- actually, second to final is the construction grading restrictions. And as you can imagine, the wet season grading ban has us concerned at CICWIC. You're going to hear there's many members in the audience that are from the building community that are from my CICWIC group. And you'll hear from just a few of them today. I won't inundate you with lots of speakers, but a few examples of this.

We're concerned the wet season grading ban. And I have to tell the Board. I find it somewhat humorous. I'm from the state of Washington. And the wet season here in Ventura is defined as almost as long as the wet season

in Washington. I found it somewhat humorous and odd we have such a long wet season, 195 days. And we've done statistics between 23 and 28 days on average at three different gauging stations in Ventura County where rain actually occurs. And when we look at a winter like we're having this winter, we'd have a grading ban for six months with just a few rain events that might have increased runoff.

What we're suggesting is that a two-tiered approach to BMP implementation with more stringent BMPs required in the wet season for sites with a high erosion potential. Let's button up the sites. Let's do the right thing. Inspect the heck out of them. Let's make -- allow grading to occur with certain standards in place.

And the last point on this -- again, you will hear this consistency from me. You probably well know the general construction permit is out. We need to make sure we're consistent in our MS4 permits with what's going on at the State level. I'll be speaking in two weeks at the Rancho Cucamonga and again in Sacramento. And the State is taking a risk-based approach to selecting BMPs. We're supportive of that risk-based approach. We have our alternatives in place that we feel will work and will be implementable. But let's make sure that what we do in Ventura, what we do in San Diego, what we do in south

Orange County, what we do all over is consistent with that approach.

One thing that's not on my bullet points today that I want to cover -- and you will find this in detail in our comment package. The bioassessment process and the proposed bioassessment methods, which is known as the California bioassessment method is -- again, this is in our comments. It's not an appropriate method to gauge ecological health of a stream for most types of stream habitat in southern California. A revised methodology is currently being prepared by the State Water Resources Control Board and California Department of Fish and Game and it's due out this year. The use of this proposed method ranks many natural stream reaches in southern California as poor quality habitat because it compares southern California systems to criteria for different climates in different stream systems.

So that's what's being proposed in the permit. So that obviously is problematic to us and troublesome. Therefore, we feel this methodology should not be used to trigger watershed ecological restoration plans and instead use the new methodology that's being developed.

So let me summarize.

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DR. GREY: We're asking you to revise the

approach to setting action levels. We need to take actions, not violations. We need to consider project scales and implementing low-impact development and hydromodification approaches. Remember, look at the integrated picture. Let's not rely on homeowners and homeowners associations to do what the whole landscape we can do throughout the whole landscape. Let's encourage homeowners. Let's encourage HOAs. Let's encourage a number of ways to solve these problems. But let's don't put the onus on them. Let's not make the mistake of all going to septic tanks or all going in the '50s to backyard burners. Let's take a wholistic regional approach to this.

We need to consider watershed and water body characteristics and setting hydromodification standards. Let's consider streams that are the real risk. If you look at that SCWRP study, that's the heart of what we're doing. The heart of what they're doing is identifying those stream resources that are most under threat. That's what we need to protect. And those systems that we can improve and have ecological restoration take out some of the hardened channels, let's do that and prioritize that. And they'll be developing those management tools that the watershed protection district can use, the cities can use, the developers can use.

And finally, the construction general, please be consistent with the general construction permit. And I just urge you to not implement a grading ban. And instead, let's have button-down inspected sites that use a wide array of BMPs for treatment during control.

Thank you for your time today. I really appreciate it. Look forward to seeing you again.

CHAIRPERSON DIAMOND: We're going to have the 30 minutes from the Coalition for Practical Regulation. And I appreciate you taking -- the person who just spoke, that you took a little less of the 30 minutes. And the more time that's left at the end, the more time there will be for Board questions, for you as well as our staff.

(Thereupon an overhead presentation was presented as follows.)

MR. FORESTER: Hi. I'm Larry Forester, City Councilmember for the City of Long Beach recently re-elected and nicknamed by Bob Foster "Landslide Larry." We'll get into that later. I'm here on behalf of the City of Signal Hill and an Ad Hoc Committee called the Coalition for Practical Regulation.

I have a report that I'll hand to the staff to pass out. I'm going to do it from a PowerPoint and hopefully speed it up.

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MR. FORESTER: Our cities are interested in the Ventura permit, because it will effect our next permit or permits. That's why I'm here speaking today. As a Councilmember, I must assure my constituents I'm spending their money wisely. I'm fiscally responsible. I am financially feasible to meet all of my needs in my cities, which are many, from public safety to public works, to park and recreation, and not only water, but land.

I must tell you that from the California constitution standpoint as we look at it, it really says to us that we really should not be subjected to unfunded mandates. We have so many obligations to meet. And this Board and others under the California constitution really should not put unfunded mandates unless we have a source of funding. And general fund moneys for water quality consideration have to be balanced with police, fire, public works, et cetera.

And with this California preventing of state moneys being spent that are not unfunded -- or cities' moneys being spend unfunded, we want to recognize that the draft permit for Ventura needs funds. We need money to accomplish what you're asking us. I'm not saying you're asking us to do the impossible, although in some circumstances we can pursue that. But we have no moneys to do any of it. I have to look at what I spend right

now, which is prohibitively expensive. I spend better than three-quarters of a million dollars on NPDES permits for a city of 11,000 people and 2.2 square miles. As we go forward, I need to look at further where we're coming from and --

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MR. FORESTER: Again, I just said our public, fire production, ambulances, the California Constitution, the draft Ventura permit recognizes the needs for these funds, but does not provide funding. I'm asking you for that funding.

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MR. FORESTER: We recognize that it is required by the Clean Water Act, but a number of expensive requirements contained in the draft are not federal requirements. The municipal action levels are not required by federal law and would cost millions if not billions for us to implement and meet compliance.

Additional expensive provisions in the draft permit are not required by federal law. Provisions under part one and two requiring strict compliance with water quality standards; two TMDL provisions requiring strict compliance with numeric waste load allocations; permit terms obligating cities to effectively be responsible for atmospheric deposition, which I just spoke in front of the

SCAG air quality group this morning with AQMD from all the counties and where they need to have a joint responsibility with the Water Boards to look at aerial deposition. It's a very important part.

We need to look at the watershed ecological restoration program, and the low-impact development requirements.

As we move forward again we need to recognize --

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MR. FORESTER: -- that there's a fiscal responsibility that I have. I was elected to be fiscally and financially responsible. I have a bunch of moneys I can spend from my general fund. I don't have unlimited moneys. I do not have a blank check. I have a certain amount that I can spend with those many requirements.

So I ask that you, as a Board, look at saying to the State, "State, how do we fund this? Federal government, how do we fund it? EPA, how do we fund it? How can I do what we feel is necessary?" And I don't disagree with what cleaning up the water bodies are. But we have no money to do it. I said before. Even though it looks like a small amount going from $29 to $213 a year, that's a substantial jump in moneys. With all the other priorities we have, it causes major consternation with many elected officials, including myself.

We say the statement in part 3(c)(1) that permittees shall allocate all necessary funds to implement the activities required to comply with the provision of this order. We think it should be removed. We don't have the funds to put there. If you can get us the funds and provide us with the resources to do it, we would be happy to participate. As we look with having no moneys available, we're stuck.

I must finish with saying briefly -- and I'll read this to be exact from my statement.

"As a Councilmember for the city of Signal Hill, I can attest to the fact that municipal resources are scarce, but that the demands are many. If you are intent on imposing these burdensome problems under municipalities either in Ventura or Los Angeles County, is it essential that you provide funding so as not to diminish the funds that are available for other important public services."

You know, the poor woman who wants to make sure that her child has child care. The people that want to make sure they have fire protection. They want to make sure they have police protection. I have to balance all these together.

I appreciate your consideration. And I hope we

can jointly find some funding to do this. Thank you.

MR. WATSON: Chair Diamond, members of the Board, I'm Richard Watson, consultant to CPR. I'm going to speak about a couple of the big issues as Jonathan mentioned.

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MR. WATSON: The municipal action levels, we're in agreement with other people that there are several other issues with this permit, the hydromod, MS4, use of ecological restoration, et cetera. I'm not going to talk about those. But this MAL, this municipal action level, is basically inconsistent with State Court Order 99-05. And I ask you to take a look at that in relationship to this iterative process. And also as has been pointed out before, it's really contrary to the State Water Board's Blue Ribbon Panel, which really said that it's not feasible at this time to set enforceable numeric criteria for BMPs and they said in particular urban dischargers. And that's what we're doing here.

Next, please.

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MR. WATSON: The action levels really should be based on watershed-specific to even water-body specific subwatershed information, rather than the national monitoring data, but in order to reflect natural background and local conditions. And this was pointed out

earlier. And as I think has been said before, as written right now, they're really numeric effluent limits and they really are designed to trigger violations and enforcement. We think that the action levels should be used only as triggers for the application of enhanced management measures, which is part of the iterative process in 99-05 and has been reflected in your previous permit.

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MR. WATSON: One of the things I think was also said by Ventura that Ventura permit operationally defines MEP on the basis of exceedance of the municipal action levels, which in this case are to be derived from nationwide data. We think you need to look at requirements of Porter-Cologne, look at local factors and characteristics. And please remember that MEP is a general guideline, and it needs to be applied consistently with these factors from Porter-Cologne. And it needs to be reasonably achievable.

We do think that in the absence of a statewide definition -- and there really isn't one. There's not a national one either -- that this Regional Board could take the lead in trying to develop a good working definition of MEP. And we agree with whoever said it earlier that we need some consistency statewide. And maybe we can take a leadership position there to get consistency statewide.

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MR. WATSON: Let me show a couple of examples how we don't have it right now. This definition comes out of the draft permit. If you look at the first two lines, it just says MEP is a standard for implementation of storm water municipal programs to reduce pollutants. And then it's just sites the Federal Clean Water section. And then in reality, what happens is in year three, if you have two or more exceedances of the MAL, it's a violation of the permit whether or not you've been doing things that would generally be perceived to be in compliance with the iterative process and MEP if it were defined that way.

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MR. WATSON: Another example that I looked at was from the San Diego permit. And I just extracted portions of their definition. They did make an effort based on the 1993 memo that Betsy Jennings did. And if you haven't looked at that, I would urge you to ask your staff to get you copies of it, because it really set some of the statements that have been made elsewhere and in your permits in the past.

But in San Diego, they were attempting to try to make an operational definition. And they said it considers economics and generally but not always less stringent that than BACT. They talked about it being

dynamic and talked about how it gets defined locally and can use the proposals by the municipalities and then you get to make the final judgment.

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MR. WATSON: They also went on to site a number of factors, effectiveness, regulatory compliance, public acceptance, cost, technical feasibility. You may recall those were sited in that slide earlier from the court case, and they all come back from that 1993 Betsy Jennings memo. And we think there ought to be a working way to come up with this working definition.

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MR. WATSON: There was an attempt actually statewide. And you might want to pull this out and take a look at it. Former State Senator Morro submitted a Bill 1342 in 2002 and attempted to define MEP, and he talked about it as being the application of practical, technologically feasible, economically feasible best management practices.

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MR. WATSON: Then he went on -- and I won't read through all these things. But went through to site six factors that help define technological feasibility, economic achievability. Ask you to take a look at these. Again, five out of the six relate to the Betsy Jennings

memo. So we think there have been some attempts and we can do more.

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MR. WATSON: We'd like to make two recommendations to you today. One, direct your staff to use the MALs only as triggers for the application of enhanced management measures, not as a tool for punitive action. And secondly, direct staff to work with all interested parties to develop some sort of workable definition of MEP that could in fact provide a state framework for consistency. Thank you.

DR. GREENE: Good afternoon. My name is Dr. Gerald Greene, City of Downey. I'm with CPR today.

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DR. GREENE: First off, we would like to start reminding you some of the challenges that have been moving through to get us to where we're at today.

In May 10th, 2000, letter from the California Business, Transportation, and Housing Agency, Cal/EPA, Secretary Contreras-Sweet noted to Secretary Hickox failure to comply with the Clean Water Act exposes California's municipalities and Caltrans to regulatory actions and fines and third-party lawsuits. Full compliance in the near term may not be technically or economically feasible for Caltrans or any municipality.

Representing watersheds, chairing watersheds, I get to hear what cities say on a day-today basis, and there is a strong concern about what full compliance really means and about how they can achieve the projects. It's not there aren't things we wouldn't love to do. We all have many projects we'd like to do in our cities. The money is not there to accomplish them.

The letter further raises several broad policy questions. What strategies should local agencies and State agencies who discharge storm water and State and federal agencies who enforce the Clean Water Act follow when achieving compliance with water quality standards and objectives and permit requirements?

How can implementation of State and federal clean water laws avoid becoming a watershed of litigation and enforcement activity? And Lord knows we'd all like to avoid more of that.

What is the best way for Californians to pay for these water quality investments?

How can these be balanced with other community needs?

These are all the same issues you heard today, balancing of our needs and trying to achieve it. We do want water quality. We want better water quality. We want a more natural environment, but there are competing

needs.

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DR. GREENE: General questions about permit implementation. What approaches should we collectively follow? What is the best way to implement needed water quality improvements whiles balancing the many services that Californians demand? And as the guys who gets the phone call at 7:00 or on the weekends when I'm there, there are a lot of demands for services every day of the week.

What strategy do we follow to avoid further litigation? These funding questions remain for the most part unanswered seven years later. And here's a couple of examples down at the bottom. We've all been talking about trash TMDL for years. First, we were going to put in CDS units that exacerbate bacteria problems. The next scene over is a media filter. It's breeding bacteria. The next one over is the first attempt to try to control trash in catch basins. The flows come up, trash comes out the top.

The last one over is the one that I hope will soon be seen as an approved or certified trash control device in our L.A. County area. But we're five years, seven years out of our last permit and out of the trash TMDLs, and we're still trying to come up with an idea that works. We need to be getting to these end points. We

need to keep working towards the right end points, but we need to make sure our resources are spent on the right thing the first go-round.

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DR. GREENE: Current MS4 permits are already cumbersome. I meant to bring up the current one. It's not a small document. Your staff did a wonderful presentation. But it only glosses on the permit. The permit is a very complex document.

I get calls frequently. Just yesterday, somebody was asking me about car washing for a volunteer organization. Well, I'm in a watershed where we have a 303(d) list for unnatural foam. I don't know how to answer some of these questions. I tried to lead them through. These are difficult documents. They're not easy to deal with.

Finding E6 ties the draft permit to the 1999 consent decree between U.S. EPA, NRDC, Heal the Bay, and Santa Monica Baykeeper. These are very difficult things to link together in two documents. Really, this slide all these things in here references trying to bring the permits to uphold the TMDLs and put TMDLs in the permits. These are very difficult challenges. There are a lot of TMDLs that are coming down. They have sometimes conflicting directions. Inserting them into the permit is

going to make it totally unfathomable and unwieldy document.

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DR. GREENE: TMDLs should be implemented through MOUs. EPA has stated TMDLs can be implemented from a variety of mechanisms such as voluntary agreement mechanisms for an MOU. Cities are rifely concerned that implementation and enforcing the TMDLs for waste load application and receiving water prohibitions in the permit will result in fines, daily fines of up to 31,000 and in third-party litigation.

Sometimes it's hard to tell exactly what's the right thing. And a very good example is the recent conflicts that have been going on in L.A. County regarding interpretation. Five years into a permit, and we're still trying to interpret what it means.

Implementation of TMDL program is in its infancy, and there is much experimentation necessary for construction and operation of capital improvements and devising source control programs. It is too early to subject local government to third-party litigation for investigating any iterative process.

At the bottom I put three examples from my own city of problems that I have, things that didn't go right. The far right is a filtering device that kept collapsing

in the rain. We brought out the manufacturer. It was the first time he ever heard of somebody having a problem with it. We worked with the developer for the project, and we got it corrected. But it took a lot of effort, a lot of tests to make it work.

The second one, filter fabric over a catch basin that leads into the underground infiltration. You see a piece of filter fabric in front of you. You certainly don't want your daughter or your son going out in public with this stuff. I mean, but that's water over the top of it. Even on a fully completed site where this very porous material was left. Go out in the storm, and it completely occluded. The water would not go through this material at all. I don't have a lot of people to do that anymore. As soon as I have an expectation of rain, all the filter fabric has to come out of any filtering devices.

The third one is a recent swale constructed next to a Starbucks in our city. We had significant challenges in getting the irrigation system under control with the developer, with the landscaper architect, with the property operations management. And we all know those darn automatic irrigation controllers get reset every time the power goes off. I can tell you it went off a lot that first couple weeks of operating that particular Starbucks out there.

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DR. GREENE: TMDLs should be implemented through MOUs. MOUs should be the preferred way for implementation of TMDLs. TMDLs can set forth BMPs to be implemented by the cities. We should know. We tried to push a lot of BMPs in my particular city.

MOUs allow the Board enforcement through supplemental environmental programs that consist of programs designed to enhance water quality. MOUs give the Board adequate enforcement power.

We are requesting the finding E(6) of the draft permit be revised to specify that the implementation of the TMDL program will be through MOUs between the Regional Board and the local government rather than through the permits.

And finally, I would like to invite you all to come at my expense -- at least all of the Board members to come at my expense. We'll be having a presentation on low-impact development where I'm going to go through a lot of the things we've used in our city for BMP controls on April 26th in Lakewood. And it would be a great opportunity to see what we've done and hopefully get a better feeling for what we hope other cities will learn and be able to incorporate into their programs.

But I'm also showing you many examples of things

that didn't work. And that's the only way we learn it is to sometimes look at what worked and what didn't work. Thank you all very much. By the way, if you want to, your staff knows how to reach me. I think that's pretty much -- all of the staff talk to me on a regular basis.

CHAIRPERSON DIAMOND: Thank you very much.

MS. RAPP: Good afternoon. I'm Lisa Rapp, Director of Public Works for the City of Lakewood.

It's my pleasure to be here today to participate in this hearing, and I appreciate the opportunity to address the Board regarding the impacts of atmospheric deposition on water quality.

There is an increasing recognition of the connection between atmospheric deposition and water quality. To address this issue, regulatory boards, government agencies, and the environmental community must work together to develop policies and long-range plans. The February 2006 CARB and State Water Board joint workshop on atmospheric deposition was a great start.

Former State Board Executive Director Celeste Cantu acknowledged the importance of atmospheric deposition in meeting water quality objectives, when in her April 2006 lettered she stated, "We will not be able to fully address these impaired water bodies until the component of atmospheric deposition is understood and

quantified." The environmental community also recognizes the importance of the air/water interface.

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MS. RAPP: The NRDC petitioned the Los Angeles Regional Board to request technical information from industrial emission sources and has gathered data on emissions of six chemical and metal pollutants in 303(d) listed water bodies from EPA's toxic release inventory.

Atmospheric deposition is a complex problem. The U.S. EPA's 2001 publication, "Frequently Asked Questions About Atmospheric Deposition, A Handbook for Watershed Managers," identifies a lengthy list of water pollutants identified as significant for atmospheric deposition, but further study is needed.

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MS. RAPP: Local governments understand the importance of the air/water interface. Permittees in the Los Angeles River Watershed are funding an atmospheric deposition research project related to the Los Angeles River Metals TMDL. The two-year project involves paired measurements of atmospheric deposition and storm flow. Local governments will be contributing approximately $1.5 million to fund this atmospheric deposition research project.

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MS. RAPP: From the perspective of a storm water permittee, we are caught in a bind. Airborne pollutants settling on impervious areas wind up in runoff. Regulations are imposed on permittees, but we don't have the regulatory control over some of the major pollutant sources such as sources of atmospheric deposition. And removing all pollutants at the end of storm drains can be prohibitively expense.

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MS. RAPP: We urge the Air Boards become part of the solution. While water quality regulations have been broadening, air quality regulation has become more focused on fine breathable particles. But air impacts on water quality involves both fine and coarse particles. Air Boards need to monitor a wider range of particle sizes and acknowledge that water pollution is one of the public welfare effects that needs to be addressed in regulating sources of atmospheric pollution.

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MS. RAPP: Atmospheric deposition is not adequately addressed in the draft Ventura permit. Finding B(1)(6) is a good start. It recognizes the importance of dry, indirect deposition to water quality and calls for cooperation between the Regional Board, the South Coast AQMP, and CARB. Municipalities would like to work with

the Regional Board to develop a strategy to stimulate more action by the Air Boards.

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MS. RAPP: The Santa Ana Regional Board recognizes that permittees can't control atmospheric deposition and other specified dischargers. They've included language recognizing that permittees may lack legal jurisdiction over storm water discharges into their system from a variety of sources, such as point and non-point source discharges otherwise permitted by the Regional Board.

They further recognize that the permittees should not be held responsible for such facilities and/or discharges or certain activities that generate pollutants present in storm water runoff that may be beyond the ability of permittees to eliminate.

We ask that you include a similar finding in the Ventura permit and that the other MS4 permits you will issue later need. Neither the Regional Board nor municipalities can control atmospheric deposition, and we won't be able to achieve clean water until it is controlled.

Thank you very much.

CHAIRPERSON DIAMOND: You have five-and-a-half minutes left.

MR. TAHIR: Good afternoon. My name is Ray. I'm with Tec Environmental, and I'm --

CHAIRPERSON DIAMOND: Can you speak up?

MR. TAHIR: Sorry. My voice doesn't carry very well. I'll try to be more booming.

My name is Ray Tahir. I'm with Tec Environmental, and today I'm representing CPR.

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MR. TAHIR: My segment today deals with the needs for the next draft MS4 permit to be covered under an environmental CEQA or some other mechanism which is needed to evaluate the impact of things associated with this permit, including numeric limits that may be under the guise of municipal action levels or may be tied to TMDLs.

I'd also like to discuss with you the need to evaluate infiltration controls as a means to meeting those requirements, but in a very specific way.

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MR. TAHIR: As you know, the draft MS4 permit proposes mandatory infiltration through this 95 percent imperviousness requirement. But infiltration cannot be mandatory because of instances of infeasibility, such as dealing with a project that goes from property line to property line. Because of space limitations, it would be almost impossible to infiltrate rooftop runoff for example

for infiltration control. What you need to do is look for an alternative. The question is what are those alternatives. Can they be storage? Can they be treatment? We don't know. Hopefully, in the next permit there'll be guidelines that will be available to help city engineers determine which would be an appropriate control.

As ou know, there are projects that are situated in Los Angeles County and perhaps even Ventura County where there are known areas of contamination. As a matter of fact, in a letter that was written by the San Gabriel Basin Water Quality Authority to the Supreme Court, the Governing Board wrote, "There are ways to prevent percolation. But without making sure that surface underlying the water impairment is impermeable, contaminated surface waters percolate into the soil."

In areas like the San Gabriel basin, the water contaminants in the soil may reach the underlying aquifer. As mentioned above, groundwater contamination is one of the most difficult and expensive forms of pollution to correct. So you must be careful where these controls are sited. And we're not talking about just the areas of known groundwater contamination. We're also talking about certain previous uses, such as gas stations or automotive repair facilities, or industrial facilities where we have underground storage tanks or places like former aircraft

manufacturing facilities where known contaminants associated with ag gas are known to exist. So you have to be very specific about where to site these things.

You can't always assure that an infiltration -- you can't always be assured that 95 percent of pervious requirement can be met. There has to be alternatives, not only in terms of different implementation controls, storage controls, capital creek treatment controls as well.

By the way, another consideration that needs to be taken into account is high water table. And there is a representative from the City of Cerritos who will speak to that issue but during the public comments section.

Also what you don't want to do is require infiltration for public and private streets. I mean, not at this juncture at least, because who knows what could happen. If you had an accident, say a fuel truck overturned or an oil truck overturned and you had a release and it went directly into an infiltrated control, it would be very difficult to remediate that situation. Once the toothpaste has left the tube, it's hard to put it back in the tube. This is not to say some other infiltration control can be used. But you have to be specific. You have to break it down.

By the way, there are private streets in a

residential setting might be appropriate depending on the type of infiltration control. You would probably have to exercise caution about requiring an infiltration control for an industrial park or for a commercial facility.

One other thing about areas where you have high water tables such as Cerritos and other cities in the southeastern corner of Los Angeles County is that currently there's a presumption that ten feet between the infiltration control and the water table is sufficient to bioremediate any release. I don't think that's exactly accurate. If you have a release of something like aviation fuel or a pesticide such as diazinon, that would quickly pass through ten feet. These are highly mobile pollutants. And you have to look when you evaluate a site to determine what type of control to use. You're going to have to take that into consideration. And you have to be sometimes worse case and you have to do some risk assessment.

By the way, as you know, there's a paradigm shift going on right now. The Regional Board is moving away from mechanical manufactured controls to infiltration. One of the reasons why infiltration has not been a big seller in Los Angeles County is because a number of city engineers aren't familiar with these controls and because there's liability issues you have to look at. We don't

have a great deal of experience for these controls. We should, quite frankly. I think infiltration controls are probably top of the list in terms of their ability to remove pollutants. But we just need to do more research. We just need to do more.

CHAIRPERSON DIAMOND: Thank you.

Now we're going on to the 30 minutes allotted to the environmental community.

(Thereupon an overhead presentation was presented as follows.)

MS. JAMES: Good afternoon. My name is Kirsten James, and I'm the staff scientist with Heal the Bay. Today, myself and Dorothie are speaking on behalf of the Heal the Bay and NRDC.

First off, I'd like to say that we support many aspects of this permit. For instance, we particularly support the inclusion of low-impact development requirements.

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MS. JAMES: These will help to minimize pollutants emanating from impervious surfaces. And the draft permit appropriately establishes clear goals without describing exactly how it will be met. In addition, it incorporates clear and enforceable language to describe these LID requirements. We also support the inclusion of

hydromodification mitigation criteria to prevent the accelerated downstream erosion and to protect stream habitat. As you know, small increases in flow can result in massive erosion problems over time, so this is a very positive step in the permit.

We also support the watershed ecological restoration component. These provisions are very positive. As you know, restoration of areas to natural conditions can have major water quality benefits. We particularly support the use of the index of biological integrity, otherwise known as IBI, to assess the biological community of these streams.

And, of course, we support adding the TMDL waste load allocations into the permit as well, as this is a necessary step that has been taken in the draft permit.

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MS. JAMES: However, we do have various concerns with the permit that is described in detail in our comment letters, and I'll go over briefly today.

First, we have the municipal action levels, or the MALs. As you've heard many times before today, these action levels have been developed using actual BMP data from nationwide databases. We believe municipal action levels are a very useful interpretation of the MEP standard, so we support this general concept of municipal

action levels.

However, a few comments on this. First, we believe that the MAL discussion should be removed from the receiving water limit section of the permit. The backbone of the receiving water section is the prohibition that discharges from MS4 that cause or contribute to a violation of water quality standards are prohibited. By setting an MAL, the Regional Board is interpreting this MEP technology-based standard. It is not setting numeric water-quality-based limits. There's a difference.

Receiving water limits express a requirement to maintain a condition measured in water to meeting adopted water quality standards. MALs are not water-quality-based effluents. Thus, including these in the section are inappropriate. We would suggest removing Item Number 5 and Section 2 of the permit. And there should be no reference to the MALs in this section. We believe the language should clarify that the BMP implementation process is not complete until receiving water limits are continually met.

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MS. JAMES: Another issue that we see with the municipal action levels is that the list isn't complete. As you saw in the first presentation of the Ventura County, they provided a table which showed the

constituents where MALs were developed and those other pollutants of concern in storm water. For example, those that have TMDLs, and this didn't match up. So we suggest looking at different constituents that should be added to this list of municipal action levels, because this second column here is also definitely pollutants of concern and storm water. And this is not a comprehensive list, but these are just some of the examples.

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MS. JAMES: The lack of performance criteria is also significant shortcoming in this draft permit. The draft permit includes numeric design criteria for hydraulic control, but there's no inclusion of water-quality-based performance criteria. Discharges from the MS4 must not cause or contribute to exceedances of receiving water limits. And flow-based design criteria are not enough to ensure these receiving water limits are consistently met.

We recommend requiring performance-based criteria for all BMPs that are constructed in response to a receiving water limit exceedance and also all BMPs that are constructed as part of new or redevelopment should also be required to meet these performance criteria.

So you might ask, well, how are we going to develop these criteria? Well, let me offer a few possible

suggestions. One possible approach would be to use the municipal action levels as a performance-based criteria. These were developed using the database where levels that were feasible for storm water, these were achieved because they are based on storm water monitoring results. So that would be one approach. Another approach would be to develop a performance design criteria doing a more extensive of the ASCE EPA storm water BMP database.

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MS. JAMES: Yes, this would take a little more time, but perhaps a provision could be added into the draft permit that says by a date certain, for example, next summer, these would be added into the permit. So we believe, in sum, that following this path of performance-based criteria is really critical for this permit and for meeting these water quality standards and the receiving water.

Moving on to TMDLs and waste load allocations. While we support the inclusion of the waste load allocation in the permit, we object to the fact that the draft permit expresses these waste load allocations as a suit of BMPs that have been determined as providing a reasonable expectation that waste load allocations will be achieved for wet weather flows. This is quoted here in the first bullet. And as you see from the second bullet,

it's also discussed, you know, several other times in the permit.

By law, waste load allocations are numeric components of the TMDL, and we believe there's no legal basis in the Clean Water Act that allows effluent limits designed to meet a TMDL to be expressed in narrative terms. So we would suggest removing that language.

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MS. JAMES: In addition, although there are waste load allocations in the draft permit for a variety of TMDLs that are in place in Ventura County, there's a handful that are missing that are adopted TMDLs either by your Board or by EPA listed here that are not included in the permit. So we believe that hopefully this was just an oversight by staff and that these can be easily included in the draft permit.

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MS. JAMES: In addition, as you know, when your Board adopts a Basin Plan resolution incorporating a TMDL, they include what's shown here on the right, which is an implementation schedule. And these implementation schedules go through and set things like interim waste load allocations or different milestones or different monitoring reports that are required at different phases throughout the compliance schedule. And these are absent

from the draft permit now, but these are definitely requirements that need to be met. So we believe that these requirements -- these interim requirements need to be placed in the text of the draft permit, so the dischargers are also held accountable for completing these very important activities.

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MS. JAMES: And finally, I'd like to touch upon the monitoring requirements. As we've talked about many times, the permit prohibits discharges causing or contributing to exceedance of water quality objectives. A fundamental aspect of the Clean Water Act is that the permittee undertake a self-monitoring program sufficient to determine compliance with its NPDES permit. This goal is outlined specifically in the draft permit. Says one of the goals is to assess compliance with effluent limitations and water quality objectives.

However, we believe that, as written, the monitoring program and the draft permit is inadequate to accomplish these goals. In general, the Regional Board will not be able to determine if the MS4 is in fact causing or contributing to violation of water quality standards. For one thing, you have a handful of mass emissions stations, which is currently five, but is going to be reduced to three. That's one for each of the main

watersheds. And each of these watersheds have multiple permittees in each of them. And each of these watersheds also have multiple discharges, for example, wastewater. So not only will you not be able to determine which permittee is causing the pollution problem, you might not be able to know if it's a storm water issue, if it's a wastewater issue, that type of thing. And this goes the same with tributary monitoring, because the way the permit is set up is that there's a rotating system.

So several tributaries in one watershed are monitored for a few years, and then this rotates to another watershed and so on. So basically in these off years, dischargers are getting a free pass to discharge pollutants into the tributary that's not being monitored that year.

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MS. JAMES: As you know, there's a lot of seasonal variation in water quality. So that's a big issue. And that's the same for bioassessment monitoring. It's supposed to be done on this rotating program and rotating system. We would propose including tributary monitoring for each watershed every year and just in general including more monitoring stations so that you can pinpoint what discharger is contributing to the water quality standard issue or water quality issue.

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MS. JAMES: Finally, the toxicity requirements as written now, in general, we support the use of -- or the inclusion of toxicity monitoring in the permit. But as written now, we have problems with some of the provisions. For example, a toxic identification evaluation, otherwise known as a TIE, is only conducted if 90 percent or more toxicity is found in the first year. So in other words, only ten percent survival of this species that year triggers an identification of the toxicity issue, which if you think about it, ten percent, that seems very outrageous. So we would recommend just in general with the toxicity monitoring program to look more closely at what the permitting triggers are for other NPDES permits, such as for wastewater and that kind of thing and also looking at how the NPDES permits deal with different species and picking the most sensitive species and that type of thing.

So with that, I will now turn over the presentation to Dorothie who will discuss the low-impact development. Thank you.

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MS. ALSENTZA: Good afternoon, Chair Diamond and member of the Board. My name is Dorothie Alsentza. I'm with the Natural Resources Defense Council. I just

mention that my colleagues couldn't be here today, so I'm filling in for them.

Now, as we described in our comment letter, we strongly support the draft permits the inclusion of low-impact development requirements. And there's been a lot of discussion about LID today. So I'll give some background on this subject.

Next slide.

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MS. ALSENTZA: Low-impact development, or LID, I'll refer to it today as that, describes a wide range of storm water management techniques that reduce the volume rate and pollutant loading of storm water runoff by mimicking the natural hydrology of land. LID techniques address storm water runoff at its source. That's a really important concept. That's exactly why LID is most effective when implemented at all levels, including at the lot levels. That's something that came up earlier so I thought I'd mention it.

Next slide.

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MS. ALSENTZA: Many LID techniques do involve water harvesting or infiltrating storm water on site, and this is a list of some of the more common LID practices, which you'll see in the next slide. Practices such as

these can be used in a wide variety of development context.

I'd like to call your attention briefly to the first site in here which is reducing effective impervious area. This is really one of the core LID practices, and all of these other ones relate to it. The draft permit really captures this concept nicely, and I'll talk more about it at the end of the presentation.

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MS. ALSENTZA: Here you can see a few LID strategies in practice in communities across the country. There's a rooftop rain garden on the left. In the middle is a vegetated filter strip in a parking lot. On the right, we have permeable pavers in a parking lot. And then the next slide down is a street in Seattle that was retrofitted to incorporate vegetated swales on the sides. And here's a rain garden street side and also a closed loop office landscape there.

Next slide.

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MS. ALSENTZA: I just wanted to mention those particular examples were all examples of retrofits. So they all can work nicely in redevelopment contexts, which is consistent with smart growth, which people have been mentioning today.

From an environmental perspective, LID makes sense because it addresses storm water at its source. Our letter that we submitted and the accompanying report by Dr. Richard Horner describe in detail how LID-based practices work, why they're so effective, and what other additional benefits can be derived from LID. One I'll mention here is recharge of groundwater supplies which of course in southern California is an issue.

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MS. ALSENTZA: Environmentalists aren't the only ones who realize the value of LID. The National Association of Home Builders has this to say about LID's economic value. I'll read this.

"Ever wish you could simultaneously lower your site infrastructure costs, protect the environment, and increase your project's marketability? Using low-impact development techniques, you can."

So there you have it.

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MS. ALSENTZA: And this is actually another example of industry's broad recognition of LID's cost savings potential. This National Association of Home Builders brochure provides a case study describing the cost savings that can be realized with implementation of a full suit of LID techniques. Here they say the developer

of this 24-acre, 103-home neighborhood could have saved 20 percent in costs, preserve 60 percent more natural space, and achieved zero effective impervious area had they used LID instead of conventional development.

Next slide.

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MS. ALSENTZA: Not only is LID cost effective, it's very flexible. LID techniques can be used in a broad range of development contexts as this text box there mentions.

I just wanted to point out that this brochure talking about the flexibility of LID was developed by the Portland metro region. They have a lot of redevelopment and in-fill going on there, because they want to avoid urban sprawl, which is a theme we heard from the cities this morning.

Now, Portland is using LID techniques to deal with the storm water pollution and stream bank erosion that create problems for salmon habitat in their region's streams. These are similar issues to what we face with the natural resources here in Ventura County.

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MS. ALSENTZA: Now even though clear enforceable LID standards are new in this draft permit, LID as a concept and as a practical matter is not new. As the

scores of documents we submitted to the record demonstrate, LID is extremely well studied and described and is really in use in communities all across the country and has been for quite some time.

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MS. ALSENTZA: One thing we pointed out in our comment letter related to this is that the co-permittees shouldn't need 18 months to develop LID guidelines. Technical information on LID really is off the shelf at this point, as demonstrated by the slew of references that we submitted, including I would add sample ordinances.

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MS. ALSENTZA: And just to sort of underscore how long things have been around, this publication from the Bay Area Storm Water Management Agency Association is from 1999. It's really their tome on storm water management called, "Start at the Source." And it notes that LID kinds of practices are the best way to manage storm water, because they start at the source.

And one more click.

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MS. ALSENTZA: Before I close, I want to briefly touch on this theme of effective impervious area.

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MS. ALSENTZA: As you saw in this slide in

particular, this is really at the heart of LID, because all of these different LID-based techniques go to effective impervious area. They reduce effective impervious area by having runoff that's from impervious area go to these other areas that are pervious and are to some extent engineered to deal with runoff from impervious area. That means that effective impervious area is not the same thing as total impervious area. So I should clear that up. A 95 percent requirement, for instance, to have pervious area is not what the draft permit represents right now. It currently contains a five percent cap on effective impervious area, which is different.

You know, even existing urban developments like these can be updated to reduce effective impervious area to near zero by strategically implementing LID techniques such as these. You don't have to rip out all of the impervious surfaces to reduce your area. And as a sort of correlative principle, effective impervious area does not mean huge lots that take up all your natural space. I know open space is really important in Ventura County. Having a very low cap on effective impervious area does not mean sprawl. Just want to say that here.

And of course, now that I'm talking about that five percent cap, we strongly support this kind of clear enforceable standard. But as we explained in our comment

letter, adverse impacts to aquatic habitat have been demonstrated with any conversion of impervious surface -- rather natural surface to impervious cover. And for this reason, we suggest that the permit should be amended to cap effective impervious area at three percent.

And we would submit that the availability of a wide range of LID techniques in all different development contexts really makes a three percent standard feasible and practicable as our comment letter and the Horner report as well as data from industry show.

And in closing, I just want to address something that Dr. Grey mentioned in the BIA presentation about an effective impervious area cap with respect to hydromodification requirements that are in the draft permit. What he called a redundant mandate I would point out reflects internal consistency in the draft permit. And in recognition, the keeping effective impervious area and maintaining low and maintaining the landscape's natural hydrology really is key to protecting water quality in Ventura County.

With that, I'd like to thank you for your time today and your leadership in protecting water quality in southern California.

CHAIRPERSON DIAMOND: Thank you.

Now we have 15 minutes from the CASQA

organization to be followed by the Coastal Commission, seven minutes, and then speaker cards.

(Thereupon an overhead presentation was presented as follows.)

MR. BROSSEAU: Good afternoon, Chair Diamond and Board members. My name is Geoff Brosseau. I'm the Executive Director for CASQA, the California Storm Water Quality Association.

I want to thank the Board as well as management and staff at the Board for allowing us some time on your very busy agenda today to talk to you and also for having this meeting, frankly, for having an early discussion about these ideas and building some collaborative efforts along.

CASQA is a statewide association, so typically you operate more on statewide issues at the State Water Board level. We often don't go to Regional Water Boards on issues.

I'm here for a couple of key reasons. Mostly because of some of the implications this permit may have on a statewide basis. Also because it is pushing the technical envelope. And we are basically a technically-based organization, so we are very interested in where the envelope is moving in the future. And we are also focused on advancing the storm water quality

profession. In this permit, we're also attempting to advance the storm water quality profession. Comments were mentioned earlier in the presentations today. We're talking about advancements with the Storm Water Program.

So I'm going to focus on just one item actually on the permit, and that is the municipal action level section, the more technically-based portion of the permit. First, before I do that, I want to chat a little bit about who the California Storm Water Quality Association is just so you know who we are and where we're coming from.

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MR. BROSSEAU: We started in about 1990. We were actually called the Storm Water Quality Task Force originally. We were an official advisory to the State Water Board back in the days when nobody knew much about storm water quality management and they need some advice on that. They asked us to become a technical advisory panel to them for the first five years of the program.

We became a 501(c)(3) nonprofit several years ago. Our basic mission is we a professional member association. We're trying to advance the field of storm water management. The field of waste water management is almost 100 years old. The field of storm water management is very young still even after 15 years. We're trying to help all of us advance the profession, advance the career.

We're advancing that on five fronts: Collaboration, education, regulatory review, guidance, and scientific assessment.

We really are the practitioners, if you will, of storm water quality manager in the state. The people that are members are cities, counties, special districts, consultants that help them, vendors that help them, construction permittees, industrial permittees. We're the folks on the ground that are trying to manage storm water quality across the state. As a result, we have a very technical field kind of focus on what's going on. That's where I'm coming from in my comments to you today.

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MR. BROSSEAU: In terms of the four major pillars of our mission: Collaboration, education, guidance, et cetera, et cetera. And this gives you a quick sense of what we are about.

I've given each of the Board members a packet that gives our annual report so you can learn more about us in there at your leisure. But the kind of things we typically will be doing, we've been doing meetings and conferences and workshops over the last 15 years trying to build a network of professionals that can learn from each other, that can prepare notes, and advance the profession. Also produce a number of guidance documents over the years

going back to the original BMP manuals for the State Water Board and updates several years ago. Almost every one of the ones that's listed here was done in collaboration with the State Water Board and Regional Water Boards in a collaborative partnership as they move the profession forward.

I've given you a copy of one in particular, the white paper, which I'll come back to in a minute, that is directly related to this idea of municipal action levels we're trying to hammer out now.

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MR. BROSSEAU: On the municipal action levels, the two key things we're concerned about from a technical point of view is the purpose of those as well as their derivation in the draft Ventura permit.

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MR. BROSSEAU: The Blue Ribbon Panel, the State Water Board's expert panel basically said what is -- you've heard a lot of the comments about the action levels today. One of the things I haven't heard quite expressed yet is what is the purpose of an action level? And the Blue Written Panel is very clear and this was actually their idea. And we supported their idea. It was a very good one. That was to identify bad actors. That was their idea of an action. They said numeric effluent

limitations are not feasible for storm water. But we think you can come up with something that's higher set point that will identify bad situations, situations that are obviously not appropriate and need to be fixed right away, sort of a red flag concept. High set point, upset value, atypical value. CASQA supported that concept in general.

I have to say that the way that the MALs are written in the current draft permit, they really don't match up with that definition of a high set point, of being focused on identifying bad actors or folks that are in a red flag situation.

The Blue Ribbon Panel said there are three ways to derive action levels. They gave three statistical methods here. The draft permit uses the last one. We're perfectly fine with that as an appropriate way to do that.

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MR. BROSSEAU: The Blue Ribbon Panel also recommended databases. You heard about this already in terms of what databases should be used to derive an action level. They mentioned three in this order of preference. First and foremost, try to use local data if you have it and it's rigorous enough. If you don't have that, go to a regional database or a statewide database. If you don't have that, go to a national database.

Staff choose the national database approach. We think that actually is probably not the way to go. I'm not sure if they weren't aware of some of the local data that was available. The reality is that the Ventura permit uses the third preferred method. And our sense is that you really do have data that is local that can be used.

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MR. BROSSEAU: The problem with not using local data when it's available is -- it's hard to tell from this slide. But the national data set that was used for something like chemical oxygen depend, they have these things called EPA rain zones around the country, and the national average for COD is about 74.

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MR. BROSSEAU: California is in that rain zone six. Same rain zone as Arizona, which is hard to believe. But this is basically a semi-arid state for the most part. And our typical COD numbers are 162. So you can see some parts of the country are in concert with the national average. Some are way different. It's important to use local data if you can.

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MR. BROSSEAU: This is a complicated graph, and I won't go into a lot of detail here. But I want to point

out a couple things to you. This is a comparison that we did in our comment letter. Take a look at it there. We are talking about again this issue of what database to use and also where to set the action level. The left-hand side is the database that was used in the Ventura draft permit and shows a national database. And those little boxes show where most of the data lies. It's in a 25 to 75 percent range. And then data above that gets into a higher variation or outliers above that data point. The municipal action level for COD in that case is set at 58 milligrams per liter.

The next data set is a California data set. This is data from San Bernardino, from Ventura, and from Sacramento. And you can already see the boxes are not lining up. They're starting to move away from each other as a result.

Now look at the third column over, the right-hand column, that's southern California data. That is only in Ventura and San Bernardino data. Again, you see the variation across data sets. It's important to have data that's local if you can. And we think we have good data for this area.

Also note that municipal action level was picked for the draft permit as something pretty close to the median in that box, close to the average if you will.

Well, the action level is really meant to identify outliars for people that are way beyond the median. We're thinking it really should be somewhere much higher along that whisker, that vertical line that goes up to the top of one of those circles. So we have some technical concerns there related to where exactly the action levels might be set.

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MR. BROSSEAU: I'd like to focus on something more positive which is something we're working on now, which I'm hoping you might see as a resource for moving forward on this issue. And that's something we're focusing on, which is quantifiable measures. That was mentioned earlier the Blue Ribbon Panel was asked, tell us how feasible numberic effluent limitations are. And if not that, some other quantifiable measures so we can start to quantify how we're doing and checking ourselves. CASQA really agrees with that statement. We've been working on that for a little while ourselves. And we want to talk about related to permit compliance and permit effectiveness.

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MR. BROSSEAU: I also provided this chart in your packets there. I'll orient this to you a little bit. This is the assessment method CASQA has come up with in

the last year or so, two years or so, in how we might assess ourselves across a number of different assessment methods. We started here at the bottom. And level one is basically assessing our program based on a checklist of what's in my permit and did I do that. You're basically documenting your program. My permit says I have to inspect 100 businesses this year. I check and say yeah, I did 100 businesses this year. Check the box and report it to the Water Board.

As you move up this scale, you start to say, I inspected those businesses, but what good did it do? Doesn't make any difference. Ask the businesses are you aware of what we are talking to you about? Are you clear what storm water is? That's called raising awareness. If the business starts changing its behavior, you hit starting the level three level of effectiveness. You're actually changing someone's behavior, not just documenting the level of effort. You're documenting the level of achievement.

As you move into level four, you start measuring what's the water quality coming off that business and looking to see whether less pollutant is actually going into the storm drain on the front end.

Level five is looking at the storm drain on the back end at the outfall level.

And level six is what's the water looking like in receiving water quality?

That's sort of the range of different kinds of measures that we're looking at now and trying to flush out. It gets increasingly difficult as you move up that scale for reasons I'll mentioned here in a minute.

But the key thing is what you're mostly getting at Water Boards now in annual reports is level one kind of information. We did this. We did this. We did that. You're sometimes getting information at level two and three, but just a little bit. They're also mostly narrative. It's not very numeric or quantifiable. What we're trying to do as a profession is move ourselves up that scale in a technically and economically kind of appropriate way.

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MR. BROSSEAU: There are some challenges. I mentioned moving at this scale level. Some of the challenges are very unique to storm water. We have a really hard time showing cause and effect. Or in reality, as action taken in a City Council meeting like this one tonight -- they're going to have a meeting here tonight or BMP in the ground here outside the building and whether the local receiving water is actually receiving storm water quality. There a lot of differences between those

two places.

One of those is the degrees of separation issue. What happens today is a BMP that's sitting out here in a parking lot, it's a long way in time and basically between there and the receiving water. So a lot can happen to that water quality between there and receiving water. It's hard for management to know if the BMP is being effective the further he gets or she gets from that BMP. So it's a degrees of separation issue that is very challenging for storm water. It's not like waste water treatment plant where they have a plant. It's in one location. The water comes in and gets treated. The water goes out and check the water and say, okay, we're doing a good job. It's much more difficult because of time and space issue and the degrees of separation.

In the receiving water is all kinds of integrated factors. What's in the receiving water is storm water, water from the upper watershed, water from the air that's dropping right on top of receiving water, other direct inputs from industrial facilities, maybe POTWs. There are people dumping over the sides of the creek or banks of the river, there are homeless encampments in the creeks in California. So storm water has all these other complicating factors. It's hard to say again that what's happening in receiving water is fully reflective of what's

happening in the Storm Water Program. Those are some of our challenges. We're trying to work through those.

In terms of moving up that scale I was showing you, it really depends on what kind of BMP you're using. Certain BMPs lend themselves to be measured at level two or three. Some of them lend themselves to be measured higher up that scale. The bottom line is in terms of moving up that scale, what we really want to be able to do, the more powerful decision I can make, the more powerful action I can take, the more control I can take, I get higher up that scale. I have an example to show you how we've done that in the past.

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MR. BROSSEAU: The issue of pesticides and storm water, we've been working on this around the state for ten years, diazinon, chlorpyrifos and now pyrethroids. We've done a lot of work in the California education programs, training programs for our municipal staff, promoting integrated pest management, less toxic pest control. And our surveys are showing, yes, in fact we are making a difference. We're not just doing those things. We're raising awareness of the public and our own staff about the concerns of pesticide use or misuse and the water quality.

We've also been able to show recently we're

getting to level three action levels. We're moving up the scale. If we look at retailer data in stores, we're finding the retailers are selling less toxic pesticides than they were five or ten years ago. That's because of efforts we've been taking and others have been making as well.

We've also been able to change the behavior of the environmental agencies as well that pesticide regulations were not working for us. They weren't thinking about water quality. Weren't thinking about urban situation. I went back to EPA in Washington and talked about this issue to work with DPR at the State level and said, "You have to help us out. You have to use your regulations to help us deal with water quality." And they're starting to do that. They changed their behavior. So we're going to count that as a change in behavior.

And, finally, we have an example of actually hitting a level six. We actually have gotten the success story in terms of getting level six and showing the things we've been doing, education programs, changing behavior, working on the regulations have resulted in real outcomes at the level six levels which indicates diazinon. We had a small part to play in EPA's decision to phase out diazinon. And now we're finding that diazinon is going away. That's because we made a very powerful, significant

decision. And as a result, it cascaded its way through the environment.

The story of leading gasoline is another great story that I won't go into today. Again, a very strong decision was made, a powerful action was taken, we went right up the scale. Most of the time the programs cannot makes decisions that are that powerful or that are strong or has much control. We tend to operate at the lower levels of that. That's not going to stop us. We're going to keep working on it.

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MR. BROSSEAU: That's a good one. Finally, part of what we're doing with the effective assessment method is trying to fold in this idea of action levels, something that staff and we can use to assess our effectiveness as well as our compliance.

I mention that white paper that is in your packets. I just got a copy of this, and I'll be bringing it before my Board next month for approval. It's the next generation of that white paper. That was some ideas on paper two years ago. This is the actual guidance manual we'll be giving out across the state about how they can effectively manage their programs, how can they measure effectiveness, using that scale I was showing you all the way. We're going to be giving them example ways of

measuring that. And also expression of action levels. In this case, what we're doing is meeting right now with these managers and talking about what would an action level action look like if we did it in accordance with the Blue Ribbon Panel's idea of an action level. What I have here is an example of that in the construction element where level one is typically what you're getting now, which is basically reporting. We visited so many businesses, and we met our permit compliance issues.

What we're saying here is what's new in this really, that that far right-hand column is brand new. We don't put numbers. What we're saying is let's give ourselves some numbers we think we can hit. What if we decide this is -- and these are draft examples because we're still working with the managers on what the numbers should be. But they have said, well, 90 is a pretty good number. If your program does not reach -- if you don't reach 90 percent are more of the businesses you said you were going to reach, you are a bad actor or you're not doing enough. You need to do more. And we're going to say that to themselves and raise the red flag.

We're also working on other levels like level three here and putting in some numbers as well there. I have another example here which is in the packet or in the presentation I won't go through.

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MR. BROSSEAU: Finally, just to summarize, our sense is that the municipal action levels really are numeric effluent limitations in the permit. That was not the intent of the State Water Board or the expert panel. As a result, we have some real technical concerns with the action levels and how they derive. But we're ready and willing to work with staff to think that through some more and work on that.

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MR. BROSSEAU: Finally, I think we are faced with an opportunity really. CASQA is working on this as I say right now. We're really looking for ways to make this work. We have an effective assessment method that includes quantifiable measures, that includes numerics, action levels. It's been embraced by the San Diego Board already. John Albertos walks around and shows me every day this white paper that he's produced and says how wonderful it is. It's in the San Diego permit already. The concept is in the construction general permit. Other Water Boards are considering -- EPA is helping with this. So bottom line is we are working on it now. I would encourage you to direct staff to work with us. We're ready to work with them on this issue. And --

CHAIRPERSON DIAMOND: I think your time up. I'm

going to have to move along, because we have a lot of cards here.

We have one last speaker, and that is the Coastal Commission, who has seven minutes.

MS. BLUTH: Good afternoon, Madam Chair, and Board members. My name is Carire Bluth, and I'm here on behalf of the Water Quality Unit of the California Coastal Commission and also as a partner in the California Water and Land Use Partnership, otherwise known as CalWLUP. It's a partnership that includes State and federal agencies, local governments, universities, and nonprofit organizations and is focused on educating land use decisionmakers about the relationship between land use and water quality.

As the State's land use agency charged with protecting and enhancing coastal resources, the Coastal Commission is deeply concerned about the impact of storm water runoff on the water quality of our streams, wet lands, estuaries, and beaches.

Land use planning and development are inextricably linked with the health of our watersheds. The way we develop and manage land use activity in our watersheds directly affects the water quality and ecological integrity of our rivers, streams, and other aquatic resources in the state.

This draft permit recognizes those principles and shows that your staff is in agreement with national water quality experts, with the Coastal Commission, and other State agencies.

We think the way forward is to integrate our land use planning efforts with our water quality goals. And we believe the concepts and measures set forth in the proposed draft permit recognize and embody this important principle. We are particularly supportive of the permit sections that address the impacts of hydrograph modification and that advance the use of low-impact development concepts and techniques.

The Coastal Commission is one of the lead agencies involved in carrying out California's non-point source control plan, and that plan recognizes the importance of maintaining the predisturbance hydrologic character of sites and watersheds when developing land. The Commission, accordingly, has long emphasized the need for development to control not only pollutants and runoff, but also increases in volume, flow, and duration of discharge caused by the creation of impervious surfaces. Further, low-impact development and the integrated approaches to storm water management articulated in the permit are consistent with the policies and measures that the Coastal Commission has been approving and local

coastal plans and permit in recent years.

Reducing the amount of runoff generated on a site in the first place by using alternative design methods such as porous paving materials or disconnecting impervious areas makes sense. Integrating landscaping or other surface water features with storm water management plans to retain runoff on site makes a lot of sense. These kinds of source control and site design features are cost effective and often have little or no maintenance needs, unlike most conventional prefabricated storm water devices. These features are capable of achieving multiple benefits, not only improving surface water quality, but supporting groundwater recharge and potentially enhancing habitat resources.

And these days, there are examples in California and across the nation where cost-effective LID solutions have been implemented in projects ranging from small-scale residential to massive commercial developments for redevelopment to in-fill situations with great success. Retaining water on site will reduce peak flows in our watersheds, minimizing flood risk and damage. Further, maintaining natural drainage patterns is key to protecting our streams from erosion and sedimentation and maintaining optimal conditions for fish population and healthy riparian corridors for native plants and wildlife to

thrive.

Moreover, as we all know, impacts to our inland water takes their tole on ocean water quality, adversely impact one of the state's most valuable resources. And in this day and age, allowing excess runoff to flow to the ocean is a waste of a precious resource. It is an opportunity lost. The rain that could have been cleaned, detained in ponds or swales, and reused for landscaping or groundwater recharge is instead directed to the street where it picks up more pollutants on the way to the storm drain system and the ocean.

This permit tells us it is time to take the next step in storm water management. It is time to get with the work of educating ourselves about the promise of the future, of better site design, of innovative, integrated water and land use planning, a beneficial reuse, healthy watersheds, and clean beaches.

In conclusion, we are encouraged by the draft permit. We believe it will do much in the way of advancing sensible and effective approaches to storm water runoff. Broadening the focus of the permit to more fully address the impacts of hydrograph modification is more than appropriate. It is necessary if the Storm Water Program is to be effective in attaining the State's water quality and aquatic resource protection goals.

We support the message and the approach and urge the Board to do the same. We applaud your staff for their dedication and excellent work on this permit and thank the Board for your time and careful consideration.

CHAIRPERSON DIAMOND: Thank you very much.

Okay. We have 17 cards. Each person is allowed to speak up to five minutes. I would urge you to not repeat something -- if someone says something that's exactly the same as you want to say or pretty much, even though you may be representing or from different cities in this Ventura County, please limit your time. If we can have less than five minutes a person, then of course the Board has some time to deliberate. And I think you probably would like to hear our thinking.

So I'm going to start out by asking Arne Anselm from Ventura County Public Works Agency, if you haven't spoken or if you have something new to add.

MR. ANSELM: Thank you, Chair Diamond, members of the Board. My name is Arne Anselm with Ventura County Public Works Agency. I'd like to talk about the watershed ecological restoration plans and the draft order. We appreciate the value of watershed restoration when it's needed, improvement to water quality, improvement to the habitat, the improvement to the quality of life of our residents.

But we're concerned about how they are written into the MS4 permit. What triggers them to be required? And these watershed-wide restoration plans are to be written and implemented by solely the MS4s. They're required when segments receive a grade of poor or very poor in the southern California index of biological integrity. The data that developed that index of biological integrity, the perennial rippling streams or classical babbling brooks. It was not developed from non-perennial streams or low-gradient streams where deposition is more common than erosion.

Work is being done by various agencies, Department of Fish and Game, SWOMP, to get more data, to get a better index of biological integrity. And it's inappropriate to use that index until that study is completed.

But the bigger issue is that these watershed restoration plans will be solely required by the MS4 permittees. The MS4s are only a part of the watershed, and they can only be a part of the solution. There are other dischargers, wastewater treatment plants and agriculture, and other NPDES dischargers to all these watersheds.

Furthermore, the MS4 permittees don't own the streams. Any improvements will require the landowner's

consent. So simply, the permittees don't have the authority to address the causes of degradation or to implement on the groundwatershed ecological restoration plans. A successful plan would be done with watershed-wide consent with all stakeholders working together to attain the same goals and objectives. So we request that when watershed ecological restoration plans are required that they are done at the watershed level. Thank you for your time today.

CHAIRPERSON DIAMOND: Thank you very much.

John Bejan.

(Thereupon an overhead presentation was presented as follows.)

MR. BEJAN: Good afternoon. Good evening. John Bejan, City of Simi Valley.

I was going to go elaborate in detail for LID, but Dr. Grey basically eloquently addressed all my concern. So I'm making it minimum time.

Basically, I'm recommending the multi-approach to LID. I have some pictures to show you why at least the LID, the way it's proposed, is not going to work for Simi Valley. I have some pictures to show you.

As you know, staff knows at least, we have a problem with groundwater. Basically artesian in our city. We have a total of six or seven groundwater dewatering

wells pumping 24/7. So the idea of LID retaining local retention of water through percolation, we have the opposite. We have artesian. So you don't have any picture I guess.

This is one of our pumps. It's called a chain drive pump. It's basically pumping groundwater, dewatering it 24 hours a day. And unfortunately not too successfully. We still have a lot of --

--o0o--

MR. BEJAN: -- groundwater.

--o0o--

MR. BEJAN: This is a typical groundwater artesian in our city. As you can see, LID cannot possibly work as it's proposed.

--o0o--

MR. BEJAN: This is one of our typical city streets that it's continuously artesianing the water. Again.

--o0o--

MR. BEJAN: That's another site.

--o0o--

MR. BEJAN: Another site and so on.

So application of LID for Simi Valley at this great part of Simi Valley it's not really practical. You need to have a different approach. You cannot retain

water through grass area at all or green area. You need to have different approach.

That's all I have.

CHAIRPERSON DIAMOND: Thank you. Thank you very much.

Terry Davis.

MS. DAVIS: Good afternoon, Madam Chair Diamond and Board members. My name is Terry Davis with the City of Moorpark.

The City is very supportive of the award-winning Ventura countywide program, and we recognize the importance of taking a proactive approach on environmental issues.

I'd like to talk to you today about the trash excluder requirement of the draft order which reads, "Each permittee shall install trash excluders or similar devices on catch basins to prevent the discharge of trash to the storm drain system on all catch basin inlets no later than 180 days from the permit adoption."

The storm drain system in the city of Moorpark is maintained by both the City and the County Watershed Protection District. Moorpark owns approximately 650 catch basins within our boundaries. And it would cost at least $750,000 to purchase and install the excluders in a region that is not listed on EPA's list as impaired for

trash, does not have an extensive trash issue, and hasn't been issued a trash TMDL.

Moving onto the storm drain design, the storm drain and catch basins in Ventura County were designed based on a science which over the past 100 years or so has been developed and the systems were built per the existing standards to serve 10-year, 50-year, or 100-year storms. And the jurisdictions have constructed those storm drain facilities so that there is minimum or no flooding within their communities.

The trash excluders will compromise the design of the storm drains and the catch basins. Currently, in the city of Moorpark, FEMA is conducting a study to establish the digital flood insurance rate map or DFIRM, and DFIRM is expected to reflect that up to 20 percent of our city lies within the 100-year flood plain, which would require the residents and the businesses within that 20 percent of our city to obtain insurance on their property. And that insurance is expected to average between 4- to $700 per year per house owner or business owner.

With the proposed catch basin trash excluder language in the draft permit, the storm drain system and catch basins are projected to function at a lower rate than their design capacity and could cause flooding within the streets and the adjoining areas. And our city

engineer calculated the city's 100-year flood plain could increase significantly. He thought maybe up from 20 to 60 percent, which would require three times as many residents and business owners to purchase the FEMA flood insurance. Again, that's expected to be an average between 4- to $700 per year per homeowner or business owner.

I'd like to point out that Moorpark is very proactive. Our streets and parks and the entire community are practically litter free. Our catch basins are cleaned out at least once every year, and we have no record of any catch basin containing more than 40 percent capacity prior to the annual cleanout. We also do spot checks between those cleanouts, and we've already purchased trash receptacles to be placed at every bus stop within the city. We're committed to a rigorous streetsweeping schedule. And our city participates in various community cleanup programs. And those programs are often partner -- we often partner in those programs with other agencies such as the school district. These best management practices meet and exceed the requirements of the current permit and are successfully preventing excessive trash and debris from entering the storm drain system.

So the city of Moorpark wishes to continue running our successful and effective program at the current level of operation. And we ask you to direct your

staff to remove the trash excluder language from the draft permit.

We'd also like to invite you and your families to visit Ventura County. We believe it's an example of a very successful NPDES program implemented and operated by the local agencies.

Thank you very much for providing me with the opportunity to address you today with these concerns.

CHAIRPERSON DIAMOND: Thank you.

Mark Pumford.

MR. PUMFORD: Good afternoon. Mark Pumford with the City of Oxnard. The City of Oxnard is part of three watershed management areas: The Calleguas Creek, Santa Clara River, and miscellaneous Ventura coastal. What you don't see in the draft permit is an integration of the TMDLs from the various watersheds with the Storm Water Program.

There is also no recognition or integration of the watershed monitoring programs in the draft permit. Ventura County has been monitoring storm water, as Vicky mentioned, since 1992, and the data set was used in the TMDL developments. The city of Oxnard supplements water quality information with ocean monitoring data that should address the Coastal Commission's concerns. We have sediment sampling along the entire coast of the county.

As Gerhardt mentioned, Calleguas Creek watershed has a watershed base permit since 1996 for Calleguas Creek which to the TMDL monitoring water column sediment, toxicity, bioassessment fish tissue analysis to measure the various pollutant of concern, metals, historic pesticides, current pesticides, toxicity, and nutrients. Some of these have an urban runoff allocation.

This area specific monitoring is what the Blue Ribbon expert panel suggested for using to identify bad actors. This has already been done in identifying the pollutants of concern list, enhancing implementation measures to address these pollutants, and trying to achieve the waste load allocations. We review all this information to look for trends in receiving water quality and trends in the urban runoff component.

We see the Storm Water Programs are effective in addressing multiple pollutants of concern, because we focus on a common denominator, total suspended solids. And especially in Calleguas Creek, we take an integrated approach to addressing these pollutants with common characteristics through the implementation plans.

We have a strong construction oversight program, post-construction requirements, and an awesome maintenance program. The existing solid waste removal practices address multiple pollutants of concern. And we have

streetsweeping. And downstream of that, we have catch basin cleanouts and line cleanings, detention. And infiltration basins are down stream of those. And in some cases, we have proprietary devices to further remove pollutants. These efforts have already resulted in TSS falling off of the pollutant of concern list. Mercury and PAHs are no longer on the top ten of the list, and there's been a dramatic decrease in the number of organic pollutant detects.

It's not cheap to deal with these pollutants of concern. For example, the cost range for addressing a single class of TMDLs in Calleguas Creek metals is estimated in the range of 1.5 to $38 million for urban discharges. But there's a synergistic effect taking care of in addressing this waste load allocation, because it also mitigates the sources of pesticides, toxicity, and bacteria.

In contrast, the permit requirement for the trash excluder for the city of Oxnard would cost between three and four million dollars. It would not have a synergistic effect, and it would take resources away from the work we're already doing.

We're in favor of working with the Regional Board staff on maximizing our efficiencies and implementing the Storm Water Program with the TMDL ag waiver and other

programs in the stakeholder process. Thank you.

CHAIRPERSON DIAMOND: Thank you.

Carrie Mattingly followed by Bert Rapp and Anita Kuhlman.

MS. MATTINGLY: Good afternoon, Chair Diamond and Board members. My name is Carrie Mattingly. I'm the Director of Utilities with the City of Port Hueneme. And I'm a co-permittee in the Ventura permit.

You know, today, your Executive Officer said we're going to focus on the big pictures. And I want to focus on a big picture for some very small cities who are permitted under this Phase I permit. As our Brian Brennan said, we came into this permit ten years earlier than we needed to, and we got it. We understood how cooperation really does improve water quality in Ventura County. And I think you've heard it over and over again from people how we work together in Ventura County to improve water quality.

Some of the history that I want to give you, you've already heard from your staff, and I'm going to not reiterate it. But I wanted to let you know we had one city that was over 100,000 in population. You could count the flood control district if they encompass everybody. Everybody else was under 100,000 population, and we all worked together. I think that's important for you to

know.

So the result has been, as you heard, the award-winning EPA program that we have. And 15 years later, our entire county population, as you heard, is 800,000. Only four more communities have topped that 100,000 population mark. Now there are about 125- to 105,000. Six communities remain well under 100,000. The largest is 62,000, and the remaining are under 36,000 in population. The City of Ojai has 8,200 residents.

On behalf of the countywide program, the watershed protection district has been assisting all of us. They've been funding these principle permittee activities. These are going to increase tremendously in this new permit. And honestly -- I don't want to whine here in front of you about the money. You've heard that enough. But we're not sure what vital programs we're going to cut to be able to meet those requirements.

This is certainly our issue to resolve I know. And the potential is monumental to us. The small cities with the best of intentions participated in the countywide program a decade before it was mandated. But we're really faced with some very difficult, difficult decisions with a big picture outlook that these small cities make the mistake by getting into this permit when we did in the Phase I program. And would it be so very significantly

different if we were to be permitted under a Phase 2 type of program?

We want to stay together. We want to work together. We believe that's the best for water quality in Ventura County. But I ask you to take into consideration how very much of an impact this will have on our small communities which make up a majority of the permittees. Thank you very much.

CHAIRPERSON DIAMOND: Bert Rapp, followed by Anita Kuhlman.

MR. RAPP: My name is Bert Rapp. I'm the Public Works Director for the City of Fillmore.

City of Fillmore that is been very proactive on the Storm Water Programs since 1994. All new business developmental, all new commercial, industrial, residential, tracks have been conditioned by our City Council to fully comply with the permit, regardless of the limits that are in the permit of 100,000 square foot or less. We ignored those limits, and we applied the conditions to everyone since 1994. So we are very serious about the clean water aspects of this program and trying to achieve them.

However, there are some very important issues in the permit that take away our freedom and our flexibility in how to best tackle the clean water goals in the

program. For instance, the prescriptive requirement for trash excluders is going to mean water in people's living rooms. In Fillmore, we have critical flooding issues, limited storm drains, and the reduced capacity by the mandated trash excluders will mean flooding in people's living rooms. We need to have the freedom to tackle the trash problems in a different way.

Also, the pervious pavement requirements, in 75 percent of the city, it's not an issue. In north Fillmore, we have a specific plan. We have specifically identified how we're going to tackle storm water treatment in that area, because our drinking water aquifer is underneath that part of the city. It's only separated by 30 feet of sandy gravely soil where pollutants would rapidly go down and contaminate our only drinking water supply.

So we very carefully are selecting the BMPs for that area with most of the treatment being offsite. We can't do that with the new permit. We're not allowed to think and apply logical reasons with this current permit. And we need to be able to apply our own circumstances to this process.

Lastly, on the hydromodification issues, we're bounded by the Santa Clara River, 120,000 CFS, Sespe Creek, 100,000 CFS. When we discharge 600 CFS in one of

those rivers out of one of our storm drains, it's completely overwhelmed by flows three hours later. Hydromodification from that aspect of erosion down stream is irrelevant to the city of Fillmore. We have to get water out of our city and into those rivers before that peak flow comes through three hours later. One-third of our city would be underwater if it wasn't for the Sespe Creek levy built by the Corps. of Engineers in 1983.

We have to get water out, because sometimes there's a thunderstorm while there is a peak flow occurring in that river. If we're required to keep those detention basins full to accomplish the hydromodification requirements, we now have no more capacity to hold water in the event another storm comes through, a small one, when the flood waters pass. So we can't just do a blanket requirement. We've got to apply it to a certain region intelligently.

Lastly, on the Phase 2 cities Fillmore is 15,000 people. Phase I is a 100,000 limit. We're separated by miles of greenbelt on both sides of us. We are legitimately a Phase 2 city. We are quadrupling our sewer rates to meet the nutrient and toxicity TMDL, building a new water recycling plant, and we're going to be doubling our water rates to meet a chloride TMDL in a few years. If you hit our citizens with this hammer right now, it's

going to be a disaster, an economic disaster in our community. And so if you could have the permit modified so Phase 2 cities could have Phase 2 requirements, help us to get a few more years down the road, accomplish these things over a longer period of time, our community can survive these water quality costs that are being imposed upon us. Thank you.

CHAIRPERSON DIAMOND: Anita Kuhlman followed by Jay Spurgin followed by Mark Watkins.

MS. KUHLMAN: I was going to say good afternoon, but good evening, Madam Chair, and Board members. I'm Anita Kuhlman with the City of Camarillo Public Works Department.

And I just want to reiterate the city is very supportive of our collaborative program we have with Ventura County. Along with efforts we are involved with the Calleguas Creek Watershed Group, which is a very effective stakeholder program.

But my main purpose is to talk about the municipal potable water supply requirements that are in the draft order. Part 4(g) of the draft order imposes a limitation of 100,000 gallons per year as the maximum discharge of potable water into the storm drain system from activities such as fire hydrant flushing. Further, footnote 2 of the draft order says if you exceed that

100,000 gallons, then you have to take coverage under a separate NPDES permit, the hydrostatic test permit.

Under our current municipal permit, the city's flushing program is allowed as long as the discharge does not contain pollutants or visible sediment. The chlorine level must be below .1 parts per million and the pH must be between six and nine. If those conditions can't be met, you can't apply BMPs and still do the fire hydrant flushing.

Each of those BMPs are practical and they have been adhered to by the city of Camarillo. Annually, our water division flushes our entire water distribution system over a two-week period. And in 2006, for example, the total amount of water lost to flushing was only two-tenths of one percent of 3.1 billion gallons of water that are produced during the year.

That water loss during flushing is certainly a good tradeoff concerning the benefit we gain. The City has always taken the position that annual flushing greatly contributes to our track record of high water quality and minimal water quality complaints from our customers. Flushing is about the only feasible way to exchange water that has already entered a water distribution system.

This proposed restriction on flushing in the draft order could have the potential to cause a public

health hazard. Flushing is a nationwide accepted practice and one of the most widely use methods to ensure high quality in our distribution systems. In fact, American Water Works supports flushing to the extent they have actually developed a manual on the subject. And more importantly, the State Department of Health Services encourages and sometimes requires a water agency to flush in order to meet drinking water quality standards.

So under the current draft order, Camarillo would clearly exceed that 100,000 gallons per year limitation. These requirements or even under the existing hydrostatic permit would be unrealistic, would be a very expensive cause and workable delays, and negate the public health benefits we get from flushing. So we do wish to continue our successful program of flushing under the current permit using our BMPs, and we do support the water quality efforts that are being made in the Calleguas Watershed. Thank you.

CHAIRPERSON DIAMOND: Thank you.

Jay Spurgin. I have two cards from the City of Thousand Oaks, yours and Mark Watkins, if you're both going to speak I would --

MR. WATKINS: Madam Chair, Mark Watkins. I'll pass. Mr. Spurgin will represent the City.

MR. SPURGIN: Good afternoon, Madam Chair and

Board members. I'm Jay Spurgin, City Engineer for the City of Thousand Oaks.

I've heard a lot about hydromodification. That was one of the items I was going to talk about. My comments will be maybe some things you haven't heard about it. I think what's important for us to do going forward is to look at the characteristics of the watersheds in Ventura County and how hydromodification and some of the other requirements of the permit frankly should be applied.

In Thousand Oaks, the majority of our soil types are type one and two. Those are very tight, very clayey. In fact, we have a significant problem with expansive soils which require special building code applications. We also have bedrock that surfaces throughout the valley. And as others have mentioned, these kinds of conditions have made it basically impossible to facilitate retension type BMPs. The water is just not going to be anywhere. Unlike Simi, where they have actual upwelling groundwater, we have a very tight soil and the water won't percolate. Although I will say some of the slides that Mr. Bushon showed you earlier of water coming up through the streets and sidewalks, we do have some of those areas in Thousand Oaks as well.

For a number of years, through development of the

TMDL permits in Ventura County, especially in our watershed Calleguas Creek watershed, we worked very successfully with your staff. And my hope is that we can do the same through this NPDES permit. I think that we need to be able to sit down with your staff and talk about the real life situations, some of the impediments to requirements that are in the draft permit, such as that I've given examples of and others have tonight and earlier today.

One of the things about hydromodification when a natural watershed develops, it naturally cleans up the runoff, the sediment, and the debris load that would come from a natural watershed is for the most part taken out through development of just paving and impervious areas resulting in much cleaner runoff. And that type of clean runoff actually becomes sediment hungry or sediment starved, as is the term I understand is used. So as that water courses down the natural watersheds, it can pick up and the erosion potential can actually be increased by actually cleanup of some of the sediment from the runoff. These are the kind of things that we need to look at on a watershed wide basis.

In Calleguas Creek watershed, there are areas where there are significant erosion but there are also areas where there are significant deposition of sediment.

And in a natural stream, in my view, needs the appropriate diet of debris and sediment, if you want to look at it that way. We understand we need to do some modeling and some analysis of our watershed relative to this topic and we look forward to being able to work with your staff on that.

The city of Thousand Oaks is not the largest city by population in our county, but it's the largest area wise. We have 56 square miles in our incorporated boundary. Forty percent of that is open space, publicly owned open space. The majority of that is in the upper reaches of the watershed. We have a ridge line ordinance we don't allow development of in the hills. So what happens is in storm events there is already a sediment and debris loads that comes down into our urban MS4 system and passed through.

So again, these are characteristics that maybe are unique for our county and certainly for our city. And as the City of Thousand Oaks, I will stand before you and say that we are committed to protecting the natural streams and the habitat areas. We constructed an award-winning wetlands at our wastewater treatment plant in response to mitigation requirements for CIP projects, for capital projects. But we built that at almost ten times the area that we were required to --

CHAIRPERSON DIAMOND: Thank you very much.

MR. SPERGON: -- as an example of our commitment to them. Thank you very much.

CHAIRPERSON DIAMOND: David McKinze followed by Vaikko Allen. David McKinze? Vaikko followed by Matthew Breiner.

MR. ALLEN: Good evening. That's not the first time my name has been butchered a little bit. Vaikko Allen is my name. I come from Contech Storm Water Solutions. We're a provider of storm water treatment practices.

Rather than go from the comments that I submitted to you, I would rather just talk about LID for a minute from a little bit of a different perspective and ask a question. Just consider a hypothetical site, maybe a commercial site or residential site where instead of doing some of the conventional low-impact development technique strategies, you know, perhaps we've taken the parking lots, driveway areas, the impervious areas, connected them together and routed them to an underground filter. Perhaps one of the filters that we provided which would be able to remove sediment, oil and grease, metals, things of that nature. Perhaps as a final step we take that runoff and divert it to an infiltration bed. An infiltration bed could be underneath the parking lot, could have no natural

components necessarily whatsoever. These are the kind of systems that we provided.

Now, this site while it's hypothetical it's also typical of some of the sites we work on. My question really is, is this a low-impact development site? I believe it's a low-impact site and that we could have the water quality flow rate and the water quality volume both treated and infiltrated. So essentially we can achieve the goals of low-impact development, which are to minimize runoff volume and to reduce the pollutant load that's coming off the site. It doesn't have a lot of the features we typically associate with low-impact development, namely disconnected impervious areas, vegetated BMPs, maintenance of these natural features on the site.

There are some other substantial differences I think between this approach and between a conventional LID approach I think should be looked into here. One is that pollutants are effectively removed from the environment in this scenario. That's a big difference I think. Pollutants are actually underground in a bowl. They're not being recycled through the environment as perhaps vegetation. Perhaps humans are in contact with some of the vegetated areas, things of that nature. They can be maintained from a central point. One of the big issues

with low-impact development is the question of who is going to maintain it. Are they in fact going to be treated like landscaped lawn or something more likely to be fertilized, irrigated, have pesticides applied to them then they are to be monitored for the things that they're really designed for, namely the infiltration rate, the percolation rate, or the storage volume perhaps that they were designed to provide.

Last thing is that these devices typically are protected from high magnitude flows. Typically, manufactured devices are installed with a bypass. When you exceed the water quality flow rate or volumes, the excess amount of water is diverted around the treatment system so they're essentially protected.

Low-impact development devices, as we currently perceive them, if you're diverting your runoff from impervious areas through pervious areas, there's a potential those are storage areas for water that the water level rises and exports some of your mulch if you have a high magnitude flow or you scour those areas out. Those are stark contrasts. The reason I bring them up is there is a section in your permit that is a little disconcerting to me. And I think it actually violates the criteria or the directive to treat storm water to the maximum extent practicable in that it's a bit prescriptive and doesn't

really focus on performance.

The planning and land development program section where it advocates a list of four different approaches to storm water mitigation in water. And the first one of course is low-impact development strategies. Second is integrated water resources management strategies. Third is multi-benefit and natural feature BMPs. And fourth and last is prefabricated proprietary treatment BMPs.

Now my question is this. If you have a site and devices as described in the hypothetical site that are providing water quality and water quantity benefits that are on par or better than water quality benefits that would be provided by our conventional description of low-impact development, is it okay? Is it defensible to relegate that manufactured device option to be fourth on the list of options? I don't think that it is.

So just in general, some of my comments -- I would urge that every option throughout the permit that we focus on performance of BMPs, that we look at performance first. And if the highest performing BMP regardless of whether it's manufactured, natural, gray, green, whatever, is not feasible, then it goes to the next best performing, to the next best performing. Let's not set an artificial hierarchy where the first most desirable BMP happens to be green or whatever and we move on down the list.

Thank you very much.

CHAIRPERSON DIAMOND: Thank you.

Matthew Breiner followed by Matthew Holly.

MR. BREINER: Good afternoon, Madam Chair, members of the Board. My name is Matthew Breiner. I'm the Vice President of Land Acquisition for John Laing Homes in L.A. and Ventura Counties. We are a builder who builds everything from suburban developments to high-density urban developments.

CHAIRPERSON DIAMOND: Can you speak up just a bit?

MR. BREINER: We build everything from high-density urban developments, in-fill type projects, to suburban development. I also have the pleasure this year being the President of the BIA for L.A./Ventura chapter.

I want to speak to you tonight about a couple of issues. One, I wanted to discuss some of the LID comments that have been made. And also really just want to talk to you about a specific project that we have that I think illustrates some of the issues that we think we have with some of the LID principles as being almost a requirement.

LID I think is a good technique, but a lot of the research that has been done as was shown today by the documentation that was provided by the different NRDC and others, the research that has been done comes from areas

in the pacific northwest where the climates are very different from our climate here in southern California and where they have a much lower intensity and longer duration of rain events than we have here.

I think there is something we need to correlate with what we're doing here in L.A. and Ventura County with local conditions. As was stated in the BI presentation, we're seeking flexibility of design. And I think an example of the one issue that we had I think that again this is a -- LID is done in a comprehensive and wholistic way across the spectrum of project areas is potentially very valuable.

But, for example, we have a project that we're building right now in Marine Del Rey. It's a one-acre project, 50 units on that one acre, basically property line to property line, two levels of parking, one subterranean. It also has a groundwater situation. And we were at -- this project was actually designed to be a LEED certified project. We were considering very strongly how to incorporate the rain water runoff issue reduction into the project. Ultimately, we decided there were problems with doing that in this site because of, a, cost. We were already going down one level of subterranean. We had to create a sump to capture this water and put in pumps and everything to get rid of it.

We also are very concerned ultimately about the maintenance and operation of this system. Because, you know, again as we talk about it, it's one thing for an industrial building or commercial office to someone who's an owner who might be able to be more sophisticated, a co-permittee could come and inspect and be able to deal with maintaining these things. But when you're talking about a group of homeowners who would have to pay a lot of money to come in and repair and maintain and get rid of sediment and everything else that's going to be in the pollutants in that system, that can very easily be not maintained well and could then become a source of liability for them and then ultimately a source of pollution for the water flow. So we're very concerned about that.

Also I want to also just -- last point really say again, the NHV information that was cited by the NRDC presentation shows the commitment of the Building Industry to this rational comprehensive region-wide and implementation of water quality improvements, as well as our commitment to educate our members, and how to implement these things. But we need a permit that's based upon provisions that are appropriate for the specific situations that each project finds itself in. And I think we need something that allows the county and the cities

within the county to have flexibility to do with that.

I want to say as President of the Building Industry Association of L.A./Ventura County this year, I'm able to commit our resources to work with your Board and your staff through this process as you go through this process to come up with these effective solutions. And I appreciate that. As a resident of Ventura County myself, I want to say I definitely want to see that we come up with the process that gives us good water quality.

Thank you very much.

CHAIRPERSON DIAMOND: As noted before, we had a 30-minute presentation from BIA. If there is somebody else here who is somebody coming to speak about BIA's perspective, we've already heard it now 30 minutes and now an additional five.

Charles Heffernan.

MR. HOLLY: Matthew Holly, you said I was next.

CHAIRPERSON DIAMOND: I'm sorry. You are. I was trying to move along even faster.

MR. HOLLY: Matthew Holly, 827 Union Pacific Street, Fillmore, Ventura County.

Madam Chair, Board, my name is Matthew Holly. I'm a professional geologist in the state of California. I'm also a certified engineering geologist in the state of California. I'm a Fillmore resident, and I own a small

geotechnical consulting firm in Simi Valley. And I'm very concerned about some of the items that were in the MS4 permit as how they affect not only my business but my profession as well.

I'm only going to hit on two items to try to keep time down. There is a lot of them that were hit before. The first I'm concerned is with the moratorium of no grading on hillside slopes five-to-one slopes, 20 percent during the winter months. That will have a significant negative impact on my business. I would have to reduce my staff. I can't keep people employed if I don't have work for them six months out of the year. I'm not a stand alone business. This is an industry. That's pretty big impact, and that effects my development plan that I have for my business.

The second item I want to hit on are the LIDs. My understanding is the water is going to try to be retained on the lots as much as possible. I have a significant concern about that as well. The number one natural hazard in the United States are expansive soils. They cost more than earthquakes, tornadoes, hurricanes combined. And the reason we don't tend to know this it's not flashy. It's not newsworthy, but it's very costly. I spend a lot of my times and clients' time doing forensic study for expansive soils. The number one way to help

from treat expansive soils from damaging structures is to get the water away from there. And I don't think the proposed methods really take that into consideration.

I'm very concerned you're going to slow that water down. It's going to get underneath structures. It's going to damage it. We're going to see a lot more litigation. My insurance rates are going to rise, and it's going to effect any industry. So I'm concerned about that.

The last item I want to take on as well are the LIDs I saw on the picture here, beautiful green lush grasses and flowers. I don't think that's a realistic scenario for what we're looking at in southern California in a semi-arid environment. Go up the 14 past the San Andreas, you're in an arid environment. You're not going to have that year round. If it wasn't for the genius of Mulholland, we'd still be shipping citrus and cattle to St. Louis. This is an arid state. It's not going to be like that. We're going to wind up with some dust bowls. I'm concerned about that as well. Thank you.

CHAIRPERSON DIAMOND: Charles Heffernan followed by Corey Haspole.

MR. HASPOLE: Chuck is not here. I have nothing more to add.

CHAIRPERSON DIAMOND: Steve Weiss.

Brendan Huffman. Rick Ney. Sorry.

MR. NEY: Madam Chair, esteemed members of the Board, you really haven't heard a lot from contractors on what sort of impacts this will have on us in Ventura County. My name is Rick Ney, President of Ney and Nelson, Incorporated. I also sit on the State Board of the Associated General Contractors California. Our members control 60 percent of the public works and construction industry in California.

But I'm just a little guy. We have 25 field office personnel. Seventy percent of our work with is public agencies, 30 percent is with commercial entities. We have performed grading and paving in Ventura County for about the last 19 years. I have personally been with the company for that long as its President.

The restriction -- and I'm specifically focusing on one aspect of this. The restriction or potential restriction through regulation or by fiat of the seasonal work -- in other words, if we're restricted to six months out of the year of a twelve-month construction season, then that would have significant impacts on our ability to perform or again also to survive.

On average, our employees currently make 60 to $70,000 per year, plus full medical and pension benefits. Their working hours would on average be reduced by 40

percent if not the full 50 percent, their wages commensurately, and they would lose their benefit in short. They would no longer be able to afford to live in Ventura County as they presently do.

Our company would not be able to employ skilled workers full time. That's very important. They would have to relocate elsewhere where work would be provided for them year round. That would severely compromise and possibly eliminate our ability to perform work. At least our drop in productivity from the lack of skilled workers would raise prices to the agency. And I think the prices would be raised would be significant.

Hypothetically, if Ney and Nelson, Incorporated, does not survive the proposed regulations, the question remains who will perform grading and paving in the public domain in Ventura County? The larger companies with multi-county offices would be able to relocate outside and their work force outside into a county where they would be able to enjoy full year-round employments. However, during the summer, during the summer season is a high season of course. They would be visiting in those counties performing work, and they would really not have a lot of capacity -- or certainly not excess capacity to come into Ventura County, mobilize into a totally different county and perform work for the public agencies.

The market would drastically inflate. Ventura County has already seen 100 percent increase in asphalt concrete prices in 2006 alone due largely to the lack of competition and the pressure of raw materials, such as the price of oil. The same would continue to happen if these proposed regulations were implemented in the way I understand them.

Finally, Ventura County would lose thousands of full-time construction jobs. That amounts to thousands of high-paying jobs that allow a worker to raise a family, participate in his or her community, buy a house, send his kids to college. Bill Watkins -- and I hope he didn't -- I hope I'm not taking his name in vain, of USC, a professor of economics bends the rise of house prices to the lack of supply, coupled with greater demand. The demand will remain, as he quotes an interesting statistic that 28 percent of houses purchased in Ventura County and the Tri Counties areas in general came from money earned outside of the county and in fact outside of California.

The demand will remain. But supplies will continue to fall continuing upward pressure on housing prices at an accelerated rate. The geriatric getto, which he coined, that potentially would result is a sharply divided society between the wealthy oldsters and the people who serve them. The servers will be living three

families to a house. Infrastructure from transportation to medicine would continue to erode. Because of the lack of good paying jobs, these restrictions will contribute to the erosion of quality of life that may render the very measures that are now in place unaffordable. In other words, to sum up, kill the construction jobs in our community, and you're really on your way to killing the community as we know it.

CHAIRPERSON DIAMOND: Marvin Sacitse.

MR. SACITSE: My concerns were covered by another speaker.

CHAIRPERSON DIAMOND: And last card, Andrew Henderson who is says there's one minute and ten seconds left of BIA's presentation, and he's going to take it.

MR. HENDERSON: Before we start, she should shake her fingers a few times. I used to be a litigator, and I can really tax her in a minute ten.

Thank you, Chair Diamond. I just wanted to say briefly, I'm the Vice President and General Counsel of BIA of southern California. I won't touch upon the very good thoughts of Dr. Mark Grey and Holly Schroader. I just want to say we're looking forward to the process going forward. And looking at it with the lawyer's hat, I think we need to think about what this process will be. Obviously, from what you've heard today, there needs to be

some thought about what's going to be in the ultimate permit. And what we need to do is think about how we can put together a process that allows the technical evidence that underpins what the staff has come up with to be reviewed by people like Mark Grey. And that there can be some orderly way of rebutting the evidence, of presenting the evidence, and having a fair exchange of evidence so ultimately when you make your final decision, there's a record that's circumscribed and well thought out and well rebutted so you can make a really good decision. So I look forward to working with your staff about that.

CHAIRPERSON DIAMOND: Thank you.

Okay. Now really is the time for the Board to ask questions. And I think, John, did you want to say something? You look like you do.

EXECUTIVE OFFICER BISHOP: I do. I would suggest that the Board limit their questions and really talk about the concerns that they have from looking at the permit. Because, for one, the questions could go on for a long time, and we would hope to get some direction from the Board on areas that we should concentrate on as we move forward in refining the permit. I don't mean to cut you off if there are questions that you need clarification on. But we are going to have another hearing on this, and we are going to have another workshop and another hearing.

And you clearly have the opportunity to call me in the next 28 days or staff after that to talk about it.

CHAIRPERSON DIAMOND: Who's counting, right?

Well, that's normally what we do is deliberate. And then particularly at this late hour, most of us and I'm sure staff also needs time to kind of think about what they've heard today, as do we. And we will raise the issues of concern to us and look forward to the next workshop where the issues that were raised today and now will be addressed by staff.

So I'm going to start over here with our representative from Ventura.

BOARD MEMBER RICHARDSON: I look forward to the next workshop. But what I've heard today and my concerns today are a couple of things. There's balance and flexibility, consistency, and the awful word funding. And I truly believe in the collaborative process that the communities within the county of Ventura have gone through to this point. And I would like to see that process utilized with the staff in order to go to the next level.

That's all I'll say.

CHAIRPERSON DIAMOND: Okay. Thanks.

BOARD MEMBER MARIN: Along the lines of consistency, given how much effort and resources are being put in the development of the TMDL, I think it's

especially important that the permits get aligned with what's coming out of the TMDL process. And I think that that just makes the permit stronger.

And so I think I'm going to leave it at that. There's a lot of issues I still need to understood a little bit better but -- actually, other thing. We did hear a lot about problems associated with areas where infiltration or infiltration is not a viable solution. I do want to hear from staff about solutions or options for areas where the standard thinking of how water flows may be challenged.

BOARD MEMBER NAHAI: I wish I could restrict my comments to just one or two thoughts, but you'll forgive me if I don't. I'll try to go quickly.

I think let me first start with a compliment. In ten years of public service and three decades of being a lawyer, I've rarely seen a work of such high quality in terms of its comprehensiveness and its clarity and its detail and the amount of thought that went into preparing this. So I want to start off by saying that.

Having said that, though, I think there are a number of areas where there could be improvements. And I think a number of these in terms have to do with more effective communication. And clearly, there was some really deep misunderstandings of various provisions in the

permit.

But to start, first of all with respect to MALs and how MALs fit in with the definition of MEP and how they fit in with receiving water limitations and whether they should be there to begin with, I think these issues need to be looked at in more detail and need to be set forth in a way that is more readily understandable. For instance, the criticism that MALs are just another way of trying to stick in numeric limitations in a storm water permit and that may somehow be violative of State Board policy, I think that's something that the criticism has been levied here. It needs to be dealt with.

Similarly, the allegation that MALs end up being more stringent than TMDL WLAs for instance. And the interplay between these two standards I think needs to be clarified.

In some instances, the statements were made that the time frames are too short, that they're going to be unacceptable financial burdens imposed on communities in very short periods of time. I think that needs to be taken a look at. I think some of the numbers that were provided to us here today need to be examined to see whether they actually stand up under closer scrutiny.

Some old friends surfaced today, whether economic considerations need to be included, whether they have been

already. I think from a legal standpoint, those things need to be clarified, Michael, the 13421 standards. Do they apply? And if so, have they been observed? If not, have they been included anyway?

The unfunded mandate allegation, yet again let's have that dealt with here.

The atmospheric deposition issue that I think seems to rest on some kind of false notion that somehow we're trying to punish municipalities for the pollution that is deposited on their streets, whether it's from people, cars, or from the air. This isn't about punishment. It's about trying to clean up the pollution that goes into the storm drain system. So I think that needs to be clarified.

There was some suggestions that MALs should be augmented and that some TMDLs were not included. If we've adopted them and if they affect Ventura County, then I think the TMDLs should be included here.

I found some of the statements made by the representative from Fillmore compelling. We need to take a look at whether trash excluders in that city would have deleterious effects.

The statement regarding the 100,000 gallon limitation with respect to flushing, I would appreciate it if that issue was looked at in more detail, because we

want to make sure we don't inadvertently cause adverse public health effects. The expansive soils issue I think bears a little bit more study. I would like to see some statement regarding the encouragement of in-fill development statements, encouraging participation in the urban process. On 11-79, there is a reference to corporations and partnerships. We need to include references to limited liability companies, because that's how real estate is owned mostly these days.

And finally, on 11-45 regarding cost reporting, I think we need to make sure that we have uniform cost reporting from all permittees. And I would like -- I can call you. We can go into it in some detail later on. But I don't want to take up too much more time.

CHAIRPERSON DIAMOND: Thank you.

Mr. Vander Lans.

BOARD MEMBER VANDER LANS: The nice thing about being near the end is you can say it's been said.

But I think we have learned that we should look further whether one-size-fits-all. There seems to be some things that came up today that would suggest that's a misconception. The seasonal question -- and I'll just agree that we look at this. I would suggest, Madam Chairman, that if we go forward as I believe we are going to the meeting in Ventura that that's all we do and not

schedule other things on that day.

CHAIRPERSON DIAMOND: Ms. Lutz.

VICE CHAIRPERSON LUTZ: Really only just a couple of things that have not already been said, because I concur with everything that has been said.

There was a suggestion that the Phase 2 cities be kept Phase 2 for the moment and maybe ease them in. I'd like to hear staff's point of view on that.

And there was a discussion about the rotating of the monitoring system. And I think we need to look at that in a little more detail. And the hydromodification issue with the grading I think is a huge issue we need to really evaluate carefully.

CHAIRPERSON DIAMOND: I don't have much to add. I think that we're all saying that we want to have a better understanding of the maximum action levels and how they are interpreted in the MEP with the MEP standard. That needs to be clear to us as well as to the stakeholders and how much flexibility is there. That word flexibility has come up a number of times today. What kind of flexibility is there in MEP? What kind of flexibility is there in hydromodification? What kind of flexibility do some of the cities have when their specific particular situations may not fit the definitions that we have?

I'm a little bit concerned about the -- a lot concerned about the integration of the TMDLs into this storm water permit.

And also just a small matter, but the communication is issue I think is really key. For example, some cities think that every catch basin has to have a trash excluder. We need to know is that true. Is it not true. What are the costs involved in that.

So I think going forward that that pretty much gives you direction for when we meet again in August. And no doubt this has always been our intention that that workshop would be in Ventura.

So with that, I think we're ready to adjourn this part of the meeting and hopefully the meeting in entirety. We want to wish John well. And that's it.

(Thereupon the Los Angeles Regional Water Quality Control Board adjourned at 6:15 p.m.)

CERTIFICATE OF REPORTER

I, TIFFANY C. KRAFT, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing hearing was reported in shorthand by me, Tiffany C. Kraft, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing nor in any way interested in the outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 18th day of April, 2006.

TIFFANY C. KRAFT, CSR, RPR
Certified Shorthand Reporter
License No. 12277

From: Tracy Woods
To: Betsy Weber
Subject: Re: EDC

Hello Betsy,

A time extension to the February 26, 2007 comment deadline for the draft Ventura County MS4 Permit has been granted. Written comments on the draft Ventura County MS4 Permit must be received no later than close of business on March 7, 2007. Please see the attached Public Notice and note the change in date and venue of the Public Workshop.

Thanks-

Tracy Woods
LA-RWQCB/Storm Water Permitting
320 W. 4th Street, #200
Los Angeles, CA 90013
Phone: 213/620-2095
Fax: (213) 576-5777
E-mail: twoods@waterboards.ca.gov

>>> "Betsy Weber" <bweber@edcnet.org> 2/20/2007 10:25 AM >>>
Hello Tracy,

I just got your message and wanted to write you back with the email address here. It is edc@edcnet.org . Let me know if you need anything further.

Thanks,

Betsy

Betsy Weber

Program Assistant

< mailto:bweber@edcnet.org >

Environmental Defense Center

906 Garden St.

Santa Barbara, CA 93101

(805) 963 1622

< mailto:bweber@edcnet.org >

From: Tracy Woods
To: bfujimoto@waterboards.ca.gov; Dale Bowyer; Faulk.Jack@epa.gov; ggearheart@waterboards.ca.gov; JFordyce@waterboards.ca.gov; MLevy@waterboards.ca.gov; molloy.jennifer@epa.gov; PHammer@waterboards.ca.gov
Date: 2/20/2007 9:06:13 AM
Subject: Time extension for comments to the draft Ventura County MS4 Permit.

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320 W. 4th Street, #200
Los Angeles, CA 90013
Phone: 213/620-2095
Fax: (213) 576-5777
E-mail: twoods@waterboards.ca.gov

From: Tracy Woods
To: cleanwater@sfo.com; dpalmer@smbaykeeper.org; info@sbck.org; kmoran@tdcenvironmental.com; tegoscue@smbaykeeper.org
Date: 2/20/2007 8:53:59 AM
Subject: Time extension for comments to the draft Ventura County MS4 Permit.

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From: Tracy Woods
To: canderson@lgc.org; cmink@ci.calabasas.ca.us; lcoe-juell@citymb.info
Date: 2/20/2007 8:45:01 AM
Subject: Time extension for comments to the draft Ventura County MS4 Permit.

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E-mail: twoods@waterboards.ca.gov

From: Tracy Woods
To: allday@earthlink.net; jacota@fretel.com; LBond@rwglaw.com; mcohen@rwglaw.com; willorclark@hotmail.com
Date: 2/20/2007 8:39:34 AM
Subject: Time extension for comments to the draft Ventura County MS4 Permit.

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From: Tracy Woods
To: cdouangsitthi@ladpw.org; estein@sccwrp.org; fwu@ladpw.org; kens@sccwrp.org; mbarrett@ladpw.org; MJanofsky@ladpw.org; myeager@dpw.sbcounty.gov; steveb@sccwrp.org
Date: 2/20/2007 8:29:25 AM
Subject: Time extension for comments to the draft Ventura County MS4 Permit.

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Phone: 213/620-2095
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E-mail: twoods@waterboards.ca.gov

Workshop:
April 5, 2007 at 9:00 AM
City of Burbank Council Chambers
275 E. Olive Avenue
Burbank, CA 91502-1232

From: Tracy Woods
To: dbeckman@nrdc.org; kjames@HealTheBay.org
Date: 2/15/2007 5:48:46 PM
Subject: Time extension for the draft Ventura County MS4 Permit.

Hello David and Kirsten,

A time extension to the February 26, 2007 comment deadline for the draft Ventura County MS4 Permit has been granted. Written comments on the draft Ventura County MS4 Permit must be received no later than close of business on March 7, 2007. Please see the attached Public Notice and note the change in date and venue of the Public Workshop.

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320 W. 4th Street, #200
Los Angeles, CA 90013
Phone: 213/620-2095
Fax: (213) 576-5777
E-mail: twoods@waterboards.ca.gov

CC: Xavier Swamikannu

From: Tracy Woods
To: akuhlman@ci.camarillo.ca.us; Alberto.Boada@ventura.org; arne.anselm@ventura.org; brapp@ci.fillmore.ca.us; cfinley@ci.santa-paula.ca.us; david.thomas@ventura.org; Elyse.Ditzel@ventura.org; fcamarillo@ci.port-hueneme.ca.us; gerhardt.hubner@ventura.org; hawksassoc@prodigy.net; jack.phillips@ventura.org; Jeff.Pratt@ventura.org; jkelly@toaks.org; kgiesche@simivalley.org; llawhon@ci.santa-paula.ca.us; lwhitney@simivalley.org; mark.pumford@ci.oxnard.ca.us; Paul Tantet; rbradley@ci.ventura.ca.us; vmusgrove@ci.ventura.ca.us; ylall@ci.moorpark.ca.us
Date: 2/15/2007 5:40:57 PM
Subject: Time extension for comments on the draft Ventura County MS4 Permit

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Los Angeles, CA 90013
Phone: 213/620-2095
Fax: (213) 576-5777
E-mail: twoods@waterboards.ca.gov

>>> "Kirsten James" <kjames@HealTheBay.org> 2/14/2007 2:15 PM >>>
Heal the Bay also requests a short extension of the comment deadline for the Ventura MS4. As discussed below, this would provide time for a complete technical review of the permit terms.

Thank you for your consideration,

Kirsten James

Kirsten James

Staff Scientist

Heal the Bay

From: Beckman, David [mailto:dbeckman@nrdc.org]
Sent: Tuesday, February 13, 2007 11:34 AM
To: Jonathan Bishop; Xavier Swamikannu
Cc: Mark Gold; Kirsten James
Subject: Ventura MS4: Request for Additional Time to Comment
Importance: High

On behalf of NRDC, we respectfully request a short extension of the February 26, 2007 comment deadline to and including March 7, 2006. This 10-day extension will enable NRDC to complete technical review of new or revised permit terms, particularly those that require engineering assessment and basic runoff modeling in order to fully review and assess. This short extension will not affect timely re-issuance of the Permit. However, it will further state and federal regulations and policies (see, e.g., 40 CFR Part 25) that seek to facilitate and encourage public involvement and comment opportunities. Here, the lengthy, and technically complex, nature of many aspects of the Permit support our request for a short extension.

Thank you very much for your consideration of this request.

David Beckman

David S. Beckman
Senior Attorney & Director, Coastal Water Quality Project
Natural Resources Defense Council

City of Thousand Oaks

PUBLIC WORKS DEPARTMENT
MARK D. WATKINS, DIRECTOR

March 23, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 Fourth Street, Suite 200
Los Angeles, CA 90013

Re: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharge within the Ventura County Watershed Protection District, County of Ventura and Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County, including the City of Thousand Oaks. These are matters that I and other residents of our City care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to Ventura County in the City of Burbank, County of Los Angeles is both unfair and inconvenient to our residents and the numerous stakeholders of Ventura County, the regulated Municipal Stormwater entities; Cities, County and Watershed Protection District, County businesses, nonprofit organizations, environmental groups and other interested parties that wish to participate in this workshop.

There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this Workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

Mohammad A. Fatemi, RCE
Engineering Division Manager

DPW:530-25/cm/Fatemi/larwqcb letter_1.doc

2100 Thousand Oaks Boulevard • Thousand Oaks, California 91362-2903 • (805) 449-2400 • FAX (805) 449-2475

CITY OF
VENTURA

March 21, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

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Sincerely,

Robert L. Williams, P.E.
Principal Civil Engineer
Land Development Engineering Division
Community Development Department

MNS ENGINEERS INC
ENGINEERS ▼ SURVEYORS ▼ CONSTRUCTION MANAGERS
Quality Infrastructure Services

March 21, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

RE: Request for Change In Date and Location for Public Workshop – Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient to me and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop.

There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

MNS ENGINEERS, INC.

James A. Salvito
President/Principal-In-Charge

March 20, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed drastic changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant monetary effects on the communities of Ventura County. This is a matter that I strongly care about, as I am likely to bear a new tax for something of little practical value, and yet see local governments become ever more bloated than they already are.

Your scheduling of the Public Workshop - for an item of great importance and significance to the County of Ventura - in the City of Burbank, County of Los Angeles, is both unfair and inconvenient to me. There are numerous stakeholders in Ventura County, including residents, City governments, County agencies, Flood Control District, businesses, developers, nonprofit organizations, environmental groups, and others, who are aware of, and wish to participate in, this workshop. A number of locations throughout Ventura County are well suited to host and facilitate local participation in this Workshop. Several cities, including Simi Valley, have already indicated their willingness to provide their Council Chambers for an event of this magnitude. Given the concerns about global warming, it would appear more environmentally-friendly for two or three of your staff to carpool to Simi Valley, than for 300 Ventura County residents to drive their cars to Burbank, to say nothing of finding a place to park.

Please reschedule the date and location of this workshop to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

Richard Clark
2527 Belvedere Court
Simi Valley, CA 93065

County of Ventura

PUBLIC WORKS AGENCY
RONALD C. COONS
Agency Director

2007 MAR 23 PM 2:18

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

Alec T. Pringle, Director
Engineering Services

Michael K. Sullivan, Chief Deputy
County Surveyor
County Surveyor's Office

Raymond Gutierrez, Jr., Manager
Development & Inspection Services

Dennis E. Horne, Deputy Director
Project Management Services

March 20, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that are of concern to me in implementing the programs that come under my responsibility in the Engineering Services Department of the Public Works Agency.

Therefore, your scheduling of the Public Workshop in the City of Burbank, County of Los Angeles is both unfair and inconvenient to me and staff as well I'm sure to the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop.

There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County and those organizations responsible for implementing those proposed changes.

Sincerely,

Alec T. Pringle, Director – Engineering Services Department

ATP:kts

MNS ENGINEERS INC

ENGINEERS ▾ SURVEYORS ▾ CONSTRUCTION MANAGERS

Quality Infrastructure Services

March 19, 2008

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient to me and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop. There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

MNS ENGINEERS, INC.

Gregory A. Chelini, P.E.
Vice President

RBF CONSULTING

March 19, 2007

Mr. Jonathan Bishop, Executive Officer
LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. As a Ventura County resident and businessman, I am concerned these are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient to me and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop. There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

Darin P. Johnson, P.E.
Senior Vice President
Camarillo Office Manager

H:\PDATA\200000\ADMIN\Johnson Docs\LARWQCB Letter.doc

GEORGE BERG
171 WAYVIEW COURT
VENTURA, CA 93003

March 19, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: REQUEST FOR CHANGE IN DATE AND LOCATION FOR PUBLIC WORKSHOP – *PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORMWATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES*
(NPDES NO. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofit organizations, environmental groups and other interested parties that wish to participate in this workshop.

There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

George Berg

George Berg

1646 Jersey Place
Thousand Oaks, CA 91362

March 16, 2008

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient to me and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop. There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

Tom Pizza

Tom Pizza, P. E.

Development Services Department
305 West Third Street • Oxnard, CA 93030 • (805) 385-7925 • Fax (805) 385-7854

March 16, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient to me and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop. There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

Robert Hearne
Civil Engineer
City of Oxnard

501 Marin Street
Suite 100
Thousand Oaks, CA 91360-4265

Tel: (805) 497-0680
Fax: (805) 497-4729

BROWN AND CALDWELL

March 16, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Request For Change In Date and Location for Public Workshop - Proposed Changes to the Waste Discharge Requirements for Municipal Stormwater Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002)

Dear Mr. Bishop:

The proposed changes to the waste discharge requirements for municipal stormwater discharges within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities (NPDES No. CAS004002) will have significant effects on the communities of Ventura County. These are matters that I and other residents of Ventura County care about. Therefore, your scheduling of the Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank, County of Los Angeles is both unfair and inconvenient to myself and the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties that wish to participate in this workshop. There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. Please reschedule the date of this workshop and change the location to a venue more convenient and accessible to the residents of Ventura County.

Sincerely,

Ruben Zubia, P.E.
Vice President

Ventura Countywide Stormwater Quality Management Program

Participating Agencies

Camarillo

County of Ventura

Fillmore

Moorpark

Ojai

Oxnard

Port Hueneme

San Buenaventura

Santa Paula

Simi Valley

Thousand Oaks

Ventura County Watershed Protection District

March 16, 2007

Mr. Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: SECOND REQUEST FOR CHANGE IN DATE AND LOCATION FOR PUBLIC WORKSHOP - PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORMWATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES (NPDES No. CAS004002)

Dear Mr. Bishop:

On March 22, 2007, the Ventura Countywide Storm Water Program Management Committee agreed to send this letter and second request for change in date and location for the "Public Workshop on Proposed Changes to the Waste Discharge Requirements for Municipal Storm Water Discharges within the Ventura County Watershed Protection District, County of Ventura, and the Incorporated Cities."

On the same day we received your March 12, 2007 reply to the Ventura Countywide Stormwater Program's letter dated February 23, 2007. Both I and Watershed Protection District's Director Jeff Pratt had previously spoken to you and Regional staff member Xavier Swamikannu regarding this request for a change in date and location. In those conversations you indicated that you would not be granting either request (confirmed in your March 12th RWQCB letter). However, you did state to us a willingness to host a second workshop in August in Ventura County regarding the Draft Permit (not Tentative Permit).

On behalf of the Ventura Countywide Stormwater Program (comprising Ventura Watershed Protection District, Ventura County and the incorporated cities), we want to express our disappointment with the Regional Water Quality Control Board ("Regional Board") staff's decision

to hold the first public workshop on the Draft Ventura County Municipal Separate Storm Sewer System Permit ("Draft Order") in Burbank, which is located in Los Angeles County.

The Regional Board staff has put forward a comprehensive Draft Order that, if adopted, will greatly impact the Ventura Countywide Stormwater Quality Management Program and the obligations of the Principal Permittee and Co-Permittees covered by the countywide program. The Draft Order also has far reaching impacts that will impact the citizens of Ventura County and various business interests located throughout the County and the cities within the County.

Because of the far-reaching impacts and expansive nature of this Draft Order, we believe that it is essential for the Regional Board to provide the residents and businesses of Ventura County with the opportunity to participate in this process locally. Thus, we encourage you and your staff to carefully consider the needs of Ventura County and its residents as you look towards scheduling subsequent workshops and public hearings on this issue.

If we can be of any assistance in locating a proper venue for these future activities, please do not hesitate to ask. We look forward to working with you to provide the impacted public the opportunity to participate in this process.

Sincerely,

Gerhardt J. Hubner, Chair
Ventura Countywide Program
Stormwater Management Committee

Cc: Ventura Countywide Program Co-Permittees

Ventura Countywide Stormwater Quality Management Program

Participating Agencies

Camarillo

County of Ventura

Fillmore

Moorpark

Ojai

Oxnard

Port Hueneme

San Buenaventura

Santa Paula

Simi Valley

Thousand Oaks

Ventura County Watershed Protection District

February 23, 2007

Mr. Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: REQUEST FOR CHANGE IN DATE AND LOCATION FOR PUBLIC WORKSHOP - PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORMWATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES (NPDES No. CAS004002)

Dear Mr. Bishop:

We are in receipt of your February 15, 2007, email from Regional Board staff attaching a Public Notice entitled: "Public Workshop on Proposed Changes to the Waste Discharge Requirements for Municipal Storm Water Discharges within the Ventura County Watershed Protection District, County of Ventura, and the Incorporated Cities." In the notice you extend the deadline for submittal of written comments on the draft Waste Discharge Requirements from February 26 to March 7, 2007. The notice also changes the previous Public Workshop (Workshop) date of April 12, 2007, to April 5, 2007. Furthermore, your revised notice for the first time identifies the location of the Workshop - City of Burbank, County of Los Angeles.

We would like to state for the record that neither the Ventura Countywide Program, nor any of the Ventura County Co-permittees requested an extension of the written comment period.

On February 22, 2007, the Ventura Countywide Storm Water Program Management Committee unanimously agreed to send this letter on behalf of the entire Program and all the Co-permittees, and formally request the following:

800 South Victoria Avenue • Ventura CA 93009-1610
805/654-2002 • FAX 805/654-3350

1. **Change in Location for the Public Workshop** - Locating a Public Workshop for an item of great importance and significance to the County of Ventura in the City of Burbank/County of Los Angeles is both unfair and inconvenient to the numerous stakeholders of Ventura County, including the residents of Ventura County, the regulated Municipal Stormwater entities - Cities, County and Watershed Protection District, County businesses, nonprofits organization, environmental groups and other interested parties. There are a number of locations throughout Ventura County better suited to host and facilitate this Workshop. A number of cities, including Simi Valley and Camarillo, have already indicated a willingness to provide their Council Chambers for this Workshop. We would gladly assist you in finding a suitable alternative location.

2. **Change in Date for the Public Workshop**

   As described in the December 27, 2006, letter of transmittal, the Workshop was scheduled for April 12, 2007. This Public Notice moves that date to April 5th, a full week earlier. This revised date is problematic for a number of Co-permittee (including myself) as they will not be able to attend the Workshop due to previously scheduled commitments. In addition, the revised date makes it extremely difficult for us to have elective officials and City Managers' calendar and be in attendance at the Workshop. Therefore, we request a change in the date for the Workshop to your next available meeting of the Regional Board.

We appreciate your consideration of this request, and a prompt reply as your decision regarding this request.

Sincerely,

Gerhardt J. Hubner, Chair
Ventura Countywide Program
Stormwater Management Committee

Cc: Xavier Swamikannu
Ventura Countywide Program Co-Permittees

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.waterboards.ca.gov/losangeles

Linda S. Adams
EPA Secretary

Arnold Schwarzenegger
Governor

March 12, 2007

Mr. Jeff Pratt, Director
Ventura County Watershed Protection District
800 South Victoria Ave.
Ventura, CA 93009-1600

Certified Mail
Return Receipt Requested
Claim No. 7005 0390 0000 4141 1937

REPLY TO FEBRUARY 23, 2007 LETTER - REQUEST FOR CHANGE IN DATE AND LOCATION FOR PUBLIC WORKSHOP CHANGES TO THE WASTE DISCHARE REQUIREMNETS FOR MUNICIPAL STORMWATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES (NPDES No. CAS004002).

Dear Mr. Pratt:

Thank you for your letter of February 23, 2007, which requested a change in date and venue of the Board Meeting Workshop scheduled for April 5, 2007. Regretfully, the California Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) is unable to reschedule the date and location of the Public Workshop - Proposed Changes to the draft County of Ventura MS4 Permit, on April 5, 2007 in the City of Burbank.

We apologize for the change in date and venue, and regret any inconvenience that the revised date of April 5, 2007 and location of City of Burbank may have caused. At the time of the first public notice that accompanied the draft County of Ventura MS4 Permit (December 27, 2006), the Los Angeles Water Board had not confirmed its Board Meeting schedule for the 2007 calendar year. The Los Angeles Water Board will take no formal action on the draft County of Ventura MS4 Permit at the public workshop on April 5, 2007.

A formal consideration and adoption of a tentative County of Ventura MS4 Permit will be scheduled for a subsequent Water Board hearing which will be held in Ventura County.

Sincerely,

Dr. Xavier Swamikannu, D.Env
Chief, Storm Water Permitting
CalEPA - Water Board, LA Region

cc: Mr. Gerhardt Hubner, Ventura Countywide Program, Stormwater Management Committee

Building Industry Association of Southern California
1330 South Valley Vista Drive
Diamond Bar, California 9176
909.396.9993
fax: 909.396.1571/Exec. Office
fax: 909.396.9846/BIS/Mbrshi
www.biasc.org

April 5, 2007

Submitted Via Email; Original Hand Delivered

Dr. Xavier Swammikanu
320 W. Fourth Street
Number 200
Los Angeles CA 90013-2343

Proposed MS4 Permit for Ventura County and Incorporated Cities dated December 27, 2006 ("Proposed Permit")

Dear Dr. Swammikanu:

We have not met yet, but I wanted to introduce myself and follow up on the very positive meeting that you had this week with Dr. Mark Grey and Ms. Holly Schroeder of our organization. I understand that the meeting among you, Dr. Grey and Holly Schroeder holds out the hope for collaboration and a greater sharing of understanding than there has been in the past between our industry representatives and all the other stakeholders.

I am the Vice President and General Counsel of the Building Industry Association of Southern California (of which the Building Industry Association Greater Los Angeles/Ventura Chapter is a part), and also General Counsel of the Building Industry Legal Defense Foundation ("BILD"). Because of that, I have the unfortunate task of thinking about and dealing with things like preserving our association's legal rights in administrative adjudicative proceedings.

Accordingly, even as we look forward to a happy working relationship, I want to go ahead now and "plant the flag" about some procedural concerns that we will have about the eventual permit.

Based on the way some things have unfolded in the past practices, we are concerned that – to date – the Regional Board has not identified in writing the nature of the present proceedings. Neither the Notice, Proposed Permit already released, nor the other documents on the Regional Board's website related to the Proposed Permit, indicates whether the Regional Board regards the instant proceedings as merely informal fact gathering, or a formal quasi-legislative activity, or a formal quasi-adjudicative subject to Gov. Code §11400 *et. seq.*

Based on various discussions to date, however, we understand that the draft permit that was released, the instant pubic workshop, etc., all constitute informal fact gathering as a prelude to a more formal disclosure of a draft permit for public review and comment. This understanding is also consistent with your discussions this week with Dr. Grey and Ms. Schroeder, which promise further development of an eventual more-formal draft permit for consideration.

If that understanding is *not* correct, we would be both disappointed and, to preserve our legal rights, aggrieved by the process currently underway. If we are correct, however, never mind for now. The comments below apply to the eventual future and more formal process.

There is some (perhaps very small) confusion on the part of some about how the Regional Board views the process that it undertakes when it promulgates a permit revision. If the Regional Board considers such an action quasi-legislative, then one would expect the required "Notice of Proposed Rulemaking" to precede the process. If, however, as we strongly suspect based on recent case law and state and regional regulatory pronouncements, the Regional Board considers permit revisions to be administrative adjudication, then we would request compliance with Gov. Code §11425.10 *et.seq.* (Administrative Adjudication Bill of Rights), which requires, among other things, that a copy of the procedures to be followed be given to the individuals at whom the adjudication is directed. Gov. Code §11425.10(a)(2). Further, we would expect compliance with Government Code §11425.10(a)(1), which mandates that the Regional Board shall provide not only an opportunity to be heard, but also the opportunity to present and – very importantly – rebut evidence.

Given the highly technical, scientific and voluminous nature of the evidence at issue, it is important that the process eventually established must be orderly, deliberate and unrushed. Evidence will need to be marshaled and reasonably presented for rebuttal in what would almost certainly amount to a bifurcated process.

Today's workshop is an excellent step in the process of working with the Regional Board on Proposed Permit issues. In addition, again, we are delighted that Mark Grey and Holly Schroeder met with you, and we all look forward to a harmonious and fruitful working relationship. The development and eventual pursuit of a fair process for circumscribing and presenting a "tentative" administrative record for interested parties to rebut will be an important part of our working together.

I look forward to meeting you, and working with you and your colleagues.

Sincerely,

Andrew R. Henderson
Vic President and General Counsel
Building Industry Association of Southern California

cc: Holly Schroeder
Mark Grey, PhD.

California Regional Water Quality Control Board

Los Angeles Region

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

Linda S. Adams
ncy Secretary

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

Arnold Schwarzenegger
Governor

March 9, 2007

Mr. Jeff Pratt, Director
Ventura County Watershed Protection District
800 South Victoria Ave.
Ventura, CA 93009-1600

Certified Mail
Return Receipt Requested
Claim No. 7005 0390 0000 4141 1951

REQUEST FOR INFORMATION – MUNICIPAL STORM WATER MONITORING PROGRAM FOR THE COUNTY OF VENTURA, CA - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORM WATER DISCHARGE PERMIT FOR THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN (NPDES No. CAS004001, ORDER No. 01-108).

Dear Mr. Pratt:

The California Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board), is the public agency with primary responsibility for the protection of ground and surface water quality for all beneficial uses within the County of Ventura. The Ventura County Municipal Separate Storm Sewer System Permit (MS4 Permit) of which the Ventura County Watershed Protection District is the Principal Permittee, prohibits discharges from the MS4 that cause or contribute to the violation of water quality standards or objectives (Order No. 01-108, Part 2 - Receiving Water Limitations).

The MS4 Permit directs implementation of a Countywide Storm Water Quality Management Program, which includes a Countywide Monitoring Program (Monitoring Program) to assess compliance with permit provisions and evaluate implementation progress. The Monitoring Program has been in effect for several years in the County of Ventura and Permittees report exceedences of several of the same water quality objectives year after year in receiving waters, without being able to identify and eliminate the sources of the exceedence(s). Without differentiation of sources from the Permittee's MS4s, the application of appropriate best management practices (BMPs) to reduce the discharge of pollutants of concern to the maximum extent practicable (MEP) is unattainable. An example of such occurrences by Permittees' include beach postings in the County of Ventura, Cities of Oxnard, Port Hueneme and San Buenaventura due to the repeated exceedence of bacterial objectives set in order to fully protect water contact recreation (REC-1).

In order for the Permittee's to provide the information necessary to assess their compliance status relative to the MS4 permit requirements as written in the December 2006 draft Ventura County MS4 Permit (draft MS4 Permit), urban storm water discharge (drainage systems/ outfalls) sampling needs to be conducted. Direct analyses of urban storm water discharge will assess the effectiveness of implementation of draft MS4 Permit requirements on storm water quality. An integrated approach for separate monitoring of mass emissions from urbanized areas to identify sources of pollutants to obtain compliance with general program and Total Maximum Daily Load requirements will also be necessary.

The Los Angeles Water Board, by this letter requests that the Ventura County Watershed Protection District submit a revised comprehensive Monitoring Program that will enable Permittees, other interested parties, and the Los Angeles Water Board to better evaluate compliance with permit provisions contained in the draft MS4 Permit, and to ensure that MS4 discharges are not causing or contributing to the exceedances of water quality objectives. We suggest that the Monitoring Program include the monitoring of representative MS4 drainage systems transporting at a minimum, 60 percent or more of flow from each of the MS4 Permittee's jurisdictional drainage areas that flow into the five Watershed Management Areas within the County of Ventura. Please submit the requested information to the Regional Board, attention of Dr. Xavier Swamikannu, Storm Water Permitting Program, no later than May 11, 2007.

If you have any questions, please contact Dr. Xavier Swamikannu at (213) 620-2094 or via e-mail at xswamikannu @waterboards.ca.gov.

Sincerely,

Jonathan S. Bishop
Executive Officer

cc: Mr. Michael Levy Esq., Office of the Chief Counsel, State Water Resources Control Board
Ms. Jennifer Fordyce, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Division of Water Quality, State Water Resources Control Board

Ventura Countywide Stormwater Quality Management Program

Participating Agencies

Camarillo

County of Ventura

Fillmore

Moorpark

Ojai

Oxnard

Port Hueneme

San Buenaventura

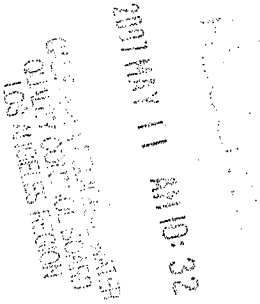
Santa Paula

Simi Valley

Thousand Oaks

Ventura County Watershed Protection District

May 11, 2007



Ms. Deborah Smith
Acting Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **RESPONSE TO REQUEST FOR INFORMATION FOR MUNICIPAL STORM WATER MONITORING PROGRAM FOR THE COUNTY OF VENTURA (NPDES NO. CAS004001, ORDER NO. 01-108).**

Dear Ms. Smith:

The Ventura County Watershed Protection District and the co-permittees (hereinafter collectively referred to as "permittee") on the Ventura County Municipal Separate Storm Sewer System Permit ("MS4 Permit") are in receipt of the Regional Water Quality Control Board's ("Regional Board") letter dated March 9, 2007, and its request for a revised comprehensive Monitoring Program to be submitted by May 11, 2007. The permittees have reviewed the Regional Board's request and are concerned with the Regional Water Board's premature reliance on permit provisions contained in an administrative draft order.

The Regional Board's letter specifically requests that the Permittees "submit a revised comprehensive Monitoring Program that will enable Permittees, other interested parties, and the Los Angeles Water Board to better evaluate compliance with permit provisions contained in the draft MS4 Permit." The Permittees contend that such a request is neither appropriate nor justified until the Regional Water Board takes formal action on the draft MS4 permit. This is especially true considering the comments provided to staff at the April 5, 2007 workshop on the draft MS4 permit. At the workshop, a tremendous amount of information was conveyed from Board staff and members of the public to the Regional Board members. Based on this vast input, it appeared that the Regional Board members had many questions and reservations with regards to many of the permit provisions contained in the draft MS4 permit. Because of these concerns, Regional Board staff was directed to work with the Permittees and others to address the many questions and concerns raised. In light of this direction from the Regional Board members, most likely the draft MS4 permit, as first circulated by the Regional Board, will be revised substantially prior to Regional Board adoption. As such, we would submit that it is premature to prepare a comprehensive monitoring program that would evaluate permit compliance when the permit and its terms have yet to be adopted.

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805/654-2002 • FAX 805/654-3350

Even though the Permittees have concerns with the monitoring request as conveyed in the Regional Board's March 9, 2007 communication, the Permittees agree that a revised monitoring program that could identify water quality problems, and provide information to the Permittees on program effectiveness is needed.

A guideline for such a plan is the 2004 report Model Monitoring Program for Municipal Separate Storm Sewer Systems (MS4) in Southern California from the Stormwater Monitoring Coalition. The management questions that need to be addressed are, "What is the relative urban runoff contribution to the receiving water problems?" and "What are the sources to urban runoff that contribute to receiving water problems?" Resources spent answering these questions would allow managers to beneficially direct limited resources to programs found to be effective in improving urban runoff water quality.

The remaining management questions regarding the water quality conditions of receiving waters also need to be addressed. Fortunately, there are many other programs already in existence in Ventura County that contribute valuable water quality data on the quality of the receiving waters. Other available data comes from high quality monitoring programs such as other NPDES permits, the irrigated lands conditional waiver, and Total Maximum Daily Loads (TMDLs) monitoring plans. Ventura County Permittees have worked cooperatively with these entities and other stakeholders to develop high quality TMDL compliance monitoring plans. Because these plans reflect a collaborative effort and are approved by Board staff, additional monitoring for TMDL compliance by the MS4 program would not be necessary. Thus, a comprehensive MS4 monitoring plan will need to take into consideration these other regional monitoring efforts to avoid unnecessary duplication.

For the reasons stated, we have prepared and are submitting the attached framework and materials as a response to your March 11, 2007 request for the Ventura Countywide monitoring program. This Monitoring Program was presented and described to Regional Board staff at our meeting on May 8, 2007.We hope that through this type of a collaborative effort we can jointly develop an appropriate monitoring program that provides the Regional Board with useful information.

Thank you for the opportunity to provide comment and we look forward to further discussions and feedback with your staff on the Monitoring Program framework. If you have any questions, please contact me at (805) 654-5051.

Sincerely,

Gerhardt Hubner, Chair
Ventura Countywide Program

Attachment: Ventura Countywide Stormwater Program's Proposed Conceptual Framework for Stormwater Monitoring

GH/cs

Ventura Countywide Stormwater Program's Proposed Conceptual Framework for Stormwater Monitoring

Proposed Alternative Approach to Requirements in Draft Permit: This proposed monitoring conceptual framework is based on the 2004 Model Monitoring Program for Municipal Separate Storm Sewers Systems in Southern California (Model Program) from the Stormwater Monitoring Coalition, 2004. This document states that it "serves as the starting point for negotiating a monitoring and reporting program", and included input from both the LARWQCB and Heal the Bay.

The Model Program presents five management questions that, when addressed, use adaptive triggers to expand a monitoring program in a logical and resource-protective way to move from assessment monitoring to source identification. Unlike the static program that the Ventura Countywide program currently has, the results of monitoring efforts are used in this process to initiate more monitoring if an impact is observed, or a reduction in monitoring effort if no impact (or potential for impact) was found. The tools described in the Model Program include "triggers for toxicity identification evaluations, upstream source tracking, a prioritization scheme for special studies, and statistical evaluations for estimating sample size based on statistical power to detect trends."

Management Questions:

1. "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?
2. "What is the extent and magnitude of the current or potential receiving water problems?"
3. "What is the relative urban runoff contribution to the receiving water problems?"
4. "What are the sources to urban runoff that contribute to receiving water problems?"
5. "Are conditions in the receiving waters getting better or worse?"

This framework aims to address each of these questions and provide the additional steps to be taken as information about the extent of receiving water quality problems are identified.

Management Question No. 1:
"Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?

Proposed Actions:

- Begin pyrethroid monitoring in lower watersheds.
- Compile countywide data that is available for analysis.
- Verify or perform statistical analysis on available data.

- Identify data gaps and modify mass emission monitoring accordingly.

Mass Emission monitoring has been conducted near the base of each watershed for four wet events a year since 2000. The Model Program suggests this monitoring be performed for three wet events a year for three years and then to modify per results of a power analysis. The Countywide program is at the stage where these monitoring data should be compiled to establish the statistical baseline.

Additionally, Federal regulation [(40 CFR § 130.7(b)(5)] states that "Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(1) and 130.7(b)(2)." These lists describe the conditions of the receiving waters in the State (305(b) Report) and the list of impaired waterbodies (303(d) listing). The "existing and readily available water quality–related data" include NPDES monitoring from stormwater programs, NPDES monitoring from Publicly Owned Treatment Works (POTW), industrial discharge monitoring, Total Maximum Daily Load (TMDL) monitoring programs, and special studies performed by the municipalities and other agencies (e.g., Surface Water Assessment and Monitoring Program (SWAMP) and Southern California Coastal Water Research Project (SCCWRP).

Almost all of this monitoring has been done in the compliance approach determining if a constituent is above or below a threshold. This approach should be used in conjunction with an assessment approach. The assessment approach is based on a weight of evidence in which chemical, biological and toxicity data (Triad approach) are used to assess impacts. This has not been done on all the Ventura County watersheds by the Stormwater Program, though much of that information may be available through SWAMP or other sources.

To avoid redundancy with other monitoring programs and misusing resources, all available data should be used to answer this question. Any identified gaps in the information should be addressed by incorporating the Triad approach at appropriate watershed sites. Since there is much information in Ventura County on the current impacts to beneficial uses, any additional monitoring to answer this will support answers to other management questions as well.

Management Question No. 2:
"What is the extent and magnitude of the current or potential receiving water problems?"

Proposed Actions:

- Intense two year watershed monitoring studies of three wet and two dry events to determine spatial extent of water quality problems.
- Add monitoring points downstream of major urban areas in the Santa Clara and Ventura River watersheds.
- Bioassessment coordination with watershed chemical and toxicity analysis for eight of evidence Triad approach.

- Identify water quality problems likely associated with urban areas.

The next step is to expand on the information known about the receiving water problems by including spatial and temporal monitoring throughout the watershed. In some cases the extent of impairment is apparent from the tabular and graphic 303(d) information and from years of monitoring history on the watersheds; however, research will be needed to identify the gaps in available data. Receiving water problems that do not have sufficient information on their extent and magnitude will require additional monitoring.

The Model Program describes this monitoring "usually as shorter-term studies that are conducted once or perhaps periodically when there is reason to believe the scale of the problem has changed." This lends itself to a rotating schedule similar to the Tributary Monitoring written in the draft order. The final schedule of rotation would depend on the data gaps discovered and the severity of the problem.

The design of a monitoring plan to provide the needed information will depend on what information is already available; but for the purposes of the Countywide program it will generally reflect receiving water monitoring above and below Permittee's discharge points (see figure 1). Ideally the development of multiple lines of evidence (e.g. Triad method) to more thoroughly characterize the extent of the water quality problem.

This information should provide evidence as to whether the discharge from a Permittee is contributing to the receiving water problem. Additional monitoring will be triggered if there is a significant change in the receiving water below the Permittee's discharge outlets. The Model Program does not define what a significant change is because it depends upon the habitat and human health factors at risk and the severity of the problem as well as the relative certainty of the estimates. Each constituent and sample point will need to be evaluated individually with a t-test statistical analysis of the upstream and downstream locations to determine if there is a statistical difference between the sites.

Management Question No. 3:
"What is the relative urban runoff contribution to the receiving water problems?"

Proposed Actions:

- Direct monitoring of urban area discharge points for pollutants in the downstream station that are higher than upstream for comparison to MALs.
- Monitor urban runoff of select sites to refine and calibrate model for countywide use.
- Evaluate data from intensive watershed monitoring for likeliness of urban discharge contributing to water quality problems.
- Use modeling software and historic land use data to evaluate urban runoff proportions of receiving water problems.

While questions 1 and 2 are working upstream to provide information, the Countywide Monitoring program does not need to wait for that information to begin answering question 3. The aim of this question is to "determine when additional, more detailed and extensive, upstream source identification efforts should be conducted by a municipality, with the goal of ensuring that the full burden of source identification work not be shifted to the MS4 Permittees where action by them would not solve the larger problem."

Data made available through this process could trigger the Permittees to develop and implement pollutant/water body based water quality plans. If the municipalities are discovered to be only a small contributor to a larger problem (e.g.: DDT) then the burden of that problem should be lifted. Conversely, according to the Model Program further source identification studies at greater resolution would be required if an urban source is discovered to contribute significantly to the receiving water problem.

The Model Program states that initially only minimal resolution is needed and that in many situations aggregate estimates may be adequate. It goes on to suggest that data for this may already be available from previous characterization and monitoring studies.

Early in its development, the Ventura Municipal Stormwater Program evaluated the urban runoff component more directly by using a model (Watershed Management Model, CDM) to determine flow and pollutant contributions from drainage- and sub drainage-basins to the watersheds. This information was useful not only in answering Management Question No. 3, but also in determining appropriate best management practices for sub basins as their land uses were converted. The Countywide program proposes using the years of land use data that have been collected and updating the Watershed Management Model to determine proportional contribution of urban runoff (based on land use types, e.g. residential, industrial, etc.) The results of low resolution modeling will be used to determine where increased resolution is needed. As needed, resolution can be enhanced by increasing the complexity of the model and eventually by calibrating it with urban runoff data from discrete drainage areas. This work can begin immediately since it is initially not dependant on gathering a new data set or results from anticipated monitoring.

Data from the spatial extent and magnitude study may show a statistical likelihood of problem constituents in a receiving water below an MS4 discharge. This would be examined by monitoring urban outfalls for comparison to Municipal Action Levels. The exact outfall to monitor would be identified through the Watershed Management Model as a storm drain systems with high potential for pollutant sources.

The maps presented show detailed drainage areas for each Permittee, including urbanized areas of the unincorporated County. Selection of which drainage area to monitor will be based on the likely source of the constituent and the predominant land use of the drainage area.

Management Question No. 4:
"What are the sources to urban runoff that contribute to receiving water problems?"

Proposed Actions:

- Implementation of pollutant/water body plans by Permittees exceeding MALs.
- Conveyance system monitoring for hot spots
- Illicit discharge and illicit connection screening.

If urban runoff is identified as, or likely to be, a source to specific receiving water problems an increased focus on sources will be made. Information obtained from answering the first three questions will then be used in identifying which urban areas are shown to be contributing to receiving water problems.

Answering question 4 requires "more thorough source identification studies intended to provide information about the nature, location and quantity of inputs to the receiving water". Once a drainage area is identified as exceeding MALs (contributing to a receiving water problem) the discharger shall develop and implement a pollutant/water body based water quality plan to address the urban sources. This may have already been accomplished through a TMDL implementation plan. Permittees will use this plan to narrow the focus on sources and it could include conveyance system monitoring for hot spots and field screening for illicit discharges and connections.

Management Question No. 5:
"Are conditions in the receiving waters getting better or worse?"

Proposed Actions:

- Statistical trends analysis after each intensive watershed monitoring study.
- Development of Study Plan for areas downstream of urbanization that score *Poor* on an appropriate Index of Biological Integrity for bioassessments.
- Identification of additional POCs.
- Development of Action Plan for discernable increasing trends in POCs.

As stated earlier there are 7 years of mass emission data and many other data sources to draw from to answer this management question. Trends analysis will be performed on all constituents to determine if there are significant increases or decreases in water quality problems.

To detect if current program efforts are effective is more difficult. The Model Program acknowledges that "changes in receiving water conditions are likely to occur over several years (at the least)".

Periodic statistical analysis of program data is important to determine not only if trends are occurring, but also if the monitoring program is sufficiently robust, or if it is even possible to detect a certain change within the timeframe decision makers need information to detect trends.

Estimated Monitoring Program Timeline

Below is a proposed draft framework. The final monitoring plan will be subject to the results discovered through the data analysis phase. Presented here is a rough estimate of what monitoring is likely to occur in the first three years of revised Monitoring Program. Actual monitoring is dependent on the information made available as the monitoring program progresses through the flow chart in Figure 2.

Year One

- Continue flow weighted composite monitoring of Mass Emission for three wet and two dry events at three sites;
- Pyrethroid sediment monitoring at base of main watersheds;
- Spring bioassessment on Santa Clara River, select sites from existing SWAMP bioassessment sites;
- Begin spatial extent and magnitude studies in Santa Clara River with sites below contributions from urbanized areas to determine if a significant contribution of pollutants is likely from urbanized areas. Match sites as closely to bioassessment sites as possible;
- Monitor every 0.5" storm for TSS, concurrently monitor for turbidity;
- Analyze existing countywide data to determine whether quality, quantity, representativeness, and completeness are sufficient to answer management questions Nos. 1 and 2. Identify existing data gaps and prioritize according to severity of the problem, potential for heath risk, and biological resources at issue;
- Begin evaluation of urban runoff contributions to water quality problems by modeling analytical land use data with current land use practices in urbanized areas.

Year Two

- Monitor outfalls of urbanized areas identified through spatial extent studies as likely to be contributing to a receiving water problem;

- Continue spatial extent and magnitude studies and bioassessment monitoring for Triad approach on a watershed basis in accordance with results of data analysis;

- Expand pyrethroid monitoring to additional upstream locations if results from previous monitoring indicate a problem;

- Monitor every 0.5" storm for TSS, complete study evaluating predictive nature of TSS for other pollutant loadings, and a study evaluating turbidity as surrogate for TSS. Amend TSS monitoring as appropriate;

- Increase resolution of urban runoff contributions model if necessary by higher resolution of land use data or calibration monitoring.

- 1 Revise flow weighted composite monitoring of Mass Emission per results of statistical analysis

Year Three

- Begin spatial extent and magnitude studies in Calleguas Creek with sites below contributions from urbanized areas to determine if a significant contribution of pollutants is likely from urbanized areas. Coordinate to use same sites as SWAMP bioassessment;

- Monitor outfalls of urbanized areas identified through spatial extent studies as likely to be contributing to a receiving water problem;

- Rotate bioassessment monitoring to new Calleguas Creek if baseline established through SWAMP and Program data;

- Continue TSS monitoring if studies prove value in the data.

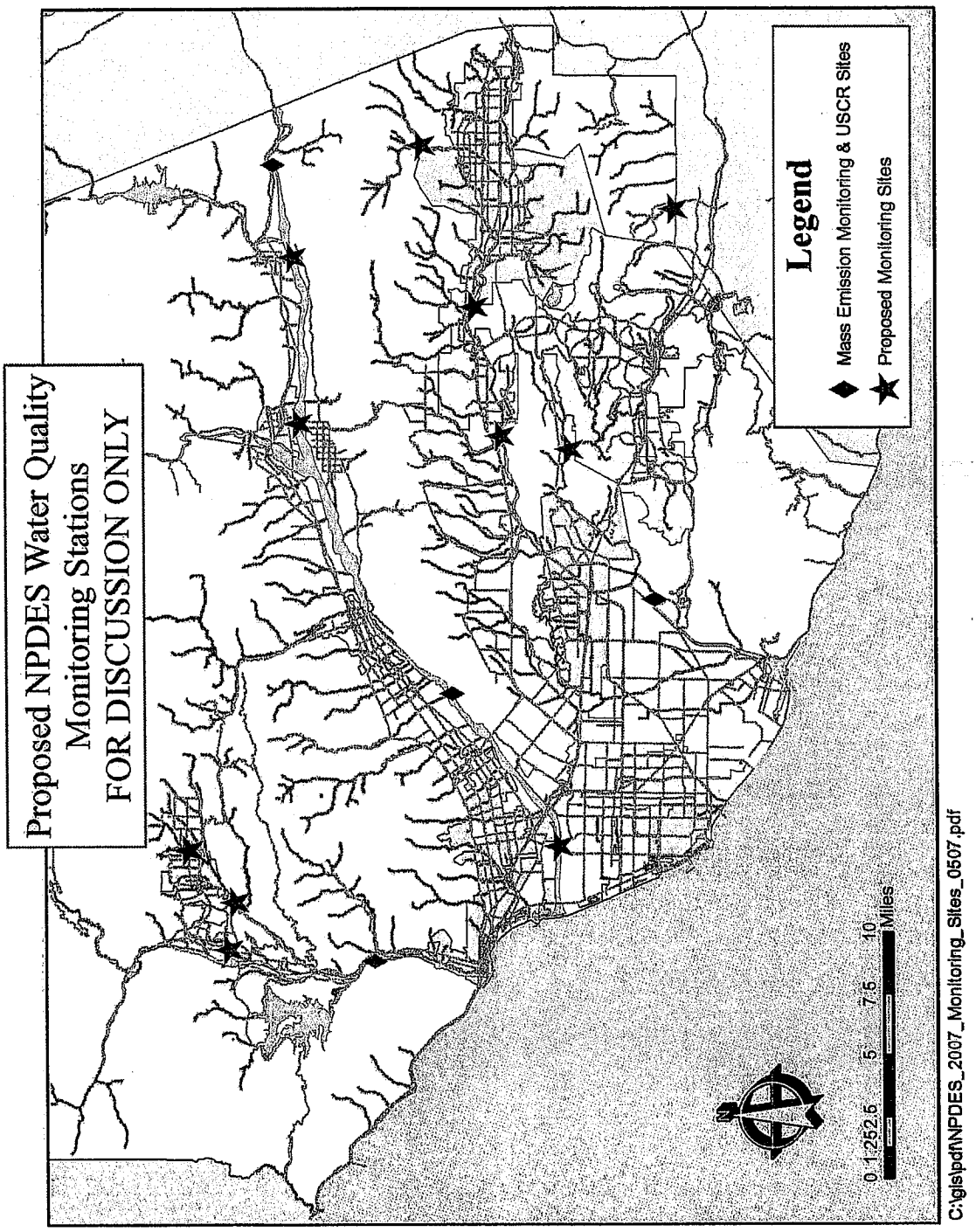
Proposed NPDES Water Quality Monitoring Stations
FOR DISCUSSION ONLY
Legend
Mass Emission Monitoring & USCR Sites
Proposed Monitoring Sites
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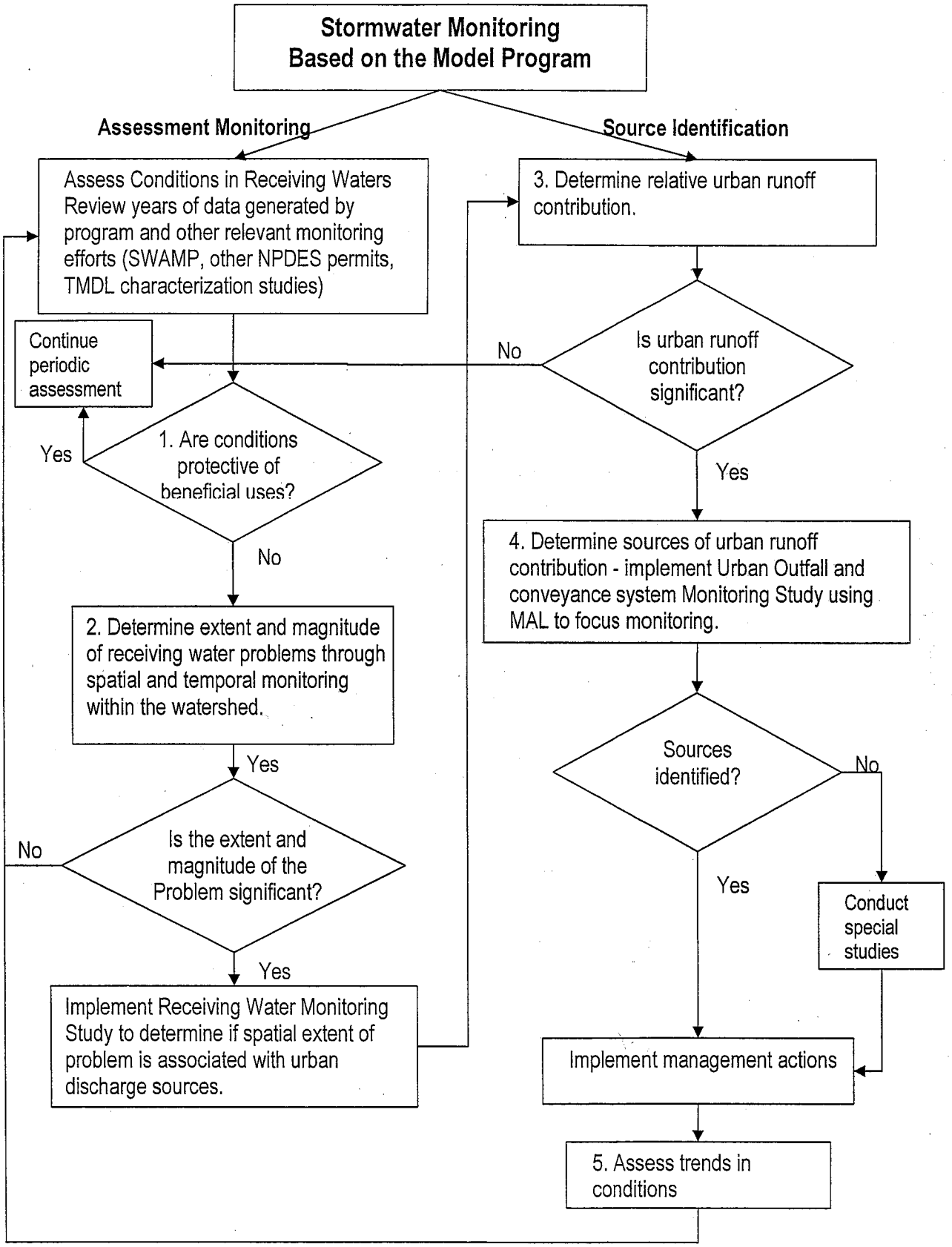
Figure 1

Figure 2


Stormwater Monitoring Based on the Model Program
Assessment Monitoring
Source Identification
Assess Conditions in Receiving Waters Review years of data generated by program and other relevant monitoring efforts (SWAMP, other NPDES permits, TMDL characterization studies)
3. Determine relative urban runoff contribution.
Continue periodic assessment
No
Is urban runoff contribution significant?
Yes
1. Are conditions protective of beneficial uses?
Yes
No
4. Determine sources of urban runoff contribution - implement Urban Outfall and conveyance system Monitoring Study using MAL to focus monitoring.
2. Determine extent and magnitude of receiving water problems through spatial and temporal monitoring within the watershed.
Sources identified?
No
Yes
Yes
No
Is the extent and magnitude of the Problem significant?
Conduct special studies
Yes
Implement Receiving Water Monitoring Study to determine if spatial extent of problem is associated with urban discharge sources.
Implement management actions
5. Assess trends in conditions

Comparison of Monitoring Plan based on Model Monitoring Program to requirements in Draft Order

Monitoring Requirements	Draft Permit	Proposed Plan Based on Model Monitoring Program
Mass Emissions		
Objectives	Estimate mass emissions from MS4s, asses trends over time, determine if MS4 is contributing to exceedences of WQO	Determine if conditions in the receiving waters are protective, or likely to be protective, of beneficial uses. Assess trends over time.
Sites	3 stations, plus 60% Ventura and Oxnard drainage to Santa Clara River until SCR moved. May be 5 or 6 stations	3 stations, one on each watershed. Propose composite of grab samples downstream of urban areas on Ventura and Santa Clara rivers.
Events	5 total: 3 Wet, 2 Dry (May, June and August, Sept), First Flush, 0.25 inch rain.	Model Program suggests 3 wet events for three years then to modify per results of a power analysis. High likelihood that some constituents will require continued monitoring.
Constituents	Traditional ME	Initial Pyrethroid study the rest dependant on power analysis suggested by Model Program and.
TSS Monitoring	All Storms 0.25" storms	Not addressed in Model Program as a valid measure to estimate loading. Suggest evaluation after two years on the ability of this data to predict loading, and if a translator for turbidity can be used as a surrogate. Also suggest every 0.5" storm, natural bottom channels, vast open space and agriculture areas are pervious surfaces that create little increase in runoff in a 0.25" storm.
Toxicity		
Sites	3 mass emission stations and rotating tributary stations	Used as part of the Triad approach in locating the extent and magnitude of receiving water problem. See

		fig XXX for potential sites.
Test Organisms	Marine and freshwater test organisms at Mass Emission, freshwater at Tributary Sites	Freshwater
TIE	All sites: 90% or more in first year. 20% or second year.	Same 90% or more in first year. 20% or second year.
TRE	If same class in 50% in 2 samples per location	If same class in 50% in 2 samples per location and urban sources likely.
Tributary		
Objectives	Determine if MS4 is contributing to exceedences of WQO	Determine what the extent and magnitude of the current or potential receiving water problems and if urban sources are likely the cause.
Sites	2 VC, 3 SCR, 2 CC, and Malibu coordinated w/ Malibu Creek TMDL Monitoring. One watershed every two years	Dependant on information obtained in Mass Emission monitoring and historical watershed data available. Possibly six or more sites per watershed.
Sampling	First storm plus 2 others	Model Program defines as "shorter-term studies that are conducted once or perhaps periodically"
Analytes	Same as ME for first flush, 2nd all downstream 303(d) and POCs	Only constituents when "receiving water problems related to urban runoff are found or predicted"
WQO exceedences	Identify source in sub watershed, corrective action plan in 90 days	Initiate urban outfall source identification monitoring.
TMDLs	Above and beyond TMDL compliance monitoring plans	Not an appropriate part of this plan - refer to TMDL compliance monitoring plans.
Bioassessment		
Objective	Determine the need for Ecological Restoration Plans	Use with Triad method to determine if conditions in the receiving waters are protective, or likely to be protective, of beneficial uses and the extent and magnitude of the current or potential receiving water problems.
Sites	Ventura, SCR, Calleguas: rotate each year.	Selected from existing SWAMP sites in conjunction with needs analysis. Rotate each year.
event	Monitor in spring	Monitor in spring

Trash Study		
Object	Identify area impaired	Identify urban sources of trash
Areas	5 coastal waters, 6 beaches	Areas identified where urban sources likely to be source.
Pyrethroids/ Sediments		
Sites	2-6 sites in main stream of tributaries. 2 -3 sites on secondary tributaries that enter each main tributary (originate at outfall of stormdrain). Potential 30 -40 sites.	Begin at Mass Emission stations, expand monitoring as required by adaptive triggers in the Model Monitoring Program.
Sampling	Top 1cm of sediment in first storm plus 2 others, Chemical and toxicity.	Dry weather sediment only.
Receiving Water Limitations		
Monitoring Points	End-of-pipe compliance points for MAL are at pipes 36 inch or greater or default to Mass emission stations. Letter requests 60% of flows to each watershed management area.	Permittee MS4 outfalls identified as, or likely to be, a source to specific receiving water problems.
Revised Monitoring Program	If discharge is causing or contributing to exceedences of water quality, RWL Compliance Report submitted to RB. Report may require additional monitoring - compliance and investigative.	If discharge is found or suspected of exceeding MALs responsible Permittee is to develop and implement Pollutant/Water Body Based Water Quality Plan to address urban source(s).

Ventura Countywide Stormwater Quality Management Program

Participating Agencies

Camarillo

County of Ventura

Fillmore

Moorpark

Ojai

Oxnard

Port Hueneme

San Buenaventura

Santa Paula

Simi Valley

Thousand Oaks

Ventura County Watershed Protection District

June 19, 2007

Ms. Debra Smith
Interim Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: TRANSMITTAL OF TRANSCRIPT EXCERPT - BOARD MEMBER DELIBERATIONS FROM APRIL 5, 2007 RWQCB WORKSHOP ON VENTURA COUNTYWIDE STORMWATER 1ST DRAFT PERMIT (NPDES No. CAS004002)

Dear Ms. Smith:

On behalf of the Ventura Countywide Storm Water Program Management Committee, I am requesting an excerpt of the transcript created from the April 5, 2007 Regional Board Workshop (Attachment No. 1), be included as part of the administrative record for reissuance of the NPDES permit CAS004002. The transcript describes Regional Board member deliberations, and direction to Regional Board staff in regards to future meetings and topics of discussion with Stakeholders (including Permittees) concerning the December 26, 2006, 1st Draft Stormwater Permit. We believe this transcript more accurately describes the events and direction given by Regional Board members vs. the Workshop minutes (Attachment No. 2).

If you have any questions regarding this letter or attachment, feel free to contact me at 805-654-5051.

Sincerely,

Gerhardt J. Hubner, Chair
Ventura Countywide Program
Stormwater Management Committee

800 South Victoria Avenue • Ventura CA 93009-1610
805/654-2002 • FAX 805/654-3350

Attachment:

1. Excerpt from April 5, 2007 Workshop transcript of Board member deliberations
2. Minutes from April 5, 2007 Workshop

Cc: Ventura Countywide Program Permittees

some thought about what's going to be in the ultimate permit. And what we need to do is think about how we can put together a process that allows the technical evidence that underpins what the staff has come up with to be reviewed by people like Mark Grey. And that there can be some orderly way of rebutting the evidence, of presenting the evidence, and having a fair exchange of evidence so ultimately when you make your final decision, there's a record that's circumscribed and well thought out and well rebutted so you can make a really good decision. So I look forward to working with your staff about that.

CHAIRPERSON DIAMOND: Thank you.

Okay. Now really is the time for the Board to ask questions. And I think, John, did you want to say something? You look like you do.

EXECUTIVE OFFICER BISHOP: I do. I would suggest that the Board limit their questions and really talk about the concerns that they have from looking at the permit. Because, for one, the questions could go on for a long time, and we would hope to get some direction from the Board on areas that we should concentrate on as we move forward in refining the permit. I don't mean to cut you off if there are questions that you need clarification on. But we are going to have another hearing on this, and we are going to have another workshop and another hearing.

And you clearly have the opportunity to call me in the next 28 days or staff after that to talk about it.

CHAIRPERSON DIAMOND: Who's counting, right?

Well, that's normally what we do is deliberate. And then particularly at this late hour, most of us and I'm sure staff also needs time to kind of think about what they've heard today, as do we. And we will raise the issues of concern to us and look forward to the next workshop where the issues that were raised today and now will be addressed by staff.

So I'm going to start over here with our representative from Ventura.

BOARD MEMBER RICHARDSON: I look forward to the next workshop. But what I've heard today and my concerns today are a couple of things. There's balance and flexibility, consistency, and the awful word funding. And I truly believe in the collaborative process that the communities within the county of Ventura have gone through to this point. And I would like to see that process utilized with the staff in order to go to the next level.

That's all I'll say.

CHAIRPERSON DIAMOND: Okay. Thanks.

BOARD MEMBER MARIN: Along the lines of consistency, given how much effort and resources are being put in the development of the TMDL, I think it's

especially important that the permits get aligned with what's coming out of the TMDL process. And I think that that just makes the permit stronger.

And so I think I'm going to leave it at that. There's a lot of issues I still need to understood a little bit better but -- actually, other thing. We did hear a lot about problems associated with areas where infiltration or infiltration is not a viable solution. I do want to hear from staff about solutions or options for areas where the standard thinking of how water flows may be challenged.

BOARD MEMBER NAHAI: I wish I could restrict my comments to just one or two thoughts, but you'll forgive me if I don't. I'll try to go quickly.

I think let me first start with a compliment. In ten years of public service and three decades of being a lawyer, I've rarely seen a work of such high quality in terms of its comprehensiveness and its clarity and its detail and the amount of thought that went into preparing this. So I want to start off by saying that.

Having said that, though, I think there are a number of areas where there could be improvements. And I think a number of these in terms have to do with more effective communication. And clearly, there was some really deep misunderstandings of various provisions in the

permit.

But to start, first of all with respect to MALs and how MALs fit in with the definition of MEP and how they fit in with receiving water limitations and whether they should be there to begin with, I think these issues need to be looked at in more detail and need to be set forth in a way that is more readily understandable. For instance, the criticism that MALs are just another way of trying to stick in numeric limitations in a storm water permit and that may somehow be violative of State Board policy, I think that's something that the criticism has been levied here. It needs to be dealt with.

Similarly, the allegation that MALs end up being more stringent than TMDL WLAs for instance. And the interplay between these two standards I think needs to be clarified.

In some instances, the statements were made that the time frames are too short, that they're going to be unacceptable financial burdens imposed on communities in very short periods of time. I think that needs to be taken a look at. I think some of the numbers that were provided to us here today need to be examined to see whether they actually stand up under closer scrutiny.

Some old friends surfaced today, whether economic considerations need to be included, whether they have been

already. I think from a legal standpoint, those things need to be clarified, Michael, the 13421 standards. Do they apply? And if so, have they been observed? If not, have they been included anyway?

The unfunded mandate allegation, yet again let's have that dealt with here.

The atmospheric deposition issue that I think seems to rest on some kind of false notion that somehow we're trying to punish municipalities for the pollution that is deposited on their streets, whether it's from people, cars, or from the air. This isn't about punishment. It's about trying to clean up the pollution that goes into the storm drain system. So I think that needs to be clarified.

There was some suggestions that MALs should be augmented and that some TMDLs were not included. If we've adopted them and if they affect Ventura County, then I think the TMDLs should be included here.

I found some of the statements made by the representative from Fillmore compelling. We need to take a look at whether trash excluders in that city would have deleterious effects.

The statement regarding the 100,000 gallon limitation with respect to flushing, I would appreciate it if that issue was looked at in more detail, because we

want to make sure we don't inadvertently cause adverse public health effects. The expansive soils issue I think bears a little bit more study. I would like to see some statement regarding the encouragement of in-fill development statements, encouraging participation in the urban process. On 11-79, there is a reference to corporations and partnerships. We need to include references to limited liability companies, because that's how real estate is owned mostly these days.

And finally, on 11-45 regarding cost reporting, I think we need to make sure that we have uniform cost reporting from all permittees. And I would like -- I can call you. We can go into it in some detail later on. But I don't want to take up too much more time.

CHAIRPERSON DIAMOND: Thank you.

Mr. Vander Lans.

BOARD MEMBER VANDER LANS: The nice thing about being near the end is you can say it's been said.

But I think we have learned that we should look further whether one-size-fits-all. There seems to be some things that came up today that would suggest that's a misconception. The seasonal question -- and I'll just agree that we look at this. I would suggest, Madam Chairman, that if we go forward as I believe we are going to the meeting in Ventura that that's all we do and not

schedule other things on that day.

CHAIRPERSON DIAMOND: Ms. Lutz.

VICE CHAIRPERSON LUTZ: Really only just a couple of things that have not already been said, because I concur with everything that has been said.

There was a suggestion that the Phase 2 cities be kept Phase 2 for the moment and maybe ease them in. I'd like to hear staff's point of view on that.

And there was a discussion about the rotating of the monitoring system. And I think we need to look at that in a little more detail. And the hydromodification issue with the grading I think is a huge issue we need to really evaluate carefully.

CHAIRPERSON DIAMOND: I don't have much to add. I think that we're all saying that we want to have a better understanding of the maximum action levels and how they are interpreted in the MEP with the MEP standard. That needs to be clear to us as well as to the stakeholders and how much flexibility is there. That word flexibility has come up a number of times today. What kind of flexibility is there in MEP? What kind of flexibility is there in hydromodification? What kind of flexibility do some of the cities have when their specific particular situations may not fit the definitions that we have?

I'm a little bit concerned about the -- a lot concerned about the integration of the TMDLs into this storm water permit.

And also just a small matter, but the communication is issue I think is really key. For example, some cities think that every catch basin has to have a trash excluder. We need to know is that true. Is it not true. What are the costs involved in that.

So I think going forward that that pretty much gives you direction for when we meet again in August. And no doubt this has always been our intention that that workshop would be in Ventura.

So with that, I think we're ready to adjourn this part of the meeting and hopefully the meeting in entirety. We want to wish John well. And that's it.

(Thereupon the Los Angeles Regional Water Quality Control Board adjourned at 6:15 p.m.)

California Regional Water Quality Control Board
Los Angeles Region

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.waterboards.ca.gov/losangeles

da S. Adams,
ncy Secretary

Arnold Schwarzenegger
Governor

Draft Meeting Minutes

Los Angeles Regional Water Quality Control Board
April 5, 2007 Regular Board Meeting
City of Burbank Council Chambers
275 E. Olive Avenue, Burbank, California

Item 1. Roll Call

The meeting was called to order by Chair Fran Diamond at 9:09 a.m.

Board Members Present: Chair Fran Diamond, Vice Chair Mary Ann Lutz, H. David Nahai (arrived at 11:00 am), Maribel Marin, Brad Mindlin, Leo Vander Lans, and Dick Richardson

Board Members Absent: None

Staff Present: Jonathan Bishop, Deborah Smith, David Bacharowski, Ronji Harris, Jack Price, Stephen Cain, Blythe Ponek-Bacharowski, David Hung, Michael Levy, Jennifer Fordyce, Xavier Swamikannu, Samuel Unger, Ejigu Solomon, Dan Radulescu, Carlos Urrunaga, Tracy Woods, Paula Rasmussen, Ivar Ridgeway, Wendy Phillips, Wen Yang, Rodney Nelson, Alex Alimohammadi,

Individuals whose Names Appear on the Sign-In Sheet

Mr. Peter Anderson, Center for Competitive Waste	Ms. Mary Edwards, Resident
Ms. Jan Chatten Brown,	Ms. Tess Dunham, Resident
Mr. Ralph Kroy, Resident	Ms. Kirsten James, Heal the Bay
Mr. Wayne Allen, Resident	Mr. Gerald McGowan, City of Los Angeles
Mr. Curtis Cash, City of Los Angeles	Mr. Steve Summartin, Resident
Mr. Jim Taylor, City of Thousand Oaks	Mr. Jay Spurgin, City of Thousand Oaks
Ms. JoAnne Kelly, City of Thousand Oaks	Mr. David McKinzu, Sierra Residential
Mr. Larry Forester, City of Signal Hill	Ms. Lisa Austin, GeoSyntec
Ms. Julie Millett, RWA Planning	Ms. Dorothie Alsentza, NRDC
Ms. Crystal Murray, Landscape Development	Mr. Matthew Haines, Landscape Development Inc.
Ms. Julie Limbean, Landscape Development Inc.	Mr. Chuck Hefferman, K.B. Homes
Mr. Codey Harpole, Newhall Land	Mr. Matt Yeager, San Bernardino Co. SW Program
Ms. Carrie Mattingly, City of Port Hueneme	Mr. Lee Huang, City of Los Angeles
Mr. James Kim, City of Los Angeles	Ms. Jane Nelson, RTF & Associates
Mr. Mike Flake, Brown & Caldwell	Mr. Michael Kolbenschlag, AEI-CASL Consulting
Mr. Bill Rosica, California Water Service Co.	Mr. Keith Jones, Caltrans
Mr. Scott McGowen, Caltrans	Mr. Sean Patrick, Richmond American Homes
Ms. Mary Lynn K. Coffee, Nossaman, Guthner, Knox & Elliott	Mr. Mark Grey, CICWQ/BIA-SC Mr. Andrew Henderson, BIA/SC

Mr. Matthew Breiner, John Liang Homes	Mr. Terra Donlon, BIA/GLAY
Ms. Sheila Kennedy, Enfact Solutions	Mr. Ralph J. Capo, VTN West, Inc.
Mr. Tim Nanson, City of Simi Valley	Mr. Mark Watkins, City of Thousand Oaks
Mr. Jim Alcala, American Premium Homes	Mr. Leo Tabbal, The Olsen Company
Mr. Jonathan Chai, BIA/SC	Mr. Dan Pavlanick, City of Simi Valley
Mr. Dan Leonn, Standard Pacific Homes	Mr. Gerry Greene, City of Downey
Ms. Junko Sams, Representing self	Ms. Theresa Rodgers, LARWQCB
Mr. Bert Rapp, City of Fillmore	Mr. Wayde Hunter,
Mr. Dave Edwards,	Mr. Ed Kavanjian,
Mr. Jim Thorsen, City of Malibu	Ms. Larissa Aumand, Weston Solutions, Inc.
Mr. Marvin Sachse, Brash Industries	Ms. Susannah Turney, City of Arcadia- PWSD
Mr. Dan McCoy, Weston Solutions	Mr. Dave Hauser, BFI
Ms. Ann Heil, L.A. County Sanitation District	Ms. Becky Bendikson,
Mr. Mike Driller, CA Department of Water Resources	Mr. David Sommers, L.A. County – Fourth District Mr. Craig George, City of Malibu
Mr. Calvin Chang, City of Burbank	Mr. Mike McKee, A-MEHR, Inc.
Mr. Martin Rosen, City of Los Angeles	Mr. Kevin McGillicuddy, Roscoe Moss Company
Ms. Katherine Rubin, L.A. County DPW	Mr. J. Richard Leymen, WAI Capital
Ms. Nancy Hoffman, Mid Valley Chamber of Commerce	Mr. Brendan Hoffman, VICA Mr. Victor Meza, City of Monterey Park
Mr. Chris Ariolla, City of Monterey Park	Ms. Mary Ellen Crosby, Friends of the Park
Ms. Fari Mofid, City of Los Angeles DWP	Mr. Peter Kim, Pardee Home, Valencia
Ms. Anne Ziliak,	Mr. Michael Drennan, Resident
Ms. Debby Figoni, City of San Dimas	Mr. Steve Blots, Assoc. of Gen. Contractors of CA
Ms. Alice Gong, City of Los Angeles	Mr. Darrell Siegrist, County of Ventura
Ms. Lauren Amimoto, City of Pico Rivera	Mr. Martin Aiyetiwa, L.A County DPW
Mr. Geoff Brosseau, CASQA	Mr. Mack Walker, Larry Walker Associates
Mr. Richard Bradley, City of Ventura	Mr. Vaikko Allen, Contech Stormwater Solutions
Mr. Fred Camarillo, City of Port Hueneme	Mr. Tom Leary, City of Long Beach
Ms. Kim Thompson,	Ms. Teri Davis, City of Moorpark
Mr. Mark Pumford, City of Oxnard	Mr. Kevin Gieschen, City of Simi Valley
Ms. Anita Kuhman, City of Camarillo	Ms. Carrie Bluth, CA Coastal Commission
Ms. Diana Perez, Pardee Homes	Ms. Melissa Pare, Nossuman
Ms. Sharon Rubalcava, Weston Benshoof	

Item 2. Order of Agenda.

MOTION: To approve the order of agenda.

Item 13 is continued to the next meeting.

First: Vice Chair Mary Ann Lutz
Second: Board Member Dick Richardson
Vote: Approved by unanimous vote.

Item 3. Approval of March 1, 2007 draft Meeting Minutes.

MOTION: To adopt the March 1, 2007 draft Meeting Minutes.

First: Board Member Brad Mindlin
Second: Board Member Leo Vander Lans
Vote: Approved by unanimous vote

Item 4. Board Member Communications.

There were no communications reported that constitute the Ex Parte Communications disclosures.

However, Board member Maribel Marin reported that she attended the City of Los Angeles' Quarterly Environmental meeting and there was discussion about ongoing studies and projects related to soil and groundwater cleanup.

Chair Fran Diamond indicated that she and Vice Chair Mary Ann Lutz attended the Strategic Planning meeting at State Board, and that there are plans to hold a Strategic Planning Workshop next month.

Item 5. Executive Officers Report

Report given by Jonathan Bishop, Executive Officer, and posted on the Board's website: www.swrcb.ca.gov/~rwqcb4/html/eo_reports/eo_reports.html .

Item 5.a. Board Checklist.

There was no discussion or questions regarding the Board Checklist.

Item 5.b. Report from State Board.

Item 6. Public Forum.

Speakers:

- Mr. Jim Thorson, Representing City of Malibu
- Mr. Craig George, Representing City of Malibu
- Ms. Becky Bendickson, Resident Granada Hills

These City of Malibu representatives talked about the ongoing efforts in Malibu with outreach efforts to Home Owner Associations in Malibu, and the reason for the delay with the Environmental Impact Report (EIR) for both the Malibu Country Mart facilities, and the Paradise Cove Mobile Home Park.

Questions and Concerns of the Board:

The Board expressed its concern for the City's delay in providing Paradise Cove Mobile Home Park and the Malibu Country Mart facilities with the permit and the Environmental Impact Report (EIR). The Board urged the City to work diligently and where possible, to do its part to assist with the processing of the permit and the EIR in order to move forward expeditiously with ongoing projects for these sites.

Item 7. Uncontested Items Calendar.

MOTION: To deem non-controversial and approve Agenda Items 8, 9, and 10

First: Board Member Brad Mindlin
Second: Board Member Dick Richardson
Vote: Approved by unanimous vote.

Item 12. Browning Ferris Industries, Inc.

Introduction to Report.
Ms. Wendy Phillips, Groundwater Permitting and Cleanup Section Chief

- BFI accepts 600 tons of waste per day
- BFI does not accept waste that is imported from other counties
- The tentative permit will replace a permit from 1991
- BFI is regulated through the Integrated Waste Management Board's Solid Waste facilities permit and the Stormwater permit for industrial waste activities

Staff Report.
Mr. Rod Nelson, Land Disposal Unit Chief; and Mr. Wen Yang, Land Disposal Unit Staff

- Phase 1 through 4 of the landfill will soon be filled to its capacity
- This permit proposes a 42-acre land expansion
- Discussed the proposed new permit and compared them to the old permit
- There is no change in the Monitoring and Reporting Program for the proposed permit
- Gave clarification on the existing Corrective Action program
- The community has concerns about health issues
- Talked about the Potential Assurance fund

Public Comment.

- Mr. Dave Edwards, Browning Ferris Industries, Inc. (in support)
- Ms. Jan Chatten Brown, North Valley Coalition (opposed)
- Mr. Peter Andersen, Competitive Waste Organization (opposed)
- Ms. Carly Katonya, Representing Supervisor Yvonne Burke (in support)
- Mr. Joe Mello, State Water Resources Control Board (in support)
- Mr. Brendan Huffman, VICA (in support)
- Ms. Nancy Hoffman, Greater San Fernando Valley Chamber of Commerce (in support)
- Mr. Wayde Hunter, President North Valley Coalition (opposed)
- Ms. Mary Edwards, Resident (opposed)

- Mr. Ralph Kroy, Resident (opposed)
- Ms. Kim Thompson, Resident (opposed)

Board questions, discussion, and concerns:

- What assurances are there for the liners in case of a catastrophic event?
- Clarification that the proposed extensions are not down gradient for the landfill
- Ask for clarification that the Board will have the opportunity to determine if the cover is correct
- Clarification on the Board's authority for financial assurances

Ms. Jennifer Fordyce and Mr. Michael Levy, Staff Counsels gave clarification on financial mechanisms that are allowed in Title 27, as pertaining to financial assurances.

MOTION: To approve the Waste Discharge Requirements with the following changes:

- Agenda Page No. 12-29, Requirement No. L-12, replaces **"Executive Officer"** with the Regional Board and now reads:

12. Within 30 days of the adoption of the Order, the Discharger shall submit a proposal to the Regional Board in accordance with 27 CCR section 22222, for assurance of financial responsibility in an amount appropriate for initiating and completing corrective action for all known or reasonably foreseeable releases from the Landfill. Upon approval by the Regional Board, The Executive Officer shall forward the proposal to the CIWMB. The Regional Board shall reconsider the amount after the promulgation of the regulations by the CIWMB, as required by Public Resources Code sections 43050 and 43501.

- Agenda Page 12-30, Requirement No. M.1 has been changed to read:

1. Regional Board staff shall convene a workgroup that includes other State, County and local regulatory agencies, the Discharger, and concerned groups and citizens to evaluate the seismic stability properties of the proposed final cover system, or any alternative final cover system proposed under Sections 20080(b) and 21090(a) of 27 CCR for the County Extension Landfill. After consideration of comments offered by the workgroup, the Discharger shall submit a conceptual final cover design for the County Extension Landfill for the Regional Board to approve. The Regional Board will revise these requirements within two years from the date of this Order if the design of a conceptual final cover system is not approved before such date. In the interim, no landfill construction shall be conducted within the proposed Phases VI and VII areas of the Landfill (Figure 3).

- Agenda Page 12-49, II, Required Monitoring and Inspections, has been changed to read:

The Discharger shall conduct the following monitoring and inspections at the Landfill. Unless otherwise indicated, all monitoring data and inspection results shall be reported to the Regional Board as outlined in Section I of this M&RP. In addition, Regional Board staff shall conduct annual testing appropriate to confirm the accuracy of the Discharger's self monitoring.

First: Board Member David Nahai
Second: Board Member Dick Richardson
Vote: Approved by unanimous vote

Item 11. Workshop to solicit comments on the tentative Municipal Separate Storm Sewer System Discharge Permit for the County of Ventura.

Joint Staff Report by Xavier Swamikannu, Tracy Woods, Ivar Ridgeway, Dan Radulescu, Ejigu Solomon, and Carlos Urrunaga; the reports included but were not limited to the following:

- MS4 Permit background information
- Discussion on illicit connection and public input and participation
- Discussion about the Industrial and Commercial Stormwater Programs
- Discussion on the land development program
- Discussion on the development of the construction program for the permit
- The draft permits incorporates TMDL Standards
- How Best Management Practices are established
- Highlighted the proposed changes to the program

An Oath was rendered by the Board Chair.

Interested Parties/Public Comment.

- Supervisor Kathy Long, County of Ventura
- Mr. Gerhardt Hubner, County of Ventura Watershed Protection Division
- Ms. Vicki Musgrove, County of Ventura
- Councilmember Bryan Brennan
- Ms. Holly Schroeder, Building Industry Association
- Dr. Mark Grey, Building Industry Association
- Councilmember Larry Forester, City of Signal Hill
- Mr. Richard Watson, Consultant to CPR Cities
- Dr. Gerald Green, Representing CPR Cities
- Ms. Lisa Rath, City of Lakewood
- Mr. Ray Tahir, TEC Environmental
- Ms. Kirsten James, Heal the Bay
- Ms. Dorothy Alsentza, NRDC
- Mr. Geoff Brosseau, California Stormwater Quality Association (CASQA)
- Ms. Carrie Bluth, California Coastal Commission
- Mr. Arnie Anselm, County of Ventura
- Mr. John Bejan, City of Moorpark
- Ms. Teri Davis, City of Moorpark
- Mr. Mark Pumford, City of Oxnard
- Ms. Carrie Mattingly, Port Hueneme Utilities Director
- Mr. Burt Rapp, City of Fillmore

- Ms. Anita Kuhlman, City of Camarillo
- Mr. Jay Spurgin, City of Thousand Oaks
- Mr. Vaikko Allen, Contech Stormwater Solutions
- Mr. Matthew Breiner, John Laing Homes
- Mr. Matthew Holly, City of Fillmore Resident
- Mr. Rurik Nye, President of Nye & Nelson Inc.
- Mr. Marvin Sachse, Brash Industries
- Mr. Andrew Henderson, BIA Southern California

Board discussion, concerns and direction:

- Clarification on Wasteload Allocations (WLAs)
- Consideration and inclusion of Economic considerations
- Atmospheric deposition issues need to be clarified
- Expansive soils issues need more studies
- Concerns about integration of TMDLs in the Stormwater permit
- Look at Fillmore and see whether trash excluders in that city would have deleterious effects
- The Board would like a better understanding of maximum action levels (MALs)
- The Board requested that the August meeting and stormwater workshop be held in Ventura County

The meeting was adjourned at approximately 6:15 p.m. Minutes adopted at the May 3, 2007 Board meeting.

Written and submitted by: Ronji R. Harris on 5/7/2007.

Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board

Los Angeles Region
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(213) 576-6600 • Fax (213) 576-6640
http://www.waterboards.ca.gov/losangeles

Arnold Schwa[illegible]ger
Governo[illegible]

February 22, 2007

Mrs. Teresa Jordan
3152 Shad Court
Simi Valley, CA 93063

Dear Ms. Jordan:

DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM (NPDES PERMIT NO. CAS004002) PUBLIC COMMENT REVIEW PERIOD

Mr. Bishop asked that I respond to your inquiry of February 21, 2007 on his behalf. The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) has requested that written comments be received no later than March 7, 2007. The public hearing notice specified that they may be submitted by either mail or email. It is the Los Angeles Water Board's intention to not authorize fax submittals due to the number of comments we anticipate receiving, and our limited facsimile capacity.

Please submit written comments such that they are received by us by close of business on March 7, 2007, to the attention of:

Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013-2343
(213) 576-6600

Or, by email, to: April122007workshop@waterboards.ca.gov

Please feel free to contact me if you would like to discuss this matter or have any additional questions.

Sincerely,

Michael J. Levy
Senior Staff Counsel

bc: **[via email only]**

Michael Levy, OCC
Jennifer Fordyce, OCC

MJLevy/clbashaw
02-22-07
i:\bashc\2-mjl\correspondence\
ltr to teresa jordan re draft ventura county municipal separate storm sewer system.doc

cc: Mr. Jonathan Bishop **[via email only]**
Executive Officer
Los Angeles Regional Water Quality
Control Board
320 West 4th street, Suite 200
Los Angeles, CA 90013

320 W. 4th Street, Suite 200
Los Angeles, CA 90013
Phone: 213/576-6600
Fax: 213/576-6625

Regional Water Quality Control Board-LA Region

Fax

To: Mike Levy

From: Jon Bishop
Executive Office
Phone:

Fax:

Date: 2/23/07

Phone:

Pages:

Re:

CC:

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

•Comments:

Please contact Ronji Harris (213)576-6612 or Laura Gallardo (213)576-6613 if you have problems receiving this facsimile.

Mike, Please prepare a response.

Thank You

Jon

TERESA JORDAN
3152 SHAD COURT
SIMI VALLEY, CA 93063
TELEPHONE NO. (805) 522-5016

TO: Mr. Jonathan S. Bishop, Executive Director
LARWQCB
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

FAX NO.: (213) 576-6640

DATE: February 21, 2007

NO. OF PAGES: 2 (includes cover sheet)

RE: Draft Ventura County Municipal Separate Storm Sewer System (NPDES Permit No. CAS004002) Public Comment Review Period.

3152 Shad Court
Simi Valley, CA 93063
February 21, 2007

Mr. Jonathan S. Bishop, Executive Officer
LARWQCB
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Draft Ventura County Municipal Separate Storm Sewer System(NPDES Permit No. CAS004002) Public Comment Review Period.

Dear Mr. Bishop:

I am writing to express my gratitude for the deadline extension on the MS4 Permit public comments from February 26, 2007 to March 7, 2007.

Mr. Bishop, I am also writing to ask a question relative to the public participation process with regards to the written comments. Since the California Code of Regulations title 23 (Waters), Division 3(State Water Resources Control Board and Regional Water Quality Control Boards), chapter 1.5 (Rules of Practice and Procedure), article 3(Rulemaking and Informational Proceedings), section 649.4(Prepared Written Evidence) only stipulates that "The State or Regional Board may require that prepared written testimony or other evidence be submitted in advance of any rulemaking or informational proceeding for the purpose of the orderly consideration of issues at the proceeding", is the Los Angeles Regional Water Quality Control Board restricting the submittal of interested parties comments by facsimile?

Mr. Bishop, I really appreciate it if you would please reply to this letter, and have it forwarded to my telephone /facsimile No. (805)522-5016 as soon as possible. Thank you very much.

Sincerely,

Mrs. Teresa Jordan

Mrs. Teresa Jordan

CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90755-3799

OUTLINE OF COMMENTS ON VENTURA COUNTY MUNICIPAL NPDES PERMIT FOR APRIL 5, 2007 WORKSHOP BEFORE THE L.A. REGIONAL BOARD

My name is Larry Forester. I am a Council Member for the City of Signal Hill and am speaking on behalf of Signal Hill and the ad hoc coalition known as the Coalition for Practical Regulation.

As a councilmember, I must assure my constituents that I am spending the public's monies wisely. There are dozens of competing interests for General Fund monies, from police and fire protection, to ambulance and paramedic services, to public libraries and parks, to water quality.

On any given day, any one of these public services will be more important to a particular individual than all of the others. For the crime victim, not enough funds have been put into police services. For the fire victim, particularly given this year as being one of the driest years in history, not enough funds have been allocated for fire protection. For the heart attack victim and his family, not enough has been allocated for ambulance and paramedic services. For the mother of three, not enough has been allocated for park services. And for the surfer, not enough has been allocated for water quality purposes.

For municipalities, the California Constitution recognizes the countless services a City must provide its citizens, and the strain on local funds. For this reason, the Constitution prevents

the State of California, including this Board, from imposing any additional obligations upon municipalities, without first providing the cities with a funding mechanism or monies to fund the additional mandates. In short, the California Constitution prevents the State from imposing unfunded mandates upon cities.

The Draft Ventura County Permit recognizes the need for the Cities to fund the many programs that are imposed by the Permit, but does not provide a funding mechanism. Under the title "Fiscal Resources" under Part 3.C of the Permit, the Permit provides that:

> **"THE PERMITEES SHALL ALLOCATE ALL NECESSARY FUNDS TO IMPLEMENT THE ACTIVITIES REQUIRED TO COMPLY WITH THE PROVISIONS OF THIS ORDER."**

Thus, rather than providing funds to the Cities to implement these programs, the Permit instead asserts that the Cities must find the money to fund the programs.

We understand that the Permit itself is required by federal law, specifically the Clean Water Act, but there are a number of program requirements that are not required by the Clean Water Act, and which will be very expensive for the Cities to comply with. It is these programs which should not be imposed upon the Cities until appropriate funding has been provided.

For example, the provisions requiring the Cities to meet certain numeric limits referred to as "Municipal Action Levels," or else be in violation of the Permit, will be extremely expensive to adhere to. Attachment "G" contains some 140 constituents, where, if any one of them is exceeded two times, the City will be in violation of the Permit and subject to enforcement action and penalties, or a citizen suit brought by environmental organizations.

These Municipal Action Levels are not required by any federal law, and it will cost millions if not billions of dollars of the public's monies to comply with. them.

In addition to the Municipal Action Level requirements, other expensive provisions in the Permit, not required by federal law, include: (1) the provisions under Parts 1 and 2 requiring strict compliance with water quality standards; (2) the TMDL provisions in the Permit requiring strict compliance with numeric waste load allocations; (3) the Permit terms obligating the Cities to be responsible for atmospheric deposition; and (4) numerous other programs in the Permit such as the Industrial Facility Inspection Program, the Pesticide Program, the Watershed Ecological Restoration Program, the Standard Urban Stormwater Mitigation Plan ("SUSMP") requirements, along with the requirements to reduce the percentage of effective impervious area to less than 5% of a total project area, and the Low Impact Development requirements . None of these programs are required by federal law.

The Permit assumes the Cities can and will find the necessary funds for all of these and other mandated programs, and at the same time, that all of the other public services that are provided by municipalities are also maintained, such as adequate police, fire, etc.

Still, it is because of the concern of jeopardizing the ability of municipalities to adequately provide these essential services, that the California Constitution requires that the State pay for those programs that are not otherwise required by federal law. Thus, with this Permit, we would ask that before you impose these obligations, such as the Municipal Action Level requirements and the other programs, that you first make sure the money is there for the Cities to comply with these programs.

The Fiscal Resources section in the Permit should therefore be modified to require the Cities to implement the numerous programs not required by federal law, only after sufficient funds have first been allocated by the State and made available to the Cities.

As a Council Member for the City of Signal Hill, I can attest to the fact that municipal resources are scarce, but that the demands are many. If you are intent on imposing these burdensome programs upon municipalities, either in Ventura County or in Los Angeles County, it is essential that you provide adequate funding so as not to diminish the funds that are to be available for these other equally important public services. Thank you.

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105- 2219
VOICE (415) 904- 5200
(415) 904- 5400
FAX (415) 597-5885

April 5, 2007

Comments for oral testimony on Draft Stormwater Permit for Ventura County and Cities – Los Angeles Regional Water Quality Control Board April 5, 2007 Workshop:

I am here on behalf of the staff of the Water Quality Unit of the California Coastal Commission and as a partner in the California Water and Land Use Partnership otherwise known as Cal WALUP – this partnership includes state and federal agencies, universities, local governments and non-profit organizations, and is focused on educating land use decision makers about the relationship between land use and water quality.

As the State's land use agency charged with protecting and enhancing coastal resources the Coastal Commission is deeply concerned with the impact of stormwater runoff on the water quality of our streams, wetlands, estuaries, and beaches.

Land use planning and development are inextricably linked with the health of our watersheds. The way we develop and manage land use activity in our watersheds directly affects the water quality and ecological integrity of our rivers, streams and other aquatic resources in the State. This Draft Permit incorporates those principles and shows your staff is in agreement with national water quality experts, the Coastal Commission and other state agencies.

The way forward is to integrate our land use planning efforts with our water quality goals – and we believe the concepts and measures set forth in the proposed Draft Permit, recognize and embody this important principle. We are particularly supportive of the permit sections that address the impacts of **hydrograph modification,** and that advance the use of **low impact development (LID) concepts and techniques.**

In addition, the Coastal Commission is one of the lead agencies carrying out California's Nonpoint Source Control Plan, and that plan recognizes the importance of maintaining the pre-disturbance hydrologic character of watersheds when developing land. The Commission, accordingly, has long emphasized the need for development to control not only pollutants in runoff, but also increases in volume, flow and duration of discharge caused by the creation of impervious surfaces.

Further, Low Impact Development and the integrated approaches to stormwater management articulated in the Permit are consistent with the policies and measures that

the Coastal Commission has been approving in Local Coastal Plans and Permits in recent years.

Reducing the amount of runoff generated on a site in the first place, by using alternative design methods such as porous paving materials, or disconnecting impervious areas *makes sense.* Integrating landscaping or other surface water features with stormwater management plans to retain runoff on site makes *a LOT of sense* - these kinds of source control and site design features are cost-effective, and often have little or no maintenance needs unlike most conventional pre-fabricated stormwater treatment devices. These features are capable of achieving multiple benefits – not only improving surface water quality, but supporting groundwater recharge, and potentially enhancing habitat resources. And these days there are examples in California and across the nation where cost-effective LID solutions have been implemented in projects ranging from small scale residential to massive commercial developments, from redevelopment to infill situations, with great success.

Retaining water on site will reduce peak flows in our watersheds, minimizing flood risk and damage. Further, maintaining natural drainage patterns is key to protecting our streams from erosion and sedimentation and maintaining optimal conditions for fish populations and healthy riparian corridors for native plants and wildlife to thrive.

Moreover, as we all know impacts to our inland waters take their toll on ocean water quality, adversely impacting one of the state's most valuable resources. And in this day and age, allowing excess runoff to flow to the ocean is a waste of a precious resource, it is an opportunity lost. The rain that could be cleaned, detained in ponds or swales and reused for landscaping or ground water recharge, is instead directed to the street where it picks up more pollutants on its way to the stormdrain system and the ocean.

This Permit tells us that it is time to take the next step in stormwater management. It is time to get on with the work of educating ourselves about the promise of the future, of better site design, of innovative integrated water and land use planning and development, of beneficial-reuse, of healthy watersheds, and clean beaches.

In conclusion, we are encouraged by the Draft Permit, because we believe it will do much in the way of advancing sensible and effective approaches to addressing stormwater runoff. Broadening the focus of the Permit to more fully address the impacts of hydrograph modification is more than appropriate, *it is necessary* if the stormwater program is to be effective in attaining the State's water quality and aquatic resource protection goals.

We support the message, and the approach, and urge the Board to do the same. We applaud your staff for their dedication and excellent work on this Permit, and thank the Board for your time and careful consideration.

CITY OF SIMI VALLEY

Home of The Ronald Reagan Presidential Library

March 7, 2007

Mr. Jonathan Bishop, Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES PERMIT NO. CAS004002)

Dear Mr. Bishop:

The City of Simi Valley has been a key contributor in the countywide effort to improve water quality in Ventura County. The collaborative countywide program, including the City, continues to be very successful toward improving water quality. As a Calleguas Creek Watershed (CCW) agency, the City is an active Calleguas Creek Management Plan member, and commits resources including funding and personnel towards improving local water quality. The City, by its actions and policies, is clearly active in water quality improvement, and is committed to working locally on water quality issues.

As currently drafted, the subject Draft Order will place undue financial and technical requirements on the City's program. Furthermore, the Draft Order might not efficiently improve water quality, the goal your agency and the City are striving toward through mutual efforts, such as the CCW Management Plan and TMDL development.

The City concurs with the Ventura Countywide Stormwater Program comment letter dated March 6, 2007, and explicitly states our support for the record. In addition to the countywide comments, we have specific concerns, also provided for the record.

The following specific Draft Order requirements are of particular concern:

- The Draft Order's citing of Municipal Action Levels (MALs) is inconsistent with state and federal policies, is technically flawed, results in requirements more stringent than federal law, and creates limits that are more restrictive than adopted water quality objectives contained in the Basin Plan.

- The Draft Order contains prescriptive requirements such as low impact development, hydromodification, and post-construction best management practices for "all" development and redevelopment projects. These requirements cannot be met and unduly forfeit the City's land use planning jurisdiction. Simi Valley has several areas of high groundwater, and the Draft Order's required low impact development infiltration techniques could cause or exacerbate hazardous situations and public safety issues. Further, the Draft Order places unreasonable requirements on routine maintenance projects such as street repaving and channel clearing. These excessive requirements would impede or impair the City's ability to build and maintain public facilities.

- The Draft Order requires implementing a jurisdiction-wide Integrated Pest Management program. This further requires ordinances and policy changes, partnerships and "timelines to reduce and ultimately eliminate the use of pesticides" within 180 days. This timeframe and the 100% elimination of pesticides are unrealistic. Furthermore, this prescriptive requirement preempts the ongoing watershed effort to develop a Pesticide TMDL Implementation Plan.

- The Draft Order requires the installation of trash excluders on all catch basin inlets within six months. This is an estimated $2 million capital improvement project. Not only is this requirement cost prohibitive; the trash excluders would create a health and safety problem due to the potential flooding hazard. Further, a trash TMDL is currently being developed for two reaches of Calleguas Creek with expected adoption by the end of 2007. This Order requirement should be postponed pending the outcome of the TMDL.

- The requirement to obtain coverage under NPDES Permit CAG674001 for potable water discharges of over 100,000 gallons per year from activities such as fire hydrant flushing contradicts and possibly violates State Department of Health Service regulations requiring flushing to protect public health. Furthermore, Permit CAG674001 is a general permit that specifically regulates the discharge of hydrostatic test water. This requirement should be removed.

- The Draft Order should be entirely consistent with and subordinate to the TMDL process. The TMDL process involves not only your agency and the City, but also all stakeholders in the watershed, and the United States Environmental Protection Agency. The TMDL adoption process is conducted in public and provides for comment and revision by your agency and others. To preempt the TMDL work plans by requiring permit compliance on assumed outcomes, or to ignore the approved commitments in the approved TMDL Implementation Plans is inconsistent and arbitrary.

Conclusion

The City of Simi Valley appreciates the opportunity to provide comments to the subject Draft Order. As a Co-permittee in the Ventura County permit, the City is committed to the collaborative effort to maintain and enhance local water quality. The City has significant concerns with the Draft Order. The City supports an Order that provides for accountability, conducts public outreach and education, supports ongoing water quality efforts, includes specific TMDL implementation and monitoring commitments, and receives broad public support. We look forward to working with the Regional Board to incorporate these changes into the Order.

If you have any questions, please call me at (805) 583-6701, or have your staff contact Assistant Director of Public Works Joe Deakin at (805) 583-6401.

Sincerely,

Laura Behjan
for Mike Sedell
City Manager

cc: Assistant City Manager, L. Behjan
Director of Public Works
Assistant Director of Public Works, J. Deakin
LARWQCB, Xavier Swamikannu

City of Moorpark

CITY ENGINEER/PUBLIC WORKS DEPARTMENT
799 Moorpark Avenue, Moorpark, California 93021 (805) 517-6256 fax (805) 532-2555

March 7, 2007

Mr. Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 Fourth Street, Suite 200
Los Angeles, CA 90013

Subject: **12/27/06 Draft Order – Ventura County Municipal Separate Storm Sewer System (MS4) Permit (NPDES No. CAS004002) - Comments**

Dear Mr. Bishop:

In reference to the above subject, the City of Moorpark (City) wishes to inform you that we have completed our review and offer the following comments. The City supports the March 6, 2007 Ventura Countywide Stormwater Program (Ventura Program) Chair, Gerhardt Hubner, letter addressed to you and the attachments thereof. The City also supports the Total Maximum Daily Load (TMDL) statements identified in Exhibit A. We further emphasize that:

- The City is one of the sister cities within the County of Ventura and has worked in close collaboration with the entire Ventura Program while maintaining and improving regional water quality.
- The excluder requirement in the Draft Order is unachievable as more than 30% of the City lies within the 100 year flood plain – excluders would pose a great and significant risk and threat to public safety by causing flooding to a majority of the homes and businesses within the City.
- The Draft Order goes well beyond the requirements of the Clean Water Act's unfunded mandate making the cost of compliance unreal and totally out of the reach of Phase II cities.
- Without major modifications to this Draft Order, it would be totally impractical to implement for public safety and from financial limitations.

The City looks forward to your responses to this letter and to the Hubner's letter and attachments thereof, and TMDL comments identified in Exhibit A. Please feel free to contact me at (805) 517-6255, if you have questions.

Sincerely,

Yugal K. Lall, PE
City Engineer/Public Works Director

Attachment: Exhibit A

c: Xavier Swamikannu

city share/public works/everyone/letters/NPDES N

EXHIBIT A

Comments to 12/27/06 Ventura County MS4 Draft Order Related to Adopted TMDLs

Camarillo agrees with the Ventura Countywide Program's comment letter and related attachments and submits the following comments that are more associated to sections of the Draft Order related to Total Maximum Daily Loads (TMDLs) and the implications on our City.

Summary of TMDL Comments

As drafted, the Draft Order fails to coordinate with the TMDLs that have been written and that will be written for the CCW and to adequately capture the TMDL implementation plan and schedule. Following are our comments on ways to successfully coordinate efforts required under this Draft Order with the TMDL requirements.

The TMDLs that have been developed in the Calleguas Creek underwent significant technical analysis, stakeholder input, and public review to develop wasteload allocations (WLAs) and implementation actions that will result in compliance with water quality objectives for the listed pollutants. The TMDLs also lay out direction for how to implement the TMDL provisions into NPDES permits. Rather than following the direction of the TMDL and including identified implementation actions, the Draft Order includes numerous additional requirements and does not appropriately capture the intent of the TMDL. The Draft Order needs to be consistent with the TMDLs to allow for effective implementation of TMDL requirements and to prevent confusion and additional costs for programs that have not been evaluated as part of the TMDL process and may not be effective for implementing the program.

The comments in this letter are designed to make the TMDL provisions of the Draft Order consistent with the TMDL requirements. The comments are organized with comments on language presented in the Draft Order outside of the TMDL provisions section first, then suggestions for the TMDL provisions, then comments on Attachment F- Monitoring Program and Attachment H-Reporting Program. Suggested language for incorporating the TMDL provisions into the Draft Order and the Monitoring Program is included as an attachment.

Specific Comments on TMDL language in the FINDINGS Section of Draft Order

Page 4, Findings 8 and 9. The 303(d) list provides information on waterbodies exceeding established water quality standards (40CFR130.7(b)). The 303(d) list does not provide information on, nor should it be used as justification for findings that require bioassessment and ecological restoration. The first sentence of findings 8 and 9 that reference the 303(d) list should be removed.

Page 6, Finding 12. The finding regarding salts is inaccurate and inconsistent with the effective chloride TMDLs and the work being done to develop a salts TMDL in the Calleguas Creek Watershed. Salts impact agricultural and groundwater recharge beneficial uses and are only a concern for aquatic life at levels much higher than those required to protect agriculture. Additionally, swimming pools, though a potential salt

source, have not yet been identified as a significant salt source to the waterbodies in any of the TMDL analyses developed to date. Finally, the effective chloride TMDLs do not include allocations for Municipal Separate Storm Sewer System (MS4) discharges. Therefore, this finding should be removed.

Page 8, Finding 17. The information referenced in this finding comes from two highly urbanized counties that significantly differ from any portion or portions of Ventura County. The trash TMDLs currently being developed in Ventura County are in the process of identifying the sources of the trash and initial indicators suggest that the MS4s may not be the most significant source of trash. Additionally, the amount of trash present in the waterbodies is significantly lower than the amount found in Los Angeles County. Although trash is a potential problem in Ventura County, the problem is not of the same magnitude as that in other Southern California Counties and the finding should acknowledge the differences.

Page 11., D.4. All of the TMDLs require the development of a monitoring plan on an approved schedule and the submittal of the monitoring plan to the Los Angeles Regional Water Quality Control Board (Regional Board) for approval. If the monitoring plan is not submitted, responsible parties are subject to enforcement actions. As a result, there is no need for the Draft Order to include default monitoring requirements. Including separate monitoring requirements for the MS4s would require them to implement actions above and beyond those required in the TMDL and beyond those being imposed on other dischargers to the impaired waterbodies. Additionally, the time schedules provided in the TMDLs are designed to allow the development of a comprehensive and coordinated monitoring program to address TMDL compliance. Requiring additional monitoring actions while this program is being developed would divert resources from the TMDL monitoring program development. As a result, the Draft Order should just include the requirement to participate in the development and implementation of the TMDL Monitoring Programs and submit the monitoring plans by the date required in the TMDL. For all of the effective TMDLs, monitoring programs have been submitted to the RWQCB and are awaiting approval.

Page 13, E. 6. The consent decree requires adoption of all TMDLs for constituents and waterbodies listed on the 1998 303(d) list. Any listings that have occurred since the 1998 list are not subject to the requirement that they be completed within 13 years. The language in this discussion should be changed to reflect this distinction.

Page 15, E. 13. (a) (1) (F) Compliance with the WLAs for the Santa Clara River TMDL was required at the effective date of the TMDL, not one year after the effective date as stated in this section. Submittal of the monitoring plan for determining compliance with the TMDL was required one year after the effective date. The language should be modified accordingly.

Page 16. E. 13 (a) (2) (G) To be consistent with the other TMDL write-ups in this section, a statement H should be included that reads "Compliance for Winter Wet WLA is 10 years after effective date." Statements F and G would be more clear if the WLA was added to

the language.
Page 16. E. 13 (a) (3) (F) Please clarify that compliance with interim WLA is required at the effective date, but compliance with the final WLA for toxicity is not required until 2 years after the effective date.

Page 16. E. 13 (a) (4) (F) To be consistent with the other TMDL write-ups in this section, a statement G should be included that reads "Compliance for final WLA is 20 years after effective date."

Page 103. Point Zero definition. Point Zero is not defined in the TMDLs. Compliance with TMDLs is required in-stream at the defined compliance points for the TMDL. The Point Zero definition should be removed and references to the definition should not be included in the Draft Order.

Attachment A. This attachment is misleading in that it implies that all of the waterbodies in a given watershed management area are listed for the 303(d) pollutant(s) of concern. The attachment should be revised to accurately associate the pollutants with the waterbodies for which they are listed.

Comments on Dry Weather Discharge Prohibition Language to Implement TMDLs

The Draft Order contains requirements on Page 31, Part 3, A. 3., Page 88, Part 6, and in Attachment F, Page F-10, Part D.2.a.1. and a.2. to prohibit dry weather discharges in order to implement the TMDL dry weather WLAs. The TMDLs do not include any provisions that require the prohibition of all dry weather discharges and include the statement that California Water Code Section 13360 precludes the Regional Board from specifying the method of compliance with the waste discharge requirements. Although one mechanism for complying with the TMDL WLAs may be to prohibit dry weather discharges, each responsible party has the authority to determine the most appropriate mechanism for complying with the allocations. Requiring prohibition of all dry weather discharges for TMDL implementation goes beyond the intent of the TMDL and would require costs and efforts to control discharges that may not be contributing to the waterbody impairment. Effective control of dry weather discharges that may contribute to exceedances of the WLAs through BMP implementation is a more productive and effective way of addressing impairments in the waterbody and ensuring compliance with the dry weather WLAs.

Secondly, the TMDL analysis includes an assessment of the amount of dry weather discharge of pollutants that can occur and still allow the waterbody to meet water quality objectives. As discussed in the linkage analysis for all of the TMDLs, the dry weather discharges from MS4s are considered in the analysis and the WLAs assume dry weather discharges from MS4s. As a result, the prohibition of dry weather discharges is not a required provision of the TMDL.

The TMDLs also include statements that allow the allocations to be achieved through the implementation of BMPs. "Storm water WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and

are expected to be achieved through the implementation of BMPs as outlined in the implementation plan." (Calleguas Creek OC Pesticide and Toxicity TMDL BPAs). This type of language has been included in the Draft Order in reference to wet weather WLAs, but not for dry weather allocations. The TMDL implementation language does not make a distinction about the implementation mechanism for dry and wet weather allocations. The language for dry and wet weather WLA compliance should be consistent.

Finally, the Draft Order includes other language that specifically allows some types of non-storm water discharges in conjunction with the implementation of BMPs (Page 26, Part 2. B.- Non-storm water discharges). The language related to dry weather discharge prohibitions for TMDL implementation should be revised to be consistent with these other provisions of the Draft Order. Suggested language is shown below.

> **"PART 3 – STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION**
>
> **A. General Requirements**
>
> 3. Each Permittee shall implement programs and measures to comply with the TMDLs' WLAs for the MS4 as follows:
> (1) Dry Weather Discharges- achieve the concentration or load based numerical limitation for dry weather discharge identified in this Order (Part 6. Total Maximum Daily Load Provisions) through implementation of BMPs and effective control of non-storm water discharges consistent with Part 1. Section B of this order."

TMDL Reopener Language

All of the TMDLs referenced in the Draft Order contain provisions that allow the allocations, implementation requirements, and implementation schedule to be adjusted based on the results of special studies and other actions. The Draft Order should include a statement that allows the revision of Order if the TMDL is changed. Suggested language for this provision is as follows:

> "This Order may be modified to address changes to wasteload allocations, numeric targets, or implementation provisions of any TMDLs incorporated into this order."

The language could be included in the TMDL provisions section or on page 113 under the Reopener and Modification discussion.

Comments on Part 6-Total Maximum Daily Load Provisions (Pages 88-94)

The following comments summarize the issues with the TMDL Provisions section of the Draft Order that pertain to the Calleguas Creek Watershed. Attachment A provides suggested language for this portion of the order that would replace the current language in the Draft Order. The suggested language addresses the comments discussed below.

Introductory Paragraphs

TMDLs are required to achieve water quality objectives and protect beneficial uses. The statement that "The objective of the TMDL is to restore the waterbody to the highest beneficial use or potential beneficial use designated by the Regional Water Board." is erroneous and should be modified to correctly reflect 40 CFR 130 (c)(1) which states "TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS."

As stated previously, the second introductory paragraph should be revised to remove the reference to dry weather prohibition as shown in the attachment.

Part 6.3. Calleguas Creek, its Tributaries and Mugu Lagoon-Toxicity, Chlorpyrifos and Diazinon TMDL

The WLAs included in the Toxicity TMDL should include the effective dates for the interim and final limits.

The WLAs included in the Toxicity TMDL apply during both dry and wet weather. The dry label should be removed from the tables.

The Toxicity WLA is implemented as a trigger for conducting TIEs. "The toxicity WLAs will be implemented in accordance with US EPA, State Board and Regional Board resolutions, guidance and policy at the time of permit issuance or renewal." Currently, these WLAs would be implemented as a trigger for initiation of the TIE/TRE process as outlined in USEPA's "Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program" (2000) and current NPDES permits held by discharged in the CCW." (Calleguas Creek Toxicity TMDL BPA). The trigger language should be included in the Numeric Limits discussion.

Part 6.4. Calleguas Creek, its Tributaries and Mugu Lagoon-Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation TMDL

The WLAs included in the OC Pesticides TMDL should include the effective dates for the interim limits. The final limits should not be included in the Order because the effective date of the final WLA is not within the permit term covered by the Order.

The WLAs included in the OC Pesticides TMDL are annual averages. The table showing the limits should state that they are annual average limits, not dry weather allocations.

The Siltation TMDL allocation is a **reduction** in sediment discharges of 2496 tons/yr, not a limitation on the amount of sediment that can be discharged. The

limits should be changed to reflect that the allocation is a reduction in the amount discharged.

Attachment F-Monitoring Program

The TMDL monitoring and implementation requirements included in the Draft Order are inconsistent with the intent of the TMDLs. The majority of the issues in the program have been discussed previously in this comment letter, but some specific comments are discussed here.

As discussed previously, all of the TMDLs require the development of a monitoring plan on an approved schedule and the submittal of the monitoring plan to the Regional Board for approval. If the monitoring plan is not submitted, responsible parties are subject to enforcement actions. As a result, there is no need for the Draft Order to include default monitoring requirements. The additional "default" monitoring requirements included in Attachment F require actions above and beyond those required in the TMDL and beyond those being imposed on other dischargers to the impaired waterbodies. As a result, the Draft Order should just include the requirement to participate in the development and implementation of the TMDL Monitoring Programs and submit the monitoring plans by the date required in the TMDL. For all of the effective TMDLs, monitoring programs have been submitted to the RWQCB and are awaiting approval.

Additionally, the submitted monitoring plans contain Quality Assurance Project Plans (QAPPs) and have specific sample collection requirements. Therefore, this order should not include specific monitoring requirements for the TMDL monitoring. Bullets 3 through 6 under the introductory paragraph should be deleted (see attachment A for suggested changes).

Monitoring results for the TMDL monitoring program will be submitted in an annual report to the Regional Board. This Order should not include the requirement for the TMDL monitoring to be included in the MS4 permit annual report as the TMDL monitoring program report should be sufficient to meet the TMDL requirements. Therefore, Bullets 7 and 8 under the introductory paragraph should be deleted.

The implementation language in the TMDL for all of the TMDLs is inappropriate. Each TMDL includes specific implementation actions that are required of the MS4 Permittees. All language related to the TMDL implementation should be specific to the TMDL. Additional requirements above and beyond the TMDL requirements should not be included in the Draft Order. The requirements included in this section should be removed and replaced with language specific to the implementation actions included in the TMDL implementation schedules presented in the Basin Plan Amendments for each of the TMDLs. Attachment A includes suggested language for the TMDL implementation provisions.

Finally, where activities required to be conducted for implementation of the other provisions of the order overlap with TMDL requirements, the two programs should be

allowed to coordinate. Specifically, the special study required under the Calleguas Creek Toxicity TMDL to investigate the pesticides that will be used to replace diazinon and chlorpyrifos could be used to meet the requirements of the pyrethroid special study and public outreach programs required under the TMDL could be met through the Public Outreach requirements Part 4.C. Public Information and Participation Program (PIPP).

Attachment H-Reporting Program

The TMDL Compliance monitoring reporting provisions included in this attachment should be changed to be consistent with the changes requested in this comment letter. Specifically:

Page H-2, Part 1.A.4. The requirements to provide information on the field screening for illicit connections should be deleted as discussed above.

Page H-5, Part 1.C.4. The results of TMDL monitoring will be submitted to the Regional Board as part of an annual report each year. The requirement to submit the monitoring results no later than 45 days from the sample collection date is inconsistent with the TMDL requirements and puts an additional burden on the MS4s that will not be imposed on the other responsible parties for the TMDL. The reporting requirements in the TMDL require submittal of an annual report to the Regional Board, and the Order does not need to require anything above and beyond the TMDL reporting requirement.

Page H-4, Part 2.B.3.a. The TMDLs require submission of a monitoring plan for approval by the Regional Board. As discussed above, additional monitoring requirements should not be included in this order. Therefore, the provision to provide a report on the SMC toxicity protocol should be removed from the Order.

Attachment 1 to Exhibit A

Suggested Language Changes to Draft Order Pertaining to TMDLs

Specific language changes to text in the Order are included below in tracked changes. However, we suggest that the specific WLA and TMDL monitoring provisions be replaced by the language shown below. Those provisions are not shown in tracked changes because we suggest that the entire section be replaced.

PART 6 – TOTAL MAXIMUM DAILY LOAD PROVISION

Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing points (Waste Load Allocation) and non-point sources (Load Allocation). Municipal storm water discharges are considered a point source and have been assigned a WLA for certain pollutants. The objective of the TMDL is to ~~restore the waterbody to the highest beneficial use or potential beneficial use~~meet water quality standards designated by the Regional Water Board.

This Order incorporates MS4 WLAs that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA. The WLAs in the Order are expressed ~~either~~ as ~~a~~ numerical receiving water limitations. A ~~, or a~~ suite of BMPs that ~~have~~provide ~~been determined as providing~~ a reasonable expectation that the WLAs will be achieved can be substituted for the limitation with approval of the Regional Board (See Part 4.A.2) ~~for wet weather flows, or as a prohibition for dry weather flows~~. Permittees shall implement all control measures to achieve the TMDL WLA(s) as stated in the TMDL by the WLA(s) effective date(s).

1. Watershed – Pollutant
   Santa Clara River and its Tributaries' (Reach 3) – Nitrogen Compounds (Ammonia and Nitrate plus Nitrite)

   (a) WLA Implementation
   (1) Numerical Limits:
   The WLAs are expressed as numerical receiving water limits for Ammonia and Nitrate plus Nitrite within Reach 3 of the Santa Clara River. The limits established for its MS4 Permittees (Ventura County Watershed Protection District and the Cities of Santa Paula and Fillmore) are the following (see Table 11):

Table 11. Receiving water final limits, effective March 23, 2004:

Constituent	Acute (1-hour average)	Chronic (30-day average)
Ammonia (mg/L)	4.2	2.0
Nitrate + Nitrite (mg/L)	N/A	8.1

2. Watershed – Pollutant
Malibu Creek and Lagoon - Bacteria

(a) WLA Implementation

(1) Numerical Limits:

The WLAs are expressed as exceedances days in-stream for Bacteria within the Malibu Creek and Lagoon watershed. The limits established for its MS4 Permittees are the following (see Table 12 and Table 13):

Table 12. Receiving water final limits for exceedance days

Effective Date	Allocation	Daily Exceedance Days Single sample targets	Weekly Exceedance Days Single sample targets	Exceedance days for 30-day geometric mean targets
January 24, 2009	Summer Dry (April 1-Oct. 31)	0	0	0
January 24, 2012	Winter Dry (November 1-March 31)	3	1	0
January 24, 2016	Wet (November 1-October 31)	17	3	0

Table 13. Summary of Single Sample and 30-day Geometric Mean targets used to determine compliance with exceedance day allocations

Waterbody	Constituent	Single Sample Target (MPN/100 mL)	30-day Geometric Mean Target (MPN/100 mL)
Freshwater	E. Coli	235	126
	Fecal Coliform	400	200
Marine	Total Coliform	10,000	1,000
	Fecal Coliform	400	200
	Enterococcus	104	35
	Total Coliform (if ratio of fecal-to-total coliform is >0.1)	1,000	N/A

3. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Toxicity, Chlorpyrifos, and Diazinon.

(a) WLA Implementation
(1) Numerical Limits:
The WLAs are expressed as numerical receiving water limits ~~in-stream~~ for Toxicity, Chlorpyrifos and Diazinon within the Calleguas Creek watershed~~, its Tributaries and Mugu Lagoon's watershed,~~. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 14 and Table 15):

Table 14. Receiving water interim limits, in effect until March 24, 2008:

Constituent	Acute (1-hour average)	Chronic (4-day average)
Chlorpyrifos		0.45
Diazinon	1.73	0.556

Table 15. Receiving water final limits, effective March 24, 2008:

Constituent	Acute (1-hour average)	Chronic (4-day average)
Chlorpyrifos (ug/L)		0.014
Diazinon (ug/L)	0.1	0.1

Toxicity 1.0 TUc

The toxicity receiving water limit will be implemented as a trigger mechanism for initiation of the TRE/TIE process as outlined in Calleguas Creek Watershed TMDL Monitoring Program.

Compliance with the numeric WLAs will be determined through receiving water monitoring at the base of each subwatershed defined in the TMDL and outlined in the MRP.

4. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation
(1) Numerical Limits:
The WLAs are expressed as annual average numerical receiving water limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls

(PCB) and Siltation within the Calleguas Creek watershed~~, its Tributaries and Mugu Lagoon's watershed~~. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 16):

Table 16. Annual average interim limits, measured at the base of each subwatershed shown in the table below, in effect until March 24, 2026:

Annual Average OC Pesticides and PCBs (ng/g) in-sediment

Constituent	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Chlordane	25	17	48	3.3	3.3	3.4
4,4-DDD	69	66	400	290	14	5.3
4,4-DDE	300	470	1600	950	170	20
4,4-DDT	39	110	690	670	25	2.0
Dieldrin	19	3.0	5.7	1.1	1.1	3.0
PCBs	180	3800	7600	25,700	25,700	3800
Toxaphene	22,900	260	790	230	230	260

Final WLAs are not effective until March 24, 2026. That is longer than the length of this permit. Therefore, final WLAs are not included as numerical limits in this permit. Compliance with the numeric WLAs will be determined through receiving water monitoring at the base of each subwatershed defined in the TMDL and outlined in the MRP.

Siltation Limit

Effective March 24, 2015

Reduction of 2496 tons/yr from baseline to be determined by a special study (see Attachment F Part D.4.1.b).

Attachment F- Monitoring Program

D. TMDL Monitoring and Implementation

This Monitoring section incorporates the TMDL MS4 Waste Load Allocations (WLAs) that have been adopted by the Regional Water board and have been approved by the Office of Administrative Law and the U.S. EPA.

- See Part 6-Total Maximum Daily Load Provisions ~~for prohibition field screening criteria and~~ for WLAs.
- See section E. Federal, State and Regional Regulations #13 for effective dates.
- ~~All Mass Emission monitoring shall be conducted in accordance with the Mass Emission sections' A.3., A.5., A.6, and A.7.~~

- ~~Grab samples shall be taken for pathogen indicators.~~
- ~~Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).~~
- ~~***Ceriodaphina dubia*** (water flea) 7-day survival/reproduction tests shall be used for toxicity testing.~~
- ~~Monitoring results for each TMDL shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and its updates.~~
- ~~A summary of the years' monitoring results for each TMDL with corresponding sampling dates and ToxCalc output (if applicable) shall be included in the Annual Monitoring Report.~~

2. Watershed – Pollutant
   Santa Clara River and its Tributaries (Reach 3) – Nitrogen Compounds (Ammonia and Nitrate plus Nitrite)

   (a) WLA Implementation
   The WLAs are expressed as numerical receiving water limits for Ammonia and Nitrate plus Nitrite within Reach 3 of the Santa Clara River. The limits established for its MS4 Permittees (Ventura County Watershed Protection District and the Cities of Santa Paula and Fillmore) are to be implemented through the following:
   (1) Participation in the Santa Clara River Watershed TMDL Monitoring Program.
   (2) Develop and submit a workplan to estimate ammonia and nitrogen loadings associated with runoff loads from the storm drain system. The workplan will include a phased approach wherein the first phase uses monitoring from the existing mass emission station in the Santa Clara River. The workplan will include a protocol for implementing additional monitoring, source identification, and BMPs if necessary in coordination with the requirements in this order. (See Implementation item 5 in the Santa Clara Nitrogen Compounds TMDL Implementation Schedule)

2. Watershed – Pollutant
   Malibu Creek and Lagoon - Bacteria

   (a) WLA Implementation
   The WLAs are expressed as exceedances days in-stream for Bacteria within the Malibu Creek and Lagoon watershed The limits established for its MS4 Permittees are to be implemented through the following:
   (1) Participation in the Malibu Creek TMDL Monitoring Program.
   (2) Provide a written report describing how the MS4 permittees plan to achieve compliance with the TMDL. The report shall include implementation methods, an implementation schedule, and proposed

milestones. (See Implementation Item 2 in the Malibu Creek Bacteria Implementation Schedule)

3. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Toxicity, Chlorpyrifos, and Diazinon.

(a) WLA Implementation
The WLAs are expressed as numerical receiving water limits for Toxicity, Chlorpyrifos and Diazinon within the Calleguas Creek watershed. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:
(1) Participation in the Calleguas Creek Watershed TMDL Monitoring Program (CCWTMP).
(2) Conduct Special Study #1-Investigation of replacement pesticides and submit results of study by March 24, 2008. (See Implementation Item 5 in the Calleguas Creek Toxicity TMDL Implementation Schedule)
(3) Develop and implement a collection and disposal program for diazinon and chlorpyrifos, including an outreach and education program by March 24, 2009. This TMDL requirement may be fulfilled through the BMPs described in the Public Information and Participation Program. (See Implementation Item 7 in the Calleguas Creek Toxicity TMDL Implementation Schedule)

4. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation
The WLAs are expressed as annual average numerical receiving water limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation within the Calleguas Creek watershed. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:
(1) Participation in the Calleguas Creek Watershed TMDL Monitoring Program (CCWTMP).
(2) Participation in the development and conduct of Special Study #1-Sediment transport and sedimentation and submit results of study by March 24, 2014. (See Implementation Item 7 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)
(3) Participation in the development and conduct of Special Study #2-Identification of High Concentration Areas and Evaluation of Flood Control Practices and submit results of study by March 24, 2011(See Implementation Item 8 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)

(4) Participation in the development and conduct of Special Study #3-Evaluation of natural attenuation rates and submit results of study by March 24, 2016. (See Implementation Item 16 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)

Develop and implement a collection and disposal program for OC pesticides, including an outreach and education program by March 24, 2011. This TMDL requirement may be fulfilled through the BMPs described in the Public Information and Participation Program. (See Implementation Item 5 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule).

City of Port Hueneme

March 6, 2007

Mr. Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, Ca 90013

REF: VENTURA COUNTYWIDE STORWATER PROGRAM MS4 DRAFT ORDER NPDES PERMIT NO. CAS004002

Dear Mr. Bishop:

City of Port Hueneme staff wishes to submit initial comments on the Draft Waste Discharge Requirements for Storm Water Discharges from the Municipal Separate Storm Sewer System within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein letter (NPDES Permit No. CAS004002) dated December 27, 2006. These comments are in addition to the collective comments submitted on behalf of all the Ventura County Co-permittees, in a letter dated March 6, 2007. We appreciate the opportunity to provide comments on the Regional Water Quality Control Board's administrative draft as prepared and distributed by the Regional Water Quality Control Board staff.

As to the comments submitted on behalf of all the Co-permittees, the City of Port Hueneme fully supports the March 6, 2007 comment letter and associated attachments.

Some areas of specific concern to the City of Port Hueneme include: 1) the Trash and Debris study to be conducted in the Port Hueneme Harbor/Marina and Hueneme Beach Park and 2) the apparent lack of recognition that seven of the Co-permittees (Port Hueneme included) are in fact Phase II (population < 100,000) communities.

A trash and debris study for the Port Hueneme Harbor/Marina and Hueneme Beach Park would seem to be directing funds to an effort that could be better served in other areas. Neither the Harbor nor the Beach Park (nor the adjacent waters) are listed on the Clean Water Act 303(d) list for trash impairment. In fact, last year the Coastal Cleanup

Committee did not schedule Hueneme Beach as an event site because of the minimal amounts of debris collected in the recent years.

The Board appears to have overlooked the fact that the Ventura Countywide Stormwater Program (Program) has seven Phase II communities. Port Hueneme chose to proactively address water quality issues by joining during the Phase I permitting process. In so doing, the City is now facing down a Draft Order that places extreme financial and technical requirements that may not ultimately result in enhancing, achieving, or preserving water quality. It also begs the question of whether the City should look at an alternative of separating from the Program and establishing it's own stormwater program.

The City looks forward to working collaboratively with the Regional Board and all the Co-permittees in developing a revised Draft Order that promotes the continued enhancement of the Program in a cooperative, progressive, and cost-effective manner.

We look forward to your response and again wish to thank you for the opportunity to express concerns with regard to the Draft Order. If you have any questions, please feel free to contact me at (805) 986-6506.

Sincerely,

CARRIE MATTINGLY
UTILITY SERVICES DIRECTOR

C: City Manager
City Attorney
Public Works Director
Wastewater Superintendent

VENTURA COUNTY
WATERSHED PROTECTION DISTRICT

PUBLIC WORKS AGENCY
RONALD C. COONS
Agency Direct

Jeff Pratt
District Director

Gerhardt Hubner
Water/Environmental Resources

Peter Sheydayi
Design/Construction

Sergio Vargas
Planning/Regulatory

Tom Lagier
Operations/Maintenance

March 6, 2007

Mr. Jonathan Bishop
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **COMMENT LETTER - DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES PERMIT No. CAS004002)**

Dear Mr. Bishop:

We have received the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) Draft Order dated December 27, 2007 and appreciate the opportunity to provide comments on behalf of the Watershed Protection District (District). We have reviewed the document with the understanding this is a first draft and concerns and comments will be taken into account before a tentative permit is released.

Increases in permit requirements were expected as part of the iterative process, and that is reflected in the Draft Order. The comments presented here are not intended to argue against the increases in program requirements, but rather to maximize the effectiveness of the program to improve stormwater quality discharging from MS4s. Where ever possible each comment suggests a viable alternative; however in some cases the draft language was not readily understood or the requirements did not appear technically or scientifically justified, so clarification was requested.

In addition to the comments below the District supports the comments on this draft order made by the Ventura Countywide Stormwater Quality Management Program in their March 6, 2007 letter and attachments.

Issue: Draft Order erroneously adds Watershed Protection District as a responsible party under previously adopted TMDLs.
In all of the TMDLs adopted by the Regional Board the Watershed Protection District has never been identified as a responsible party. There is no reason that this Draft Order should include the District under any adopted TMDL. Additionally, any requirements based on the TMDLs adopted in Ventura County should be identical to the language in the adopted TMDLs. Please remove all references to the District from TMDL language.

Issue: Inappropriately requiring coverage under the Construction Activity General Stormwater Permit (CAGSP) for activities expressly exempted from that permit. Part 4 G.2.c page 73, and Part 4 G.3 (b) page 76, and Part 4 g. 8. page 81
As adopted by the State Water Resources Control Board requirement for coverage under CAGSP "does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility." Street repaving and channel clearing are not required to get coverage under the CAGSP and that should not be required under this Draft Order. Please change to: all projects required to obtain coverage under the CAGSP shall do so.

Issue: Limiting options for effective BMPs Part 4 G.3 page 73
The District would prefer to maintain flexibility in BMP selection from other sources than the Caltrans Stormwater Quality Handbook. Please allow for other sources of BMPs.

Issue: Requirement to ultimately eliminate the use of pesticides Part 4 G.5 (7) page 77
The authority to eliminate the use of a pesticide rests with the California Department of Pesticide Regulation. If it is determined that a product cannot be used safely it can be banned statewide though the existing process. Pesticides can and have been used safely to protect public health and resources, and water quality should not be made a priority over human health and safety. Please change to: ". . . and timelines <u>with the goal of</u> reducing and ultimately eliminating the use of pesticides . . ."

Issue: Discharge limitations for dewatering BMPs Table 10 page 80
Please explain how these limitations were deemed appropriate for the Southern California region and why several of the limits are above the Municipal Action Limits.

Issue: Draft Order should focus on infrastructure under Permittees control. Part 4 H. 3. (a) (1) (A) page 84
The District can only be responsible for infrastructure under their control. Please change to: A GIS layer showing the location and length of Permittee owned underground storm drain pipes.

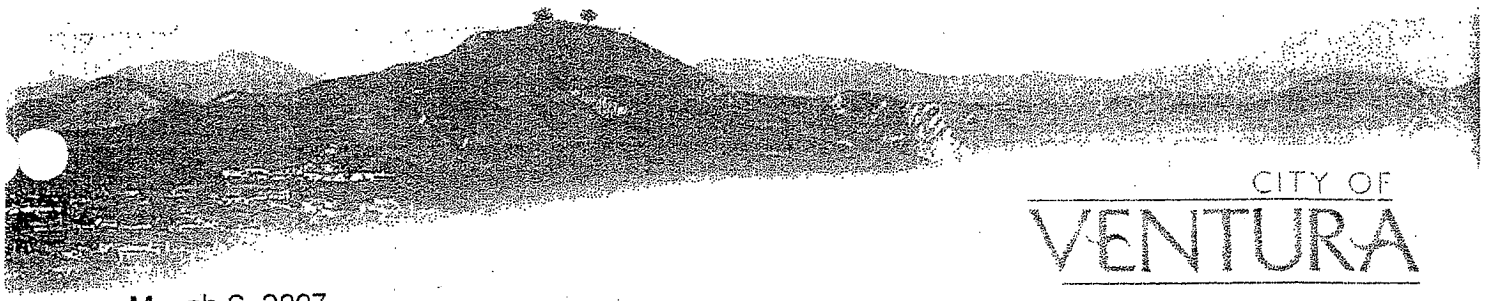
The issues mentioned here are of particular concern to the District, however it is necessary to emphasis again that the March 6, 2007 letter and attachments from the Ventura Countywide Stormwater Quality Management Program also expresses the District's opinion and comments on the Draft Order.

Our hope is to have the best stormwater quality program possible, and this permit process will help us in that goal. But we need to take care that our resources are being used wisely and efficiently in order to meet that goal. We look forward to your response to all of the comments you have received. If you have any questions please contact Gerhardt Hubner at 805-654-5051 or Gerhardt.Hubner@ventura.org.

Sincerely,

Jeff Pratt, Director

JP/AA/cs/K:\WQ\Water Quality Section\NPDES Program\Management\Permit Renewal\Draft Permit\Comments\district comments - 3.6.doc



March 6, 2007

Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Comments for the Draft Ventura County Municipal Separate Storm Sewer System (MS4) Permit (NPDES Permit No. CAS004002)

Dear Dr. Swamikannu:

Over the past 13 years, the Ventura County Co-Permittees and Regional Board have collaboratively developed our successful Ventura County Stormwater Quality Program. The City of Ventura appreciates the efforts of the Regional Board and their staff and welcomes this opportunity to create an excellent new MS4 permit that will continue water quality improvements in Ventura County.

The Ventura County Co-Permittees have worked together to review the Draft MS4 Permit, and the City of Ventura is pleased to say that we are substantially in agreement with the comments submitted on March 6, 2007 by Gerhardt Hubner, Chair of the Countywide Program, on behalf of all Co-Permittees. The City of Ventura hopes that these comments will serve as a catalyst for stakeholder discussions over the next six months and will enable us to again produce an effective and achievable Permit. In addition to the Countywide comments, the City would like to take this opportunity to focus on several key issues regarding the Draft Permit.

Smart Growth/LID

The City of Ventura endorses low impact development (LID) strategies for new developments. Long-term beneficial effects for water quality, site enhancements and ease of maintenance demonstrate these principles are the first choice for pollution mitigation measures. The City of Ventura is committed to being a national leader in the field of Smart Growth and LID.

Adopted in 2005, the City's General Plan focuses future growth on an "Infill First" approach that emphasizes reusing existing buildings and land, and revitalizing our historic downtown and any blighted communities. Such a strategy will help avoid sacrificing farmland, open space, and environmentally sensitive areas in our hillsides and along our rivers. We believe this high-density, low-impact development and redevelopment will protect the environment for future generations.

Some of the hydromodification provisions and imperviousness restrictions within the Draft Permit will hinder, if not work against Ventura's ability to implement this Smart Growth strategy. Ventura's desired projects are typically infill or redevelopment that utilize a reduced number of parking spaces in a subterranean garage, commercial or office space at street level, and residential or office space in the upstairs floors. These projects minimize impervious area, create walkable communities and encourage the use of public transportation. Such projects are typically full site build-outs, and offer very limited space to implement BMPs that will maintain the pre-development hydrograph. The existence of these Smart Growth projects is, in itself, a tool for improving water quality, and they should be supported, not penalized. This Draft Permit appears to encourage urban sprawl, where the requirements are more easily achievable, and discourage Smart Growth/LID infill projects.

Recommendation: The City of Ventura requests an additional six months before the Tentative Permit is issued, to allow a collaborative stakeholder process that will revise the hydromodification provisions and develop a tiered structure for impervious areas associated with smaller infill projects.

Municipal Action Limits (MALs)

The City of Ventura cannot support the MALs, as written, for the following reasons:

- They are not consistent with applicable TMDLs or the Basin Plan;
- The City does not have jurisdiction or control of all discharges to the City's storm drain system, e.g., agriculture, State Agencies, and other municipalities, and can therefore not be held responsible for the inputs to our storm drain system; and
- The permit is too prescriptive. The City needs flexibility to be able to improve water quality in the most cost-effective and efficient manner possible, without being tied to the MALs plus the multitude of prescriptive and administrative actions that are not effective in improving water quality.

Recommendation: The City of Ventura requests an additional six months before the Tentative Permit is issued, to allow a collaborative process with the stakeholders on rewriting the MAL requirements of this Draft Permit to better match the intent of the State Blue Ribbon Panel's recommended strategy of using MALs as "upset values" to help focus further corrective action. If MALs were re-written, they may assist in focusing our program and as a call to action toward meeting the maximum extent practicable standard. They cannot be utilized as enforceable limits, as presently written.

Draft Permit Compliance Expenses

Recent program expenses for the City of Ventura's stormwater quality efforts have averaged about $1 million per year. Although estimating future compliance costs for MALs and TMDLs is highly problematic, it appears that the City's permit compliance costs would average at least $4 million each year during the future five-year permit term. The City of Ventura embraces a permit that would be the finest in the nation and recognizes that water quality improvement comes with a cost. However, this permit needs to be incremental and as cost-effective and achievable as possible. Funding for new program expenses will primarily come from the City's General Fund – which already has far more demands (Police, Fire, Libraries, Parks, Senior Services, etc.) upon it than it can satisfy.

Recommendation: The City of Ventura requests an additional six months before the Tentative Permit is issued, to allow a collaborative stakeholder process that will create a cost-effective and achievable Permit.

Flexibility

This Draft Permit goes farther than it should in assigning particular Permittees to extremely prescriptive requirements that may or may not address our local water quality issues.

Recommendation: Allow Permittees greater flexibility to implement a stormwater management program directed at protecting our local water resources.

We Request Additional Time for Collaborative Discussions

The City of Ventura requests a six-month time period before the Tentative Permit is issued to work through these and other issues. Again, the City of Ventura views this Permit process as an opportunity to develop a Permit that we can all be proud of and embrace as it leads us toward protecting our environment for future generations. Please call Vicki Musgrove, Maintenance Services Manager, at (805) 652-4518, if you would like to discuss this or any other issues.

Sincerely,

Ronald J. Calkins, Director of Public Works

Cc: Vicki Musgrove, City of Ventura Maintenance Services Manager
Gerhardt Hubner, Chair, Ventura Countywide Stormwater Quality Program

City of Camarillo

601 Carmen Drive • P.O. Box 248 • Camarillo, CA 93011-0248

Office of the City Manager
(805) 388-5307
Fax (805) 388-5318

FEDEX Confirmation No. 7916-4612-9953

March 6, 2007

Mr. Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 Fourth Street, Suite 200
Los Angeles, CA 90013

Subject: Comments to 12/27/06 Draft Order – Ventura County Municipal Separate Storm Sewer System (MS4) Permit (NPDES No. CAS004002)

Dear Mr. Bishop:

The City of Camarillo respectfully submits the following comments regarding the above referenced Draft Order for your consideration. The City of Camarillo has been a co-permittee under the Ventura Countywide MS4 Permit since its adoption in 1994. Although our population of fewer than 66,000 classifies us as a Phase II municipality, Camarillo chose to join the countywide effort toward improving water quality in a proactive manner. We feel the collaborative countywide program has been very successful toward meeting that goal. As you are aware, the City of Camarillo is in the Calleguas Creek Watershed (CCW) and is also an active member in the Calleguas Creek Management Plan Program, which is another successful program of stakeholders that are committed to improving water quality.

As currently crafted, the Draft Order will place undue financial and technical requirements on our program that may ultimately not result in efficiently improving water quality which we and your agency are seeking to obtain. The City of Camarillo concurs with the Ventura Countywide Stormwater Program comment letter dated March 6, 2007, which we hereby incorporate our support for the record. In addition to the countywide comments, we have specific concerns regarding the Total Maximum Daily Load (TMDL) language in the Draft Order and have included comments in the attached Exhibit A which should also be incorporated for the record.

The following Draft Order requirements are of particular concern to our City:

- The Draft Order's use of Municipal Action Levels (MALs) is inconsistent with state and federal policies, is technically flawed, results in requirements more stringent then federal law, and creates limits that are more restrictive than adopted water quality objectives contained in the Basin Plan.

- The Draft Order contains prescriptive requirements such as low impact development, hydromodification, and post-construction best management practices for "all" development and redevelopment projects that cannot be met and that do not preserve local government control over land use planning. Further, the Draft Order places these development requirements on routine maintenance projects such as street repaving and channel clearing, which is excessive and will impair the ability to build and maintain public facilities.

- The Draft Order requires the installation of trash excluders on all catch basin inlets within six months of permit adoption. One time installation of these in Camarillo would cost approximately $2 million. Not only are they cost prohibitive; they would also create a health and safety problem due to the potential flooding hazard they create. Further, a trash TMDL is currently being developed for two reaches of Calleguas Creek with expected adoption by the end of 2007. This Order requirement should be postponed pending the outcome of the TMDL. If an interim requirement is needed, trash excluders should only be required in high priority areas where trash accumulates (i.e., commercial areas) and only in the waterbodies that have been listed as impaired for trash on the 303(d) list of impaired waterbodies. This interim requirement should be given at least one year to accomplish.

- The requirement in Part 4 G.10 of the Order to obtain coverage under NPDES Permit CAG674001 for potable water discharges of over 100,000 gallons per year from activities such as fire hydrant flushing is in contradiction and possible violation of the State Department of Health Service regulations which requires flushing to protect public health. Further Permit CAG674001 is a general permit that specifically regulates the discharge of hydrostatic test water. We recommend removal of this requirement.

- There are several discrepancies between the language in TMDLs which have been adopted for the Calleguas Creek Watershed and the language in the Draft Order. All TMDL language in the Draft Order should reference or quote the language in the adopted TMDLs and related monitoring plans. Our concerns regarding the TMDLs have been detailed in the attached Exhibit A.

Conclusion

The City of Camarillo appreciates this opportunity to provide comments to the Draft Order and we want to reiterate our commitment to the collaborative effort in maintaining and enhancing water quality in our watershed. However, we have significant concerns about the Draft Order as currently proposed. In addition to the concerns in the countywide comment letter, we are also concerned with the TMDL provisions in the Draft Order.

Camarillo believes that an Order can be developed that provides for accountability, conducts public outreach and education, supports ongoing water quality efforts, including the TMDL effort Camarillo has been very involved with, and receives broad public support. We also feel that our comments included in the attached Exhibit A provide a mechanism for implementing the TMDLs as part of the overall MS4 stormwater program and are consistent with the intent of the TMDL Basin Plan Amendments. We look forward to working with the Regional Board to incorporate these changes into the Order. If you have any questions regarding our comments, please contact Anita Kuhlman, Stormwater Coordinator, at 805-383-5659.

Sincerely,

Jerry Bankston

Jerry Bankston
City Manager

Attachments: Exhibit A – Comments Specific to TMDL Requirements

c: Xavier Swamikannu, LARWQCB
City Council

EXHIBIT A

Comments to 12/27/06 Ventura County MS4 Draft Order Related to Adopted TMDLs

Camarillo agrees with the Ventura Countywide Program's comment letter and related attachments and submits the following comments that are more associated to sections of the Draft Order related to Total Maximum Daily Loads (TMDLs) and the implications on our City.

Summary of TMDL Comments

As drafted, the Draft Order fails to coordinate with the TMDLs that have been written and that will be written for the CCW and to adequately capture the TMDL implementation plan and schedule. Following are our comments on ways to successfully coordinate efforts required under this Draft Order with the TMDL requirements.

The TMDLs that have been developed in the Calleguas Creek underwent significant technical analysis, stakeholder input, and public review to develop wasteload allocations (WLAs) and implementation actions that will result in compliance with water quality objectives for the listed pollutants. The TMDLs also lay out direction for how to implement the TMDL provisions into NPDES permits. Rather than following the direction of the TMDL and including identified implementation actions, the Draft Order includes numerous additional requirements and does not appropriately capture the intent of the TMDL. The Draft Order needs to be consistent with the TMDLs to allow for effective implementation of TMDL requirements and to prevent confusion and additional costs for programs that have not been evaluated as part of the TMDL process and may not be effective for implementing the program.

The comments in this letter are designed to make the TMDL provisions of the Draft Order consistent with the TMDL requirements. The comments are organized with comments on language presented in the Draft Order outside of the TMDL provisions section first, then suggestions for the TMDL provisions, then comments on Attachment F- Monitoring Program and Attachment H-Reporting Program. Suggested language for incorporating the TMDL provisions into the Draft Order and the Monitoring Program is included as an attachment.

Specific Comments on TMDL language in the FINDINGS Section of Draft Order

Page 4, Findings 8 and 9. The 303(d) list provides information on waterbodies exceeding established water quality standards (40CFR130.7(b)). The 303(d) list does not provide information on, nor should it be used as justification for findings that require bioassessment and ecological restoration. The first sentence of findings 8 and 9 that reference the 303(d) list should be removed.

Page 6, Finding 12. The finding regarding salts is inaccurate and inconsistent with the effective chloride TMDLs and the work being done to develop a salts TMDL in the Calleguas Creek Watershed. Salts impact agricultural and groundwater recharge beneficial uses and are only a concern for aquatic life at levels much higher than those required to protect agriculture. Additionally, swimming pools, though a potential salt

source, have not yet been identified as a significant salt source to the waterbodies in any of the TMDL analyses developed to date. Finally, the effective chloride TMDLs do not include allocations for Municipal Separate Storm Sewer System (MS4) discharges. Therefore, this finding should be removed.

Page 8, Finding 17. The information referenced in this finding comes from two highly urbanized counties that significantly differ from any portion or portions of Ventura County. The trash TMDLs currently being developed in Ventura County are in the process of identifying the sources of the trash and initial indicators suggest that the MS4s may not be the most significant source of trash. Additionally, the amount of trash present in the waterbodies is significantly lower than the amount found in Los Angeles County. Although trash is a potential problem in Ventura County, the problem is not of the same magnitude as that in other Southern California Counties and the finding should acknowledge the differences.

Page 11., D.4. All of the TMDLs require the development of a monitoring plan on an approved schedule and the submittal of the monitoring plan to the Los Angeles Regional Water Quality Control Board (Regional Board) for approval. If the monitoring plan is not submitted, responsible parties are subject to enforcement actions. As a result, there is no need for the Draft Order to include default monitoring requirements. Including separate monitoring requirements for the MS4s would require them to implement actions above and beyond those required in the TMDL and beyond those being imposed on other dischargers to the impaired waterbodies. Additionally, the time schedules provided in the TMDLs are designed to allow the development of a comprehensive and coordinated monitoring program to address TMDL compliance. Requiring additional monitoring actions while this program is being developed would divert resources from the TMDL monitoring program development. As a result, the Draft Order should just include the requirement to participate in the development and implementation of the TMDL Monitoring Programs and submit the monitoring plans by the date required in the TMDL. For all of the effective TMDLs, monitoring programs have been submitted to the RWQCB and are awaiting approval.

Page 13, E. 6. The consent decree requires adoption of all TMDLs for constituents and waterbodies listed on the 1998 303(d) list. Any listings that have occurred since the 1998 list are not subject to the requirement that they be completed within 13 years. The language in this discussion should be changed to reflect this distinction.

Page 15, E. 13. (a) (1) (F) Compliance with the WLAs for the Santa Clara River TMDL was required at the effective date of the TMDL, not one year after the effective date as stated in this section. Submittal of the monitoring plan for determining compliance with the TMDL was required one year after the effective date. The language should be modified accordingly.

Page 16. E. 13 (a) (2) (G) To be consistent with the other TMDL write-ups in this section, a statement H should be included that reads "Compliance for Winter Wet WLA is 10 years after effective date." Statements F and G would be more clear if the WLA was added to

the language.
Page 16. E. 13 (a) (3) (F) Please clarify that compliance with interim WLA is required at the effective date, but compliance with the final WLA for toxicity is not required until 2 years after the effective date.

Page 16. E. 13 (a) (4) (F) To be consistent with the other TMDL write-ups in this section, a statement G should be included that reads "Compliance for final WLA is 20 years after effective date."

Page 103, Point Zero definition. Point Zero is not defined in the TMDLs. Compliance with TMDLs is required in-stream at the defined compliance points for the TMDL. The Point Zero definition should be removed and references to the definition should not be included in the Draft Order.

Attachment A. This attachment is misleading in that it implies that all of the waterbodies in a given watershed management area are listed for the 303(d) pollutant(s) of concern. The attachment should be revised to accurately associate the pollutants with the waterbodies for which they are listed.

Comments on Dry Weather Discharge Prohibition Language to Implement TMDLs

The Draft Order contains requirements on Page 31, Part 3, A. 3., Page 88, Part 6, and in Attachment F, Page F-10, Part D.2.a.1. and a.2. to prohibit dry weather discharges in order to implement the TMDL dry weather WLAs. The TMDLs do not include any provisions that require the prohibition of all dry weather discharges and include the statement that California Water Code Section 13360 precludes the Regional Board from specifying the method of compliance with the waste discharge requirements. Although one mechanism for complying with the TMDL WLAs may be to prohibit dry weather discharges, each responsible party has the authority to determine the most appropriate mechanism for complying with the allocations. Requiring prohibition of all dry weather discharges for TMDL implementation goes beyond the intent of the TMDL and would require costs and efforts to control discharges that may not be contributing to the waterbody impairment. Effective control of dry weather discharges that may contribute to exceedances of the WLAs through BMP implementation is a more productive and effective way of addressing impairments in the waterbody and ensuring compliance with the dry weather WLAs.

Secondly, the TMDL analysis includes an assessment of the amount of dry weather discharge of pollutants that can occur and still allow the waterbody to meet water quality objectives. As discussed in the linkage analysis for all of the TMDLs, the dry weather discharges from MS4s are considered in the analysis and the WLAs assume dry weather discharges from MS4s. As a result, the prohibition of dry weather discharges is not a required provision of the TMDL.

The TMDLs also include statements that allow the allocations to be achieved through the implementation of BMPs. "Storm water WLAs will be incorporated into the NPDES permit as receiving water limits measured at the downstream points of each subwatershed and

are expected to be achieved through the implementation of BMPs as outlined in the implementation plan." (Calleguas Creek OC Pesticide and Toxicity TMDL BPAs). This type of language has been included in the Draft Order in reference to wet weather WLAs, but not for dry weather allocations. The TMDL implementation language does not make a distinction about the implementation mechanism for dry and wet weather allocations. The language for dry and wet weather WLA compliance should be consistent.

Finally, the Draft Order includes other language that specifically allows some types of non-storm water discharges in conjunction with the implementation of BMPs (Page 26, Part 2. B.- Non-storm water discharges). The language related to dry weather discharge prohibitions for TMDL implementation should be revised to be consistent with these other provisions of the Draft Order. Suggested language is shown below.

> **"PART 3 – STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION**
>
> **A. General Requirements**
>
> 3. Each Permittee shall implement programs and measures to comply with the TMDLs' WLAs for the MS4 as follows:
> (1) Dry Weather Discharges- achieve the concentration or load based numerical limitation for dry weather discharge identified in this Order (Part 6. Total Maximum Daily Load Provisions) through implementation of BMPs and effective control of non-storm water discharges consistent with Part 1. Section B of this order."

TMDL Reopener Language

All of the TMDLs referenced in the Draft Order contain provisions that allow the allocations, implementation requirements, and implementation schedule to be adjusted based on the results of special studies and other actions. The Draft Order should include a statement that allows the revision of Order if the TMDL is changed. Suggested language for this provision is as follows:

> "This Order may be modified to address changes to wasteload allocations, numeric targets, or implementation provisions of any TMDLs incorporated into this order."

The language could be included in the TMDL provisions section or on page 113 under the Reopener and Modification discussion.

Comments on Part 6-Total Maximum Daily Load Provisions (Pages 88-94)

The following comments summarize the issues with the TMDL Provisions section of the Draft Order that pertain to the Calleguas Creek Watershed. Attachment 1 provides suggested language for this portion of the order that would replace the current language in the Draft Order. The suggested language addresses the comments discussed below.

Introductory Paragraphs

TMDLs are required to achieve water quality objectives and protect beneficial uses. The statement that "The objective of the TMDL is to restore the waterbody to the highest beneficial use or potential beneficial use designated by the Regional Water Board." is erroneous and should be modified to correctly reflect 40 CFR 130 (c)(1) which states "TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS."

As stated previously, the second introductory paragraph should be revised to remove the reference to dry weather prohibition as shown in Attachment 1.

Part 6.3. Calleguas Creek, its Tributaries and Mugu Lagoon-Toxicity, Chlorpyrifos and Diazinon TMDL

The WLAs included in the Toxicity TMDL should include the effective dates for the interim and final limits.

The WLAs included in the Toxicity TMDL apply during both dry and wet weather. The dry label should be removed from the tables.

The Toxicity WLA is implemented as a trigger for conducting TIEs. "The toxicity WLAs will be implemented in accordance with US EPA, State Board and Regional Board resolutions, guidance and policy at the time of permit issuance or renewal." Currently, these WLAs would be implemented as a trigger for initiation of the TIE/TRE process as outlined in USEPA's "Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program" (2000) and current NPDES permits held by discharged in the CCW." (Calleguas Creek Toxicity TMDL BPA). The trigger language should be included in the Numeric Limits discussion.

Part 6.4. Calleguas Creek, its Tributaries and Mugu Lagoon-Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation TMDL

The WLAs included in the OC Pesticides TMDL should include the effective dates for the interim limits. The final limits should not be included in the Order because the effective date of the final WLA is not within the permit term covered by the Order.

The WLAs included in the OC Pesticides TMDL are annual averages. The table showing the limits should state that they are annual average limits, not dry weather allocations.

The Siltation TMDL allocation is a **reduction** in sediment discharges of 2496 tons/yr, not a limitation on the amount of sediment that can be discharged. The

limits should be changed to reflect that the allocation is a reduction in the amount discharged.

Attachment F-Monitoring Program

The TMDL monitoring and implementation requirements included in the Draft Order are inconsistent with the intent of the TMDLs. The majority of the issues in the program have been discussed previously in this comment letter, but some specific comments are discussed here.

As discussed previously, all of the TMDLs require the development of a monitoring plan on an approved schedule and the submittal of the monitoring plan to the Regional Board for approval. If the monitoring plan is not submitted, responsible parties are subject to enforcement actions. As a result, there is no need for the Draft Order to include default monitoring requirements. The additional "default" monitoring requirements included in Attachment F require actions above and beyond those required in the TMDL and beyond those being imposed on other dischargers to the impaired waterbodies. As a result, the Draft Order should just include the requirement to participate in the development and implementation of the TMDL Monitoring Programs and submit the monitoring plans by the date required in the TMDL. For all of the effective TMDLs, monitoring programs have been submitted to the RWQCB and are awaiting approval.

Additionally, the submitted monitoring plans contain Quality Assurance Project Plans (QAPPs) and have specific sample collection requirements. Therefore, this order should not include specific monitoring requirements for the TMDL monitoring. Bullets 3 through 6 under the introductory paragraph should be deleted (see Attachment 1 for suggested changes).

Monitoring results for the TMDL monitoring program will be submitted in an annual report to the Regional Board. This Order should not include the requirement for the TMDL monitoring to be included in the MS4 permit annual report as the TMDL monitoring program report should be sufficient to meet the TMDL requirements. Therefore, Bullets 7 and 8 under the introductory paragraph should be deleted.

The implementation language in the TMDL for all of the TMDLs is inappropriate. Each TMDL includes specific implementation actions that are required of the MS4 Permittees. All language related to the TMDL implementation should be specific to the TMDL. Additional requirements above and beyond the TMDL requirements should not be included in the Draft Order. The requirements included in this section should be removed and replaced with language specific to the implementation actions included in the TMDL implementation schedules presented in the Basin Plan Amendments for each of the TMDLs. Attachment 1 includes suggested language for the TMDL implementation provisions.

Finally, where activities required to be conducted for implementation of the other provisions of the order overlap with TMDL requirements, the two programs should be

allowed to coordinate. Specifically, the special study required under the Calleguas Creek Toxicity TMDL to investigate the pesticides that will be used to replace diazinon and chlorpyrifos could be used to meet the requirements of the pyrethroid special study and public outreach programs required under the TMDL could be met through the Public Outreach requirements Part 4.C. Public Information and Participation Program (PIPP).

Attachment H-Reporting Program

The TMDL Compliance monitoring reporting provisions included in this attachment should be changed to be consistent with the changes requested in this comment letter. Specifically:

Page H-2, Part 1.A.4. The requirements to provide information on the field screening for illicit connections should be deleted as discussed above.

Page H-5, Part 1.C.4. The results of TMDL monitoring will be submitted to the Regional Board as part of an annual report each year. The requirement to submit the monitoring results no later than 45 days from the sample collection date is inconsistent with the TMDL requirements and puts an additional burden on the MS4s that will not be imposed on the other responsible parties for the TMDL. The reporting requirements in the TMDL require submittal of an annual report to the Regional Board, and the Order does not need to require anything above and beyond the TMDL reporting requirement.

Page H-4, Part 2.B.3.a. The TMDLs require submission of a monitoring plan for approval by the Regional Board. As discussed above, additional monitoring requirements should not be included in this order. Therefore, the provision to provide a report on the SMC toxicity protocol should be removed from the Order.

Attachment 1 to Exhibit A

Suggested Language Changes to Draft Order Pertaining to TMDLs

Specific language changes to text in the Order are included below in tracked changes. However, we suggest that the specific WLA and TMDL monitoring provisions be replaced by the language shown below. Those provisions are not shown in tracked changes because we suggest that the entire section be replaced.

PART 6 – TOTAL MAXIMUM DAILY LOAD PROVISION

Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing points (Waste Load Allocation) and non-point sources (Load Allocation). Municipal storm water discharges are considered a point source and have been assigned a WLA for certain pollutants. The objective of the TMDL is to ~~restore the waterbody to the highest beneficial use or potential beneficial use~~meet water quality standards designated by the Regional Water Board.

This Order incorporates MS4 WLAs that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA. The WLAs in the Order are expressed ~~either~~ as ~~a~~ numerical receiving water limitations. A ~~, or a~~ suite of BMPs that ~~have~~provide ~~been determined as providing~~ a reasonable expectation that the WLAs will be achieved can be substituted for the limitation with approval of the Regional Board (See Part 4.A.2) ~~for wet weather flows, or as a prohibition for dry weather flows~~. Permittees shall implement all control measures to achieve the TMDL WLA(s) as stated in the TMDL by the WLA(s) effective date(s).

1. Watershed – Pollutant
   Santa Clara River and its Tributaries' (Reach 3) – Nitrogen Compounds (Ammonia and Nitrate plus Nitrite)

   (a) WLA Implementation
   (1) Numerical Limits:
   The WLAs are expressed as numerical receiving water limits for Ammonia and Nitrate plus Nitrite within Reach 3 of the Santa Clara River. The limits established for its MS4 Permittees (Ventura County Watershed Protection District and the Cities of Santa Paula and Fillmore) are the following (see Table 11):

Table 11. Receiving water final limits, effective March 23, 2004:

Constituent	Acute (1-hour average)	Chronic (30-day average)
Ammonia (mg/L)	4.2	2.0
Nitrate + Nitrite (mg/L)	N/A	8.1

2. Watershed – Pollutant
Malibu Creek and Lagoon - Bacteria

(a) WLA Implementation
(1) Numerical Limits:
The WLAs are expressed as exceedances days in-stream for Bacteria within the Malibu Creek and Lagoon watershed. The limits established for its MS4 Permittees are the following (see Table 12 and Table 13):

Table 12. Receiving water final limits for exceedance days

Effective Date	Allocation	Daily Exceedance Days Single sample targets	Weekly Exceedance Days Single sample targets	Exceedance days for 30-day geometric mean targets
January 24, 2009	Summer Dry (April 1-Oct. 31)	0	0	0
January 24, 2012	Winter Dry (November 1-March 31)	3	1	0
January 24, 2016	Wet (November 1-October 31)	17	3	0

Table 13. Summary of Single Sample and 30-day Geometric Mean targets used to determine compliance with exceedance day allocations

Waterbody	Constituent	Single Sample Target (MPN/100 mL)	30-day Geometric Mean Target (MPN/100 mL)
Freshwater	E. Coli	235	126
	Fecal Coliform	400	200
Marine	Total Coliform	10,000	1,000
	Fecal Coliform	400	200
	Enterococcus	104	35
	Total Coliform (if ratio of fecal-to-total coliform is >0.1)	1,000	N/A

3. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Toxicity, Chlorpyrifos, and Diazinon.

(a) WLA Implementation
(1) Numerical Limits:
The WLAs are expressed as numerical receiving water limits ~~in-stream~~ for Toxicity, Chlorpyrifos and Diazinon within the Calleguas Creek watershed~~, its Tributaries and Mugu Lagoon's watershed,~~. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 14 and Table 15):

Table 14. Receiving water interim limits, in effect until March 24, 2008:

Constituent	Acute (1-hour average)	Chronic (4-day average)
Chlorpyrifos		0.45
Diazinon	1.73	0.556

Table 15. Receiving water final limits, effective March 24, 2008:

Constituent	Acute (1-hour average)	Chronic (4-day average)
Chlorpyrifos (ug/L)		0.014
Diazinon (ug/L)	0.1	0.1

Toxicity 1.0 TUc

The toxicity receiving water limit will be implemented as a trigger mechanism for initiation of the TRE/TIE process as outlined in Calleguas Creek Watershed TMDL Monitoring Program.

Compliance with the numeric WLAs will be determined through receiving water monitoring at the base of each subwatershed defined in the TMDL and outlined in the MRP.

4. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation
(1) Numerical Limits:
The WLAs are expressed as annual average numerical receiving water limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls

(PCB) and Siltation within the Calleguas Creek watershed~~, its Tributaries and Mugu Lagoon's watershed~~. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 16):

Table 16. Annual average interim limits, measured at the base of each subwatershed shown in the table below, in effect until March 24, 2026:

Annual Average OC Pesticides and PCBs (ng/g) in-sediment

Constituent	Mugu Lagoon	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Chlordane	25	17	48	3.3	3.3	3.4
4,4-DDD	69	66	400	290	14	5.3
4,4-DDE	300	470	1600	950	170	20
4,4-DDT	39	110	690	670	25	2.0
Dieldrin	19	3.0	5.7	1.1	1.1	3.0
PCBs	180	3800	7600	25,700	25,700	3800
Toxaphene	22,900	260	790	230	230	260

Final WLAs are not effective until March 24, 2026. That is longer than the length of this permit. Therefore, final WLAs are not included as numerical limits in this permit. Compliance with the numeric WLAs will be determined through receiving water monitoring at the base of each subwatershed defined in the TMDL and outlined in the MRP.

Siltation Limit

Effective March 24, 2015

Reduction of 2496 tons/yr from baseline to be determined by a special study (see Attachment F Part D.4.1.b).

Attachment F- Monitoring Program

D. TMDL Monitoring and Implementation

This Monitoring section incorporates the TMDL MS4 Waste Load Allocations (WLAs) that have been adopted by the Regional Water board and have been approved by the Office of Administrative Law and the U.S. EPA.

- See Part 6-Total Maximum Daily Load Provisions ~~for prohibition field screening criteria and for~~ WLAs.
- See section E. Federal, State and Regional Regulations #13 for effective dates.
- ~~All Mass Emission monitoring shall be conducted in accordance with the Mass Emission sections' A.3., A.5., A.6, and A.7.~~

- ~~Grab samples shall be taken for pathogen indicators.~~
- ~~Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).~~
- ~~***Ceriodaphina dubia*** (water flea) 7-day survival/reproduction tests shall be used for toxicity testing.~~
- ~~Monitoring results for each TMDL shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and its updates.~~
- ~~A summary of the years' monitoring results for each TMDL with corresponding sampling dates and ToxCalc output (if applicable) shall be included in the Annual Monitoring Report.~~

2. Watershed – Pollutant
Santa Clara River and its Tributaries (Reach 3) – Nitrogen Compounds (Ammonia and Nitrate plus Nitrite)

(a) WLA Implementation
The WLAs are expressed as numerical receiving water limits for Ammonia and Nitrate plus Nitrite within Reach 3 of the Santa Clara River. The limits established for its MS4 Permittees (Ventura County Watershed Protection District and the Cities of Santa Paula and Fillmore) are to be implemented through the following:

(1) Participation in the Santa Clara River Watershed TMDL Monitoring Program.

(2) Develop and submit a workplan to estimate ammonia and nitrogen loadings associated with runoff loads from the storm drain system. The workplan will include a phased approach wherein the first phase uses monitoring from the existing mass emission station in the Santa Clara River. The workplan will include a protocol for implementing additional monitoring, source identification, and BMPs if necessary in coordination with the requirements in this order. (See Implementation item 5 in the Santa Clara Nitrogen Compounds TMDL Implementation Schedule)

2. Watershed – Pollutant
Malibu Creek and Lagoon - Bacteria

(a) WLA Implementation
The WLAs are expressed as exceedances days in-stream for Bacteria within the Malibu Creek and Lagoon watershed The limits established for its MS4 Permittees are to be implemented through the following:

(1) Participation in the Malibu Creek TMDL Monitoring Program.

(2) Provide a written report describing how the MS4 permittees plan to achieve compliance with the TMDL. The report shall include implementation methods, an implementation schedule, and proposed

milestones. (See Implementation Item 2 in the Malibu Creek Bacteria Implementation Schedule)

3. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Toxicity, Chlorpyrifos, and Diazinon.

(a) WLA Implementation
The WLAs are expressed as numerical receiving water limits for Toxicity, Chlorpyrifos and Diazinon within the Calleguas Creek watershed. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:

(1) Participation in the Calleguas Creek Watershed TMDL Monitoring Program (CCWTMP).
(2) Conduct Special Study #1-Investigation of replacement pesticides and submit results of study by March 24, 2008. (See Implementation Item 5 in the Calleguas Creek Toxicity TMDL Implementation Schedule)
(3) Develop and implement a collection and disposal program for diazinon and chlorpyrifos, including an outreach and education program by March 24, 2009. This TMDL requirement may be fulfilled through the BMPs described in the Public Information and Participation Program. (See Implementation Item 7 in the Calleguas Creek Toxicity TMDL Implementation Schedule)

4. Watershed – Pollutant
Calleguas Creek, its Tributaries and Mugu Lagoon-Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation
The WLAs are expressed as annual average numerical receiving water limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation within the Calleguas Creek watershed. The limits established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:

(1) Participation in the Calleguas Creek Watershed TMDL Monitoring Program (CCWTMP).
(2) Participation in the development and conduct of Special Study #1-Sediment transport and sedimentation and submit results of study by March 24, 2014. (See Implementation Item 7 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)
(3) Participation in the development and conduct of Special Study #2-Identification of High Concentration Areas and Evaluation of Flood Control Practices and submit results of study by March 24, 2011(See Implementation Item 8 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)

(4) Participation in the development and conduct of Special Study #3- Evaluation of natural attenuation rates and submit results of study by March 24, 2016. (See Implementation Item 16 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)

Develop and implement a collection and disposal program for OC pesticides, including an outreach and education program by March 24, 2011. This TMDL requirement may be fulfilled through the BMPs described in the Public Information and Participation Program. (See Implementation Item 5 in the Calleguas Creek OC Pesticide TMDL Implementation Schedule)

- HAND DELIVERED ON 3-7-07
- RECEIVED ON 3-7-07
Samuel Unger 3-7-07

Public Works Department • Wastewater Division
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March 6, 2007

Mr. Jonathan Bishop, Executive Officer
Regional Water Quality Control Board – Los Angeles
320 West 4th Street, Suite 200
Los Angeles, CA 90013

DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES PERMIT No. CAS004002)

Dear Mr. Bishop:

Thank you for your timely transmittal of the draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System permit for the Ventura Countywide Stormwater Program. The City of Oxnard is a copermittee on the permit, and staff have worked with other agencies on the development of county-wide comments on the draft permit, and concur with the majority of those comments transmitted to you under separate cover.

In general, though, the draft permit appears to have been written for a highly urbanized, recalcitrant program instead of being a natural progression of the Ventura Countywide Stormwater Program. We have consistently reminded Regional Board staff that Ventura County is very dissimilar to Los Angeles and other highly urbanized counties, as can be seen in the attached picture (Figure 3), courtesy of Google Earth. The unique nature of the county that you also observed in your February 3, 2006, overflight, and the advanced planning efforts of the United States Environmental Protection Agency, State Water Resources Control Board, and the Regional Board staff have not been translated into a meaningful permit that will advance water quality improvements in the watersheds of Ventura County.

The first municipal stormwater permit, issued in 1994, was based on the Part 1 and Part 2 NPDES permit applications developed by the City of Oxnard, as required under the EPA's Phase 1 stormwater regulations. The remaining agencies in Ventura County did not fall under Phase 1, but voluntarily participated in the development of the stormwater program elements on a county-wide basis to better protect surface and groundwater resources (see Figure 1). The logical, proactive approach taken in implementing the stormwater program was recognized by the Regional Board by winning the prestigious H. David Nahai Water Quality Award for Water Quality Conservation in 2001, and by winning the EPA's Clean Water Act Recognition Award for Stormwater Management Excellence in 2003. In the four years since, there has been a shift toward a less flexible

and effective program that has resulted in a dependence on other programs, such as wastewater treatment plant NPDES permits and TMDLs, for improving water quality. In part, this has been due to a willingness on the part of the Ventura Countywide Program to assist the Regional Board in implementing its Watershed Approach. While the Program itself continued to progressively implement more effective best management practices, the monitoring program shifted focus from measuring land use contributions of pollutants of concern to measuring the overall health of the watershed (see Figure 2). While this data has been used by other programs at the Regional Board (e.g., TMDL, Planning, and the Conditional Waiver for Irrigated Agriculture), it is apparent that the information was not used in the development of the draft permit. The 303(d) impairment identification and subsequent TMDL implementation process in Ventura County has been an exemplary example of a successfully adopted and implemented non-point source, pollution control program focused on the specific constituents that impact beneficial uses. This program has been implemented in an allied, cooperative, coordinated manner with the Regional Board serving as a full-partner. This approach has resulted from a unified effort by Regional Board staff with a comprehensive body of stakeholders (including the US-EPA, municipalities, the County, major water suppliers, CalTrans, the Navy, the Ventura County Farm Bureau and other agriculture and environmental interests). These initiatives, implementation schedules, and goals will result in tangible water quality improvements, compliance with Basin Plan objectives, and protection of beneficial uses for Ventura County watersheds with respect to real water quality impairments. The same cannot be said for the draft stormwater permit.

More troubling than the less effective draft stormwater permit is the lack of process in its development. The first stormwater permit for Ventura County followed the June 30, 1994, Basin Plan **Urban Runoff** component and its *Strategic Planning and Implementation* section which states that the "Regional Board's urban runoff management program (through both the Storm Water and Nonpoint source programs) continues to assess specific urban runoff problems and control strategies to remediate those problems." This was done by developing a Monitoring Program that included four types of land use monitoring and implementing a Storm Water Quality Management Plan to address any pollutants of concern. In part, the Ventura Countywide Stormwater Management Program's pollutants of concern were developed in comparing land-use monitoring results to Basin Plan water quality standards. Realistically, these standards were developed to address point source discharges, and probably do not reflect actual urban runoff impairments[1].

The 1994 Basin Plan further defines the stormwater program elements under *Comprehensive Control Program*:

> "All cities and counties in the Region are required to develop and implement comprehensive urban runoff control programs which focus on the prevention of future water quality problems and remediation of

[1] September 9, 2005, *Comments on the Use of Numeric Standards for Stormwater Permits* letter

> existing problems. The requirements of the municipal control program are intended to be consistent with NPDES regulations for municipal storm water discharges".

Other than specific limitations for certain industries[2] (e.g., Subchapter N industries), the NPDES stormwater program is designed to be a tiered approach to mitigating urban runoff impacts that relies on best management practices implemented to the Maximum Extent Practicable (MEP)[3]. The EPA determined that additional water quality-based controls may be deemed appropriate, where necessary. To date, these additional controls were found appropriate by the Regional Board only at 303(d)-listed waterbodies under a TMDL structure. Co-permittees under the Ventura Countywide Program have been working with other stakeholders in the TMDL development and implementation processes for the various TMDLs where a urban runoff component has been identified. It is apparent from our discussions with the Regional Board's TMDL staff that there has been no discussion of the incorporation of adopted TMDLs into the permit, nor has there been consideration of the existing and proposed TMDL monitoring programs in the development of the draft permit's monitoring program.

Co-permittees under the Ventura Countywide Program have, however, identified needed additional controls using the results of the Stormwater Monitoring Program's data, TMDL monitoring data, and the City of Oxnard's POTW permit monitoring. For the City of Oxnard, these controls include targeting businesses for sources of lead and nitrogen, a very rigorous construction oversight program, and additional source control and treatment controls for trash[4]. In taking this approach, the Program is following the philosophy of the Stormwater Monitoring Coalition (SMC) in their Model Monitoring Program:

> *"Monitoring should be focused on decision making; data not helpful in making a decision about clearly defined regulatory, management, or technical issues should not be collected."*

The Model Monitoring Program, developed by representatives of three regional boards, municipal permittees representing six counties, Heal the Bay, and SCCWRP presented the Core Management Questions:

> Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
> What is the extent and magnitude of the current or potential receiving water problems?
> What is the relative urban runoff contribution to the receiving water problem(s)?
> What are the sources to urban runoff that contribute to receiving water problems?

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[2] May 10, 2006, *Boeing Company – Petition for Review of Waste Discharge Requirements* letter
[3] Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990
[4] January 26, 2006, *Permit Renewal – Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges* letter

Are conditions in receiving waters getting better or worse?

These questions were incorporated as the means for measurability and accountability of stormwater programs suggested by the California Stormwater Quality Association (CASQA) in their white paper *"An Introduction to Stormwater Program Effectiveness Assessment"*. In making Oxnard city-specific comments, we will refer back to the above process, and request that Regional Board staff justify in the permit staff report deviation from the stakeholder-developed approach in which they participated:

- Page 1, A. 1 and Page 11, D.2. (Findings) - Permittees "...have joined together to form the Ventura Countywide Storm Water Quality Management Program to discharge wastes." We actually joined to implement the stormwater program throughout the urbanized areas of the County, not to discharge waste. Non-urban areas have been addressed by the Program where water quality impacts have been observed.

- Page 12, E. 4 (Findings) - "The Porter-Cologne Water Quality Control Act ... authorizes the State Water Resources Control Board (State Water Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State and tributaries thereto." Not only is the tributary rule not defined[5], but the definition of Waters of the State would be all-encompassing anyway. Waters of the State covers all surface and groundwater within the State, and does not exclude treatment devices (grassy swale, constructed wetlands, etc.) or disconnected surface MS4 features (e.g., curb and gutter)[6]. It would aid the Program implementation if the management questions could have a more limited focus, such as Waters of the United States. Additionally, while Porter-Cologne authorizes the State to assume the delegated NPDES program, it does not allow further delegation of the program to local agencies. There are many requirements in the draft permit where this is the case, and those requirements should be deleted.

- Page 21, F. 4 (Findings) - "...the Permittees shall implement *all necessary control measures* to reduce pollutants..." This statement goes well beyond MEP. Additionally "Successful efforts to reverse the wet weather impairments..." is not possible until critical regulatory tools are developed, including wet weather water quality objectives, consideration of potential groundwater impacts, and "design storm" standards.[7]

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[5] August 10, 2004, letter regarding the *2004 Triennial Review*; and the March 30, 2005 comment letter on the *Draft Tentative Conditional Waiver for Discharges from Irrigated Land*

[6] December 8, 2006, *Preliminary Comments on the Proposed Trash TMDL for Selected Waterbodies in Ventura County* letter

[7] September 9, 2005, *Comments on the Use of Numeric Standards for Stormwater Permits*, and May 10, 2006, *Boeing Company – Petition for Review of Waste Discharge Requirements*

- Page 22, F. 8 (Findings) - "This Order also provides flexibility for Permittees to petition the Regional Water Board Executive Officer to substitute a BMP under this Order with an alternative BMP..." Many of the BMPs currently used (especially post-construction) are not contained in the Order. Are they approved/disapproved retroactively? In not considering the existing controls to address known impacts currently implemented under the stormwater and TMDL programs, Regional Board staff will redirect resources from successful management practices that have multiple benefits to management practices that are not site-specific, and may actually have a deleterious effect.

- Page 26, Part 1.A.3 - "Discharges to the MS4 not covered by an NPDES individual or general permit are prohibited." The City owns and/or operates portions of the MS4 that receive agricultural runoff, which is exempt from NPDES permitting. We would not be able to meet this requirement[8].

- Page 29, Part 2.3, Footnote 1 - "...two or more exceedences of a Municipal Action Level (MAL) will create a presumption that the implementation of measures to reduce the pollutant(s) in MS4 discharges to MEP are inadequate." The proposed MALs are not designed to address Ventura County watershed-specific concerns. Additionally, the proposed MALs are designed to be end-of-pipe triggers, but are contained in the ***Receiving Water*** section. Development of a Statewide Stormwater Policy would help in defining the eventual inclusion of MALs in permits.[7,9]

- Page 49, (4) - "Support of Regional Water Board Enforcement Actions:..." There have been cases where city staff have arrived at a different interpretation on the application of the industrial and construction general permit requirements. It would not be feasible to make a permit requirement that staff then agree and support Regional Board staff.

- Page 50, E - "Planning and Land Development Program" – The requirements of this section appear to have been taken, out of context, from other programs. These programs, such as Contra Costa in Northern California, have elements that address urbanization by a menu of possible strategies, including Low Impact Development, numeric hydromodification criteria, and treatment controls and monitoring. The draft permit attempts to implement all of these strategies for all new development, redevelopment, and municipal projects. This is not possible, and the tentative permit should reflect a more workable program.

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[8] March 30, 2005, comment letter on the *Draft Tentative Conditional Waiver – Waste Discharge Requirements for Discharges fro Irrigated Land*

[9] January 26, 2006, *Permit Renewal – Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges* letter

- Page 105, Part 7, Runoff - "**Runoff** – means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. It is typically comprised of nuisance flows contaminated with pollutants." To define runoff in such a manner is bound to cause confusion. The *Water Quality Control Plan* for the Los Angeles region (Basin Plan) contains the following definitions: "Storm water runoff is runoff from land surfaces that flows into storm drains or directly into natural waterbodies during rainfall; storm water discharges include flow through pipes and channels or sheet flow over a surface." Definitions should be consistent to the extent possible.

  Additionally, receiving water is not defined, and should be added to the definitions section.

In summary, the draft municipal permit was not designed to implement an effective stormwater program, was not designed to integrate with existing TMDL or non-point source programs, was not developed in a stakeholder process, and did not follow recognized strategies instituted by the federal regulations, EPA guidance, State Water Resources Control Board draft policy, or the Regional Board's own Basin Plan. As always, we are interested in working with Regional Board staff on building a program that will be successful in maintaining or improving water quality in Ventura County.

If you have any questions regarding our comments on the draft stormwater permit, please feel free to call me at (805) 271-2205, or contact Mark Pumford, Technical Services Manager, at (805) 271-2220.

Sincerely,

Mark S. Norris
Assistant Public Works Director

MSN:MP:ss

c: Wendy Phillips, Regional Water Quality Control Board – Los Angeles
Xavier Swamikannu, Regional Water Quality Control Board – Los Angeles

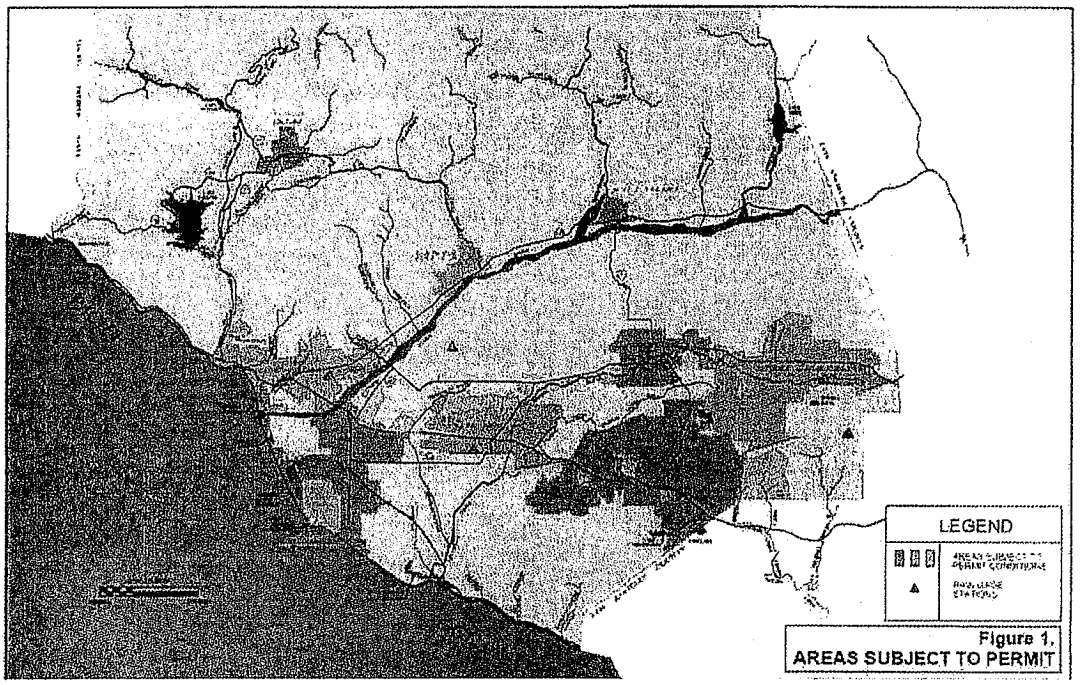


Figure 1,
AREAS SUBJECT TO PERMIT

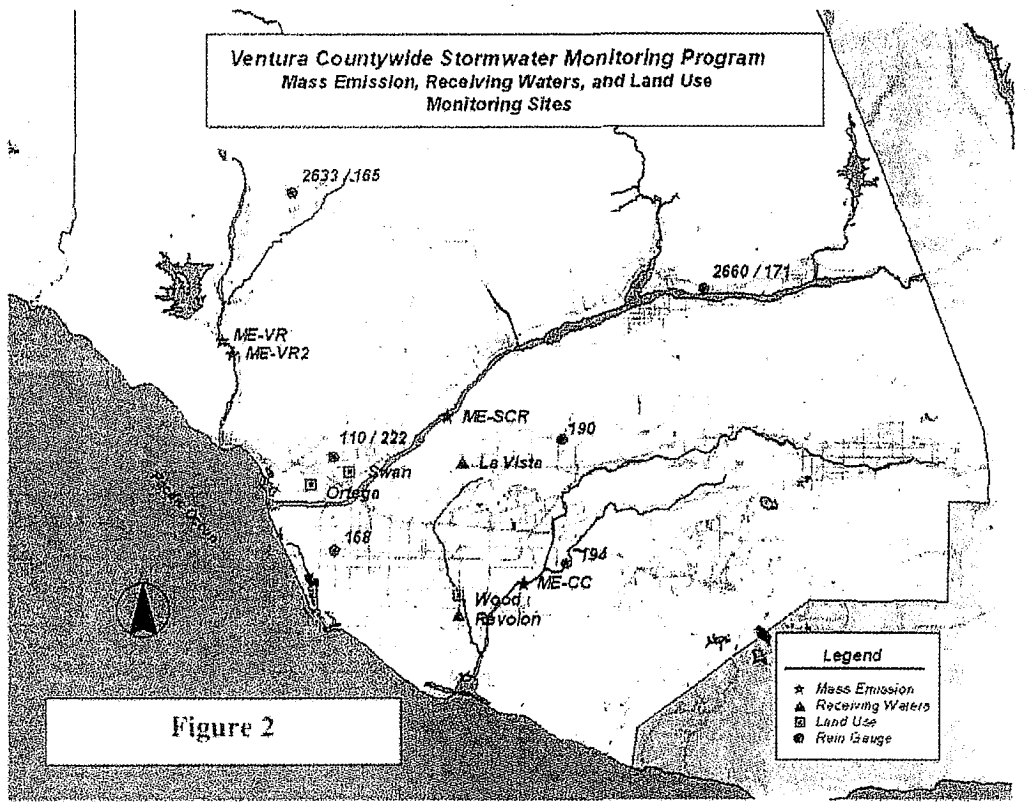
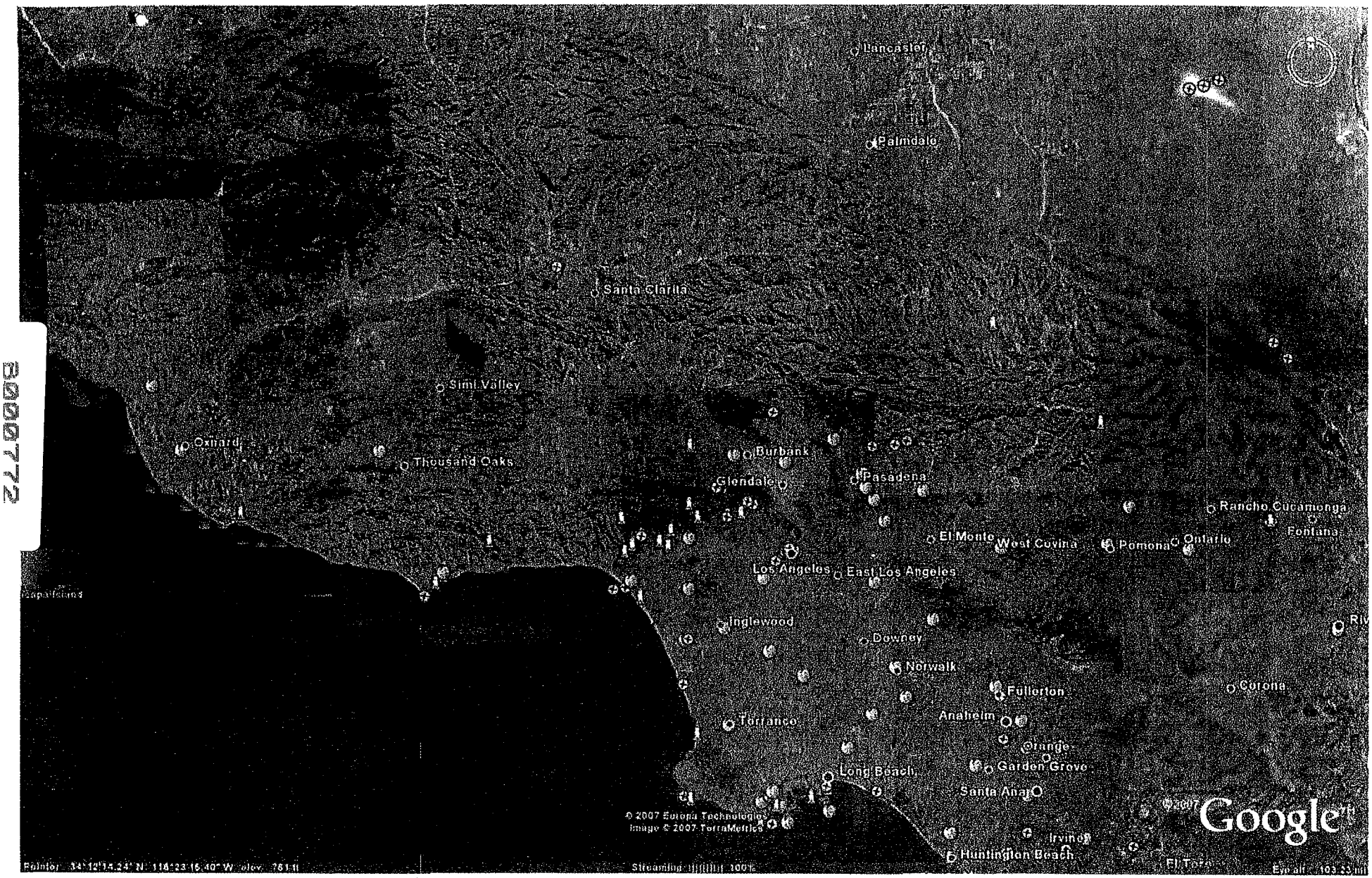


Figure 2

FIGURE 3



Ventura Countywide Stormwater Quality Management Program

Participating Agencies

Camarillo

County of Ventura

Fillmore

Moorpark

Ojai

Oxnard

Port Hueneme

San Buenaventura

Santa Paula

Simi Valley

Thousand Oaks

Ventura County Watershed Protection District

March 6, 2007

Mr. Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: **DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES No. CAS004002) FOR THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES**

Dear Mr. Bishop:

We are in receipt of your December 27, 2006, Draft Waste Discharge Requirements for Storm Water Discharges from the Municipal Separate Storm Sewer System (MS4) within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities therein (Draft Order) (NPDES Permit No. CAS004002). On behalf of the entire Ventura Countywide Stormwater Program (Ventura Program), including the Cities of Oxnard, Thousand Oaks, Simi Valley, San Buenaventura, Camarillo, Moorpark, Santa Paula, Port Hueneme, Fillmore, Ojai, Ventura County Incorporated Areas and the Ventura County Watershed Protection District ("Permittees") we appreciate the opportunity to provide comments on the Regional Water Quality Control Board's (Regional Board) administrative draft as prepared and distributed by the Regional Water Board staff.

As you know, the Ventura Program is a successful collaborative stormwater management program in existence since 1992 and under an NPDES permit since 1994. Our program is currently structured to be comprehensive and flexible to accommodate the diverse needs of the Watershed Protection District, the County and the ten cities in the Ventura Program and the local water quality issues. This letter and its attachments contain the collective comments of the Permittees on the Draft Order. In addition, many of the individual cities will provide comments on the Draft Order's impact to their individual agencies and communities.

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Overall, the Draft Order would place undue financial and technical requirements, and risks on the Ventura Program. In many cases the requirements contained in the Draft Order are more restrictive than existing Basin Plan and total maximum daily load (TMDL) requirements. In addition, the resulting stormwater program may not result in achieving the water quality improvements that we and the Board are seeking to obtain. In fact, the current Draft Order does not adequately capture the relevant water quality issues in Ventura County. In lieu of the Regional Board issuing the Draft Order as a tentative order, the Permittees would prefer to work closely with the Regional Board staff to develop a new Draft Order that provides for accountability, supports on-going water quality efforts (i.e. TMDLs) and receives broad public support. In the meantime, we submit the collective comments of the Permittees.

Due to the size of the Draft Order and the large number of concerns we have with its content, we provided comments on most major issues of concern within the body of this letter. In addition, we provided three attachments that contain additional comments. Attachment A includes comments on additional legal and policy issues that have not been included in the cover letter. Attachment B includes technical comments and suggested language on specific requirements contained within the Draft Order. Attachment C is the Municipal Action Levels data

I. VENTURA PROGRAM IS AN AWARD WINNING STORMWATER PROGRAM

The Ventura Program is a mature and comprehensive stormwater management program. Initiated in 1992, the Ventura Program, like other MS4 programs began with the framework established in the federal regulations (40 CFR Part 122). With time, the Ventura Program was modified through the iterative process to better reflect the conditions and needs of the Permittees and local water quality issues. The NPDES permits issued in 1994 and 2000 reflected these insights and the efforts of the Permittees.

The logical, proactive approach taken in implementing the stormwater program was recognized by the Regional Board by winning the prestigious H. David Nahai Water Quality Award for Water Quality Conservation in 2001, and in 2003 winning the United States Environmental Protection Agency's (U.S. EPA) National Clean Water Act (CWA) Recognition Award for Phase I MS4 Storm Water Management Excellence. The intent of U.S. EPA award was to "recognize municipalities and industries that are demonstrating their commitment to protect and improve the quality of the nation's waters by implementing outstanding, innovative and cost-effective Storm Water control programs and projects". The award reflects the Program's commitment to improve and protect water quality in Ventura County through a comprehensive and constructive best management practice (BMP) based program using the iterative process to guide our efforts.

II. CHARACTERISTICS OF VENTURA COUNTY ARE UNIQUE

A close review of the Draft Order shows it to be oriented toward large communities and a more urban environment as might be found in Los Angeles County and not Ventura County. Ventura County is different both in magnitude and distribution of people served and in land uses. The Ventura Program serves four Phase I (populations > 100,000) and seven Phase II (populations < 100,000) communities. The seven Phase II communities in the Program include Port Hueneme (22,388), Moorpark (35,801), Camarillo (64,034), Fillmore (15,180), Santa Paula (29,133), and Ojai (8,156) and County Incorporated (95,602). The total population of the entire County as of January 1, 2006 is 817,346 persons (versus over 10 million persons in Los Angeles County). Although not required by the federal stormwater regulations, coordination between the Phase I and II communities in the Ventura Program has allowed for more consistent program implementation. In particular, the coordination has helped to use local resources efficiently for public outreach efforts and new development program elements. Rather than have Phase I and Phase II municipalities separate out and establish their own Stormwater programs, the Regional Board should recognize the uniqueness of our Program. However, an alternative is to create a tier permitting approach for both Phase I and Phase II Co-permittees.

Virtually the entire north half of Ventura County is within the Los Padres National Forest although there are in-holdings scattered throughout the Forest area. Residential, agricultural and business uses comprise the southern portion of the Region. The County has a total area of 1,199,748 acres (1,843 square miles), of which some 550,211 acres are in the National Forest. There are 42 miles of coastline.

Of the estimated 330,000 acres of agricultural land in the Region, there are approximately 125,000 acres of irrigated land. The Calleguas Creek Watershed contains the highest number of irrigated acres (roughly 60,000), followed by the Santa Clara River Watershed (approximately 50,000) and Ventura River Watershed (approximately 15,000). The Region encompasses three major Watersheds, six smaller Watersheds, and twenty-six groundwater basins. There are ten cities, three wholesale water agencies, over 170 retail water purveyors, two groundwater management agencies, and five sanitary districts.

The total area covered under the Ventura Program is approximately 220 square miles, which is 12 percent of the total land area of Ventura County. Land use delineations for the County are summarized in Table 1.

Table 1. Land Use Delineations of Ventura County

Land Use	Area (Sq. Miles)	Percentage
Urban (subject to NPDES SW permit)	219	12%
Rural	14	.008%
Open	1441	79%
Agriculture	147	8%

Federal lands	11	.006%
Harbor(s)	0.5	.0003%
Total	1833	100%

The land use designations throughout the County show the relative contributions that the urban areas may have on water quality as compared to the other land uses.

Growth potential beyond the present urban areas of the County is limited. From 1995-2002, the residents of Ventura County adopted "Save Open-Space and Agricultural Resources" (SOAR) initiatives. Generally, the County and Cities' SOAR ordinances and initiatives establish "City Urban Restriction Boundary" (CURB) lines around each city and require city voter approval before any land located outside the CURB lines can be developed under the city's jurisdiction for urban purposes.

Under SOAR, rural, open-space areas of the County cannot be developed without voter approval. Thus, the urban areas of Ventura County are unlikely to expand significantly at least over the next 13 years. The County SOAR ordinance requires countywide voter approval of any change to the County General Plan involving the "Agricultural," "Open Space" or "Rural" land use map designations, or any change to a General Plan goal or policy related to those land use designations.

Moreover, in order to maintain the integrity of separate, distinct cities and to prevent inappropriately placed development between city boundaries, some cities and the County have entered into joint *greenbelt agreements.* These agreements protect open space and agricultural lands and reassure property owners located within these areas that land will not be prematurely converted to uses which are incompatible with agriculture or open space uses. The *greenbelt agreements* reinforce the County *Guidelines for Orderly Development. Greenbelt agreements* have been adopted for the following areas: Between the cities of Ventura and Santa Paula; between the cities of Santa Paula and Fillmore; between Fillmore and the Los Angeles County Line (excluding the Community of Piru); between the cities of Ventura and Oxnard westerly of Oxnard to Harbor Blvd; Between the cities of Oxnard and Camarillo; East of the City of Camarillo for the westerly portion of the Santa Rosa Valley, and Tierra Rejada Valley.

In other words, the characteristics of Ventura County are significantly different from the other, more urbanized counties (i.e. Los Angeles County) being regulated by the Regional Board. Thus, the Draft Order for Ventura County should reflect the rural, open space nature of the County and recognize the limited area that is actually subject to the jurisdiction of the Permittees.

III. VENTURA COUNTY IS A LEADER IN WATERSHED BASED PLANNING

We would submit that the current Draft Order does not reflect the ongoing watershed planning and protection activities of the County. Agencies and organizations in Ventura County have a long history of working together to address water resources issues, dating

back to the early 1970s. In the past 35 years numerous water supply and conservation, water quality, wetland restoration and reclamation projects have been planned and implemented. Many individuals and agencies have worked together to assure effective management of local water resources and protection of water-dependent environmental resources and species habitats. These entities include local retail and wholesale water districts, cities, sanitary districts, the County of Ventura, environmental and non-profit organizations, the Association of Water Agencies, State and Federal agencies and many others. Multi-jurisdictional and coordinated efforts are taking place on a watershed and/or countywide basis as noted below.

Watersheds Coalition of Ventura County (WCVC)
In April 2006 the Ventura County Integrated Regional Water Management Plan (VCIRWMP) Group and the Calleguas Creek Steering Committee agreed, by resolution to form the Watersheds Coalition of Ventura County (WCVC) for purposes of consolidating integrated regional water management plans (IRWMPs) and for submittal of grant applications for the Proposition 50, Chapter 8 Implementation Grant and other applicable future funds. This consolidated IRWMP is the result of the collaboration of agencies through the new WCVC. The WCVC meets monthly to guide development of the consolidated plan and to address critical water management issues facing the Region. Its success is evident by its recent award of $25 million by the State Water Resources Control Board. Other examples of successful Ventura County Watershed Groups include the Calleguas Creek Watershed Management Plan Steering Committee, the Santa Clara River Watershed Committee and the Ventura River Watershed Council.

IV. PERMIT COMPLIANCE STRUCTURE IS FUNDAMENTALLY FLAWED

The Permittees are very concerned with the primary compliance structure contained within the Draft Order. The Draft Order proposes to use municipal action levels (MALs) for assessing compliance with the technology-based standard of maximum extent practicable (MEP). The use of MALs to determine MEP compliance is flawed for a number of reasons both legally and technically.

A. The Use of MALs Constitutes the Adoption of a Numeric Effluent Limitation.

First, the use of MALs to determine compliance with the MEP standard actually results in the adoption of numeric effluent limitations. The Draft Order attempts to disguise its use of numeric effluent limitations by characterizing them as MALs. It goes as far to bury this major substantive requirement in a finding and a footnote. (Draft Order at fn. 1, p. 29.) If a Permittee exceeds the MALs (as shown in Attachment C of the Draft Order) two or more times at an "end-of-pipe" compliance point, the Regional Board will presume the Permittee has violated the MEP provisions of the Draft Order. (Draft Order at p. 29.).

Federal law defines effluent limitations as "any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources ...." (33 U.S.C. § 1362(11).) The Draft Order does not include a definition for MAL; however, Attachment C of the Draft Order provides tables of the MALs, which are expressed as water column concentrations for various pollutants. (Draft Order at p. C.1.) Stormwater discharged by the Permittees must meet the MALs as established in the Draft Order at an "end-of-pipe" compliance point. If discharged stormwater exceeds the concentration levels twice as contained in the Draft Order, the Permittees are presumed to be in violation of the Draft Order. The MALs thus appear to match closely with the federal definition of effluent limit, as they are restrictions on the concentration of various pollutants discharged from the Permittees' stormwater conveyance system.

While the use of numeric effluent limits for stormwater regulation may be legally possible, it is not preferred and has questionable technical viability.[1] First, EPA has long expressed its preference of regulating stormwater through the use of BMPs. "In regulating stormwater permits the EPA has repeatedly expressed a preference for doing so by way of BMPs, rather than by way of imposing either technology-based or water quality-based numerical limitations." (*Divers' Environmental Conservation Organization v. State Water Resources Control Board* (2006) 145 Cal.App.4th 246, 256.)

Second, the State Board recently posed the question, "[i]s it technically feasible to establish numeric effluent limitations or some other quantifiable limit for inclusion in storm water permits" to a panel of stormwater experts. In response to this question, the State's Panel issued a report in June of 2006. The Panel's report clearly states that "[i]t is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges ...." (State's Storm Water Panel Recommendations to the California State Water Resources Board, ("Report") (June 2006) at p. 8.)

Based on federal U.S. EPA's long preferred preference of using BMPs and the questionable technical viability of using numeric effluent limitations as expressed by a state panel of experts, the use of MALs to determine compliance with MEP is not appropriate. As stated earlier, the MALs expressed in the Draft Order are clearly meant to act as effluent limitations as they are numeric concentrations applied at the "end-of-pipe." If the Regional Board's true intent is to use numeric effluent limitations on stormwater discharges, then the Regional Board must adopt them as such and make the findings necessary to accompany such a decision.

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[1] In *Building Industry Association of San Diego County v. State Water Resources Control Board ("BIA") (2004) 124 Cal.App.4th 866,* the Court of Appeal found that the language of CWA section 402(p)(3)(B) allows the EPA and/or a state approved program the discretion to impose permit limitations that are more stringent than those that come within the definition of maximum extent practicable. (*BIA* at p. 883.) While a more stringent limitation does not necessarily mean only a numeric effluent limitation, it does not preclude the inclusion of a numeric effluent limitation.

B. The Use of MALs is Inconsistent with the MEP Standard

Section 402(p) (3) (B) of the federal Clean Water Act (CWA) provides that "permits for discharges from municipal storm sewers ... shall require controls to reduce the discharge of pollutants to the maximum extent practicable ...." (33 U.S.C. § 1342(p)(3)(B)(iii).) The Draft Order states that the provisions contained in the order 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 and achieve water quality objectives for the permitted areas in the County of Ventura." (Draft Order, at p. 36.) It also goes further, contending that its requirements are "necessary" to implement MEP. (*Id.*, at p. 22.) However, the Draft Order goes well beyond the legal understanding of what constitutes MEP. In all, this is inconsistent with both the CWA and various requirements of state law.

While the CWA does not specifically define MEP, the EPA has described MEP as a flexible, site-specific standard. (National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Regs. 68722, 68732, 68754 (Dec. 8, 1999).) "The pollutant reductions that represent MEP may be different for each [municipal stormwater discharger] given the unique local hydrological and geological concerns that may exist and the differing possible pollutant control strategies." (*Id.* at 68754.) The Draft Order has taken a completely opposite approach by using national data to establish MEP, which is defined by compliance with the MALs.

California also has not specifically defined MEP for its permitting purposes. However, the state has relied upon other federal programs to guide its understanding of MEP. In particular, the state relied upon the term as used in Superfund legislation and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). (SWRCB Order No. 2000-11 at p. 20.) Using these statutes, the state concluded "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." (*Id.* at p. 20.)

The state also provided the following guidance to a task force that published the California Best Management Practice manual on the definition of MEP:

> Although MEP is not defined by the federal regulations, use of this manual in selecting BMPs should assist municipalities in achieving MEP. In selecting BMPs which will achieve MEP, it is important to remember that municipalities will be responsible to reduce the discharge of pollutants in storm water to the maximum extent practicable. This means choosing effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. (Memorandum to Archie Matthews, Division of Water Quality, State Water Resources control Board, from Elizabeth Miller Jennings, Senior Staff Counsel,

> Office of the Chief Counsel, State Water Resources Control Board (Feb. 11, 1993) at p. 4.)

Thus, the U.S. EPA and the state have long interpreted the term "maximum extent practicable" to mean and include the use of BMPs that rely on an iterative approach for addressing impacts caused by stormwater. For example, in the recently litigated "San Diego Stormwater Permit," the term MEP is broadly defined in the permit to be a "highly flexible concept that depends on balancing numerous factors, including the particular control's technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness." (*Building Industry Association of San Diego County v. State Water Resources Control Board ("BIA")* (2004) 124 Cal.App.4th 866, 889.)

In contrast, the Draft Order proposes to define "maximum extent practicable" as:

> [t]he standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 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." Also, see State Board Order WQ 2000-11, page 20 and *Browner* decision (*Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159).

(Draft Order, at p. 100.)

The Draft Order's proposed definition does not properly define or implement the term "maximum extent practicable" but instead recites the CWA and its requirements for stormwater permits. The Draft Order's definition also improperly cites the *Browner* decision, implying that that decision helps to define the term MEP. *Browner* does not further define MEP. In fact, in relevant part, *Browner* focuses more on the Congressional intent related to the phrase "and such other provisions" as contained in CWA section 402(p)(3)(B). In *dicta*, the *Browner* court determined that this language of section 402 gives the EPA discretionary authority to impose controls that are stricter than MEP. (*Browner*, 191 F.3d at p. 1166.) The language "and such other conditions" is further evaluated in the *BIA* case. (*BIA*, at 866.) The *BIA* case goes beyond *Browner* by evaluating the statutory construction of the language contained in section 402(p)(3)(B)(iii). Based on its analysis, the Court of Appeal rejected the BIA's argument that "and such other provisions" was meant to identify examples of "maximum extent practicable" controls. (*BIA* at p. 881.) The court found that "such other provisions" means that EPA can require controls in addition to those that come within the definition of "maximum extent practicable." (*BIA* at pp. 882-883.) Thus, "such other provisions" is not part of the definition of MEP.

As discussed previously, the definition of MEP is considered to include the use of BMPs and site specific and flexible controls. The use of numeric MALs to determine

compliance with MEP does not rely on BMPs, is not site specific and is not flexible. The MALs are not themselves management practices or controls, and an exceedance of two creates a violation of MEP, thereby negating any iterative approach.

Furthermore, the use of MALs to define MEP imposes a non-flexible and non-iterative program on the Permittees. MS4s that are required to meet MALs will be forced to implement treatment control BMPs at stormwater outfalls. By forcing MS4s to install treatment controls, MS4s will need to redirect resources away from source control BMPs. However, in addition to forcing the installation of treatment controls, the Draft Order would mandate prescriptive source control requirements on the Permittees (e.g. street sweeping, new development and redevelopment controls, etc.). As a result, the Permittees will be forced to implement treatment and source control BMPs without consideration of feasibility or cost, which are both important factors in determining compliance with MEP.

Finally, the Draft Order has not considered if the practices necessary to meet the MALs are feasible, effective and not cost prohibitive. Nor are there findings to explain why, if they could otherwise be, the specifically identified MALs in fact define MEP for the Permittees. Consequently, the MALs as used in the Draft Order are inconsistent with state and federal policies interpreting MEP and should not be used to determine compliance with MEP.

C. The MALs Contained in the Draft Order Are Not Supported by SWRCB Blue Ribbon Panel Findings and Recommendations

Besides being inappropriate to define MEP in general, the specific MALs contained in the Draft Order are not technically supported or valid. There are no findings to support their use for the Draft Order's purpose. The State's Blue Ribbon Panel recommended that "action levels" be used to identify circumstances when it might be appropriate to take action. In this case, the action level comes into play when the stormwater is clearly above the normal observed variability. (Report at p. 8.) To develop an appropriate action level, the State's Blue Ribbon Panel suggested various options, which included: (1) consensus based approach; (2) ranked percentile distribution; and, (3) statistically based population parameters.

The Draft Order claims to use a statistical approach that used the central tendency of the dataset and accounting for data variability. (Draft Order, at p. 23.) In its actual calculation, the Draft Order took the median value of a national data set and multiplied it by the coefficient of variation. There is no basis for this approach in establishing action levels. This calculation actually reflects the variability of the data (measured as the standard deviation) and does not account for central tendency of the dataset). The Draft Order's approach is not consistent with the State's Blue Ribbon Panel suggestion for a statistically relevant calculation.

In addition, the Draft Order's use of the national database (Draft Order at p. 23) is not appropriate to generate the MALs. The State's Blue Ribbon Panel noted that there is

greater opportunity to use various data sets for establishing the MALs. Three options proposed in the Report, in order or preference, are:

- Local urban stormwater monitoring data (the Panel even notes the existence of such data sets from Los Angeles County, Orange County and other California MS4 programs)
- Combine municipal permit monitoring datasets if there is a lack of data for specific constituents in any one location
- National database

In this case, the Draft Order selects the least preferred option to generate the MALs even though there are local stormwater data sets available. In fact, California MS4s have more comprehensive data sets than any MS4s in the country. Thus, there is ample opportunity to use local, regional, and statewide data sets to establish action levels and no need to rely on a national dataset.

Furthermore, the derivation and use of action levels as envisioned by the State's Blue Ribbon Panel reflects an approach to identify the "bad actors." (Report at p.8) The use of MALs in the Draft Order establishes hard and fast compliance end points for MEP, regardless of the efforts made by the local agencies to implement effective BMPs. This is not legally justified or supported by the Draft Order or the findings of the Blue Ribbon Panel.

D. The Use of MALs Creates a Permit Term More Stringent than Required by Federal Law

When permit terms are more stringent than federal law, the adopting agency must consider the public interest factors contained in Water Code section 13241. (*City of Burbank v. State Water Resources Control Board* 35 Cal.4th at p. 618.) Section 13241, in turn, requires consideration of economics, site-specific conditions, the need to develop housing in the region, and other factors. The Regional Board must consider and balance such factors to determine if the requirements are reasonable. (Water Code § 13241; Water Code §13263.)

The Draft Order's use of MALs is more stringent than federal law requires. As discussed above, MEP is a highly flexible approach that balances a number of factors, which includes the use of BMP. MEP is not intended to include numeric limitations. Numeric limitations are considered to fall under the "and such other provisions" of CWA section 402(p)(3)(B). (*Browner,* 91 F.3d at p. 1166; *BIA* at p. 881.). The "and such other provisions" are independent of MEP and do not modify MEP. (*BIA* at p. 881.)

Thus, the use of MALs to define MEP exceeds the requirements of federal law. Therefore, the Regional Board must consider the public interest factors as contained in Water Code section 13241 before adopting the Draft Order. The Draft Order suggests that costs required for compliance with provisions contained within the Order have been considered. (Draft Order, p. 24.) However, upon close review of the noted reference, the incremental costs apply only to Los Angeles and do not specifically apply to the

provisions contained within the Draft Order that would apply to the Ventura Program. In other words, the cost considerations currently referenced in the Draft Order do not meet the requirements of section 13241 and therefore are not a substitute for the Regional Board's obligations under section 13241.

E. The Draft Order Lacks Findings And Rationale to Support the Use of MALs

The MAL requirements of the Draft Order are not supported by the findings or logic within the findings. The Regional Board must support decisions with specific findings and must relate evidentiary findings to the ultimate order. The mere recitation of facts is not sufficient. In particular, the Regional Board must "set forth findings to bridge the analytical gap between the raw evidence and the ultimate decision or order." (*Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515; see also *In Re Petition of the City and County of San Francisco, et al.*, SWRCB Order 95-4, 1995 WL 576920 at pp. 4-5.)

The Draft Order does not satisfy these requirements. It does not, for example, explain why exceedance of MALs would be presumed to be inconsistent with MEP standards of the permit or why other provisions are required as MEP. By way of other examples, Findings Nos. 15 and 16 recite that the Regional Board has "considered" the need for housing, and costs of implementation. (Draft Order at p. 24.) However, there are no findings that actually spell out what the Regional Board considered with regards to housing and the costs of implementation. The Draft Order also fails to explain how these findings are related to the provisions contained therein. Thus, the Regional Board has not properly bridged the analytical gap between the facts and the ultimate requirements that would be imposed under the Draft Order.

F. MALs are More Restrictive than Basin Plan and TMDLs

The proposed MALs are actually more stringent than Basin Plan water quality objectives that have been adopted into the Basin Plan as part of a TMDL. As an example, the Draft Order addresses the TMDL requirements for Malibu Creek and Lagoon, and Calleguas Creek. (Draft Order at p. 88.). Waste load allocations are identified and noted for a number of constituents including copper, nickel, and zinc. As recommended by federal TMDL guidance, numeric targets have been developed to ensure compliance with water quality standards and adopted into the Basin Plan as water quality objectives. A comparison of the MALs with the TMDL targets as approved in the Basin Plan is shown below in Table 2.

Table 2 - Comparison of MALs v. TMDL Adopted Targets

Constituent [3]	Municipal Action Levels[1]	Basin Plan[2]
Copper (dissolved, ppb)	12.8	26.3-41.6
Nickel (total, ppb)	9.6	74-1292[3]
Zinc (dissolved, ppb)	104	90-324

1. Attachment C to Draft Ventura Stormwater Order.
2. Attachment A to Resolution No. R4-2006-012.
3. Measured as dissolved.

A review of the table demonstrates that the MALs are considerably more restrictive than the water quality based targets used to comply with water quality standards. In addition, the Draft Order differs from the approved TMDL provisions with regard to implementation schedules and monitoring requirements. The provisions of the Draft Order need to accurately reflect the requirements of the approved TMDL (and as stated in the Basin Plan), including implementation requirements and monitoring. To do otherwise is inappropriate, and creates an inconsistency between two regulatory programs, and goes beyond actions and requirements being imposed on other dischargers listed in the TMDL.

In conclusion, the Draft Order's use of MALs to define MEP is ill conceived as it is inconsistent with state and federal policies, is technically flawed, results in requirements more stringent than federal law, and creates limits that are more restrictive then adopted water quality objectives contained in the Basin Plan.

V. WATER QUALITY BENEFITS VS. COSTS

In addition to our concerns regarding the substantive, prescriptive provisions contained within the Draft Order, we are also concerned that the Draft Order establishes a countywide program that has little connection with the pollutants of concern (POC) as identified by the Permittees. Over the course of the last five years the Ventura Program has spent considerable resources on identifying the pollutants that warrant special attention. In some cases the POC focus complements what the Draft Order specifies and in other cases there is no relationship (e.g. installation of trash excluders on all catch basins even though trash is not listed as a POC).

To better understand the Permittees' liability in meeting the Draft Order provisions, we have compiled our monitoring data for the last 4-5 years for both the land discharge sites and mass emission sites. These data were compared to the MALs which are summarized in Attachment C. A review of the attachment demonstrates that the Permittees are subject to non-compliance and will be required to construct treatment control BMPs to meet the MALs. To further assess the Permittees' exposure, we have estimated the cost for complying with the Draft Order. Our costs reflect a program required to meet the new baseline program element provisions, an enhanced program which includes the baseline program plus the installation and maintenance of trash excluders, and a compliance program which consists of baseline, enhanced, and the cost for constructing BMPs to comply with MALs. We initially developed the cost for the City of Camarillo and expanded it to the Ventura Program. To further put these costs in perspective we compared these costs to the study referenced in Finding No. 16 of the Draft Order. This comparison is shown below:

Summary of Ventura Program Costs Impacts

Program	Annual Cost $/Household			
	Current Effort	Draft Order Baseline[3]	Enhanced[4]	Compliance[5]
Statewide Study[1]				
Range	18-46	--	--	--
Mean	29	--	--	--
Ventura County				
Range	18-44[2]	--	--	--
Mean	35	60	87	213

[1] NPDES Stormwater Cost Survey, Prepared by Office of Water Programs for State Water Board, Jan '05. Reflects Annual Budgets for 02/03.
[2] Based on 03/04 budget submitted in Ventura Countywide 2004/05 Annual Report.
[3] Reflects an increase in Permittee staff to meet Draft Order baseline requirements.
[4] Reflects baseline requirements (see note 3) and installation and maintenance of trash excluders.
[5] Reflects costs for baseline, enhanced and retrofit (infiltration, wetlands) of outfalls to meet MALs. Treatment BMP costs were based on the Office of Water program NPDES Stormwater Cost Survey (attachment H).

A review of this table demonstrates that the typical household costs will increase approximately six fold for the full compliance option.

In addition, the new requirement under the Planning and Land Development program will result in increases in housing costs. These additional costs impact local affordability and the economic viability of the communities.

VI. PROPOSED PERMIT IS OVERREACHING IN EXPANDED COVERAGE AND SCOPE

Additional major issues of concern for the Permittees are the Draft Order's attempts to expand stormwater permit coverage beyond the jurisdictional boundaries of the Permittees, individually and collectively, and the Draft Order's inclusion of certain requirements that are beyond the scope of the Regional Board's authority as it relates to water quality controls.

A. Improperly Expands Land Use Area Subject to Permit Requirements

The Draft Order attempts to require the Permittees to provide control over pollutant generating activities outside of the limited jurisdictional boundaries that are actually covered by the Ventura Program. For example, the Draft Order attempts to exempt "agricultural lands" and "forest lands." However, the exemption is incomplete and unclear. At a minimum, the exemption needs to be expanded to include open space lands

that are not subject to urbanization. Thus, the exemption should read "agricultural lands, forest lands, and open space lands not subject to urbanization."

Additionally, regulating all "areas undergoing urbanization" will result in the unnecessary regulation of many remote and *non-urbanized* areas within Ventura County boundaries. Ventura County has vast areas that are sparsely populated and should not be considered to be undergoing urbanization. The Draft Order's proposed regulation of "areas undergoing urbanization" is beyond the scope of an NPDES permit for MS4 discharges. The Draft Order should more appropriately apply MS4 permit coverage to "Urban Areas" as defined in the most recent U.S. Census Survey. Thus, activities that occur outside of the jurisdictional municipal boundaries of the municipalities (i.e. Urban Areas), individually and collectively, are beyond the scope of the Ventura Program and should be removed from requirements contained within the Draft Order.

B. Improperly Expands Monitoring Requirements

The Permittees believe whole heartedly that an effective stormwater monitoring program is an important tool to assess the impacts of urban runoff and potentially measure the effectiveness of the management program. However, the highly prescriptive monitoring requirements in the Draft Order would not provide the Permittees with useful feedback to make appropriate improvements in the Permittees' stormwater program. (Draft Monitoring Program—No. CI7388.) For example, the Permittees would be required to collect a significant amount of data on pollutants from non-MS4 sources. The Permittees would then be responsible for preparing plans and corrective actions to remedy problems discovered through the monitoring program. Many of these plans and corrective actions may be for pollutants that are discharged into the receiving waters from non-MS4 sources, therefore depleting valuable local agency resources as to which the local agencies have no jurisdiction.

In addition, there exists in California a Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. This document was developed by the Southern California Stormwater Monitoring Coalition (SMC), represented by three Regional Boards (including the Los Angeles region), municipal Permittees representing six counties, Heal the Bay and the Southern California Coastal Water Research Project. The basic philosophy on environmental monitoring discussed in this document is "Monitoring should be focused on decision making; data not helpful in making a decision about clearly defined regulatory, management, or technical issues should not be collected." As a model monitoring program developed for Southern California, the Regional Board should incorporate the tenets and philosophy of this program into the monitoring program contained in the Draft Order.

Unfortunately, the monitoring program prescribed in the Draft Order does not follow the philosophy contained in the model program. It is overly broad. The proposed monitoring program would require sampling throughout the watersheds for all storms, regardless of the actual impacts that may be caused by the Permittees. The Permittees contend that such an expansive program in Ventura County would not yield credible information. The

whole of Ventura County includes vast open space and agriculture areas that are intermingled amongst the urban areas. In reality, the MS4s make up only a small percentage of each watershed. (*See* Table 1.) To be useful for program management, the Ventura Program's limited monitoring resources need to be focused on collecting information specific to the MS4 programs.

Furthermore, state law requires monitoring programs imposed by the Regional Water Board to "bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports."(Water Code § 13267(b)(1).) In addition, the Regional Board must explain the need for reports and identify the evidence that supports requiring a specific discharger to provide the reports. The expansive monitoring requirements contained in the Draft Order clearly do not bear a reasonable relationship to the Permittees' activities as it requires monitoring in areas that are probably not impacted by municipal stormwater discharges, and requires monitoring for constituents that may not be of issue.

For example, the draft monitoring program would require the Permittees to monitor up to 18 tributary sites in one watershed for pyrethroid insecticides. (Draft Order, at p. F-19.) However, there does no information on the presence of pyrethroids in the main stem receiving waters or the tributaries. Until evidence exists that pyrethroids may be a concern, the Regional Board does not have sufficient basis to require such an extensive pyrethroid insecticides study.

Finally, the proposed monitoring requirements in the Draft Order overlook the watershed monitoring efforts that the Permittees, in cooperation with other dischargers, are already implementing to address and identify urban runoff impairments in Ventura County. The Calleguas Creek monitoring program (the only watershed with a clear urban runoff signature in the mass emission station) extensively monitors receiving waters, tributaries, agriculture, POTWs, and stormwater. This is done with cooperation and commitment from the major stakeholders in the watershed. Any increase in requirements to the MS4's monitoring program needs to be considered in the context of the larger monitoring efforts underway to prevent duplication of effort and to further the cooperative stakeholder agreements already in place to continue this monitoring.

Thus, monitoring requirements that extend beyond collecting useful information relevant to the MS4 program are not justified by the Draft Order and therefore must be removed. As an alternative to the prescriptive monitoring requirements contained in the Draft Order, the Permittees and Regional Board staff should work to develop a locally designed MS4 monitoring program that furthers the objectives of the stakeholder monitoring program and provides useful information regarding the Permittees' stormwater programs.

C. Improperly Requires Ecological Restoration Planning and Implementation

Part 5 of the Draft Order requires the Permittees to develop and implement Watershed Ecological Restoration Plans (ERP) for all watershed management areas that have

obtained poor scores, as determined by the bioassessment monitoring program that is also required. The Regional Board's justification for this requirement contained in Finding B.9 is primarily to "reestablish insofar as possible the ecological integrity of degraded aquatic ecosystems." (Draft Order p. 4.) However, the Regional Board fails to indicate how ERP is required for the Permittees to meet MEP or any specific legal requirement or standard. The Regional Water Board's authority to require compliance with water quality standards does not extend to requiring watershed wide ecological restoration planning.

Furthermore, ERPs are required under the Draft Order when bioassessment data for a tributary shows that the reach evaluated is rated as poor or very poor. The bioassessment data and the reach evaluation do not identify potential sources or causes of the poor conditions within the watershed. Under the Draft Order, the Permittees would be responsible for restoring the ecological conditions in the watershed regardless of the Permittees' role in causing the condition. The Permittees should only be responsible for water quality conditions related to discharge from their respective MS4s. Agricultural areas, other NPDES permitted dischargers, nonpoint and natural sources such as invasive species have the potential to contribute to a low index of biological integrity. Additionally, stream segments can be on private property where Permittees have no authority to make improvements and cannot legally spend public funds to do so, as such an improvement may constitute an illegal gift of public funds. (Cal. Const. Art. 16, §6) Because the Regional Board does not have the authority to issue requirements related to watershed wide ecological restoration, and because the Regional Board cannot provide evidence of a causal link between the Permittees' activities and the bioassessment rating of a stream, the ERP requirements must be removed from the Draft Order. Ecological Restoration Planning and implementation of those plans is more correctly conducted through the stakeholder processes such as the IRWMP and WCVC.

D. Improperly Expands Land Development Requirements

1. Smart Growth v. Urban Sprawl

The Permittees applaud a stormwater permit that promotes low-impact development and redevelopment strategies and recognizes the water quality benefits of smart growth. (Draft Order, p. 21.) Many of the Permittees are already choosing high-density, infill development and redevelopment as an alternative to urban sprawl. Smart growth strives to mix land uses, take advantage of compact building design, and create walk able communities. Development pressure on open space, environmental habitat and farmland is diminished by using smart growth practices.

The Draft Order cites to hydromodification and low impact development requirements as provisions within the Draft Order that support smart growth. (Draft Order, p. 21.) However, the specific requirements in the draft permit relating to hydromodification and the restriction of imperviousness are much more easily accomplished in typical urban sprawl developments. Urban sprawl has more room to implement stormwater retention strategies. For example, many smart growth strategies include high-density development

(e.g. subterranean parking garage, retail/office/work space on street level and residential above) that usually results in the entire property being covered by the development and therefore less opportunity for stormwater infiltration. High-density and infill development and redevelopment projects incur water quality benefits in a different way, and these benefits should be recognized and rewarded.

The Permittees are concerned that the Draft Order would in fact hinder smart growth and reward urban sprawl. We request the opportunity to collaborate with you on the specific requirements on land development and redevelopment to assure that they are achievable for high-density, infill projects.

2. Local Land Use Authority

Land use decisions are a local government function. The Draft Order claims that "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." (Draft Order, p. 22.) The Draft Order, however, contains several requirements that infringe upon local government control over land use planning.

Local land use authority includes mitigating and conditioning the authorized land uses to ensure protection of public health and safety, as well as protection of the environment. (*Berman v. Parker* (1954) 348 U.S. 26; *Associated Home Builders, Inc. v. City of Livermore* (1976) 16 Cal.3d 582; Gov. Code, §§ 65302, 65800-65912.) When including such conditions as part of a land use entitlement process, local government decisions must be made within the context of the applicable General Plans, zoning ordinances, and other local codes. (*Lesher Communications, Inc. v. City of Walnut Creek* (1990) 52 Cal.3d 531; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553.) Thus, local land use decisions must be consistent with General Plans, zoning ordinances and local codes, and must not create land use inconsistencies with neighboring lands. (*Ibid.*)

The Draft Order requires application of specific land use strategies to address stormwater issues, without any consideration of applicable General Plans, zoning ordinances, or other local codes. (Draft Order at pp. 50-54.) In particular, the Draft Order requires specific limitations on impervious surfaces (Draft Order at p. 50), use of Low Impact Development (LID) strategies (Draft Order at p. 51), and hydromodification mitigation (Draft Order at p. 52) for all New Development and Redevelopment, as defined. Implementation of specific limitations on impervious surfaces, LID and hydromodification strategies are specific land use decisions that are within a local government's discretion. These methods of controlling stormwater discharges are certainly within the tools a local agency can use when addressing stormwater discharges associated with development. The Draft Order, however, requires implementation of these strategies for all new development and redevelopment, regardless of circumstances and without consideration of applicable local agency regulations. The Draft Order,

therefore, undermines a local agency's authority to regulate land uses within its jurisdiction.

Indeed, the Draft Order goes so far as to specify the order of priority for certain land use strategies to address stormwater: LID, Integrated Water Resources Management Strategies, Multi-benefit Natural Feature BMP, Prefabricated/Proprietary Treatment Control BMPs. (Draft Order at p. 50.) This prescription of mandatory land use strategies unlawfully impairs local government's discretion to implement land use strategies that are consistent with existing local government plans and policies, and ignores a local agency's obligation to consider a broader spectrum of issues and options when making land use decisions. (Gov. Code, §§ 65302, 65800-65912; see also Pub. Resources Code, § 21000 et seq.) In fact, the Draft Order appears to restrict a primary strategy used by many municipalities within California to address stormwater, which is the development and construction of stormwater detention basins.

To the extent a project in issue is subject to the California Environmental Quality Act (CEQA), the Draft Order's requirements regarding LID, hydromodification and others are also inconsistent with CEQA's requirement to evaluate project impacts based on evaluation of the whole of the project and consideration of all the potential impacts of the project. (Pub. Resources Code, § 21000 et seq.; see Pub. Resources Code, §§ 21060.5, 21080; 14 Cal. Code Regs., tit. 14, §§ 15003, 15063-15065, 15070.) CEQA requires identification and adoption of feasible mitigation measures for significant impacts of a proposed project, taking into account the specific characteristics of the project in question and the affected environment. (Pub. Resources Code, §§ 21002, 21081; 14 Cal. Code Regs., tit. 14, §§ 15021, 15041.) The blanket application of the identified land use strategies and priorities may not be appropriate in all cases. Yet, the Draft Order would limit a local agency's ability to require implementation of more appropriate land use strategies. Thus, the blanket application of the required land use strategies could have unintended environmental consequences that can only be identified through appropriate environmental review, and which must be evaluated on a project-specific basis.

Similarly, the Draft Order specifically directs periods of time when grading shall be prohibited in certain areas. (Draft Order at p. 63.) This specific requirement is clearly within a local agency's land use authority and the Regional Board has no authority to prescribe what type, when, or how certain land uses should be implemented or allowed.

Thus, the provisions within the Draft Order that require LID, hydromodification controls and others must be revised. The Draft Order may encourage the consideration of such strategies by the Permittees who have land use authority; however, the decision to implement such strategies must be left to the individual Permittees.

Also, the Draft Order specifies BMPs and applies them universally. This approach will lead to many problems. For example the Regional Board is requiring trash excluders on all storm drains inlets rather than other trash mitigation measures which may in turn cause increased flooding in some locations. Homes and businesses will be flooded that are not currently flooded with subsequent liability issues.

E. Overreaching Hydromodification Mitigation Requirements

The Draft Order assumes that all development and redevelopment projects will have a detrimental effect on erosion and on the peak flow and duration of the receiving water. However, in Ventura County, some development projects have little to no effect on the receiving waters pre-development hydrograph due to the size of the natural watershed upstream of the development. For example, the 235 square mile Ventura River Watershed is less than five-percent urbanized. Most of the watershed, and a disproportionately large amount of the rainfall, are within the National Forest. In these cases, the natural storm flow in the rivers is many times greater than storm drain discharges and the timing and flows are dictated by the natural flows that occur long after the storm drain discharges takes place. In other cases, developments discharge through storm drain systems directly to the ocean, without the potential to impact a natural channel or riparian habitat.

These types of analyses should be considered when developing thresholds for hydro modification requirements. The Draft Order be revised to include the rationale for the 50 acre threshold contained in the Interim Criteria in Part (e) of Page 53, and should consider additional exemptions based upon the hydrology of Ventura County Watersheds, rather than the assignment of a size of project.

In practice, it is not possible to exactly match a hydrograph in both peak flow, volume and duration at the same time. Depending on the watershed and the project's hydrologic characteristics, the concept of attempting to equalize pre- and post-project peak flows and/or volume may or may not be appropriate and effective in minimizing erosion effects. The concept of matching flow duration and/or volume may or may not be critical for habitat and ecology, depending on the hydrologic characteristics of the watershed and the project. The Draft Order should allow flexibility based upon the watershed characteristics and erosion protection, habitat and ecology needs. The Draft Order should be revised to provide flexibility or provide the Permittees with engineering methodologies that would allow the exact matching of flow, volume and duration at the same time. Although the comment period has not allowed time to develop and present draft suggested engineering criteria that would protect our watersheds and their habitat. The Permittees are willing to work with you toward this interim criteria.

And finally, the Hydromodification Analysis Study (HAS) also appears similar in scope to CEQA sections (biology, hydrology/water quality/ geology/soils) that determine impacts of a project. The Draft Order needs to be prepared to avoid duplication with the CEQA studies and process.

VII. STORMWATER RECHARGE VS. GROUNDWATER PROTECTION

Groundwater is the single most important source of water in Ventura County. Collectively, groundwater accounts for approximately 67% of the total water demand for the County's agricultural and domestic use. The protection and quality of this important resource are of paramount interest and concern to the residents of Ventura County. We

do agree the use and recharge of uncontaminated stormwater can be an important component of integrated regional water management. However, we are not in agreement with the universal proposal to percolate and infiltrate all stormwater through implementation of LID and other BMPs. This "one size fits all approach" does not take into account Ventura County's site specific and variable conditions such as local geology/hydrogeology and soils. Furthermore, this type of approach might have the unattended consequence of attempting to fix one environmental problem and consequently creating another. A good example of the above happened recently with this the State Air Resources Board mandating oxygenate fuels (MTBE) in gasoline to solve one of its air quality issues, resulting in a much bigger and costlier issue of groundwater contamination and remediation statewide.

U.S. EPA lists the following on its website, warning of potential additional hurdles and requirements for recharging groundwater with stormwater: *"When stormwater is used to recharge ground water - Discharges to ground water may be subject to local, state or federal requirements. Specifically, discharges via subsurface fluid distribution systems or other subsurface infiltrative devices may be subject to the federal underground injection control (UIC) requirements. The UIC program, authorized pursuant to the U.S. Safe Drinking Water Act, exists to prevent the endangerment of underground sources of drinking water. Stormwater injection wells need to be listed on state or federal inventory lists, and should not be used for the disposal of fluids other than storm water. To limit the potential for ground water contamination, EPA recommends that stormwater injection wells be constructed with spill catchment, and not be constructed to intersect the water table." (U.S EPA website.)*

Several communities in Ventura County have underlying unconfined or semi-confined aquifers (along the Santa Clara River), sole sources aquifers, and/or have highly venerable and sensitive recharge areas (e.g. the Oxnard forebay) that cannot use infiltration BMPs for fear of contaminating the community's only drinking water supply. Communities with high groundwater (e.g. Simi Valley) may experience potential flooding with these BMPs, and in other communities with clay or impermeable soils these BMPs will not physically work. The Draft Order should provide provisions to ensure full protection of our limited groundwater resources.

VIII. SUMMARY/CONCLUSION

In closing, the Ventura County Watershed Protection District and the Ventura Countywide Stormwater Program Co-Permittees have very real and very significant concerns about the Draft Order as currently proposed.

Of great concern to the Permittees is the significant incongruity and apparent lack of coordination in the regulatory methodologies being implemented by the State Water Resources Control Board and its Regional Boards. This lack of equity and consistency is apparent both externally in programs and actions taken from Regional Board to Regional Board but now particularly evident between initiatives and programs directed from within the departments of the Los Angeles Regional Board to the regulated community.

The 303(d) impairment identification and subsequent TMDL implementation process in Ventura County has been an exemplary model of a successfully adopted and implemented non-point source, pollution control program focused on the specific constituents that inhibit beneficial uses. This program has been implemented in an allied, co-operative, coordinated manner with the Regional Board serving as a full-partner. This approach has resulted from a unified effort by Regional Board staff with a fully comprehensive body of stakeholders (including the US-EPA, municipalities, the County, major water suppliers, Caltrans, the U.S. Navy, the Ventura County Farm Bureau and other agriculture and environmental interests). These initiatives, implementation schedules and goals will result in tangible water quality improvements, compliance with Basin Plan objectives and protection of beneficial uses for Ventura County watersheds with respect to bacteria, salts, nutrients, metals, pesticides and trash. The TMDL programs are focused by reach, pollutant specific and directed to protecting the identified beneficial uses in the Basin Plan.

In direct contrast to the Calleguas Creek TMDL process, the Draft Order presents an adversarial, 'command and control' methodology aimed at a smaller sub-set of same stakeholders with less of an ability to affect the overall surface water quality in Ventura County. Yet this Draft Order dictates discharge limitations (MALs, which are inconsistent with previously Board adopted TMDLs and NPDES discharge limits) while demanding implementation and installation specific controls. Additionally, this direction includes how such limitations are to be achieved without any discretionary flexibility as to how these controls are to be implemented or applicability adjustments as to the pollutants of concern. Many significant elements in the proposed permit are unfocused, counter-productive and contrary to the progress and good-faith efforts established in the TMDL process.

As stewards of scarce and limited public funds and the municipal trust, we must demand that the actions and expenditures driven by and determined by state regulators are consistent with each other, are cost-effective and capable of achieving the goals for which those expenditures are intended. As noted throughout these comments, this Draft Order is inconsistent with those goals.

Finally, although we fundamentally disagree with the proposed approach being used by the Regional Board staff, we are in agreement with the need to continue and enhance our award-winning stormwater management program that will lead to water quality protection and enhancement, and provide for adequate accountability. We look forward to working with the Regional Board to craft a revised Draft Order that supports this need.

In order to move towards the development of an appropriate Draft Order, we request a meeting with you at your earliest convenience. We also look forward to a formal written response to each of the comments contained in this letter and its attachments. If you have any questions, please contact me at 805-654-5051 or Gerhardt.Hubner@ventura.org.

Sincerely,

Gerhardt J. Hubner, Chair
Ventura Countywide Program
Stormwater Management Committee

Attachments

A. Additional Legal and Policy Comments
B. Permittee' Combined Technical Comments for Ventura County MS4 Permit Draft Order, dated December 27, 2006
C. Comparison of Discharge Characterization Data with Municipal Action Levels

Cc: Xavier Swamikannu, Senior - Storm Water Permitting, Los Angeles Regional Water Quality Control Board
Ventura Countywide Program Permittees
Jeff Pratt, Director, Ventura County Watershed Protection District
Ron Coons, Public Works Director, County of Ventura

ATTACHMENT A
ADDITIONAL LEGAL AND POLICY COMMENTS
DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES NO. CAS004002)
FOR THE
VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA, AND THE INCORPORATED CITIES

The following comments are provided in order as the issue appears in the Draft Ventura County Municipal Separate Storm Sewer System Permit (Draft Order).

COMMENTS ON FINDINGS

Finding B.16 (p. 7) – The Draft Order contains a finding regarding atmospheric deposition of pollutants into surface waters located within Ventura County. The Permittees agree that atmospheric deposition can be a major contributing source of pollutants into the waterways of Ventura County. The Permittees are concerned that they may be held responsible (now or in the future) for pollutants that enter the waterways through atmospheric deposition. The Permittees recommend that the Draft Order be amended to delete the finding regarding atmospheric deposition. In the alternative, the Draft Order should clarify that the Permittees are not responsible for pollutants that are atmospherically deposited into the surface waters.

Finding E.6 (p. 13) – The finding refers to the July 2003 303(d) list as the most recently adopted list of impaired waterbodies. This reference is incorrect. The state adopted a newly updated list in 2006. The finding should be revised to reflect the State Water Resources Control Board's (State Board) most recent action on this issue.

Finding E.9 (p. 14) – The second part of this finding refers to the State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries in California* (SIP). The reference to this finding implies that this policy applies to stormwater discharges in California. That is not correct. The SIP specifically excludes application of the policy to stormwater discharges and is not relevant. (SIP (2005) fn. 1, p. 3.)

Finding E.18 (p. 18) – Finding 18 incorrectly characterizes the state and federal antidegradation policies in several ways. The finding claims that "[b]oth, state and federal antidegradation policies acknowledge that an activity that results in minor water quality lowering, even if incrementally small, can result in violation of Antidegradation Policies through cumulative effects, for example, when the waste is cumulative, persistent, or bioaccumulative pollutant." We disagree with the implication of this finding.

This statement does not accurately reflect applicable law and policy with regards to the two anti-degradation policies. The primary purpose of the state and federal antidegradation policies is to protect *high quality waters* that *already* support and

maintain existing beneficial uses and adopted water quality objectives (emphasis added).[1] The finding implies that any discharge that lowers water quality violates the state and federal antidegradation policies or that the policies contain specific terms related to minor changes in water quality. This is not true. Both the state and federal antidegradation policies allow for a lowering of water quality upon meeting certain conditions and "minor" change is routinely permitted. The U.S. Supreme Court found that EPA's decision to allow some de minimus degradation is not inconsistent with the federal Clean Water Act. (*Arkansas v. Oklahoma* 503 U.S. 91 at 113 and 107, respectively.)

A violation of the state and federal antidegradation policies would only occur if there is degradation below applicable water quality standards and the agency is unable to find that it is for the maximum benefit to the people of the state, or is necessary to accommodate important economic or social development in the area. The state's policy "does not absolutely require that existing high quality water be maintained; rather, any change must be both consistent with maximum benefit and not unreasonably affect beneficial uses." (SWRCB Order No. 86-8 at p. 15.) Similarly, the federal policy "is not an absolute bar to reductions in water quality" as long as existing, in-stream beneficial uses will not be impaired, no Outstanding National Resource Waters (ONRW) will be affected; and, the reductions in water quality are "justified as necessary to accommodate important and social economic development." (Federal Antidegradation Policy, Memorandum to Regional Board Executive Officers from William R. Attwater, Chief Counsel, State Water Resources Control Board (Oct. 07, 1987) at pp. 2-3.)

Finally, we are not familiar with any state or federal antidegradation policy positions that discuss or address the cumulative effects of discharges, especially with regard to bioaccumulative pollutants. At most, APU 90-004 encourages Regional Boards to apply stricter scrutiny to "non-threshold pollutants" when determining if it is necessary to conduct a simple antidegradation analysis or a complete antidegradation analysis. (APU 90-004, pp. 2-3.) Non-threshold pollutants are described as carcinogens, mutagens, and teratogens. To the extent that a bioaccumulative pollutant may also be a non-threshold pollutant, the Regional Board should consider this factor in determining the appropriate level of antidegradation analysis to apply when there may be a lowering of high quality water caused by the proposed activity. The determination of what level of analysis to conduct is not akin to a violation of the antidegradation policies. The determination of violation would occur after the antidegradation analysis is conducted.

Finding E.19 (p. 18) – Finding 19 of the Draft Order states that the hydromodification control and low impact development (LID) provisions of the Draft Order are "intended to promote the State Water Board and federal Antidegradation policies by preventing water quality and habitat (beneficial) degradation." The Draft Order's proposed connection between the hydromodification controls and LID provisions is misplaced for several reasons.

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[1] SWRCB Resolution No. 68-16 states that "it is the intent and purpose of this Board that such higher quality shall be maintained to the maximum extent possible consistent with the declaration of the Legislature." Federal Regulation 40 CFR § 131.12 states that "existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected."

First, the Regional Board has no basis for this finding as the state and federal antidegradation policies do not apply to the adoption of this Draft Order. As proposed, the Draft Order does not authorize a reduction in water quality as compared to the last Ventura County MS4 permit and therefore application of the antidegradation policies has not been triggered. "If the Regional Board has no reason to believe that existing water quality will be reduced due to the proposed action, no antidegradation analysis is required." (APU 90-004, Antidegradation Policy Implementation for NPDES Permitting, p. 2.) Likewise, the federal antidegradation policy is only applied if the activity will reduce existing water quality. "The first step in analyzing the requirements of the federal antidegradation policy as applied to a particular activity is to determine if the activity will lower surface water quality; only if there is reduction in water quality must the three-part test be applied to determine if the activity may be permitted." (Federal Antidegradation Policy, Memorandum to Regional Board Executive Officers from William R. Attwater, Chief Counsel, State Water Resources Control Board (October 7, 1987) at p. 3.) In particular, the federal antidegradation policy is usually triggered "by new discharges or expansion of existing facilities." (*Id.* at p. 5.)

In this case, the proposed action is the adoption of a renewed NPDES permit, which is "reasonably expected to reduce the discharge of pollutants via storm water runoff into receiving waters, and to meet the Waste Load Allocations (WLAs) for municipal storm water adopted by the Regional Water Board." (Draft Order, Finding B.1 and Finding F.2 p. 2. and p. 20.) Thus, the Regional Board does not anticipate the proposed action to lower surface water quality.

Second, the Draft Order attempts to equate LID and hydromodification controls to meeting best practicable treatment and control (BPTC) requirements as contained in the state's antidegradation policy. BPTC is required when there is a discharge that may degrade existing high quality waters. (SWRCB Resolution 68-16.) BPTC is not required when the Regional Board has not identified a discharge that may degrade existing high quality waters. In other words, before applying the BPTC standard for meeting waste discharge requirements, the Regional Board would need to find that discharges covered by the stormwater permit may degrade waters that already meet water quality standards. To make this determination, the Regional Board would need to establish the baseline quality of the receiving water, which is a pollutant specific determination. (APU 90-004, p. 4.) In addition, to determine what is BPTC, one must consider a number of factors including "water quality achieved by other similarly situated dischargers and the methods used to achieve that water quality." (SWRCB Order WQO 2000-07, *In re San Luis Obispo Golf and County Club*, pp. 10-11.) Also relevant is "information concerning alternatives and costs of alternatives." (*Id.* at p. 11.)

The Draft Order does not contain any of the required findings or information to determine that 1) there is degradation of an existing high quality water based on a constituent-by-constituent analysis; 2) BPTC must be applied to meet waste discharge requirements for the individual constituents impacted; and 3) LID and hydromodification controls are the appropriate BPTC after considering water quality achieved by others and the cost of

alternatives. Thus, finding E.19 is inappropriate and must be removed from the Draft Order.

Finding E.23 (p. 19) – The finding regarding the application of aquatic pesticides to waterways is irrelevant and has no application to the Draft Order and its provisions. Furthermore, the case cited within the finding has been addressed by a recently issued federal regulation that was adopted in 2006. Thus, this finding should be removed from the Draft Order.

Finding F.7 (p. 22) – Finding F.7 claims that all requirements contained in the Draft Order are prescribed to be consistent with federal law and therefore economic considerations need not be considered in the adoption of this Draft Order. We disagree with this statement. Under federal law, municipal stormwater discharges must comply with section 402(p) of the Clean Water Act, which requires that cities reduce stormwater to the maximum extent practicable. (33 U.S.C. § 1342(p)(3)(B)(iii).) "Congress did not require municipal storm sewer discharges to comply strictly with [water quality standards]." (*Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1166.) Whenever a Regional Board imposes pollutant restrictions in a wastewater discharge permit *more stringent* than what federal law requires, California law requires the board to take into account the public interest factors of Water Code section 13241, which includes economic factors and the cost of compliance. (*City of Burbank v. State Water Resources Control Board* (2005) 35 Cal.4th 613, 627.) Thus, if the Regional Board seeks to impose any requirements that go beyond those set forth in section 402(p), the Regional Board must evaluate the public interest factors in Water Code section 13241 prior to permit adoption.

Whether or not they are within the state's discretion, numerous provisions of the Draft Order exceed the requirements of federal law. One example, as stated in the attached letter, is that the use of MALs to define MEP is more stringent than federal law. Other requirements are described throughout the comments of the Permittees. Permittees again emphasize that an order issuing a permit must explain how its conclusions are reached. The Permittees find no logic in the Draft Order that would support a conclusion that each requirement is required by federal law.

In addition, a very specific issue of concern is the prescriptive requirements pertaining to land use. In particular, land use is a matter of local control, and the federal government has no role in land use decisions or policies. "Regulation of land use [is] a function traditionally performed by local governments." (*Hess* v. *Port Authority Trans-Hudson Corporation,* 513 U.S. 30, 44, (1994).) The Regional Board lacks the authority to infringe on local land use decisions, on which the Legislature has declared the state should impose "only a minimum of limitation in order that counties and cities may exercise the maximum degree of control over local zoning matters." (*DeVita v. County of Napa,* 9 Cal.4th 763, 782-783 (1995).) Assuming for the sake of argument that the Regional Board does have the power to interfere with local land use policy, such authority cannot be derived from federal law. When enacting the Clean Water Act, 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. U.S. Army Corps of Engineers,* 531 U.S. 159, 174 (2001).)

Finding F.14 (pp. 23-24) – Finding F.14 and implementing provision Part 4.G.1 of the Draft Order would require the Permittees to implement a number of provisions related to sanitary sewer systems. These provisions are outside the scope of a municipal stormwater permit and should be removed. In May 2006, the State Board adopted WQ 2006-03, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. All publicly owned collection systems with one mile or more of sewer pipe were required to enroll for coverage under the General WDR by November 2, 2006. The statewide WDR requires all collection system agencies to report SSOs to a statewide online database and to develop, among other detailed requirements, overflow response plans and comprehensive sewer system management plans.

The scope of this Draft Order is the regulation of the municipal separate storm sewer systems operated by the co-permittees. The collection systems, like the wastewater treatment plants and water recycling programs operated by individual co-permittees, are subject to regulation under a separate enforceable permitting mechanisms. It is neither necessary nor justified to duplicate and overlay the requirements set forth in WQ 2006-03 in the stormwater permit.

Finding F.16 (p. 24) – The Permittees object strenuously to the claim made in finding F.16 that the "Order may have incremental effect on costs required for compliance." As discussed in the body of the main cover letter, the requirements contained within the Draft Order will be costly to implement. Furthermore, the Permittees also object to the statement that the Regional Board is not required to consider costs in preparing the Draft Order. As the Draft Order contains provisions that are more stringent than federal law, the Regional Board is required to consider the public interest factors of Water Code section 13241, including cost. (*City of Burbank v. State Water Resources Control Board* at 627.) Consequently, the Regional Board must prepare and consider the costs associated with implementing the provisions contained within the Draft Order that are not specifically required by federal law.

<u>COMMENTS ON PART 1 – DISCHARGE PROHIBITIONS</u>

Part 1, B.4 (p. 29) – The Permittees understand that the prohibitions contained in Part 1, B pertain to the discharge of non-storm water discharges into the MS4. However, provision B.4 would require the Regional Board Executive Officer to consider the state and federal antidegradation policies before authorizing or prohibiting other categories of non-storm water from discharging to the MS4. The state and federal antidegradation policies apply to discharges into waters of the state and the U.S., respectively. Antidegradation policies do not apply to discharges into the MS4, but only to discharges to the waters of the state and the U.S. Thus, this provision must be revised to clarify the intent of its application by the Regional Board's Executive Officer.

COMMENTS ON PART 2 – RECEIVING WATER LIMITATIONS

Part 2, 1 (p. 29) – Receiving water limitation provision 1 is in actuality a prohibition that is already contained in Part 1 of the Draft Order. The presence of a prohibition in this section of the Draft Order is confusing, duplicative and not reflective of a receiving water limitation.

Part 2, 2 (p. 29) – Like provision 1, receiving water limitation provision 2 is contained in Part 1 of the Draft Order. Inclusion in this section is duplicative and not necessary.

Part 2, 3(a) (p. 29) – As currently drafted, this provision does not clarify that the determination with regards to discharges applies to discharges "from the MS4," and not discharges in general. The Permittees are legally responsible for discharges from the MS4 and not all discharges in general. Thus, this provision needs to be amended to clarify that the application of this determination is made on discharges from the MS4.

Part 2, 4 (p. 30) – Provision 4 would provide that members of the public can petition the Regional Board Executive Officer to review alleged receiving water limitations "within 60 days to determine if Part 2 of this Order was violated." This term is improper and should be deleted for a number of reasons. Waste discharge requirements are adjudicatory orders defining rights and obligations of Permittees. It is inappropriate in any such order to define rights in third parties. Nor does the Regional Board have the authority to create rights in third parties. That is the province of the Legislature. If the provision were merely a restatement of current statute and regulations, it would be unnecessary. But it is not. There are many thousands of permits containing waste discharge requirements throughout the state. If the Regional Board desires to make recommendations to the Legislature to enact a petition process by statute, or to the State Board to prescribe such a process by regulation, it may do so. But the term, as it appears in this Draft Order, is not proper or lawful and must therefore be removed.

Part 2, 6 (p. 30) – Provisions 3 and 5 of Part 2 collectively establish a procedure for complying with receiving water limitations utilizing an iterative best management practice approach, which is appropriate for stormwater. However, provision 6 of this part undermines this process by stating that the Regional Board is not prevented from enforcing *any* provision contained within the order (emphasis added). As drafted, this language means that the Permittees could follow the process outlined in provision 3 when a water quality objective is exceeded and still receive an enforcement action from the Regional Board for exceeding the same water quality objective. The Draft Order's failure to provide a safe harbor against enforcement when the Permittees are following the procedures contained in provision 3 negates the purpose for these provisions. Provision 6 must be amended to protect the Permittees from enforcement when the Permittees are following the procedures contained in provision 3.

COMMENTS ON PART 3 - STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION

Part 3, B.3 and B.4 (p. 33) – B.3 requires each Permittee to update its Storm Water Quality ordinance no later than 6 months from the adoption date of the Draft Order. B.4, on the other hand, requires each Permittee to submit no later than 180 days after adoption of a statement that the Permittee has obtained and possesses all necessary legal authority to comply with the Order through the adoption of ordinances and/or municipal code notifications. There appears to be an inconsistency between the two provisions. B.4 does not clarify if the "180 days after adoption" applies after adoption of the Draft Order or the ordinance, which is required by B.3. The Permittees assume that B.4 applies after the Permittees have adopted updated stormwater ordinances in accordance with B.3, and that notification should then be provided to the Regional Board within 180 days after the updated stormwater ordinance has been adopted. However, the provision should be amended to clarify the timing requirement that is contained in B.4.

Part 3, C.1 (p. 33) – Provision C.1 states that the Permittees "shall allocate all necessary funds to implement the activities required to comply with the provisions of this Order." The Draft Order purports to enumerate the sources of funds that the Permittees may use for compliance, and requires that a "stormwater budget" be submitted annually the Regional Board. (*Id.* and fn. 3.)

This requirement goes beyond the Regional Board's purview as a water quality regulatory agency, ignores constitutional constraints on both state power and local government fee authority, and is inappropriate, unlawful and unwarranted.

Water Code section 13000 charges the Regional Board with regulating the quality of the waters of the state "to attain the highest water quality that is *reasonable*." The Regional Board is to prescribe requirements "as to the nature of" any discharge, which shall implement relevant water quality control plans. (Water Code § 13263(a).) In prescribing such requirements, the Regional Board may not specify "the particular manner with which compliance shall be had with that requirement," including placing itself in the role of judging whether the amount of local revenue that is to be devoted to permit compliance comports with its notion of the amount "necessary" to do so. (*See* Water Code § 13360(a).) The Regional Board does not possess unfettered authority to involve itself in matters of municipal affairs or to dictate the fiscal policy of local governments.

Local government budgeting is a municipal legislative function. There is no state statutory requirement that cities adopt budgets, and courts are without power to interfere in the budgeting process. (*Scott v. San Bernardino* (1996) 44 Cal.App.4th 684, 698.) In this Draft Order, the Regional Board proposes to assume a supervisory role over local budgeting that is superior to that of either the Legislature or the judiciary. Moreover, this provision ignores very real constraints on the Permittees' revenue raising authority. The first and most obvious of these is Proposition 218, which prohibits a local government from imposing a fee for stormwater related services without a vote of the electorate. (Cal. Const. Art. XIID, § 6.c.; *Howard Jarvis Taxpayers Association v. City of Salinas* (2002)

98 Cal.App.4th 1351.) A fee may not be imposed on a subset of the community (such as property owners) for a general government service available to the general public. (Cal. Const Art. XIID, § 6.b.) The California Attorney General has deemed a stormwater fee invalid on this basis. (81 Cal.Opp. Atty Gen. 104 (1998).) Other fees included in the Draft Order's laundry list, such as those for plan review, permits and industrial commercial users, may not exceed the reasonable cost of providing service to the payer. (*Sinclair Paint Co. v. State Board of Equalization* (1997) 15 Cal.4th 866.)

Thus, provision C.1 creates an unfunded mandate that must be removed from the Draft Order.

Part 3, D.1 (p. 34) – The time requirement contained in provision D.1 appears to be inconsistent with the ordinance provision contained above in B.3. In addition, 90 days is not a practical time frame for the Permittees to modify storm water programs, protocols, practices and municipal codes to be consistent with a permit is well over 100 pages. If the Draft Order is adopted as is, the Permittees would likely need at least a year to modify current programs to comply with all of the provisions contained within therein.

COMMENTS ON PART 4 – SPECIAL PROVISIONS (BASELINE)

Part 4, B.1 (p. 36) – Provision B.1 requires the principal Permittee (i.e. Ventura County Watershed Protection District) to participate in a number of watershed management planning meetings. Although the Permittee is supportive of the various watershed programs identified and intends to participate in most, or not all, of the programs identified, the Draft Order does not state how the Regional Board would determine compliance with this provision. Furthermore, it is inappropriate for the Regional Board to mandate in a stormwater permit provision participation in voluntary watershed programs. Such a requirement well exceeds the Regional Board's authority as there is nothing in the Water Code that allows the Regional Board to mandate watershed program participation. At most, the Regional Board can require the Permittees to prepare and submit technical and/or monitoring reports. (Water Code § 13267.) The Regional Board's authority under this provision does not extend to requiring participation in voluntary watershed management programs.

Part 4, D (pp. 41-49) – The Draft Order would require the Permittees to inventory and inspect a number of industrial and commercial facilities. While the Permittees are responsible for inspecting industrial and commercial sites within their jurisdiction for compliance with local municipal codes and ordinances, the Regional Board is responsible for inspecting and enforcing compliance with the State's General Permit for Industrial Activities. (*City of Rancho Cucamonga v. Regional Water Quality Control Board-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1390.) The provisions contained in Part 4, D appear to expand beyond ensuring compliance with local municipal codes and ordinances. For example, the introductory language for this section states that the minimum requirement is for the Permittees to track, inspect and ensure compliance with municipal ordinances. (Draft Order at p. 41.) This language suggests that the requirements contained in the Draft Order exceed the minimum. In particular, the Draft

Order would require the Permittees to determine if an industrial facility is implementing certain source control BMPs that may or may not be part of a local agencies municipal code or ordinance. (Draft Order at p. 47.) This type of a requirement is beyond the Permittees obligations to ensure compliance with municipal codes and ordinances. The Permittees recommend that the Industrial/Commerical Facilities Program requirements be substantially scaled down to reflect that the Permittees obligations are related to ensuring compliance with local municipal codes and ordinances.

Part 4, D.3(a) & (b) (p. 48) – Provisions D.3(a) and (b) both treat municipal action levels (MALs) as if they are water quality objectives. Please refer to earlier comments on this issue.

Part 4, E.III.12(a) (p. 62) – The California Environmental Quality Act (CEQA) requires an agency to consider if a project will cause a significant environmental impact. (Pub. Res. Code §21080 et seq.) The language contained in at Part 4 would require the Permittees to consider "potential" impacts. As proposed, this language may be inconsistent with CEQA laws and regulations for it requires consideration of only a "potential" impact and not a "significant environmental impact." To avoid conflicting with CEQA laws and regulations, the CEQA provisions in the Draft Order need to be revised to be consistent with CEQA's requirements and be tied to considerations of significant environmental impacts.

Part 4, E.III.13(a) (p. 63) – The State's planning laws require the "Conservation Elements" of a general plan to address conservation of natural resources including water and its hydraulic force. Likewise, the "Open Space Element" is required to identify strategies to preserve open space land with corresponding benefits to water quality and quantity. Thus, both elements are already required to include considerations regarding stormwater – making the requirements contained in the Draft Order to be unnecessary. Also, each general plan element must carry equal weight and be internally consistent. It is therefore unnecessary to require storm water quality and quantity management considerations in the Housing and Land Use Elements of the general plan. Because these provisions are not necessary, the Permittees recommend that they be removed from the Draft Order.

Part 4, F.1(a)(1)(B) (p. 63) – Provision F.1(a)(1)(B) effectively requires the Permittees to prohibit discharges into waterbodies listed on the CWA section 303(d) list from October 1 through April 15 that would occur due to grading activities. Such an activity amounts to a discharge prohibition. The Regional Board must adopt discharge prohibitions through appropriate procedures of the Water Code. (Water Code § 13243.) It is not an activity that the Regional Board can delegate to the Permittees through the Draft Order.

Part 4, F.5 – F.10 (p. 67-71) – The Draft Order contains a number provisions related to tracking and inspections of construction activities that are also subject to the state's General Permit for Construction Activities. As discussed above, the Regional Board must retain responsibility for determining compliance with the state's General Permit. (*City of*

Rancho Cucamonga v. Regional Water Quality Control Board at 1390.) To the extent that the provisions in Part 4 obligate the Permittees to take on Regional Board's responsibilities, the Draft Order should be revised. At the most, the Permittees are responsible for ensuring compliance with their own municipal codes and ordinances. Requirements beyond such activities are outside of the Permittees jurisdiction and must be removed from the Draft Order.

Part 4, G.1 (p. 72) – As discussed above with finding F.14, Draft Order's requirements regarding sewage system maintenance, overflow and spill response plan properly falls under the ambit of the State Board's General Waste Discharge Requirements for Sanitary Sewer Systems. (WQO Order No. 2006-0003.) It is not appropriate for the Regional Board to include requirements related to sanitary sewer systems within the scope of the MS4 Draft Order.

Part 4, G.5(a) (pp. 76-77) – Provision G.5 requires the Permittees to use pesticides in a specified manner. In California, pesticides are regulated by the California Department of Pesticide Regulation (DPR). (CA Food and Ag. Code § 11454.) The DPR's primary purposes include 1) providing for the proper, safe, and efficient use of pesticides essential for production of food and fiber; 2) protecting public health and safety; 3) protecting the environment; 4) protecting agricultural and pest control workers; 5) assuring consumers and user that pesticides are properly labeled; and 6) encouraging the development and implementation of pest management systems that stress application of biological and cultural pest control techniques with selective pesticides when necessary. (CA Food and Ag. Code § 11501.) In 1984, the California Legislature declared that "matters relating to (pesticides) are of a statewide interest and concern and are to be administered on a statewide basis by the state unless specific exceptions are made in state legislation for local administration." (Statutes of 1984, Chapter 1386.) To ensure that the state maintained sole jurisdictional authority over the regulation of pesticides, the California Legislature adopted a state statute that vested complete control and regulation of pesticides including the registration, sale, transportation, or use of pesticides to the state, and DPR in particular. (CA Food and Ag. Code § 11501.1.)

Although the state has preempted local authority with regard to the regulation and use of pesticides, it is understood by the DPR that local governing bodies may "pass ordinances that regulate or restrict pesticide use in their own operations." (*Regulating Pesticides: The California Story, A Guide to Pesticide Regulation in California*, published by the California Department of Pesticide Regulation (October 2001) at p. 9.) However, the Regional Board is not vested with the authority to require local agencies to regulate or restrict pesticide use. The Draft Order requires the Permittees to implement jurisdictional wide integrated pest management programs, adopt and implement policies that require the minimization of pesticide use, and include commitments in newly adopted ordinances to reduce and eliminate the use of pesticides. (Draft Order, Part 4 provision 5 at pp. 76 and 77.) As the statutes indicate, DPR is vested with the authority to regulate and restrict the use of pesticides in California. The Regional Board's authority is limited to matters that pertain to water quality. (Water Code § 13225.) It does not include the authority to direct local agencies with regard to its pesticide applications, storage and use records.

Thus, the requirements in the Draft Order that direct the Permittees with regards to pesticide use are unlawful and must be removed.

Part 4, G.5(b)(2) (p. 77) – Provision G.5(b)(2) would require the Permittee to comply with the provisions of WQO No. 2004-0008-DWQ. However, WQO No. 2004-0008, which is a General NPDES permit for the application of aquatic pesticides to surface waters, is no longer necessary. In 2006, the federal EPA issued a new rule that clarified federal regulatory requirements as they apply to the application of aquatic pesticides to surface waters. Basically, the federal regulations state that the application of aquatic pesticides to waters of the U.S. to control pests is not a discharge subject to NPDES permit requirements. (40 CFR § 122.3(h) amended Nov. 27, 2006, 71 Fed. Reg. 68483.) With EPA's regulation, WQO No. 2004-0008 is no longer relevant. The State Board has not yet rescinded the Order due to pending litigation. (*New Pesticide Regulation*, Memorandum to Tom Howard, Acting Executive Director, from Michael A.M. Lauffer, Chief Counsel, Office of Chief Counsel (January 2, 2007), p. 5.) However, the State Board has publicized the new EPA regulation and has created a notice of termination procedure for those that wish to terminate coverage. (*Id.* at p. 5.) Because of the new federal regulation and the tenuous nature of WQO No. 2004-0008, the Regional Board should not require compliance with WQO No. 2004-0008 for the application of aquatic pesticides.

COMMENTS ON PART 7 – DEFINITIONS

Authorized Discharge – The definition of authorized discharge needs to be expanded to incorporate discharges authorized pursuant to state issued permits and conditional waivers. As currently drafted, the definition is limited only to those discharges that are authorized under federal law.

Effluent Limitation – The Draft Order does not include effluent limitations as defined. Thus, this definition is unnecessary and should be deleted.

Maximum Extent Practicable – The definition contained in the Draft Order is not a proper definition for Maximum Extent Practicable (MEP). As provided, the definition is a mere recitation of the law to meet MEP. It does not actually define MEP. The definition of MEP needs to be revised.

Runoff – The definition of runoff contains the statement "[i]t is typically comprised of nuisance flows contaminated with pollutants." The Draft Order has no basis for including this statement as part of the definition of runoff. The broad generality is not backed by any scientific evidence or known study. Thus, this portion of the definition needs to be deleted from the Draft Order.

COMMENT ON TIME SCHEDULES

The implementation schedules for most of the program provisions are unrealistic and will lead to poor execution and the misdirection of resources. It seems that when the Draft

Order was drafted and where there was an opportunity to provide an implementation schedule it was arbitrarily decided that 180 days was the appropriate time frame. But when all the implementation provisions are put together, the Draft Order creates an impossible schedule. For example, the following requirements stipulate time frames that when combined are impracticable.

1. Modification of SWMP, policies, codes, etc. within 90 days (Draft Order at p. 34)
2. Education strategy developed within 180 days (Draft Order at p. 38)

- In school effectiveness strategy within 180 days (Draft Order at p. 39)
- Behavioral change assessment strategy w/in 180 days (Draft Order at p. 39)
- Pollutant of Concern outreach program w/in 180 days (Draft Order at p. 39)
- Install trash excluders on all CBs w/in 180 days (Draft Order at p. 78)

The Draft Order must be modified to provide for an overall, practical and realistic schedule.

ATTAC...MENT B
SPECIFIC TECHNICAL COMMENTS
DRAFT VENTURA COUNTY MUNICIPAL SPARATE STORM SEWER SYSTEM PERMIT (NPDES NO. CAS004002)
FOR THE
VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA, AND THE INCOPRORATED CITIES

No.	Reference	Comment
1	General	The Draft Order includes reference citations throughout, but mainly in the Findings. It would benefit from deletion of the references in the permit, and incorporation of these references into the staff report. Most of the references used in the development of the permit came from the Los Angeles County municipal stormwater program or other highly urbanized settings. Please explain how the unique characteristics of Ventura County watersheds have been considered in citing these references.
2	General	The Draft Order has a dedicated section (Part 7) for definition of terms used in the permit. The definition section should include all terms that are potentially confusing or subject to interpretation, especially in light of the highly prescriptive nature of the permit. Additionally, the document currently contains definitions within findings and requirements that should more appropriately be included in the definition section. This created potentially contradictory definitions such as "Hydromodification" which, in the definitions, "means the alteration away from a natural state of stream flows or the beds or banks of rivers, streams, or creeks, including ephemeral washes, which results in hydrogeomorphic changes", and in Finding B.4 means "the high volumes and high velocities of storm water discharged from MS4s into natural watercourses can adversely impact aquatic ecosystems and stream habitat and cause stream bank erosion and physical modifications..." Other examples of definition needs are included in the specific comments below. Please incorporate all definitions in the Definition section.
3	General	Many of the Findings in Section B. Nature of Discharge describe potential impacts from stormwater and urban runoff. In the June 30, 1994, update to the Basin Plan, the **Urban Runoff** component of *Strategic Planning and Implementation* states that the "Regional Board's urban runoff management program (through both the Storm Water and Nonpoint source programs) continues to assess specific urban runoff problems and control strategies to remediate those problems". Please rectify the Draft Order's approach to pollutants of concern with this Basin Plan strategic effort.
4	General	The Permittees need regular collaboration on NPDES permits issued by the Regional Board that will discharge into the Permittees MS4 systems. What the regional board staff view as non-problematic as far as Basin Plan standards for the discharges they are permitting may be problematic to Permittees in addressing stormwater contributing to water quality impacts, or with TMDLs. Without this some sections of the Draft Order will be impossible to meet. Please provide a mechanism that will give the Permittees input into the permitting process.
5	Page 1, A. 1 and Page 11, D.2. (Findings)	(Permittees) "...have joined together to form the Ventura Countywide Storm Water Quality Management Program to discharge wastes." We actually joined to implement the stormwater program throughout the urbanized areas of the County. This was prior to the development and promulgation of the Phase II Stormwater Regulations. Federal Phase II stormwater requirements now address urban runoff concerns from the smaller cities (Ojai, Port Hueneme, Santa Paula, Fillmore, and Camarillo) and, as the MS4 systems are not considered interconnected (e.g., Los Angeles County and the city of Santa Clarita are not covered by this MS4 permit), there would be equity with other Phase II cities throughout the State if these cities were allowed to release from these very prescriptive

		requirements. At the time of the first permit only two Municipalities were required to obtain a permit to discharge. Please correct the finding to reflect this.
6	General Comment:	Numerous Findings cite outside source documents for support, however, it appears that at least some of these outside source documents are draft documents, have not undergone public review, or have not been formally adopted. To the extent that these outside source documents have not been finalized, publicly reviewed, and formally adopted, they cannot form the basis to support a Finding. Please inform us if the information found in the listed source documents is supported by the Regional Board and is consistent with the draft Permit.
7	Page 1, section 1	Change all references of "San Buenaventura" to "Ventura".
8	Sections in document relating to BMPs	The document indicates that BMPs shall be implemented. The BMPs referenced in the document were developed as guidelines for managing potential discharges. The RWQCB should clarify if the BMPs are requirements or suggested protocols. Additionally, the RWQCB/NPDES permit should specify if all measures listed in the specific BMPs are mandatory. If the BMPs are mandatory, further evaluation of the BMPs is necessary to determine if the BMPs are feasible. In some instances, changes to local ordinances would be required to implement the BMP.
9	P. 1 A.1 (Permit Parties & History)	In order to better define the co-permittees, the first sentence should be rewritten: "Ventura County Watershed Protection District (Principal Permittee), County of Ventura, Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, Ventura, Santa Paula, Simi Valley and Thousand Oaks, hereinafter referred to separately as Permittees..."
10	Page 4, Findings 8 and 9.	The 303(d) list provides information on waterbodies exceeding established water quality standards (40CFR130.7(b)). The 303(d) list does not provide information on, nor should it be used as justification for findings that require bioassessment and ecological restoration. The first sentence of findings 8 and 9 that reference the 303(d) list should be removed.
11	Page 6, Finding 12.	The finding regarding salts is inaccurate and inconsistent with the effective chloride TMDLs and the work being done to develop a salts TMDL in the Calleguas Creek Watershed. Salts impact agricultural and groundwater recharge beneficial uses and are only a concern for aquatic life at levels much higher than those required to protect agriculture. Additionally, swimming pools, though a potential salt source, have not yet been identified as a significant salt source to the waterbodies in any of the TMDL analyses developed to date. Finally, the effective chloride TMDLs do not include allocations for MS4 discharges. Therefore, this finding should be removed.
12	Page 6 B. 12 (Findings)	"Rising groundwater and swimming pool water...control the discharges from these activities in order to directly or indirectly reduce or eliminate discharges of salt to fresh water..." These requirements must match the Basin Plan for the TMDL salt implementation time (15 yrs). Please provide the reference for this Finding in the staff report and rectify the compliance timeline.
13	Page 7, section 15	While working on trash TMDL for the Ventura River Estuary and Calleguas Creek tributaries, staff observed that agriculture is a significant source of litter to watersheds. It is imperative that litter be included in the Waste Discharge Requirements for Discharges from Irrigated Lands. Additionally, litter should be added to the list of pollutants generated from irrigated agricultural facilities contained on page 7, section 15 of the draft MS4 Permit.
14	Page 7, B. 16. Page 8 B. 16	The statement relies on research from Los Angeles County to find that "similar patterns of aerial deposition **likely** occur in Ventura County." (emphasis added.) Please provide supporting documentation for this assumption.

Attachment B - Specific Technical Comments for Ventura County MS4 Permit Draft Order 12/27/06

	Findings	
15	Page 8 B. 18 (Findings)	The Draft Order states "Nitrite and nitrate (NH3) are biostimulatory substances that can cause or contribute..." Excessive nitrogen can lead to aquatic impairment, but is usually found in all natural systems. Ammonia, especially in its un-ionized form (NH3), is toxic to many aquatic organisms. Please rectify how a naturally occurring compound contributes to water quality exceedences and the biostimulatory characteristics of un-ionized NH3.
16	Page 8, Finding 17.	The information referenced in this finding comes from two highly urbanized counties that significantly differ from Ventura County. The trash TMDLs currently being developed in Ventura County are in the process of identifying the sources of the trash and initial indicators suggest that the MS4s may not be the most significant source of trash. Additionally, the amount of trash present in the waterbodies is significantly lower than the amount found in Los Angeles County. Although trash is a potential problem in Ventura County, the problem is not of the same magnitude as that in other Southern California Counties and the finding should acknowledge the differences.
17	Page 8 B. 19 (Findings)	"Pesticide categories include: Organochlorine, Organophosphorus, Organophosphate, and Pyrethroid." In Ventura County, the two most used pesticides (DPR Pesticide Use Report) are petroleum hydrocarbons and copper, their use is predominantly agriculture. Please provide a source for your finding.
18	Page 10 C. 4 (Findings)	The Permittees were not made aware that the ROWD submitted to the Regional Board was considered "..partially complete" after the supplemental information requested was sent to the Regional Board. Did the Regional Board inform the Permittees that the ROWD is still considered partially complete? If it is please explain in detail what is missing.
19	Page 10 C. 4 (Findings)	Please clarify: "United States Environmental Protection Agency (REGIONAL WATER BOARD)"
20	Page 11 D.5 (Findings)	This item states, "permittees are to work together cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system through inter-agency agreements or other formal arrangements." This requirement is ambiguous. Please elaborate as to when such inter-agency agreements or formal arrangements would be deemed necessary under the Permit.
21	Page 12 E. 4 (Findings)	"The Porter-Cologne Water Quality Control Act ... authorizes the State Water Resources Control Board (State Water Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State and tributaries thereto." Not only is the tributary rule not defined (August 10, 2004, letter regarding the *2004 Triennial Review*; March 30, 2005 comment letter on the *Draft Tentative Conditional Waiver for Discharges from Irrigated Land*), but the definition of Waters of the State would be all-encompassing anyway. Waters of the State covers all surface and groundwater within the State, and does not exclude treatment devices (grassy swale, constructed wetlands, etc.) disconnected surface MS4 features (e.g., curb and gutter). Please rectify this discrepancy.
22	P. 16 - 14 (a) (findings) p. 20 - F.1 (Implementation)	This section is specifically directed to LA's SUSMP and not the board approved SQUIMP document for VC. Please rewrite to include specific adoption of SQUIMP. The permittees disagree with the finding that "ministerial projects" were included in SQUIMP. Additionally, the referenced resolution was adopted without solicitation of input from or notice given to Ventura County stormwater permittees. Please provide justification for this applying to Ventura County.

23	Page 17, 16(b)	Please explain how the Construction General Permit affects or modifies the local MS4 permit regarding construction activities.
24	Page 17 E. 15 (Findings)	"The Regional Water Board supports Watershed Management to address water quality protection in the region...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." In Ventura County the Regional Board has been a partner in TMDL development, however participation in the Countywide Stormwater Management Meetings ended over a year ago and there has been no stakeholder involvement in the development of the draft tentative permit. Please describe what the Regional Board views as a cooperative relationship.
25	Page 19, section 23	As written, this section is confusing. Please explain if it is legal to for co-permittees' licensed applicators to properly use an aquatic pesticide, without additional permits or requirements.
26	Page 20 F. 2 (Findings)	The term "receiving waters" is not defined. Please add to Definitions section.
27	Page 20, F.1	This item suggests that co-permittees should revise current ordinance conditions to modify ministerial projects to be become discretionary, thus becoming subject to storm water mitigation requirements. Including ministerial projects for inclusion under SQUIMP or a similar storm water mitigation program is unreasonable. Currently, the County departments receive several thousand permit applications for ministerial projects each year. Requiring each of these projects would prove to be extremely onerous on the County's resources. Additionally, we would assume that the term "all new development" as it is applied here is subject to the limitation of p. 10 Item D.1. This should be clarified.
28	Page 20, F. 2 & F.4 (Implementation)	The Draft Order requires implementation of BMPs to reduce discharge of pollutants "to the maximum extent practicable (MEP)", but Finding F.4 requires "all necessary control measures". This is not defined and may be different than MEP. Additionally "Successful efforts to reverse the wet weather impairments..." is not possible until critical regulatory tools are developed, including wet weather water quality objectives and "design storm" standards. Please rectify this discrepancy.
29	Page 21, F.3 (Implementation)	This item states, "This Order translates MS4 TMDL WLAs adopted by the Regional Water Board into forms "consistent with the assumptions and requirements of the TMDL", by use of alternate temporal increments, concentrations, presumptive BMPs, prohibitions, and other express limitations." This language is unclear as to exactly how TMDLs will be handled in the Permit. Please use the exact language in the TMDLs and their associated implementation plans or reference them.
30	Page 22, F.8	We greatly appreciate the intention to provide "flexibility" within this section. However, the flexibility requires documentation regarding alternative BMP effectiveness which was not provided for the "established" BMPs. The result is that there can be no meaningful comparative analysis. This applies to Section D.3(a) on Page 48 as well. Please provide a method for accurate comparisons or an alternate method for selecting alternate BMPs.
31	Page 23 F. 11 (Findings)	"Permittees shall implement a timely, comprehensive..." "Shall" language turns the Finding into a Requirement – it should be deleted.
32	Page 23 F. 13	"This Order contemplates that Permittees will ensure that implemented Treatment Control BMPs will not pose a safety or health hazard to the Public..." An example of where there are immediate problems with this Finding is

	(Findings)	the requirement to install trash excluders on all catch basin inlets. Not only does this requirement increase the flooding potential for most areas to which it would be applied, but a substitute BMP would need to be approved under F.8, that does not have a probable health hazard due to flooding or vectors. Please provide detail on the findings that there will be no safety or health hazard to the Public.
33	Page 25, G.3 (Public Notification)	Although the Board conducted four scoping meetings, none of them involved this level of detail or discussion relating to the possible imposition of these new requirements.
34	Pages 25 & 26 A.1. and A.2.	Both discharge prohibitions should include language regarding "discharge from an MS4 that have not been reduced to the Maximum Extent Practicable"... Please make this change.
35	Page 26 Part 1.A.3	The Draft Order states "Discharges to the MS4 not covered by a NPDES individual or general permit are prohibited." Permittees own and/or operate portions of the MS4 that receive agricultural runoff, which is exempt from NPDES permitting. We would not be able to meet this requirement. Please rectify this discrepancy.
36	Page 26, Part 1, B (Prohibitions)	The Draft Order requires Permittees to "effectively" prohibit non-storm discharges but does not define nor explain what is meant by "effectively" prohibit. Please add to the definitions section.
37	Page 26, Part 1, B.2 (6) (Footnote 2)	The Draft Order states "Releases may only occur with the implementation of appropriate BMPs..." Please revise this sentence to read "Planned releases shall only occur with the implementation of appropriate BMPs....".
38	Page 26, Part 1, B.2 (6) Potable drinking water supply and distribution system releases (Footnote 2)	The Draft Order states "Any agency or Municipal (i.e., water dept., fire dept., etc.) that either individually or collectively discharges or reasonable expects to discharge 100,000 gallons of potable water per year, shall submit an ROWD to obtain a separate NPDES permit under this order [see section G.10]." The permittees have no control over other "agencies" that may discharge potable water. Please define "Any agency or Municipal..." in order that we may understand to whom this requirement applies. Furthermore, please justify why municipal permittees that operate a potable water system should be burdened with a requirement (NPDES permit) that does not apply to private water purveyors and water districts. Also, explain how the 100,000 gallon per year figure was derived and what justification exists for regulating discharges of potable water that are greater than 100,000 gallons per year. Section G.10 (actually Part 3, G.10) Footnote 1 requires Municipal Potable Water Supply Systems to obtain coverage under the Regional Water Board NPDES Permit No. CAG674001 if the discharge is greater than 100,000 gallons per year. This general permit specifically regulates the discharge of Hydrostatic Test Water. Please provide justification on how this general permit applies to nonspecific discharges from a municipally owned potable water system.
39	Page 26, Part 1, B.2 (7) & (9) Drains for foundation, footing & crawl space)	This item lists fourteen categories of allowable "non-stormwater discharges" when conditions in Table 1 are met. However, in Table 1, drains for foundation, footing and crawl drains (item number 7) and water from crawl space pumps (item number 9) are required to have a separate NPDES permit for de-watering. There appears to be a duplicative permit condition. Only one NPDES permit should be necessary for discharge. By categorizing foundation, footing and crawl space dewatering discharge as an allowable "non-stormwater discharge" under the MS4 permit, additional NPDES permits should not be necessary. Please remove the requirement for a separate de-watering permit as indicated in Table 1.

40	Page 26, Part 1, B.2 (14) (Footnote 3)	The Draft Order states "...BMPs shall be designed to drain within 72 hours" Please amend to read "...within 72 hours of the end of the rain event."
41	Page 27, Part 1, B, Table 1	The Draft Order states "Water that is hyper-chlorinated shall not be Discharged...even after dechlorination." Hyper-chlorinated is not defined in the permit, please add a definition. There is no justification given for this requirement. If the dechlorinated water meets Basin Plan objectives, discharge to the storm drain system should be allowed. Please justify the prohibition.
42	Page 27 Table 1	"Flows from riparian habitats or wetlands" Is the word 'diverted' missing? Please clarify.
43	Page 29, Part 1, A, 3	This provision requires the Permittee to prohibit discharges or require implementation of appropriate or additional BMPs, however, it does not address situations where the Permittee has no jurisdiction or permit authority over the entity conducting the discharge. Please explain the procedure to enable a Permittee to monitor and impose conditions.
44	Page 29 Part 2.1	"Discharges from the MS4 that cause or contribute to a violation of water quality standards are prohibited." Please add the MEP qualifier.
45	Page 29, Part 2, 3	The Draft Order requires "timely implementation" of control measures, but does not define "timely implementation". Please provide a definition.
46	Page 29 Part 2.3 Footnote 1	The Draft Order states "...two or more exceedences of a Municipal Action Level (MAL) will create a presumption that the implementation of measures to reduce the pollutant(s) in MS4 discharges to MEP are inadequate." Proposed MALs are not designed to address Ventura County watershed concerns. Additionally, the proposed MALs are designed to be end-of-pipe triggers, but are contained in the Receiving Water section. Development of a State-wide Stormwater Policy would help in defining the eventual inclusion of MALs in permits.
47	Page 30, Part 3 A (d)	This provision requires that BMPs identified in a Receiving Water Limitations Compliance Report must be implemented within 30 days following approval by the Regional Board. As written, this provision eliminates the opportunity to choose structural BMPs that are a multi-year process to design, fund, obtain environmental permits, and construct. Please delete the last word in the sentence ("implemented"), and replace with "initiated". If structural BMPs are necessitated, implementation will be a multi-year process, not within 30 days, as stated.
48	Page 31, Part 3, B, 1	As written, this provision implies that the storm drain system shall be dry except during storm events. However, this permit, on page 26, section B, recognizes that there are 14 different sources of non-storm discharges into the MS4 that will be allowable, subject to the conditions identified. These 14 conditions recognize an unavoidable reality that non-storm discharges occasionally will occur. In light of this, please modify this provision to read: ... "..the effective control of dry weather discharges prohibition of non-stormwater discharges, except where such discharges are not a source of pollutants, and meet all conditions identified in Table 1 (Page 27)."
49	P age 32, Part 3, B.1 (b) 5.	Prohibition of swimming pool discharges: This section lists specific discharge limits for specific constituents in swimming pool discharges. What justification exists for regulating swimming pool discharges (de minimus volumes) to this extent? This is not an efficient use of resources to improve water quality. Furthermore, this requirement contradicts the conditions under which swimming pool discharges are allowed in Table 1 (page 28) of the draft permit.

50	Page 32 Part 3, B.2(b) Page 32 2(b) Findings	"The permittees shall possess adequate legal authority to:... Require persons within their jurisdiction to comply with conditions in the Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows)."" "Discharges to the MS4 not covered by an NPDES individual or general permit are prohibited." The City owns and/or operates portions of the MS4 that receive agricultural runoff, which is exempt from NPDES permitting. We would not be able to meet this requirement (March 30, 2005, comment letter on the *Draft Tentative Conditional Waiver – Waste Discharge Requirements for Discharges fro Irrigated Land*). There are other sources of discharge over which the Permittees have no authority such as State and Federal buildings. Please explain how the Permittees are to obtain the necessary legal authority.
51	Page 33, Part 3, B. 3 and 4:	Six months is insufficient time to complete major revisions to the Municipal Code. In order for the BMPs to have the force and effect expected by the Regional Board, they cannot simply be incorporated into ordinances by reference, as was done in the permit. At least two years will be required to prepare and adopt operating ordinances and codes. Requiring its legal counsel to declare that the Permittee has "obtained and possesses all necessary legal authority to comply with this Order" is infeasible, especially given the fact that it is unclear how Permittees will have legal jurisdiction to enforce some of the provisions of this Order (see above responses).
52	Page 33, Part 3. C. 1:	"The Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this order." This sentence should be removed from the draft permit. Permittees can only allocate funds during the annual budget process and elected bodies have the final say on the budget. Compliance with the permit is a multi-year endeavor. Also, given the onerous financial burdens being imposed by this Order, it may be impossible to allocate sufficient funds to comply. Please rewrite this section in light of these facts.
53	Page 33, Part 3. C. 1. a	In actual practice, tracking time charges will be costly and lack accuracy. Admirably, stormwater efforts have become an ingrained and inseparable portion of many tasks, performed by numerous staff across a wide range of agency programs, and cannot be accurately identified. Some stormwater quality expenses are clearly and readily identifiable, but many are imbedded in myriad activities and cannot be measured. Additionally, Permittees do not typically track inter-program, and interdepartmental actual expenses on this level, and would require extensive staff time to implement a system to record, monitor and report these expenses. Implementation of this provision would not improve water quality, but it would require extensive staff time to implement and report that could otherwise have been spent on water quality improvements. Please eliminate this provision.
54	P. 34 Part 3 – C (Budget) P. 80 Part 4, G.6 (Public Agency)	Street sweeping is an effective BMP for removing pollutants such as trash from curb/gutters and costs for all street sweeping should be accounted for in the stormwater program budget. If trash excluders are required on all catch basins (including residential areas), street sweeping will be a necessary component for removing the debris that collects in the street and curb area in front of the catch basin excluder; therefore, it should be accounted for in the stormwater program budget. Please allow for its inclusion into the budget.
55	Page 34 Part 3, C.1(3)(B)	"Program Required Activities Implementation (storm water related activities only). Provide figures breakdown of expenditures for the categories below:" Please explain what "figures breakdown" means?
56	Page 34, Part 3, D. 1:	Ninety days is insufficient time to complete revisions to "programs, protocols, practices and municipal code". We suggest that the permittees be allowed two years to complete this requirement. Also, this requirement conflicts with Part 3, B. 4 which provides for six months to complete revisions.

57	Page 35 Part 3, E.1	"The Ventura County Watershed Protection District is hereby designated as the Principal Permittee." Please cite in Finding or Staff Report the authority used to make this designation.
58	Page 35, section 1 and Page 36 Part 4 B 1	Placing mandates on which staff attends certain meetings may create costly and inefficient duplication of efforts. For instance, if a co-permittee is already participating on the County Environmental Crimes Task Force, and is willing to represent the Countywide Stormwater Program at the Task Force, and to report on these issues at the Countywide stormwater meetings, why should the Principal Permittee also attend? Please allow flexibility here so that Permittees can pick the most economical way to comply. Also, Section E should be retitled to "Designation and Collective Responsibilities of the Permittees", to allow permit compliance in the most efficient manner.
59	Page 36 F(e)(f)	Mandatory meeting attendance for mandatory monthly meetings is not an efficient use of time. This is to be a five year permit, and after the first two years many new programs and requirements will have been developed and implemented. During the later half of the permit term the Permittees will not have as much to meet about. The frequency of these meetings is a huge 20-25 staff hours/month drain on city resources (especially smaller cities with small staffs). Additionally, circumstances beyond the Permittee's control can cause them to miss a meeting. Please relax the attendance requirement to 90% for all subcommittees and the management committee and limit the mandatory meetings to quarterly.
60	Page 36 Part 4	Part 4 is titled SPECIAL PROVISIONS (BASELINE) Please explain what Baseline means/ implies?
61	Page 36 Part 4 A 2	The BMPs referenced in the document were developed as guidelines and do not have specific measurable values, no baseline for the standard and no established criteria for evaluation. Please describe how substitute BMPs are to be evaluated and how they compare with the original BMPs.
62	Page 37 C	"To measurably change the waste disposal and storm water pollution . . . " Please explain what kind of measurement is acceptable and what baseline should be used?
63	Page 37, f	Direct stormwater participation in these efforts is a poor use of limited staff and financial resources, with no direct benefit to the steelhead. Non-participation allows more effort in activities that improve water quality, which will then benefit steelhead. Meeting attendance diverts staff time and funding away from water quality efforts. Please delete participation in the (f) Steelhead Restoration and Recovery Plan.
64	Page 37, g	Participation in the Ventura County Task Force of the Wetlands Recovery Project will already connect the stormwater quality and wetlands groups. Traveling to statewide meetings is expensive, time consuming and will not further improve water quality. Please delete participation in the statewide Wetlands Recovery Project.
65	Page 38 Part 1 C 1. (c) (1)	The consultation, input and assistance of the Permittees will create more effective and better targeted outreach programs. Please change to: Collaboratively the Permittees, shall implement the following activities:
66	Page 38, Part 4, C. 1. (c) (1) (E)	There are already watershed based groups in the major watersheds of Ventura County such as Friends of the Santa Clara River, Calleguas Creek Watershed Management Plan and Malibu Creek Watershed Advisory Council. Working within the existing group structures will be more effective than starting a new group or committee. The sentence should be revised to read: "Work with existing local watershed groups or organize Citizen Advisory Groups/Committees . . ."
67	Page 38, Part 4, C. 1. (c) (5)	The existing permit requirement is 2.1 million impressions based on three times the population of Ventura County. The latest US Census data (2005) shows Ventura County with a population of 796,000. The requirement in the

		draft for 10 million impressions is 12.5 times the population. This is an inappropriately large increase. During the last reporting period an extra effort was made by all permittees to ensure the success of a new outreach campaign, and through that effort 10 million impressions were achieved. However, that was a unique year and would have not been possible without the in-kind donations given by several media organizations. To make 10 million impressions year-after-year is an excessive increase in the permit requirements. 5 million impressions, still over twice the previous requirement, would be realistically achievable and leave resources available for more in-depth educational opportunities.
68	Page 39 Part 1 C 1. (c) (6)	We are in agreement that educational outreach to children is an important way to affect a change in behavior. However, requiring that this be done in schools presents difficulties. None of the Permittees has the authority to put any material into a classroom. It will be up to the discretion of the educational system to use anything provided to them, including resources from AB1721.Targeting all grades from K-12 compounds the obstacles because not all those grades have in their curriculum subjects that are open to the stormwater pollution message. For example, the stormwater message may be perceived as acceptable to include in earth and life sciences which are taught in grades 6 and 7, but not for physical science which is taught in grade 8. In grades 9-12 science is presented as discipline-specific courses - which are not required to be taken by all students. The Environmental Education Account is an option, however, there is no guarantee that money given to the account will be spent in Ventura County or on stormwater pollution, or that it will even be used in the classroom. According to the Cal/ Environment and Education Initiative website, spending money in the account requires both Legislative appropriation and consultation with the California Integrated Waste Management Board, but no consultation with the State Water Resources Control Board. There is a concern that these funds will be used exclusively for litter and recycling programs, and that the Permittees will still be responsible for measurable improvements. All available resources for children outreach would be spent to meet this prescriptive requirement. That prevents creative alternative approaches that would use other known effective outreach methods such as television, radio and the internet. Reaching a target audience is various ways is considered a more effective method to affect a behavior change. We would suggest a focused requirement to provide educational outreach to the same number of school-aged children. This would allow the Permittees the flexibility to develop a program that will have a better chance of success and maximize the benefit of their resources.
69	Page 39, Part 4, C. 1. (c) (8)	Measuring the effectiveness of outreach to children is an appropriate part of the program. However, we believe a more effective program would be one that is outside the classroom. Any measurement in classrooms will require cooperation from schools to administer the surveys or tests and then share the data. The Permittees have no authority to do this. Also, 180 days to formulate and implement (does implement mean adopt a strategy, begin implementation, or conduct the educational program and measure its effectiveness?) a measurement strategy is insufficient time. Please change to one year.
70	Page 39 Part 4, C.1(d) and	"The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants identified in Attachment "B" (Pollutants of Concern) no later than..." There are a couple of steps missing in this requirement. Attachment "B" POCs are not watershed-specific, and

	Attachment B	these POCs, based on receiving water monitoring, have not been compared to land use monitoring, which would give an idea of which POCs are contributed to by urban runoff. Please rectify this requirement or delete.
71	Page 39, Part 4, C. 1. (c)(9)	Please explain what is meant by "develop and implement a behavioral change assessment strategy? This requirement is vague. Also, 180 days to formulate and implement this program is insufficient time. We suggest one year.
72	Page 39, Part 4, C.1(C)(9) (Footnote 1)	"Matching funds shall be equivalent to $10 per targeted student per year." Please justify how the $10 per student figure was derived? AB 1721 does not legislate a "dollar per student" equivalent figure. $10 per student is extremely high. We suggest that the equivalent dollar amount be reduced to $1 per student, if donation to the Environmental Education Account remains an option. Additionally, does "indexed" refer to the consumer price index? If so, which index? Please state which index it is to avoid time wasting and costly confusion at a later date.
73	Page 40, section 1.A.	Please define "corporate management" and "confer". Also, provide details for handling a corporation that is headquartered in another part of the United States or another country.
74	Page 40 Part 4 C 2. (a) (2)	Not withstanding the objections to this requirement, the Corporate Outreach section, Part 1 C 2. (a) (1), defined the minimum number of corporate franchisees to target. Clarification is needed in this section to refer to the targeted franchisees. Please change to: Corporate Outreach to all targeted RGOs . . .
75	Page 40, Part 4, C. 2. (b) (1) Page 40, section B	On-site technical assistance or consultation presents a serious liability problem for the Permittees. The section should be revised to read: "On-site technical assistance, or consultation via telephone or e-mail to provide recommendations or guidelines to identify and implement storm water pollution prevention methods and best management practices."
76	Page 41 Part 4, D.1(a)	The Draft Order states "Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution." The term "critical source" is not defined; however, Attachment D lists "Critical Sources Categories". Also, there doesn't seem to be a Ventura County specific finding on the need for this program. Please add the definition to the permit, and include the rationale for these specific sources in the staff report for the permit. A re-direction of resources for problems that don't exist in Ventura County watersheds is potentially damaging to our program.
77	Page 41, section 1.a.3.A.	It is wasteful and inefficient for the co-permittees to perform this function already performed by the Regional Board, and pulls resources away from activities that will improve water quality. Please delete municipal landfills from the MS4 permit, as the landfills have their own permits from the Regional Board.
78	Page 42, Part 4, D. 2. (a) Page 47 D. 2. (b)(1)(B)	The Draft Order states "Permittees shall require implementation of additional treatment control BMPs where storm water flows from the MS4 discharge to an ESA or a CWA 303(d) listed waterbody" The requirement for the installation of treatment controls BMPs at all critical sources that discharge to a storm drain system which discharges to an ESA or a 303(d) listed waterbody is much too inclusive of facilities and pollutants. Furthermore, the suspected pollutants of concern that would come from a critical source must be matched to the impairment in the 303(d) list for the required treatment controls to be effective. Finally, the legal authority of the Permitees to require a critical source who is not requesting improvement permits to implement additional treatment control BMPs is questionable. In most communities, every critical source would be required to install treatment control BMPs, since most

		Permittees' storm drain systems drains to 303(d) listed waterbodies. The Permittees have worked cooperatively with the Regional Board to develop TMDLs to address the 303(d) listed waterbodies. The requirement for treatment control BMPs at every critical source is unwarranted and we strongly suggest that the requirement be removed from the permit.
79	Page 42, Part 4, D. 2. (a) (1), (2), (3) and (4)	Tables 2 through 4 list the mandatory BMPs that shall be implemented by the critical sources. These BMPs came from the 2003 California Stormwater BMP Handbook which expressly states that "it is not the intent of this handbook to dictate the actual selection of BMPs, . . . but rather to provide a framework for an informed selection of BMPs". Making these BMPs mandatory is contrary to this statement. Furthermore, each BMP section listed has multiple and redundant BMPs which no single location could feasibly implement. Please change sections to read: "BMPs ~~in~~ from the following Table (X) shall be implemented to effectively control polluted runoff, unless the pollutant generating activity does not occur."
80	P. 48 Part 4 D (Critical Sources inspection)	The Draft Order states "Those BMPs that are not adequate to achieve MALs and/or water quality objectives, Permittee may require additional site-specific controls, such as treatment control BMPs." We do not have a baseline to measure effectiveness of treatment control BMPs. Please provide sources to determine baseline effectiveness.
81	Page 48 D. 3. (a)	Proving that a BMP "will achieve the equivalent reduction of pollutants" would require a database of baseline data on all the BMPs. Please provide this information or change language to read "will achieve ~~the equivalent~~ similar reduction of pollutants".
82	Page 48 (d)(1)	The Draft Order states "Referral of Violations of the Municipal Storm Water Ordinances and California Water Code §13260: A Permittee may refer a violation(s) to the Regional Water Board provided that that Permittee has made a good faith effort of progressive enforcement." While it makes sense for the Permittees to enforce their own ordinances, where appropriate, with escalating enforcement action, there is no mechanism that would allow the municipalities to enforce Porter/Cologne directly – especially for non-payment of fees, or non-submittal of reports. Please delete the reference to the California Water Code.
83	Page 48 3(c)(3)	Permittees found to have enforced local municipal codes in good faith should be exempt from any and all penalties the Regional Board could impose for the violation, i.e. Only the offending party would be penalized, not the Permittee. Please add a definition of Good Faith and include an exemption from penalties to the Permittees.
84	Page 48, Part 4, D. 3. (a) and (b)	The requirement for the installation of additional BMPs at critical sources that discharge to a storm drain system which discharges to an ESA or a 303(d) listed waterbody is much too inclusive of facilities and pollutants. Additionally, determining if a facility is "causing or contributing to exceedences of MALs and/or water quality objectives" requires the Permittees to sample each critical source. This requirement is unwarranted and we suggest that the requirement be removed from the permit.
85	Page 49 (4)	Please explain in detail what is meant by "Support of Regional Water Board Enforcement Actions:..."
86	p. 50 Part 4 E 1 (Planning & Land Dev.)	The Draft Order states "The permittees shall implement a development-planning program that will require *all* new development and redevelopment projects..." This provision should only apply to projects that **disturb** soil area of 1 acre or more that are subject to SQUIMP, single family residences and redevelopments under 5,000 SF should remain exempt.

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87	Page 50 Part 4, E. 1	Development projects are defined in the Draft Order to include any construction or reconstruction of residential projects (even if no land disturbing activities are conducted). Requiring these conditions on small home improvement projects is unwarranted and does not provide relief for the hardship of rebuilding a home after a fire or other catastrophe. Please provide a single family residence exclusion or redefine development project to exclude single family residences. This section is also redundant and vague. Subsections d and f, for example, reference Low Impact Development strategies, however, this already appears to be a proposed requirement under the following section E.I.1 labeled "Low Impact Development". Subsection f also requires the selection of an "integrated approach" to mitigate stormwater pollution, but does not define or reference 3 of the 4 available options, including "Integrated Water Resource Management Strategies", "Multi-benefit Natural Feature BMPs", or "Prefabricated/Proprietary Treatment Control BMPs". These options should be defined and referenced. Subsections c, and d also require Permittees to "minimize" impervious surface and pollutants. Also, please provide the criteria to be used to evaluate if these factors have been minimized?
88	Page 50 E.1(b) - Footnote 1	The footnote references the use of "Native Vegetation" and "using approved dispersion techniques" for vegetated swales. This requirement conflicts with the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures for "filter swales" which requires the use of fescue grasses mowed to a height of 4 to 6 inches. Please restate the footnote to read..."Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales as specified in the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures".
89	Page 50 E.1(b) - Footnote 1	Please provide information on what constitutes a "properly designed vegetated swale ... using approved dispersion techniques?"
90	Page 50, section E.	The Permittees are committed to being national leaders in Smart Growth, using low impact development principles whenever possible. However in the coastal watersheds the hydromodification requirement needs to be clarified. Many of the Downtown storm drains discharge directly into the surf zone, with no hydromodification impacts to natural areas. Please provide an exemption to projects in these direct ocean discharge watersheds that do not increase runoff beyond existing 100% developed conditions.
91	Page 50, section E.1.(b)	Of particular concern is the provision that would require the Effective Impervious Area to be less than 5% of total project area. (Draft Order, p. 50.) Presumably these are drive lane areas of entrance/exits where grade constraints do not allow for softscape diversion. However, smart growth projects such as high-density developments and smaller size drive through restaurants do not have the same options afforded to larger urban sprawl projects yet they are still required to have entrance/exit lanes. Due to space constraints, it would be very difficult for many small, smart growth projects that constitute in-fill to meet the 5% requirements as expressed above. Thus, the Permittees recommend that the Draft Order be amended to remove specific percentage requirements and allow for high density developments that are consistent with smart growth policies.

92	Page 51, Part 4, E. I. 1. & 3	"All new development and redevelopment projects shall integrate Low Impact Development (LID) principals into project design." These LID principles must be explicitly defined, with references to related research, source documents, and successful regional case studies, in order to understand proposed requirements. Section E. I. 2. requires the permittees to develop a LID Technical Guidance Document within 18 months from the Order's adoption date. <u>These materials need to be developed for local and regional conditions before developers can be expected to meet the criteria.</u> Additionally, local pilot studies and case studies have not been performed. Thus 18 months is an insufficient period of time. Part 4, E I. 1. must specify an effective compliance date for "All new development and redevelopment..." and must exempt projects that have received their entitlements and/or have been deemed complete for processing; development projects that have received their entitlements or have been deemed complete for processing (but have yet to begin construction) may no longer be subjected to new requirements (per State law). A phased approach of research, guidance development, pilot studies, training and implementation would be preferred and would be more effective.
93	Page 51 Part 4, E. I. 1.	The "predevelopment (hydrologic functions)" statement is inappropriate. Redevelopment sites do not have what is termed in the "Definitions" section (Part 7, pg. 104) as "native vegetation and soils," thus such conservation measures cannot be summarily prescribed for all new development <u>and redevelopment</u>. Such constraints on redevelopment encourage sprawl and discourage smart growth. Please remove this requirement from redevelopment.
94	P. 51 Part 4 E (Low Impact Dev)	"The permittees shall implement a development-planning program that will require *all* new development and redevelopment projects..." Should only apply to projects that **disturb** soil area of 1 acre or more that are subject to SQUIMP, single family residences and redevelopments under 5,000 SF should remain exempt.
95	Page 51 Part 4,E. I. 1 & 2	It will be difficult for "all new development and redevelopment projects" to integrate Low Impact Development (LID) principles into the project design when the LID Technical Guidance Document may not be available to the developers for 18 months after the Order's adoption date. This specific provision requires the completion of a new product, for the new and rapidly changing field of low impact development. A quickly produced document will satisfy the provision, but may not be useful. Please change this deadline from 18 months to three years.
96	Page 51, Part 4, E. I. 2. (e) (f) & (h)	Please define "LID Translators".
97	Page 52, Part 4, E. II. 1(a)	The Drat Order states "This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations." The preferred means to maintain runoff at a pre-development rate has been through metered-flow out of a detention facility (tank, open basin, buried pipes, etc). The pre-developed flow rate can be simulated by design, but the *duration* of that flow must necessarily be longer due to a larger yield-volume being produced by the impervious surfaces of the developed site. If this requirement is included in the final permit language, <u>development must necessarily stop</u> in all watersheds tributary to natural drainage systems, including the Ventura River, Santa Clara River, Calleguas Creek and miscellaneous Ventura coastal watersheds. Please provide alternatives that will allow for continued development and housing.
98		"Numeric Hydromodification Mitigation Criteria" – There seems to be a disconnect between the various sub-

	Page 52 II.1 (a)	section of this section. Sub-section (a) is mandating "maintaining the project's pre-development storm water runoff flow rates and durations" which appears to be put on hold by sub-section (e) which provides interim requirements. Sub-section (d) and (f) discuss a study by the Southern California Storm Water Monitoring Coalition (SMC) to determine how to best mitigate downstream erosion. Section (g) then requires the permittees to prepare and implement Watershed Hydromodification Control Plans (HCP) based on the SMC study. These HCPs would include setting standards for hydromodification management. If the HCP is intended to determine the most appropriate implementation of hydromodification management, why does section (a) dictate "maintaining the project's pre-development storm water runoff flow rates and durations" when the SMC study and HCP are future products with unknown results? Please rectify these contradictions and inconsistencies.
99	52 / Part 3 E. II. 1. (a)	Local Agencies cannot condition a building permit that would require downstream hydrologic control measures without a clear nexus. These requirements could only be attached through a discretionary permit process or a ministerial grading permit if applicable. Recommend the wording be revised as *"Where appropriate and when a direct nexus occurs, the local agency may require new development and re-development to..."*
100	Page 52, Part 4, E.1.II.1(c)	Upon review of the equations involving Erosion Potential, E_P (in Attachment E), the prolonged flow-duration time resulting from the proposed detention solution discussed above will cause an increase in the delta-time. Similarly, it can be expected that applied shear stress (τ_i) will increase since the flow will be without sediment. Thus, the post-development value of Work (W_{post}) will be higher than the pre-developed (W_{pre}). The ratio value of Ep would therefore always be higher (i.e., exceed the value of 1.0) in the post-development era. **If this requirement is included in the final permit language, development must necessarily stop in any watershed tributary to natural drainage systems.** Please provide alternatives that will allow for continued development and housing.
101	Page 52, Part 4, E.1.II.1. (d) and (f)	Pursuant to a January 24, 2007 conversation with Dr. Eric Stein of the SMC, their study is just getting underway with site-selection in the Spring 2007, with anticipated completion in March 2010. The Ventura Countywide Stormwater Quality Management Program Planning and Land Development Subcommittee intend to join the effort and provide a list of target study sites and tributaries. Given the timeframe of the SMC study; 18 months from the adoption of the proposed permit is insufficient time and should be extended.
102	Page 52, II.1(d)(2)	A phased approach of research, guidance development, pilot studies, training and implementation is requested. Please consider this option.
103	52 / Part 3 II .1.(d)	The NPDES permit should not refer to a future study and whatever that future study finds or concludes will automatically be a part of the permit when it is finalized. That does not allow for public input/debate and for the local agency input. Please delete reference to the future SMC study until it is relevant and available for peer review.
104	Page 53 II.1 (e)	"Numeric Hydromodification Mitigation Criteria" – This sub-section is not a continuation of the requirements of the previous permit as is implied by the statement "Permittees shall continue to implement ..." It would seem more appropriate to continue the previous interim requirements in lieu of the new wording. Please reevaluate this requirement and explain how it is a continuation of the previous permit's requirements.
105	Page 53 II.1(e)(1)	Clarification is requested. Does this apply to every project less than 50 acres, and for what design storm Q? Also, please provide background that any unintended consequences on beach nourishment impacts downstream

		have been considered.
106	p. 52-53 Part 4 E II (Numeric Hydro Mitigation Criteria) II. 1 (e) (1) "Interim Hydro. Criteria –	Hydrologic control for projects disturbing land area of less than 50 acres shall involve matching the hydrograph for the 2 year post development peak flow, volume, and duration to the predevelopment peak flow, volume, and duration for the 2 year 24 hour storm event (not exceeding the pre-development flows)." More scientific study is needed before requiring even "interim" hydrologic controls. It is questionable whether matching the 2 yr. post dev. peak flow, volume and duration with the pre-development peak flow is even possible. We suggest that we wait until outcome of SMC HCS is completed; and if necessary, the Permittees be allowed to develop an interim hydrologic criteria within 18 months of permit adoption. Additionally, this requirement should only be applied to new developments and redevelopments that are subject to SQUIMP.
107	Page 53, Part 4, E. II. 1. (e)	Interim hydromodification criteria: As described in the comments above, the proposed requirement to maintain pre-development peak flow, volume and duration is infeasible, particularly on tight soils (i.e., soil types 1, 2 and 3). Please provide relief for these situations.
108	Page 53 II.1 (e)(2)	"Numeric Hydromodification Mitigation Criteria" – This sub-section does not specify which storm event(s) (recurrence interval) must be evaluated to be in compliance with the permit. Please clarify.
109	Page 53 II.1 (e)(2)	"Numeric Hydromodification Mitigation Criteria" – The interim Hydromodification criterion under sub-sections (1) and (2) should only be applicable to projects that connect to unlined drainage systems. Hardened downstream conveyance systems have no potential for downstream erosion. Please exempt projects that drain to hardened downstream conveyance systems.
110	Page 53, section f	Please change "... (18 months from the Order's adoption.)" to "...(18 months from the Order's adoption, or the date the Regional Board notifies the Permittees that the SMC is not proceeding with the HCS, whichever is greater.)
111	53-54 / Part 3 II .1.(e), (f), (g)	One of the difficulties in this NPDES section is determining the 2-year storm event. In the County of Ventura, rainfall intensity charts are based on 10-year, 25-year, 50-year, and 100-year storm events. Most design engineers and the public at large rely on the Watershed Protection District's rainfall intensity charts, which are provided for in the Hydrology Manual. The County of Ventura strongly recommends that the NPDES Permit storm events be based on available rainfall data that is provided by Watershed Protection District and secondly that the appropriate rainfall storm intensity charts contained in its Hydrology Manual. Secondly, generating storm hydrographs for isolated watersheds less than 50 acres is not common land development engineering practice. Most designers will compare the Q10-year undeveloped flows with the Q10-year developed flows and design that the excess or difference in the flows be contained onsite and either percolated into the ground or allowed to discharge at the Q-10 undeveloped flow rates. County of Ventura highly recommends that a practical and common sense methodology is used that is more in line with what land development engineers provide local agencies for hydrologic and hydraulic review.
112	Page 54, Part 4, E. III.1 (a)	Please change to "...shall require that during the ~~construction~~ design of a single-family hillside home... ""."Hillside home" should be defined as homes requiring grading on natural slopes that are 25% or greater, not 20% or greater. The current definition for a hillside in NPDES permit CAS004002 is a slope of 25% or greater.
113	54-55 / Part 3	Post construction BMPs cannot be required on any project unless it is through a discretionary permit process.

	III .2. (a) & (b)	The post construction BMPs would require a clear nexus for the need of such improvement. For example, most ministerial permits, such as a grading permit or a building permit, would not have the property owner stenciling offsite storm drains and putting up signage because there is no nexus for this. Additionally "conserving natural areas" is vague and arbitrary. There is not a clear standard that can be equally applied to all projects as the NPDES Permit requires. The NPDES Permit should omit and avoid subjective conditions and requirements that legally cannot be applied. Please limit this requirement to discretionary projects.
114	Page 53, section E.II.1(g)	The development of and implementation of Watershed Hydromodification Control Plans will be a lengthy, complex process. As written, Permittees must identify tributary classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream control, which will maintain the stream and tributary Erosion Potential at "1", unless an alterative value can be show to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur a result of flow increases from impervious surfaces. Six months is not enough time to secure consultant services, develop and implement the Plans. The time requirement for this provision should be changed from six months to at least one year.
115	Page 54 Part III.1(a)(1)	Please define "conserve" as it relates to natural areas?
116	p. 54 Part 4 E III 1 (a) (3)	The Draft Order requires each permittee shall require that during construction of a single-family hillside home, measures be taken to...Provide storm drain system stenciling and signage... Marking inlets at SFRs is not practical, they will likely be removed by the owners and there will be no realistic way to enforce this condition after occupancy. This will create much work with little improvement in water quality. Please delete 1(a)(3).
117	55-56 / Part 3 II .2. (a)	On projects under 50 acres, this approach seems extremely difficult since the rainfall data is not readily available for the methodology proposed by the NPDES Permit. As previously noted, generating storm hydrographs for isolated watersheds less than 50 acres is not common land development engineering practice. Most designers will compare the Q10-year undeveloped flows with the Q10-year developed flows and design that the excess or difference in the flows be contained onsite and either percolated into the ground or allowed to discharge at the Q-10 undeveloped flow rates. The Q10-storm data is readily available in Ventura County by the Watershed Protection District Hydrology Manual, which is based on rainfall data in the County of Ventura. Please justify 50 acres as the limitation between small and large projects.
118	Page 54 II.1(g)(2)(G)	Please provide definition or resources for "Goodness of fit criteria".
119	Page 55, Part 4, E. III.1(c)	Reduction from 100,000 sq. ft. (current permit) to 5,000 sq. ft. (draft permit) is extreme and overly burdensome in that it will result in the conditioning of essentially every industrial and commercial development project for the design and implementation of treatment control BMPs. Please change the requirement to **43,560** SF or **one acre for commercial and industrial developments**. In addition, these conditions should apply to stand alone projects where the developer has control over the site to implement the treatment control BMPs.
120	Page 55, III.1 (c)(2)	Please identify the types of facilities by SIC and NAICS Codes as proposed, including SIC Code 5511, which is the only difference in SIC category between "automotive repair shops" as regulated under the current permit, and the proposed "automotive service facilities" in this draft permit. Please cross-reference definitions of automotive

		service facilities and automotive repair shop.
121	P. 55 Part 4 E III 2 (a) (Post Construction Mitigation – Tiered Numeric Water Quality Design Criteria)	"Projects disturbing land areas less than 50 acres – Each permittee shall require that post-construction BMPs incorporate, at a minimum, a volumetric and/or hydrodynamic (flow based) treatment control design standards..." Same comment as comments made above. Please change to projects disturbing land areas between 1 and 50 acres.
122	Page 55, III.1(c)(1) (2) (3) & (4)	This condition should apply to stand alone projects where the developer has control over the site to implement the treatment controls.
123	Page 55, III.1.(c)(4)	SIC code 5812 used in the provision is outdated and no longer applicable. Please use the current NAIC codes.
124	Page 55, section c.6	The Draft Order states "street sweeping, catch basin cleaning and catch basin inlet excluders provide ongoing treatment controls for street projects." If this is a finding, please provide a reference or delete this provision.
125	Page 55, III.1(c) (7) –	Please use the current NAICS numbers instead of SIC.
126	Page 56, Part 4, E. III. 2 (a) (2) (B)	Ventura County has a high variety of rainfall intensities, please change to "...85th percentile hourly rainfall intensity for ~~Ventura County~~ local region;"
127	Page 56, Part 4, III. 2 (b) (1)	Hydrodynamic models can be continuously developed and improved and the selection should not be limited to public domain models. Please allow for other models to be used.
128	Page 56, Part 4, III. 2 (b) (1)	The requirement for developers with projects over 50ac to use HSPF or SWMM to evaluate their water quality impacts appears to be driven by water quality issues. HSPF is a continuous model that cannot be used to evaluate design storm runoff due to development without extensive work to develop a methodology for this. The use of these models requires complex modeling and data gathering efforts. There are only a few consultants in the County that currently have this modeling capability. The Watershed Protection District does not currently have enough expertise to do a thorough review of these models and would need ample time to develop it. Please explain exactly what goals are to be achieved through the use of these models and provide alternatives or the flexibility for them to be developed if there are less cumbersome ways to achieve them.
129	Page 56, III.3(a)(1)	To avoid confusion of definitions and intent please exempt residential zoning from these requirements.
130	Page 57, section 4	This section penalizes high-density, low impact urban redevelopment projects. Smart growth, in itself, is a best management practice. The desired goal should be to reward increased density, and discourage sprawl. This is not consistent with other sections of the permit that encourage low impact development. Please rectify this inconsistency.
131	Page 57, III.4.(c)	Asphalt and roadway surfaces have a limited service life and maintenance is a continuous, routine and ongoing

		effort to rehabilitate the surface as it weathers and ages. Rehabilitation projects overlay an existing road footprint and do not disturb additional area or natural earth. Further these projects are considered Categorically Exempt under CEQA and Categorically Excluded under NEPA. To require a higher standard for projects in the County of Ventura is an additional and unfunded requirement not anticipated by Congress when they approved the Clean Water Act or related amendments. Performing this ongoing maintenance does not present the opportunity to redirect flows to treatment with out changing line and grade. Please add "if it changes line and grade", or provide a definition for "impervious surface replacement" as an activity that changes line and grade.
132	Page 57, III.4.(d)	Are structures built as accessory to single family dwelling also exempt from redevelopment requirements? Those would include agricultural structures, detached garages and workshops, pool houses, etc. It should read as (d) "Existing single-family dwellings and accessory structures thereto are exempt from the Redevelopment Requirements."
133	Page 58, Part 4, III.5. (a)	Water quality control BMPs must be adequately maintained if they are to provide long-term water quality protection. Projects need to develop and implement a long-term operation and maintenance plan for water quality protection BMPs. Please change to: "...provide an operation and maintenance plan and verification of ongoing maintenance provisions for Structural and Treatment Control BMPs..."
134	Page 58, III.5	Operation and Maintenance plans for post construction BMPs should be required. Please create a "(b)" section stating: Each Permittee shall require all development projects subject to post-construction BMP requirements to provide a plan for the operation and maintenance of all structural and treatment controls. The Operation and Maintenance plan shall follow the Technical Guidance Manual Appendix D "Maintenance Plan Guidance" (or subsequent guidance manual) for each BMP component. The plan shall be submitted for examination of relevance to keeping the BMPs in proper working order. Where BMPs are transferred to permittee for ownership and maintenance, the plan shall also include all relevant costs for upkeep of BMPs in the transfer. Operation and Maintenance plans for private BMPs shall be kept on site for periodic review by permittee inspectors.
135	Page 58, section 5.a.1.B	Please clarify who the signed statement is submitted to and when it is submitted.
136	P. 59 Part 4 E III 6(b)(2) (Inadequate or Ineffective Post-construction BMPs)	"If the State/US EPA inspection identifies the implementation of post construction BMPs, but they are determined to be inadequate or ineffective...the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer." Please clarify that this means the State General Construction Permit "Permittee" and not the MS4 Permittee. Also, please clarify what is the baseline or standards and what expertise will be used to determine adequate and effective BMPs.
137	Page 59 Part 4, E. III 6. (b)	The Draft Order states "The State / U.S. EPA permitting authority may undertake the following actions for coordination with the post-construction BMP provisions of the State construction activity storm water general permit or individual storm water construction permits..." The intent of this section seems to be to make the developer and/or municipality responsible for the lack of direction and oversight by the State at development sites. The Regional Board has the ability to comment on CEQA documents, as do the municipalities, and the Regional Board receives much of the same documentation from the developers as the process unfolds and are

		able to comment on the appropriateness of post-construction BMPs, as do the municipalities. The time to make comments about the adequacy of these devices is early in the process. Please justify the need for this statement.
138	Page 59, III 6.(b)(2)	Please provide a list or reference of approved devices.
139	Page 59, section 7	To be "fiscally sustainable" means that sufficient funding must be collected in advance of construction to ensure that maintenance expenses will be funded from the interest of unspent funds in the mitigation bank. Please provide a provision that mandates the retention of sufficient funding to support perpetual maintenance needs.
140	Page 59-60, Part 4, E.1.III.7(b)(1).	The land use authority in cities allows them to define their own redevelopment districts. Any definition in the Draft Order must take note that it will not be consistent with the cities defined area. Please rectify this language.
141	Page 60, Part 4, III.8	Please provide additional information regarding this entire section, particularly the discussion of funding and waivers. It is unclear if the RWQCB would allow the use of mitigation funding to explore larger scale water quality projects without delaying development projects until mitigation site was effective. Many watershed and non-profit groups are already conducting planning for water quality projects. Please describe how the RWQCB envisions coordination with these groups. Also, the "waiver for impracticability" must be defined and guidelines must be developed for its implementation.
142	Page 60 Part 4, E. III.9(a)	It is not practical that an Inspection and Tracking System for Post-Construction Treatment Control BMPs be developed and implemented no later than 6 months from this Order's adoption. To develop a GIS-based system, populate and verify the data, and integrate into operations will require 24 months from this Order's adoption. Please allow for 24 months to develop this.
143	Page 61, III. 9 (a) (2)	This provision should apply only for City-owned BMPs. Private entities are required to have operation and maintenance plans and report annually on them. Please change the language to reflect this.
144	Page 60-61 Part 4, E.9 (B)	Please provide rationale on why are we tracking and reporting State WDID numbers the required electronic tracking system. Please provide clarification or drop unnecessary requirements.
145	Page 61, Part 4,E.1.III.10(a)(1) Interim Hydrograph Matching.	This requirement has already been declared infeasible in the comments under §4.E.1.II.1. Additionally, the nature of the County's hydrology method is to assume saturation and consequent runoff varies over the course of a significant rain event. The first-day runoff is 10% of the 4th day runoff. This begs the question, under which day of the storm are we to consider the hydromodification effects? Please provide clarification and rationale for this criteria.
146	Page 61, III.10 (2)	Please change to: (International BMP database, technical reports, and scientific literature, appropriate for Southern California geography and climate.)
147	Page 61, III.11(a)(1)	Please provide resources of local data required for pollutant removal effectiveness.
148	Page 62, III.11 (a)	Please provide a list of Regional Board approved devices.
149	Page 62, Part 4, E. III.11(a)(2)	An MOU is an unnecessary and inappropriate mechanism to delineate authority within a municipal organization. Please delete this requirement.
150	Page 62, Part 4, E. III.12 (a)	Please define "with immediate effect".

151	Page 62, section 12	It is not practical that the CEQA process be incorporated with "immediate effect" to consider storm water quality impacts as the Permit requires that the current process of reviewing discretionary vs. ministerial permits to be reviewed. Page 20 F.1 states 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. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes regardless of weather a permit is discretionary or ministerial, the Regional Water 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".* Please provide for a time line that allows for a Permittee to develop the necessary standards and objective criteria.
152	Page 62, Part 4, E. III. 12 (a)	Imposition of these thresholds as environmental issues results in inconsistencies between CEQA and this Draft Order. The result will be the elimination of Categorical Exemptions under CEQA. Furthermore, these thresholds do not distinguish between ministerial versus discretionary projects. Please rectify these inconsistencies.
153	Page 62, Part 4, E.III.12 (a)	This requirement is in direct conflict with many classes of categorical exemptions as provided for in the California Environmental Quality Act (CEQA), as it would require consideration and mitigation of "potential" storm water quality impacts for small projects that do not currently require such mitigation because they are not considered to have a significant effect on the environment. As proposed, this requirement would significantly extend the time necessary for permit processing, add to the applicant's costs to obtain a permit and inspection, and increase all such project's exposure to CEQA legal challenges. This section should therefore be revised to reflect existing CEQA legislation.
154	Page 63, Part 4, E.III.13	State law governs General Plan amendments and the obligations imposed on cities. If this is to be imposed, it should be done through legislative adoption. Please provide the legal justification for this requirement.
155	Page 63, Part 4, E. III.13 (a)	State Planning Law already requires that Conservation Elements address the conservation of natural resources, including "water and its hydraulic force", and that Open Space Elements identify strategies to preserve open space land, with corresponding benefits to water quality and quantity. Each general plan element must also carry equal weight and be internally consistent. It is therefore redundant to require storm water quality and quantity management considerations in Housing and Land Use Elements. Please rectify these requirements with existing State Planning Law.
156	Page 63, Part 4, E. III 13(b)	General Plan updates are already provided to the State Clearinghouse for distribution to related agencies such as the Regional Board, therefore it appears redundant to send additional copies directly to the Regional Board. Please delete this requirement.
157	63 / Part 4 F.	Recommend the following revision to the opening paragraph for the Development Construction Program: "*Sediment losses due to erosion may occur on construction projects that are unpermitted or on permitted projects that have minimal erosion protection. Sedimentation and siltation discharges from these sites may impact the beneficial uses of downstream watercourses and may detrimentally impact biological systems and water quality. The use and implementation of proper BMPs and the issuance of a building permit and/or grading permit from the local agency with proper inspection has been found to be the most effective at minimizing sedimentation and siltation discharges that may adversely impact downstream watercourses. For these reasons the following recommendations are proposed for a local agency to incorporate with active land development construction*

		projects."
158	63 / Part 4 F1.	Please revise the title of this section from "1. Grading Prohibitions" to "1. *Recommended* Grading *Restrictions*". Granting of a grading permit is within the government land use powers of the local agency. The RWQCB does not issue grading permits and therefore the MS4 permit should refrain from creating or implying they have such permitting powers with the phrase "grading prohibitions."
159	Page 63, Part 4, F. 1. (a)	Active sites with properly designed and constructed detention basins will effectively have no discharge and should be exempted from this requirement. Please exempt sites with properly designed and constructed detention basins.
160	Page 63, Part 4, F. 1. (a)(1)(A)	Grading prohibitions: "On hillsides with slopes 20% or steeper prior to land disturbance." Please clarify how large an area must be in the 20% or steeper terrain for grading to be prohibited. Grading of these areas during the wet season will not present pollutant runoff problems when effective BMPs are in place. More flexibility is warranted rather than a flat prohibition, since a complete prohibition could have more significant environmental impacts than allowing completion of grading. "Hillside" is defined in the current NPDES stormwater permit as a slope of 25% or greater. Please justify the change from 25% to 20%.
161	Page 64, Part 4, F. 1. (b) (1)	A project proponent should be able to apply directly to the Regional Board for a Grading Prohibition Variance. Additionally, any variances granted by the Regional Board should become the Regional Board's responsibility for inspection, enforcement, and liability if BMPs are determined inadequate. Alternatively, if the Permittees hold all the responsibility for proposed BMP effectiveness, inspection, enforcement and liability, then they should be given the authority to grant the Grading Prohibition Variance, which makes sense because grading permit are a land use entitlement granted by the local agency. Please amend the Draft Order to reflect one of these options.
162	Page 64 Part 4, F.2.	"Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites (see the following Table 6)..." It is unclear whether the BMPs in Tables 6, 7, and 8 are to be implemented in their entirety, or whether they serve as a menu of possible BMPs for certain site conditions, at the discretion of the city of State staff. Please clarify this and add titles to the tables.
163	64 / Part 4 F2. (a)	The Draft Order states "Where the Erosivity Factor (R) for the construction project is 50 or greater, erosion controls (erosion avoidance) will be the preferred BMP. This requirement is a burden on small projects that are less than one acre. This is not a common calculation and it is not used historically on any grading permit projects in the unincorporated County areas. Please allow an exemption for projects under one acre.
164	Page 64-66, Part 4, F. 2. (a), (b), and (c)	These sections require the implementation of the BMPs in Tables 6 through 8, however those table list duplicative BMPs designed to solve the same problems (e.g. six erosion control measures in Table 7). It is not intended that all these BMPs be used concurrently. Please change each section to read: "Each Permittee shall require the implementation of an effective combination of the following BMPS . ."
165	Page 63, F 1(a)	Please modify the sentence to read, "...construction activity at all construction sites requiring a grading permit within its jurisdiction."
166	Page 64, F.2(a)	Please include the erosivity factor "R" method of calculation as an attachment to the permit document.
167	65 / Part 4 F3. (a)	Recommend revising the wording to read: *"Depending on the project type and area, the applicant shall implement the appropriate Erosion and Sediment BMPs listed in Tables 6 and 7."*

168	Page 65, Table 6	Many BMP's list suggestions and/or recommendations as part of the BMP, but do not make them mandatory. Please clarify if the suggestions and recommendations in the BMP are to be considered mandatory for compliance with the permit.
169	66 / Part 4 F4. (a)	Recommend revising the wording to read: "*Depending on the project type and area, the applicant shall implement the appropriate Erosion and Sediment BMPs listed in Tables 6, 7, and 8.*"
170	Page 68, section 6. a. 1	This provision restricts paving and repaving activity to exclude periods of rainfall or predicted rainfall. Please define the percent likelihood criteria of predicted rainfall, e.g., "a 60% chance of rain".
171	67 / Part 4 F5. (a) (2) (A)	The owner's could use clarification. A better statement would *read "I, (owner's name), am the property owner and agree to implement and maintain the SWPCP or SWPPP as prepared by (name of engineer or architect) for the duration of my construction project. I further understand that my failure to provide adequate sediment and erosion control in accordance with the requirements of my grading and/or building permit from the Local Agency could lead to a stop work order and possible citation by the Local Agency and RWQCB. I further agree to grant access to my property to the Local Agency to conduct all grading and building permit inspections including the mandatory rainy season inspection to verify that I am implementing and maintaining the proper BMPs that my SWPCP or SWPPP requires."*
172	68 / Part 4 F5. (a) (2) (B)	Here is more wording that isn't necessary as part of the NPDES Permit. Recommend deletion of (i), (ii), and (iii). All that is needed is *"(B) The Local SWPPP or SWPPP shall be signed by the property owner or owner's representative/designee. If the Local SWPPP or SWPPP is being prepared by the Local Agency then the appropriate authority for the Local Agency shall sign the document."*
173	Page 68, Part 4, F. 6. (a) (8)	Please clarify with the following revision: "Cover the stockpiled "cold-mix" asphalt..."
174	69 / Part 4 F7.	Many local agencies may have a non-electronic permit tracking system that is just as effective as an electronic one. The data contained in such systems may have confidential information in it and privacy laws may apply limiting or excluding public access. Please explain the intent of requiring such a system on the local agency or delete the requirement for an Electronic Site Tracking System.
175	Page 69, Part 4, F. 8. (b)	During the building process, post construction BMPs may be exposed to some of the worst runoff they will encounter. No post construction BMP will be accepted as constructed in compliance with specifications unless it is cleaned and operational. This initial inspection must include an operation and maintenance inspection. Please strike the last sentence from this section.
176	69 / Part 4 F8. (b)	There are several types of projects that will not obtain a certificate of occupancy at the completion of the permit. Please amend to the following statement: "*Prior to the release of the grading permit or building permit, the Engineer or Architect of record who prepared the Local SWPPP or SWPPP, shall provide a letter to the Local Agency that states that all the temporary BMPs implemented by the property owner worked satisfactorily and will be removed by (date) and that post control devices will be in place and satisfactorily working by (date).*" The local agency is not responsible for post control devices on private property and the NPDES permit should not shift the burden for inspection or maintenance to the local agency. The burden should remain with the property owner and their engineer and architect.
177	Page 70, Part 4,	To avoid delays in the construction process while waiting for the State to respond to an NOI, permittees would

	F. 9. (a) (1)	prefer if proof of application for the CASGP for construction activities was required instead of coverage. Any projects that have not filed for under the CASGP would be subject to Part 4 F. 10. (b) and therefore be referred to the Regional Board. Please change to: "Proof of application for coverage under a State NPDES permit . . ."
178	Page 72, Part 4, G. 1.	Sewage system Maintenance, Overflow, and Spill Prevention, Response Plans: There is no reason to duplicate or add additional requirements for sewer systems when all collection systems are regulated by the SWRCB's General Waste Discharge Requirements for Sanitary Sewer Systems. We request that these requirements be removed. A compromise would be to insure that this permit contained the exact same language for these items as the existing WDR and NPDES permit for the wastewater treatment plants.
179	Page 72 Part 4, G. 1. (b)(1)	"Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4." Please delete exfiltration – there is no way to evaluate this.
180	Page 72 Part 4, G. 1. (c)	The Draft Order requires response within two hours to overflows for containment, upon notification. **This requirement is unenforceable**. For onsite wastewater treatment systems (septic systems), the Permittees do not have the authority or the right to enter private property in order to respond to or contain overflowing sewage within the timeframe indicated. Furthermore, the County does not have authority to contain overflowing sewage on private property. This requirement is impossible to implement, please delete.
181	P. 73 Part 4 G 2 (a)(b)	"Each Permittee shall implement and comply with the Development Planning Program requirements in part 4. E. and Development Construction Program requirements in part 4.F..." Only public improvement projects that individually disturb 1 acre or more of land and that change line, grade, or capacity of the facility should be subject to the hydromodification, LID, and post construction treatment requirements and requirements for coverage under the CAGSP. Please reword this section as such.
182	Page 73 Part 4, G. 2.	*Public Construction Activities Management* requires the implementation of all of the requirements of "Development Planning Program" and "Development Construction Program" for Permittee owned or operated construction projects. These requirements are impossible to implement, especially for common linear projects. Reducing the percentage of Effective Impervious Area to less than 5% of total project area for road project cannot be done because we cannot reduce the paved area (Effective impervious area) of the road, unless porous pavement is used, and this has been demonstrated as ineffective. Additionally, there is no space available within street right of way to build any of the (f) items for post construction BMP. An example is our sewer trunk line upgrades, where soil and pavement are being disturbed to perform the activity, but there is no way to retrofit infiltration devices to serve as post-construction BMPs. Please limit this requirement to the definition in the CAGSP.
183	Page 73, Part 4, G. 2 (c) (1)	Requirement for coverage under CASGP for construction activities "does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility." Long-term maintenance activities are not required by the SWRCB to get coverage under the CASGP for construction activities and that should not be required under this permit. Furthermore, Permits are issued for specific projects at specific locations, and can't be issued if "..1 or more acres of land are disturbed.... cumulatively as part of several projects involving a

		soil disturbance". "Several projects" could include many locations over an extended period of time. The language from the SWRCB is clear and this requirement should be removed from the permit.
184	Page 73 Part 4, G. 2.	*Public Construction Activities Management* requires the implementation of all of the requirements of "Development Planning Program" and "Development Construction Program" for Permittee owned or operated construction projects. In part, the requirements of these programs "shall be achieved by maintaining the project's pre-development storm water runoff flow rates and duration." Again, many city projects, especially linear projects such as road widening, cannot maintain the above cited condition; however, the increase in flow rate for this type of project is insignificant. Please delete.
185	Page 74, Part 4, G. 3	Permittees would prefer to maintain flexibility in BMP selection from other sources than the Caltrans Stormwater Quality Handbook. Please allow for other sources of BMPs, and please title the BMP Tables.
186	Page 76, Part 4, G. 3. (b)	Requirement for coverage under CASGP for construction activities "does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility." Long-term maintenance activities are not required by the SWRCB to get coverage under the CASGP for construction activities and that should not be required under this permit. Furthermore, Permits are issued for specific projects at specific locations, and can't be issued if "..1 or more acres of land are disturbed.... cumulatively as part of several projects involving a soil disturbance". "Several projects" could include many locations over an extended period of time. The language from the SWRCB is clear and this requirement should be removed from the permit.
187	Page 76, Part 4, G. 5 (a) (5)	It is beyond the scope of the Permittees' authority to require any public agencies not named in this permit to comply with any section of this permit. This requirement should be removed from the permit.
188	Page 76, Part 4, G. 5 (a) (7)	Entirely eliminating the use of pesticides is a noble goal, but public health and safety must come first. Additionally, the authority to determine if a pesticide is legal to use lies with the California Department of Pesticide Regulation. Please change to: ". . .and timelines with the goal of reducing and ultimately eliminating the use of pesticides . . ."
189	Page 77 Part 4, G, 6. (a)(1)	This provision is in conflict with the provision on page 78, section (e) (1) to install catch basin excluders on all storm drain inlets. If five-millimeter trash excluders are placed over all inlets, trash and debris will not enter, and the inlets will not need cleaning on an increased basis. Requiring additional catch basin cleaning under these circumstances would divert financial resources away from other BMPs that could have a more positive impact on water quality. Delete the provision for prioritization of catch basin cleaning. Not withstanding, any catch basin cleaning requirement should be to inspect and clean if necessary.
190	Page 78, Part 4,G, 6 (a)(3)	Please revise as follows: "...Permittees shall ensure that any catch basin that is found to be 25% full of trash and debris shall be cleaned out."
191	Page 78, section b.1.D	The five-millimeter trash excluders will stop all litter from entering the storm drain. Please rectify the cleaning of catch basins after public events with the trash excluders requirement.
192	Page 78, Part 4, G, 6 (c)	Trash receptacles at all transit stops and schools: Six months is insufficient time to accomplish this requirement. Locations must be determined, specifications must be developed, the project must be bid, etc. We request one year to implement this requirement.
193	p. 78 Part 4 G 6 (c)	Trash receptacles for schools should be the school's responsibility and included in their NPDES permits. Also, as noted, a trash TMDL is being written for the 303 (d) listed waterbodies in Ventura County with expected adoption

	Public Agency Activities – Trash Receptacles	by the end of 2007. This requirement should be placed on hold pending the outcome and solutions required in the trash TMDL. Other stakeholders, such as school districts, will be listed in the Trash TMDL.
194	Page 78, Part 4,G, 6 (e)	A trash TMDL is being written for all the waterbodies impaired for trash in Ventura County (Beardsley Wash and Revolon Slough reaches of Calleguas Creek, and the Ventura River Estuary) with expected adoption by the end of 2007. Any requirement for trash excluders should be placed on hold pending the outcome and solutions required in the trash TMDL. Current TMDL work is being conducted, including monitoring of these areas to come up with the best solution to solve the problem. Only the watersheds that have been listed as impaired for trash on the 303(d) list of impaired waterbodies should have specific trash requirements. Those requirements should be made through the TMDL process and the method of compliance determined in the implementation plan. Regional Board staff, through the trash TMDL process, has defined the size of "trash" as five-millimeters to Ventura County Permittees. Existing catch basin inlets have been engineered to accommodate the projected flows within a defined drainage area. If five-millimeter excluders are placed in front of the inlets they will reduce stormwater flows into the inlets, causing extensive localized property damage and unsafe conditions on public streets. To protect public safety and private property from flooding, and the Regional Board from liability this requirement should be removed. Installation costs have ranged from approximately $1,000 to $3,000 per inlet. Countywide, Ventura County Co-Permittees have 10,000 to 15,000 storm drain inlets. Capital costs to implement this provision could range from $10 million to $45 million for the Ventura County Co-permittees. These costs do not include annual maintenance, cleaning, replacement costs of damaged excluders, and emergency responses during storm events. Permittees' limited funding should be better focused on Ventura County's pollutants of concern, of which trash is not one. Ventura Permittee research indicates that Glendale and Rancho Palos Verdes have initiated very small pilot programs (28 and 79 inlets, respectively) to test excluders meeting the five-millimeter criteria. These pilot programs, initiated due to a trash TMDL, are currently underway and final assessments have not been made. The impacts of flooding and bacterial regrowth are not fully understood. A countywide requirement for this is premature until these studies are complete. Notwithstanding, it will not be financially and physically possible to meet this requirement in 180 days. It is doubtful that a manufacturer could even build the required number of inserts in that time. Adding in the time necessary to acquire funding, select a design, bid the job and install the excluders it would be monumental to complete this by the end of the permit cycle. Please allow the TMDL process underway to address the impaired waterbodies.

195	Page 79 Part 4, G, 6. (f)(1)F	This provision requires the quantification of the amount of materials removed during open channel maintenance using "standard measures". The term standard measures may imply that each truck load of sediment, tumbleweeds, or other debris will be weighed. Most jurisdictions do not have weigh scales for trucks, nor would it be a cost-efficient or a beneficial action to improve water quality. Current practice has been to use "best estimates" based on what a typical hauling vehicle carries, visually determining the proportion of the vehicle filled, and the number of truck trips. Delete "...standard measures" and replace with "best estimate".
196	Page 79 Part 4, G, 6. (g)(3)	"Any residual water within a treatment control BMP when being maintained shall be:...". Some treatment control devices or BMPs are meant to keep a certain level of residual water to function properly. Additionally, some areas, especially those with high water tables, may have a constant, albeit low, flow entering the device. It would not be possible to constantly remove the incoming water. Please delete this requirement or rewrite addressing the design and inputs to the BMP.
197	Page 80 Part 4, G, 6. (g) Table 10	Please cite the source of these numeric limitations and the rationale for applying them.
198	Page 81, Part 4,G, 8 (a)	Coverage under the CASGP for construction activities should not be required for projects that are performed to maintain or restore original line, grade or capacity. Please justify how roadside maintenance "vegetation removal" would be covered under the CASGP for construction activities. This requirement needs to be removed or revised.
199	P. 81 Part 4 G 10 Public Agency Activities – Municipal Potable Water Supply System	We object to this requirement. Permittees that operate a potable water system should not be burdened with a requirement (NPDES permit) that does not apply to private water purveyors and water districts. The total gallon per year figure is unrealistically low. System flushing of a hydrant can be 2,000 - 6,000 gallons per minute. To flush one hydrant can take 15 to 30 minutes. 30,000 - 60,000 at the first hydrant. When flushing a service area, you could easily be looking at 30 hydrants. This does not include flushing after every shut down for repair. Further, hydrant flushing is required by the State Department of Health Services and no flushing will compromise public health. Section G.10 Footnote 1 requires Municipal Potable Water Supply Systems to obtain coverage under the Regional Water Board NPDES Permit No. CAG674001 if the discharge is greater than 100,000 gallons per year. This general permit specifically regulates the discharge of Hydrostatic Test Water. Please explain how this general permit applies to nonspecific discharges from a municipally owned potable water system. Also, please justify how the 100,000 gallon per year figure was derived and provide justification for regulating the discharges of potable water that is greater than 100,000 gallons per year.
200	Page 82, section 11	This section does not take into account the variety of common water system leaks associated with aging infrastructure. Emergency leaks occur on aging water service pipes and distribution system pipelines and are common to all water systems. The enormous quantity of these types of repairs throughout California will generate immense self-waiver reporting submittals beyond the Regional Board's ability to keep track of the files. Please delete this provision.
201	page 82 (Part 4 G 11)	In the wake of an emergency a large effort will be put forth to return life to normal. Please allow for a longer time period to document water quality impacts in the aftermath of an emergency, 30 calendar days would be preferred.
202	Page 82, section 12	This provision requires the training of employees and contractors within six months of the permit adoption. Current practice is to train employees once each fiscal year. Requiring training within six months, and then

		annually thereafter, will reset the training year six months away from the permit year. This will complicate reporting and lead to confusion. Please delete "6 months from permit adoption" and replace with "12 months of permit adoption."
203	Page 83, section H.1.b	This provision requires the Permittees to "...map at a scale...incidents illicit connections and discharges on their baseline maps. Please clarify the time period of illicit discharges and connections to be mapped.
204	Page 84, Part 4, H. 3. (a) (1) (A)	Permittees can only be responsible for infrastructure under their control. Please change to: "A GIS layer showing the location and length of **Permittee-owned** underground storm drain pipes...." This provision also requires the Permittees to submit a GIS layer of the Co-permittees' storm drain system. It is highly unlikely that different GIS systems will speak to each other. Each jurisdiction has a separate, stand alone system. To be effective, the GIS storm drain system must reside within the local jurisdictions GIS system, not the Principal Permittee's. Please rewrite this to: "...A hardcopy of the co-permittees GIS layer..."
205	Page 84, 3 (a)1a	This requires that a GIS database be created showing every drainpipe in Ventura County over 18". It also requires showing all of our channels within the county on a GIS database. There are over 500 miles of channels (roadside ditches) in Ventura County, some of these are partially owned and maintained by the adjacent property owner. There are also numerous drainage pipes and channels in the unincorporated area that were not accepted by the Board of Supervisors when offered by the developer, and therefore not owned and operated by a Permittee. There are public drainage easements for them, but they are not the responsibility of a Permittee to maintain or repair. This action was consistent with the California Subdivision Map Act, and the authority of the Board to accept or to reject public improvements. It is not clear whether these pipes would be counted or not, or who would be assigned the responsibility for NPDES compliance in these areas. Please provide clarification that is to apply to drainage systems wholly owned by the permittees.
206	Page 84, 3.a.1.B	This provision requires Permittees to notify the Principal Permittee of the status of suspected, confirmed, and terminated illicit connections. This action does not improve water quality. The Principal Permittee is not an enforcement arm of the Regional Board, please justify the need for this reporting requirement.
207	Page 84, Part 4, H. 3. (a) (2)	Field screening was performed by Permittees during the term of the first permit and was determined to be an inefficient use of resources considering the time spent and the limited number of illicit connection discovered. This requirement should be removed from the permit. Please provide the justification for requiring an even more rigorous field screening program during the third permit cycle.
208	Page 85, Part 4,H, 4 (a)	The Draft Order states illicit discharge investigation: "...shall take formal enforcement action to eliminate the illegal discharge." Enforcement actions may only be taken when we know, without a doubt, who the responsible party is. This isn't known in many cases. Furthermore, formal enforcement actions aren't necessary to resolve most illicit discharge incidents. Permittees should be allowed some discretion in code enforcement situations. This requirement should be deleted.
209	Page 85, Part 4, H. 4. (b)	In many cases of illicit discharges, even with immediate response, the action and discharge have ceased by the time inspectors arrive on scene. Often the discharge has entered into the MS4 making containment and cleanup an extraordinary effort only necessary in the cases of hazardous materials. Please change to: ". . .with action to abate, contain, ~~and~~ or clean up all illegal discharges, including hazardous waste."

210	Page 86, Part 5, 1.	Notwithstanding the objection to this requirement, the index of biological integrity (IBI) alone should not be used; if there are invasive species such as New Zealand mud snails affecting species diversity a segment will be scored very poor even if it has high water quality. Additionally, the Southern California Index of Biological Integrity should not be applied to ephemeral or effluent dominated streams as it was developed for upland perennial streams.
211	Page 86 Part 5, 2	"The Permittees shall develop ERPs for all Watershed Management Areas' (WMA) stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring" Please provide a definition for the term "stream segments".
212	Page 87 Part 5, 3	"The ERPs shall include the following Restoration Principles:..." The requirement section of the permit, complete with "shall" language should include requirements, not principles. Please delete.
213	P. 88 Part 6 – TMDL	All TMDL language in the Ventura MS4 permit should reference or quote the language in the adopted TMDLs and related adopted Monitoring Plans. The TMDLs that have been developed in Ventura County underwent significant technical analysis, stakeholder input, and public review to develop wasteload allocations and implementation actions that will result in compliance with water quality objectives for the listed pollutants. The TMDLs also lay out direction for how to implement the TMDL provisions into NPDES permits. Rather than following the direction of the TMDL and including identified implementation actions, the Draft Order includes numerous additional requirements and does not appropriately capture the intent of the TMDL. The Draft Order needs to be consistent with the TMDLs to allow for effective implementation of TMDL requirements and to prevent confusion and additional costs for programs that have not been evaluated as part of the TMDL process and may not be effective for implementing the program.
214	Page 88 Part 6 Issue:	There are additional requirements under the TMDL provisions that go beyond approved implementation plans developed by responsible parties. The Malibu TMDL provisions require that there be no discharge from the MS4s during dry weather. This is not prescribed in the TMDL nor a part of the implementation plan. It is also impracticable because there are contributions from outside the permit coverage area, other permitted NPDES discharges such as underground utility box dewatering and water line flushing, as well as natural contributions to MS4 flows. Additionally, requiring specific monitoring under the TMDLs for bacteria and toxicity undermines the collaborative watershed process. Other responsible parties will be disinclined to participate or contribute if the monitoring responsibility is required of another party. Please remove all prescriptive TMDL language and allow the stakeholders as a group to guide the process.
215	Page 88 Part 6 – Provisions	A continuing problem in TMDL development and implementation is to achieve the participation of responsible parties. Special Districts, State Agencies and agricultural entities often will not participate, and the Permittees have no legal means to force compliance. Add to the second paragraph: The Regional Board shall initiate and continue efforts to bring State agencies, Special Districts, agricultural interests and other responsible parties into TMDL development and implementation for which they are responsible.
216	Page 88 Part 6, 1(a)(1)	"Prohibition: Permittees ... shall conduct field screening of their storm drain systems..." Please explain why this is a prohibition.
217	Page 89, Part 6, 2. (a)	Malibu Creek Bacteria TMDL, WLA Implementation (field screening for illicit discharges): This requirement, which will require substantial time, effort and funds, is not part of the Implementation Plan for the Malibu Creek bacteria TMDL. The Implementation Plan was submitted to the Regional Board on January 24, 2007. There is no

		justification for placing a higher implementation burden on only a few of the TMDL's Responsible Parties. This requirement should be deleted.
218	Page 89 Part 6, 1(a)(1)(A)	The Draft Order states "All portions of the storm drain system consisting of storm drain pipes and open channels/ drains 12 inches in diameter or greater within 5 years after the adoption of this Order." Please define what size open channel. Additionally, field screening procedures in the reference document apply to waters of the U.S.; please clarify if this is the State's interpretation.
219	P. 91 Part 6 3 TMDL	Need to include "City of Oxnard" as an MS4 permittee which is listed as a responsible party in the Calleguas Creek – Toxicity, Chlorpyrifos and Diazinon TMDL.
220	Page 95 definition Areas subject to storm water mitigation	Areas Subject to Storm Water Mitigation Requirements: This definition is in conflict with the stated requirements. California Resources Agency was asked to participate in identifying areas subject to ESA and gave no response. Regardless, this term is not used elsewhere in the permit, please remove.
221	Page 96, Definitions Construction	Construction: "Construction also includes...routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility;..." Definition needs to be revised to exclude projects that are performed to maintain or restore original line, grade or capacity. Also, please explain "greater than 5 acres but not necessarily at once" and include justification for this requirement. "...not necessarily at once" could potentially cover a lengthy period of time (years). Additionally, the phrase "....or any other activity that results in land disturbance" encompasses far too many activities to be reasonable or practical. For example, the definition, as currently stated, would make putting in a small vegetable garden or flowerbed at a home a "construction" project subject to permit requirements. "....or any other activity that results in land disturbance" should be removed from the definition.
222	p. 97 Part 7 Definitions	"Development – means any construction rehab. redevelopment or reconstruction of any public or private residential projects (whether single-family, multi-unit or planned unit dev.); industrial, commercial, retail and any other non-residential projects, including public agency projects; or mass grading for future construction." Requiring these conditions on small home improvement projects is excessive and does not provide relief for the hardship of rebuilding a home after a fire or other catastrophe. Please provide a single family exclusion or redefine development project to exclude single family residences.
223	Page 97, Definitions	Dechlorinated/Debrominated Swimming Pool Discharge: "The term does not include .....swimming pool water containing bacteria." Does this mean any type of bacteria, at any concentration? This definition needs substantial revision.
224	Page 97, Definitions	Discharge of a Pollutant. Please define the meaning of "conveyance" in the context of this permit.
225	Page 97, Definitions	Disturbed Area: "..ect..." does not belong in a definition. Please clarify.
226	Page 98, Definitions	Environmentally Sensitive Areas: Need to limit the RARE areas to "unimproved drainage systems" or "Natural Drainage Systems" (as defined in the permit) so that we don't have concrete channels designated as an ESA.
227	Page 98, Definitions	Hillside: Should address grading on natural slopes that are 25% or greater, not 20% or greater. The current definition for a hillside in NPDES permit CAS004002 is a slope of 25% or greater. Please justify the change from

		25% to 20%.
228	P. 98 Part 7 Definitions	"Horse Stable" – Please exclude single-family residences from this definition.
229	Page 102, Definitions	The Definition of "Open Channel" is not clear: "Open Channel means a storm drain channel that is not a natural water course." This definition would include underground box (enclosed) channels. Please revise this definition.
230	P. 103 Part 7 – Definitions	"Permittee" – line three should be corrected to read "...include the Ventura *County* Water*shed* Protection District..."
231	Page 103, Definitions	Point Zero: Please clarify " ...the point at which water from the storm drain or creek initially mixes with water."
232	Page 103, Definitions	"Potable Drinking Water Supply" and the following definition of "Potable Drinking Water Supply Releases" are defined with exactly the same language. The definition is incorrect for "Potable Drinking Water Supply". Please rectify.
233	Page 105 Part 7, Runoff	"**Runoff** – means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. It is typically comprised of nuisance flows contaminated with pollutants." To define runoff in such a manner is bound to cause confusion. Runoff usually refers to storm water flows, eventually collected under an MS4 scenario. Dry weather flows should be handled with separate terminology – delete from this definition. Additionally, receiving water is not defined, and should be added to the definitions section. Please provide clarification.
234	Page 110 Definition	"Watercourse" Please remove references to VCFCD and change to VCWPD.
235	Page 111 section B, 1 (a)	Some items may necessitate review and/or approval by a local governing body to authorize a petition. This local action may consume more than 30 days, not counting time spent for staff and legal review. Please change to 60 days for petition.
236	Page 112, section F.1.f.	This provision requires unlimited amounts of water quality monitoring, at any time, without cause. Please provide justification for this open ended requirement or delete this section.
237	Page 118 Part 8, T	"MS4 Annual Reporting Program" Including this language in the Standard Provisions will lead to confusion and potential conflict with the requirements of the monitoring and reporting program – Please reword or delete.
238	Page A-4	Delete Promenade Park Beach and San Buenaventura Beach from the Water Bodies column. They are not 303(d) listed.
239	Attachment C	MALs: The "Municipal Action Levels" (MALs) established in the Draft Order were computed based on an approach *recommended* by the by the California Water Board's Storm Water Panel in its report, "*The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Commercial Activities* " (June 2006). The State Water Board has yet to take any action upon this report or give direction as to how the recommendations are to be utilized in preparing NPDES permits. The MALs are enforceable limits (....two or more exceedences of a MAL will be ...considered a violation...), yet these limits have never undergone public review or been formally adopted by the State Water Board. The MALs should be removed from the permit.

240	Page C-1	These tables should be in the earlier section related to MALs.
241	Page F-1, section A.1.a	After several attempts to overcome the obstacles we have determined there are no suitable sites to measure flow and safely sample the Santa Clara River below Freeman diversion. The option of additional sites capturing Ventura and Oxnard is possible, but please reduce to 30% or multiple sites will be required for Ventura effectively tripling the costs to the program with providing little more information.
242	Page 112 Standard Provisions F.1	The Draft Order states "The Regional Water Board, U.S. EPA, and other authorized representatives . . . " Please clarify if the Permittees are authorized representatives, and if so, what was the mechanism that they become authorized representatives.
243	page F-2 , A.6 Issue:	Sampling only first three hours of an event does not accurately measure mass emissions. This deviates from past sampling protocols, in which flow-weighted composites were collected for the duration of the storm. If the purpose of past sampling was to establish baseline conditions, this new protocol will obscure deviations from that baseline. (Some constituents do not peak in concentration until later in storms.) Furthermore, it is unclear how the Program will mix time and flow requirements. Given the way runoff is generated in many watersheds in Ventura County, automatic samplers will be sampling almost non-stop for the first three hours of the storm, especially if QA/QC and flow-weighted toxicity samples are required. Please review this language and confirm that only the first three hours of a storm should be sampled.
244	page F-2, A.9 Issue:	Monitoring every 0.25 inch storm for TSS consumes valuable resources for questionable results. The relationship between TSS and pollutant loading has not been well-established, and with Ventura County's open space and agriculture-dominated watersheds the urbanized contributions of total TSS would be a very small part. Please provide background information on why this is needed. Also, we request a sunset clause for this parameter (similar to the one for other constituents listed in A.11) if it becomes statistically clear that TSS cannot be used to accurately predict pollutant loading and is therefore an unwise use of resources. Monitoring resources need to be focused on obtaining useful data for decision makers. Sampling every 0.25 inch storm is a significant increase in Program cost because it requires staff to be prepared for 10-18 sampling events per year. (This number is based on the range of 0.10" and 0.25" events over the past five years at several stations throughout the county.) The 0.25" trigger is also problematic in the Ventura and Santa Clara Rivers because they do not show a significant increase in flow from even a larger 0.50" rain event. Both watersheds are predominantly open space and agriculture. The first storm event in either watershed will produce very little change in stage and/or discharge. The 2004-2005 Event 1 (first flush) first storm event was forecasted for a 0.5 inch event. The Stewart Canyon Rain gauge recorded 2.00" for this event. The increase in flow was less than 0.2 ft, and just over 10 cfs. The following year first storm event of 2005/2006 had a similar stage change with a 0.5"rain event recorded at the Stewart Canyon rain gauge. Flow at the Santa Clara River mass emission station is typically diverted to the spreading groups as the increase inflow is minimal. A 0.5" trigger would be more appropriate for Ventura County due to the predominant open space and agriculture land uses. Another option is if turbidity could be used as a surrogate for TSS after watershed specific relationships have been appropriate established. This would provide relief because turbidity can be continually monitored onsite while TSS requires staff to perform sampling and laboratory analysis.
245	page F-4, B.1.a.	Using marine species to test toxicity of fresh water presents the opportunity for bias. The Ventura County

		Watershed Protection District has raised its concerns with the selection of marine test species for the chronic toxicity test organism in several annual report response letters, and during permit negotiations. Our concern in using a marine species in a fresh water sample is the samples requires the addition of salts and aeration to sustain the marine test organisms. This practice may bias the test and introduce a possible source of toxicity. The test species *Menidia beryllina* (silverside minnow) has been historically used in our NPDES Stormwater toxicity monitoring program. Unlike the *Strongylocentrotus purpuratus (*sea urchin*),* minnows are abundant and available to the testing laboratories. We have had several aborted toxicity tests due the analyzing laboratory not being able to obtain the urchin test organism or they failed to spawn.
246	page F-5, B.2 Issue:	The language used to describe need for TIE is confusing. In the past, toxicity units (TUa or TUc) above 1 triggered a TIE. It is unclear what is meant by "showing 90 percent or more toxicity." Does this mean when the survival rate drops below 90 percent? Or does it mean 100 percent minus the LC_{50}? Please explain further what will trigger a TIE.
247	Page F-7 C. Monitoring	Tributary monitoring program: Within the Calleguas Creek watershed, tributary monitoring will be conducted as a part of the TMDL compliance monitoring process. Further monitoring in the watershed is duplicative and a waste of funds. Furthermore, requiring only one of the parties named in the TMDL to do specific monitoring could upset the collaborative process that has been exemplarily in Ventura County.
248	page F-7 C.	The tributaries identified for study may not provide best stormwater program data. Please allow the Principal Permittee the flexibility to develop a tributary monitoring program that will provide quality data in order to meet stated objectives. Potential problems with the identified tributaries are the ability to accurately measure flow and major contributions from non-MS4 sources. Otherwise, provide detailed explanations on why each of these specific tributaries are to be monitored
249	Page F-9, section D	The Principal Permittee is not required to perform TMDL monitoring under the adopted TMDLs. Clarify that the monitoring is to be performed by the responsible parties for the respective TMDLs. Furthermore, requiring only one of the parties named in the TMDL to do specific monitoring could upset the collaborative process that has been exemplarily in Ventura County.
250	Page F-11, D. 2. Monitoring	Malibu Creek Bacteria TMDL: The discharge prohibition, monitoring and implementation requirements are extremely burdensome. The TMDL compliance monitoring plan was submitted to the Regional Board on May 24, 2006. The Implementation Plan was submitted to the Regional Board on January 24, 2007. There is no need, or justification, for including onerous monitoring and implementation requirements for TMDL Responsible Parties located in Ventura County in the draft Municipal Stormwater permit. These requirements should be removed, or revised to reflect the monitoring plan and implementation plan submitted to the Regional Board. Furthermore, requiring only one of the parties named in the TMDL to do specific monitoring could upset the collaborative process that has developed the TMDL Implementation and Monitoring Plans.
251	page F-15, E.5	There is conflicting language regarding requirements of bioassessment monitoring. This requirement conflicts with E.3 which states that bioassessment shall be conducted in "spring/fall." Furthermore, past bioassessment monitoring has been performed in the fall of each year. As mentioned in the comment for A.6, if these previous events have been performed to establish a baseline, switching sampling to spring will create a disconnect between upcoming and previous bioassessment monitoring due to different life stages of organisms and

		increased flows. Furthermore, the rationale for favoring spring or fall sampling is not well-established. Please explain why the sampling season has been changed.
252	Page F-17, F Issue:	This requires the Permittees to perform special studies to quantify pollution from non-MS4 sources. Trash and debris are a problem in urban runoff and the permittees are aware of their responsibility for controlling that problem. However, the trash and debris study has a focus on ocean beaches where the referenced study showed that the most abundant items were from overboard disposal from ocean vessels. The required study should be limited to only the inland waters and coastal waters where trash and debris monitored could be assumed from MS4 sources, and therefore provide useful information for the MS4 programs.
253	Page F-18 F. 2 (b)(6)	"Ormond Wetland/ Lagoon" – needs to be defined (February 1, 2003, *Comments on the Draft Strategy for Developing TMDLs and Attaining Water Quality Standards in the Los Angeles Region*; December 24, 2003, *Ormond Wetlands* meeting summary; August 10, 2004, *2004 Triennial Review* comments; February 9, 2005, *2004 Triennial Review* comments follow-up).
254	G.1 page F19	The Pyrethroid Monitoring requirement is unnecessarily comprehensive. It is not stated in the findings that Ventura County has a known problem with pyrethroids, so requiring an extensive study should be justified. This study is extensive because the potential number of sites required could be very large. For instance, in the years that tributary monitoring (pyrethroid monitoring follows same schedule and sampling stations) is performed on the Santa Clara River, there would be 3 major tributaries with 2-6 stations (6-18 stations total). Secondary tributaries (number undefined) would have 2-3 stations at outfalls (assuming 2-3 secondary tributaries, the total could reach 4-9 sites). Adding these up, the number of pyrethroid monitoring stations could be 10-27 sites. That could be an extraordinary large number of sites to sample in a single rain event. Additionally, this study duplicates much of the effort set forth in the alternative pesticides study required under the monitoring plan for the Calleguas Creek organochlorine TMDL. Please add pyrethroids to the Mass Emission constituents and eliminate this study until the need is proven by the data. Notwithstanding, Where activities required to be conducted for implementation of the other provisions of the order overlap with TMDL requirements, the two programs should be allowed to coordinate. Specifically, the special study required under the Calleguas Creek Toxicity TMDL to investigate the pesticides that will be used to replace diazinon and chlorpyrifos could be used to meet the requirements of the pyrethroid special study.
255	page F19 ,G.1	Not withstanding our objection to the Pyrethroid monitoring, its methods need clarification. The tributary monitoring schedule calls for dry- and wet-weather monitoring. The Regional Board also states that the pyrethroids insecticides monitoring shall coincide with the tributary monitoring programs' "schedule and sampling stations " Given that the Regional Board is prescribing that pyrethroid samples be taken "by skimming the upper 1 cm of the sediment column," it seems unlikely that this method of collection could be performed during wet events. Please review this sampling protocol or provide references on how sediment samples are to be taken in this manner during wet events?
256	page F-22 J.	The required contribution to Southern California Bight Project needs to be justified. Please provide the justification used to require Ventura County to participate in the Southern California Bight Project and an explanation of how the $250,000 amount (over $0.30 per Ventura County resident) was determined.
257	page F-24 L.6.(b)	An additional certification requirement on commercial laboratories above and beyond the California Laboratory

		Accreditation Program seems beyond the scope of the permit. The California Laboratory Accreditation Program certifies analytical laboratories for environmental analysis, and limiting the number of competing labs to those in the "intercalibration study" is creating a new accreditation program. It is also currently impossible to do for some constituents because the intercalibration study has not been developed for all the analysis required in this draft. At a minimum, a six month window should be available for laboratories currently used to participate in the study.
258	General Monitoring	Most analytical laboratories typically observe the three major holidays; Thanksgiving Day, Christmas Eve and Day, and New Years Eve and Day. During the holiday season, sample delivery as well as available staff have been and are problematic. Missed holding times due to lab closure compromise data completeness and will be considered circumstance beyond our control. To avoid this we are requesting the addition of three black-out dates for monitoring: November 22, 2007, December 24-25, 2007, and Dec 31, 2007 –January 1, 2008.
259	Deadline for annual report (Part 8 T) and (Attachment H) Page H-1	Two deadlines for the annual report are given, one the anniversary date of issuance (Part 8 T) and the other December 15th (Attachment H). No matter which date is correct, adequate time to compile the requisite information after the end of the permit year will be needed. We request a deadline six months after the end of the permit year.
260	Part 8 T	The reporting section is in a poorly designed format. This will increase staff time, for both the RWQCB and permittees, with little or no improvement in water quality. We would prefer to keep more to the current reporting format. Please change or provide an explanation for this new unique reporting format.
261	Page H-5 2.a-b	"prohibited all non-storm discharges" –Instead of just asking whether all non-storm discharges were prohibited, it should include language about non-storm discharges for which Permittees have authority to prohibit. Also, does prohibit. Please clarify if this means we implement ordinances prohibiting it or does it mean actually only storm water is allowed to enter the system. If it means the latter, the question is inappropriate since we know everyone will have to respond with a no.
262	Page H-6 2.i	"swimming pool discharges? If yes" – the sentence ends here and it looks like a portion is missing.
263	Page H-18 3.c (the 2nd c)	"An adjustment factor for within hour rainfall variability" Please explain this incomplete sentence.
264	H-19-20 7.a-h	Some of these are questions where they look like they should be something else. Please clarify if whether we are to have these on file or are these supposed to be attached.
265	Page H-4 4. (a) (1)	Specific watershed based implementation plans are being written and adopted for TMDLs. The responsible parties will be implementing these plans. Please explain the rationale for adding specific implementation requirements to only one segment of the responsible parties into this permit or remove. Tampering with ongoing watershed-wide collaborations risks upsetting the agreements that have taken a long time to develop.

Att..hment B - Specific Technical Comments for Ventura County MS4 Permit Draft Order 12/27/06

General Errors, Typos, and Omissions

Reference	Correction
Table of Contents Page iv	The Table of Contents is incomplete or missing pages.
P. 20 (Findings – Implementation)	Typo on 12th line – weather should be whether
P. 58 Part 4 E III 5	(C) and (E) appear to be the same statement – delete one.
Page 63 F.1 (b)	This paragraph references tables 5, 6, and 7 but tables 6, 7, and 8 follow.
Page 77 G 5 (a) (6)	"IMP techniques" correct to "IPM techniques"
Page B-1 and B-3	"Cooper" should be "Copper"
F. 10. (a)	Appears that reference to section F. 7. Electronic Site Tracking System actually should be referring to section F.8. Inspections.
Page i in the Reporting section H	The Table of Contents is incomplete or pages are missing.
Page H-6 Part 3	Missing "Part 3" designation before "Storm Water Quality Management Program Implementation"
Page H-7 Part 3 B. 3	"By what date certain" Remove the word "certain"
Page H-18 E 3. (a)	"Ho" should read "How"
Page H-20 E 7. (e) and (g)	#7 (e) and (g) are the same, delete (g)
Page H-20 E 10. (b)	"Does include the following" insert "it" "the electronic tracking system" between "Does" and "include"

Attachment C

Comparison of Discharge Characterization Data with Municipal Action Levels

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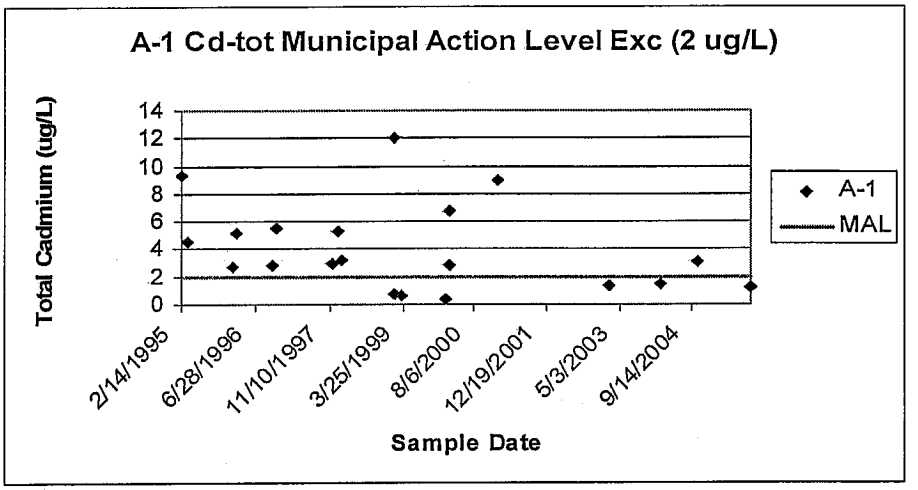

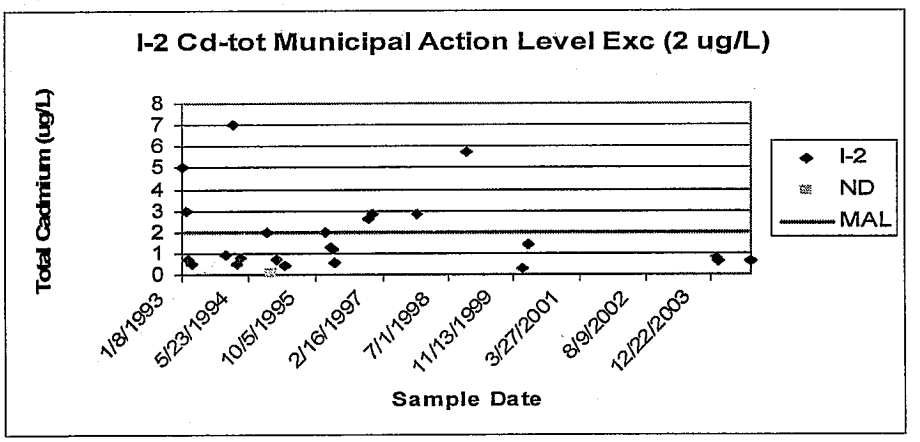

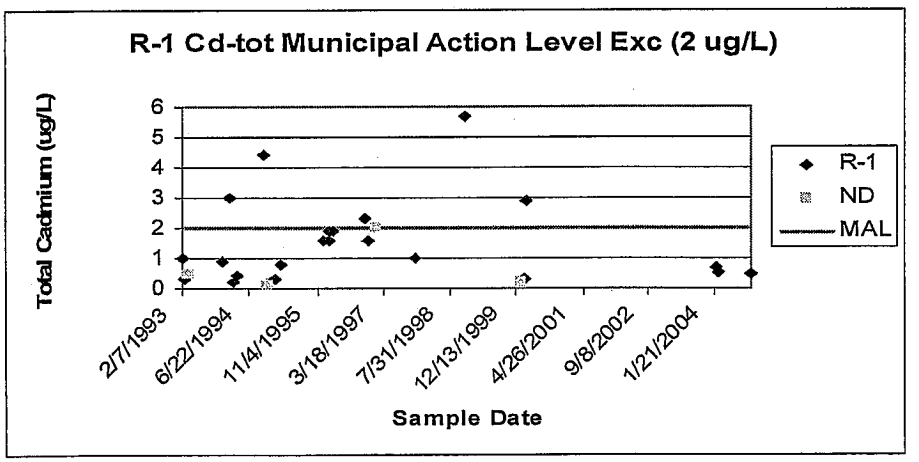

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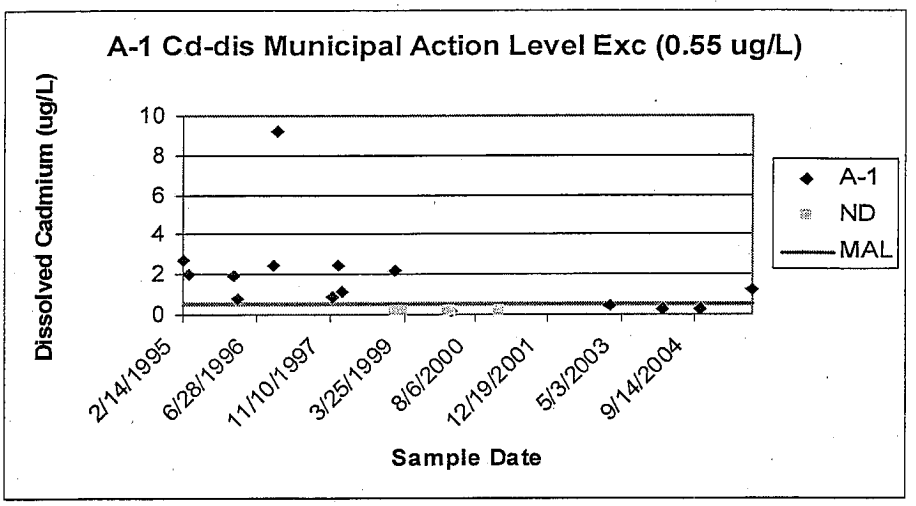

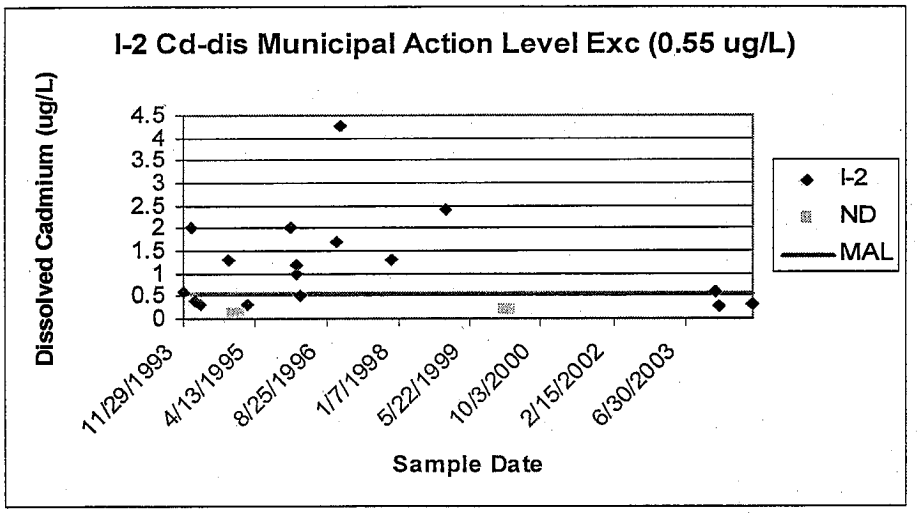

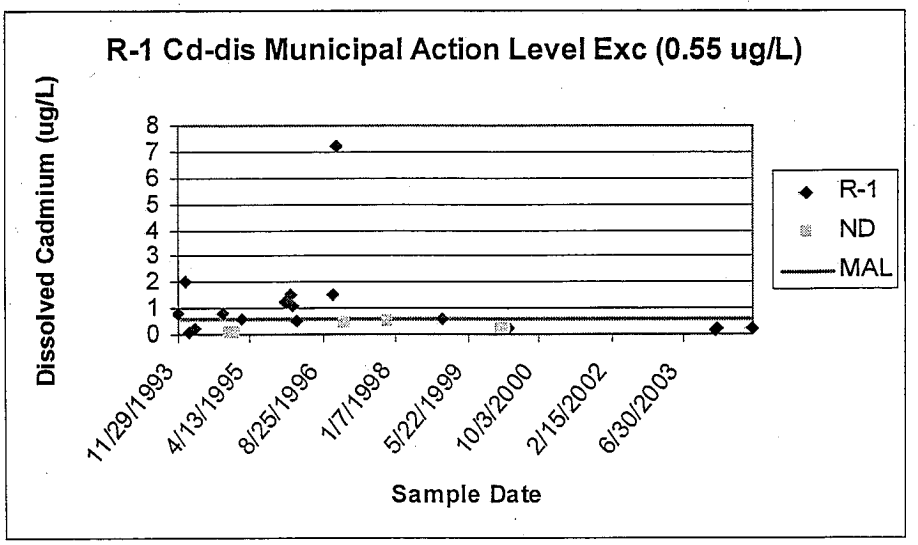

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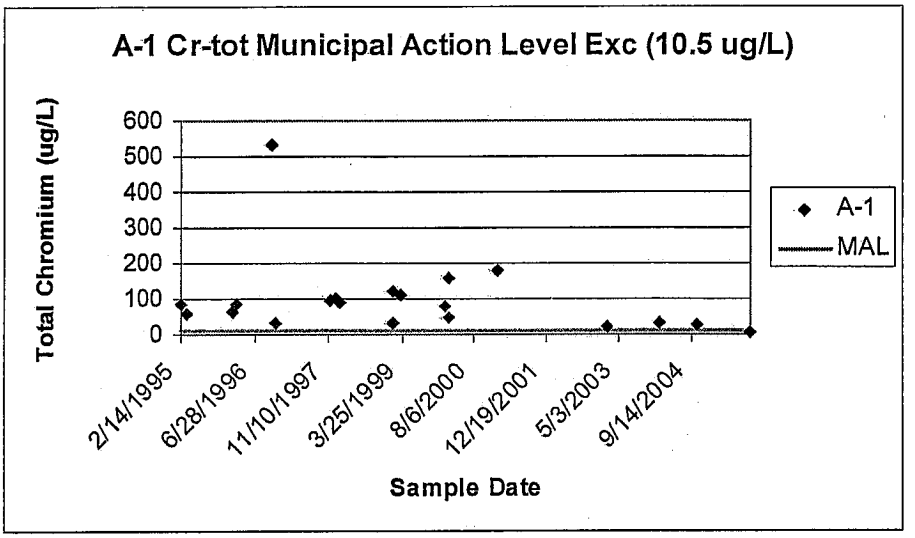

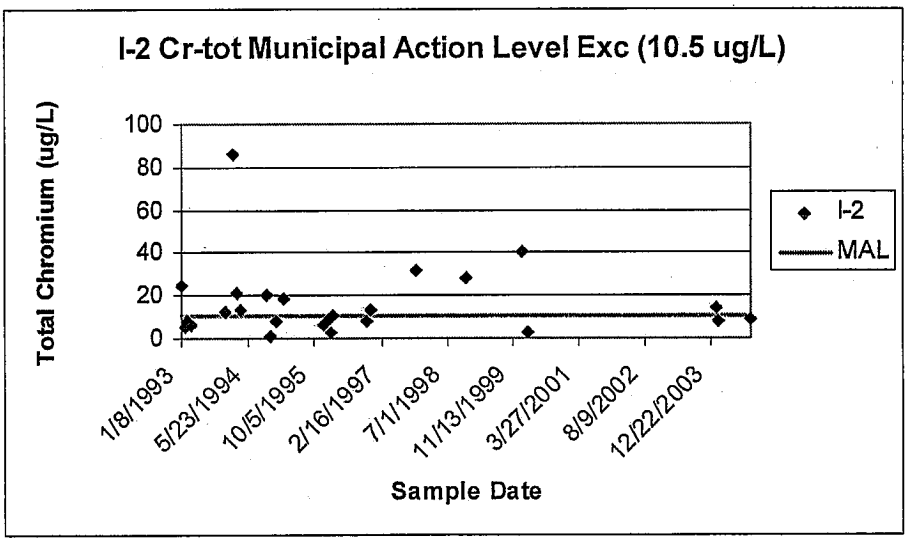

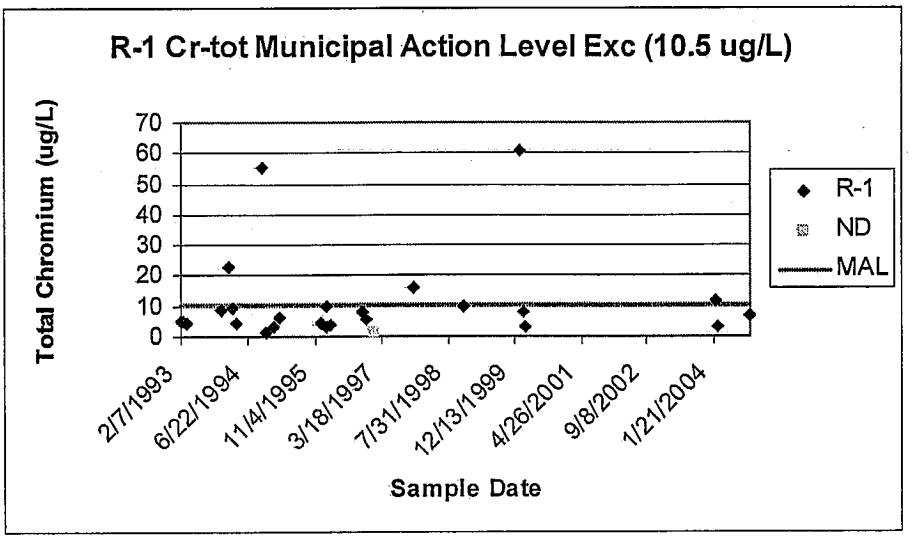

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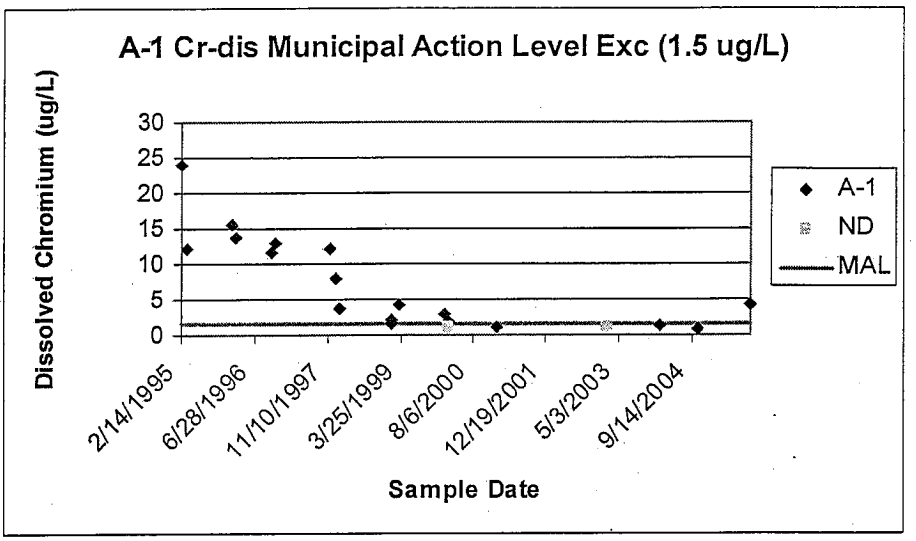

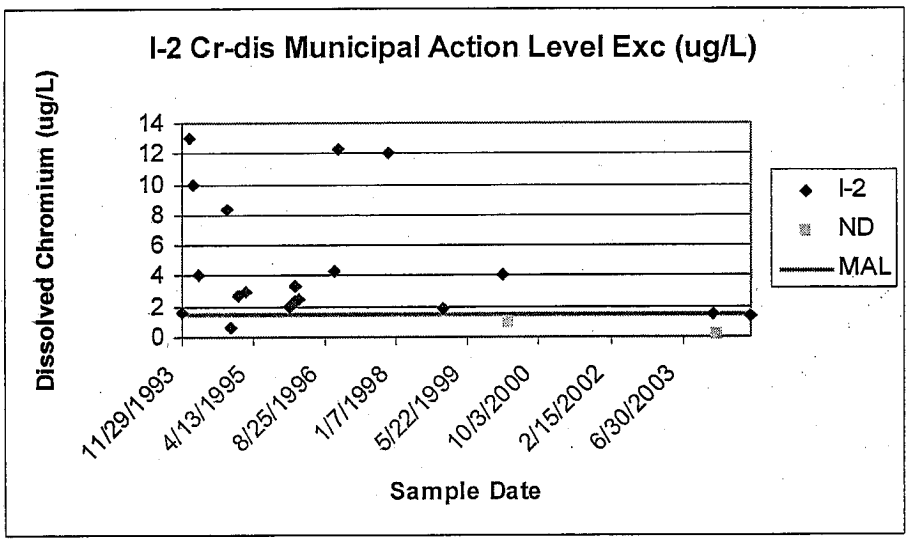

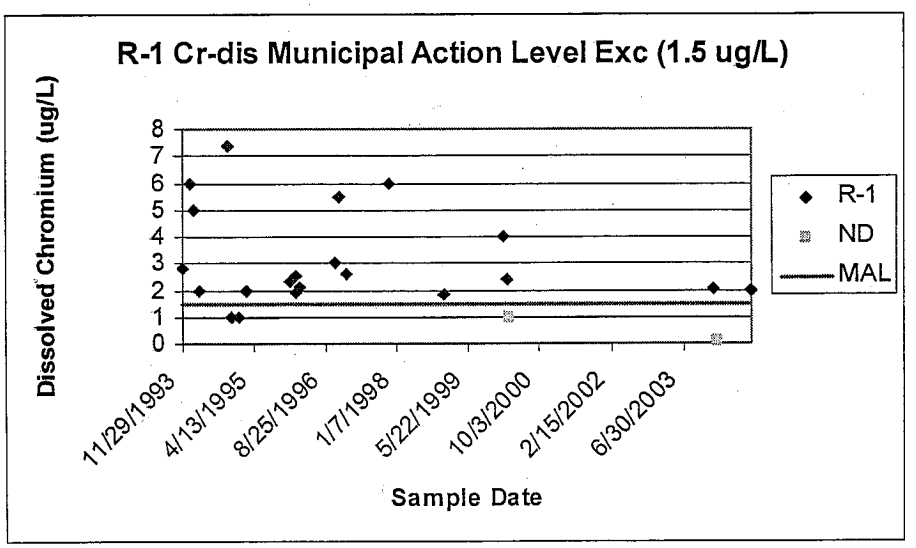

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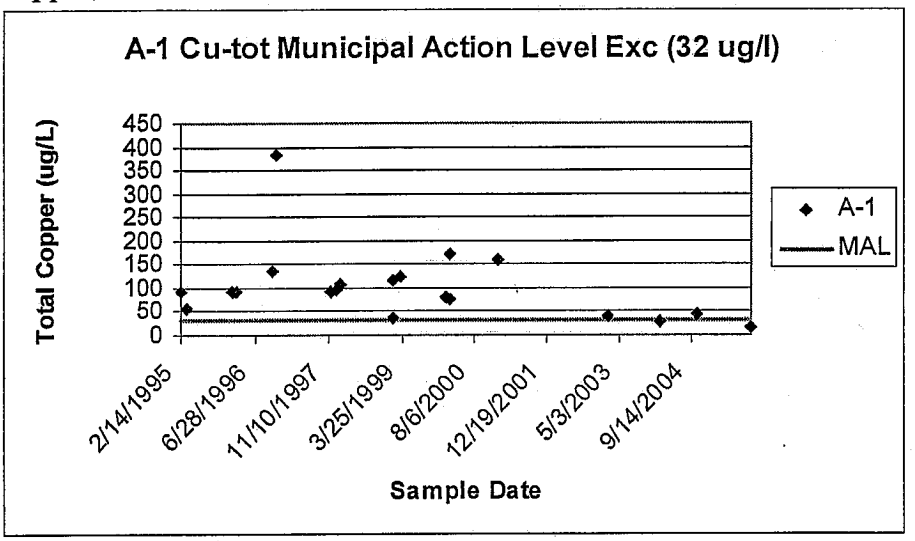

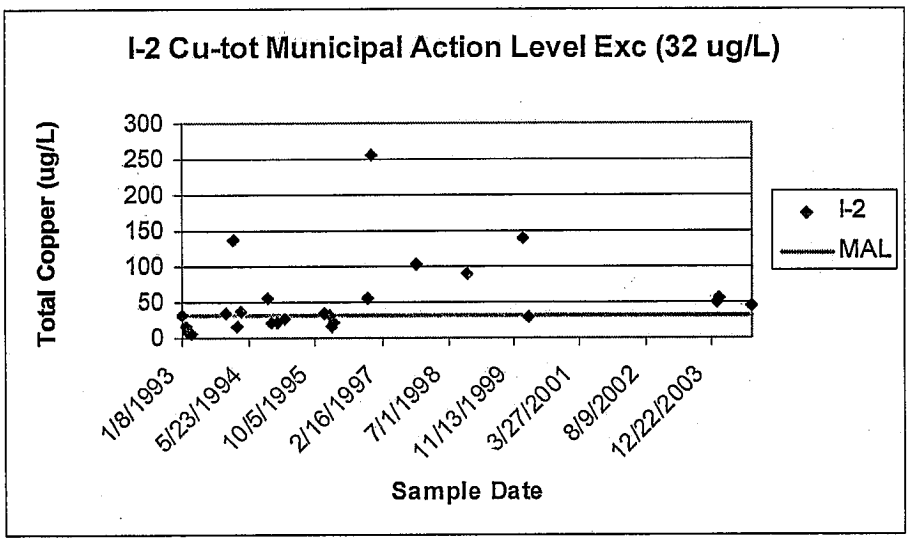

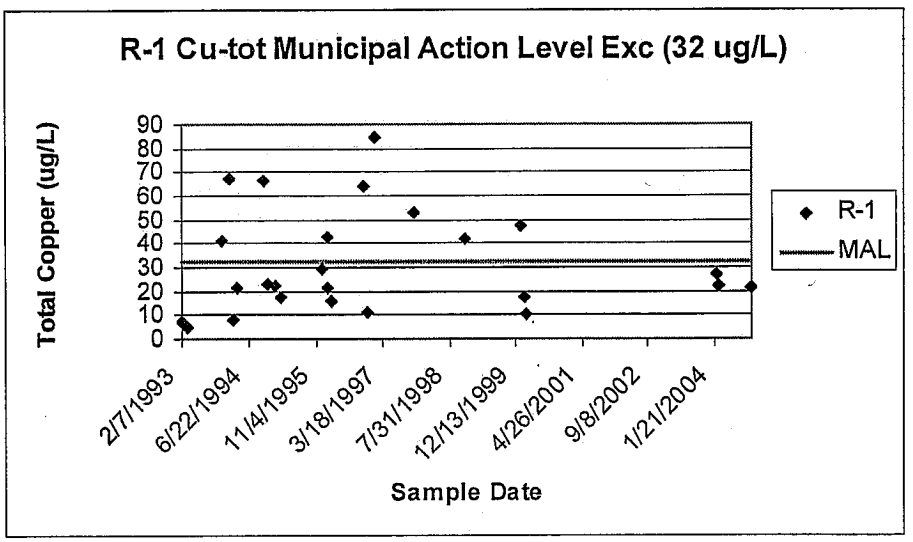

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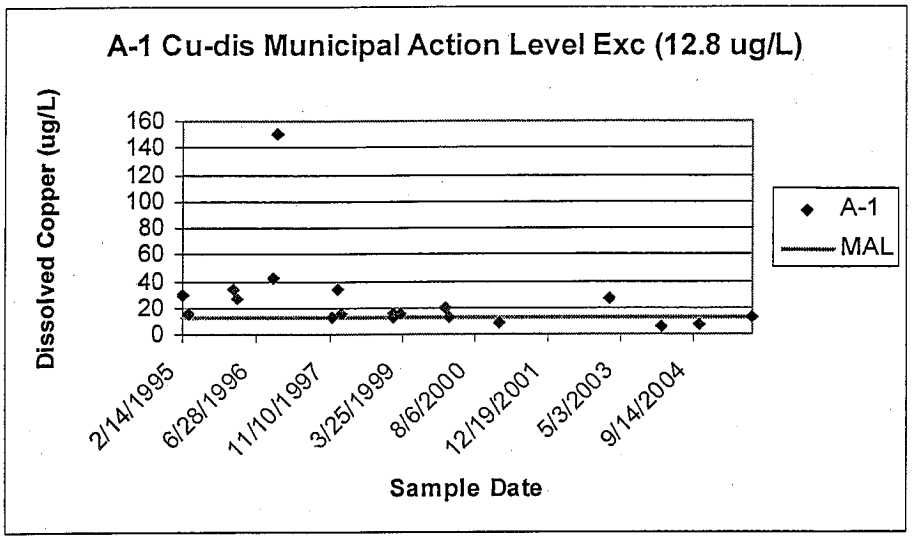

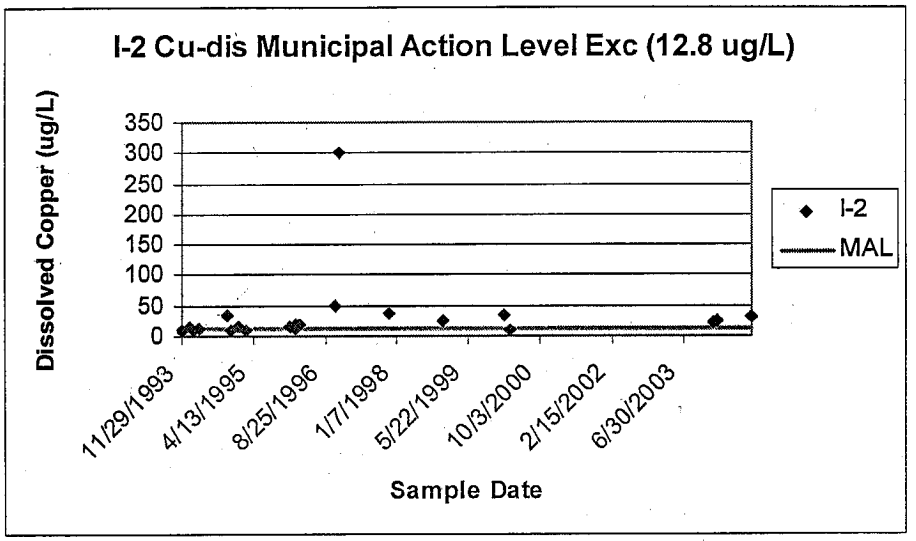

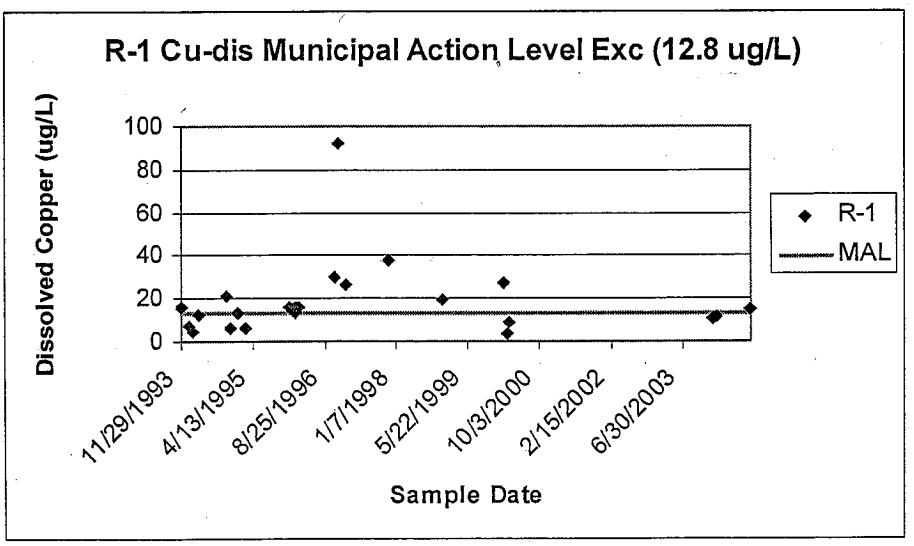

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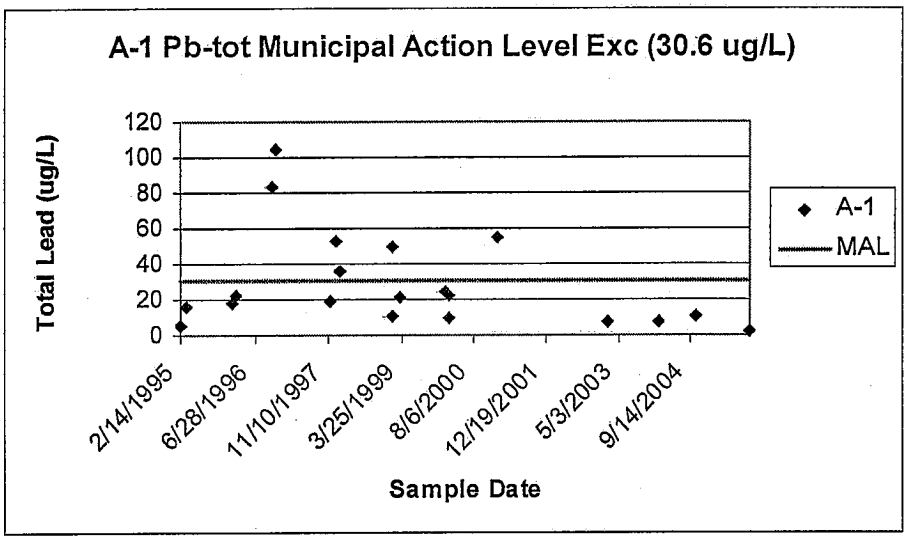
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40
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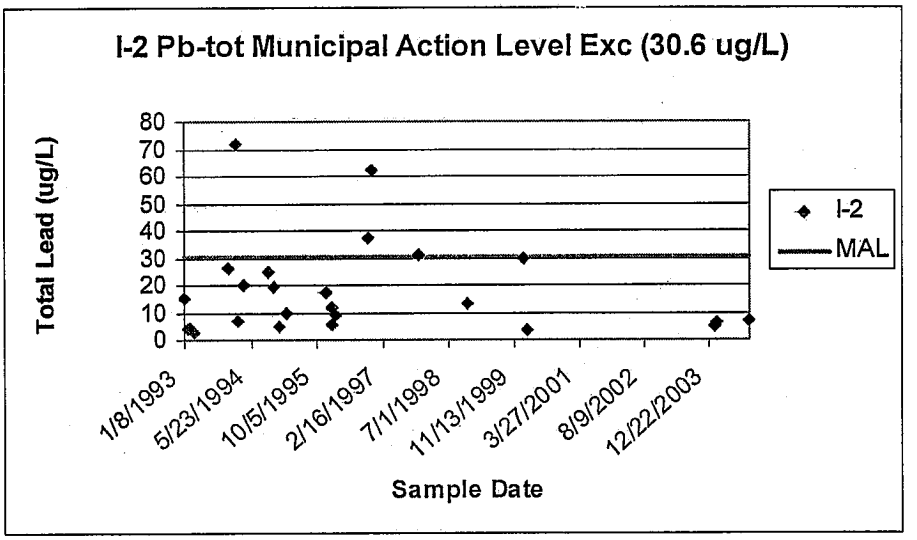
12/19/2001
5/3/2003
9/14/2004
Sample Date
A-1
MAL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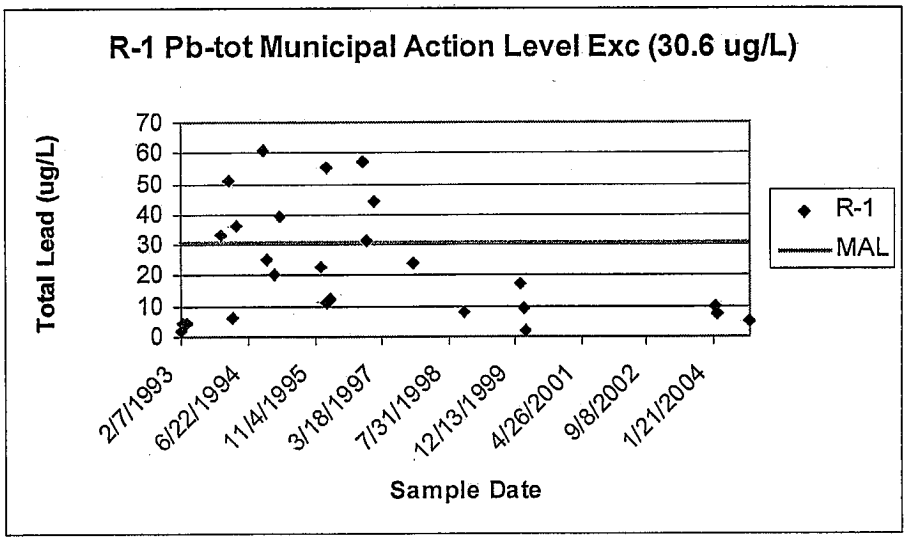
Sample Date
I-2
MAL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Total Lead (ug/L)
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10
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Sample Date
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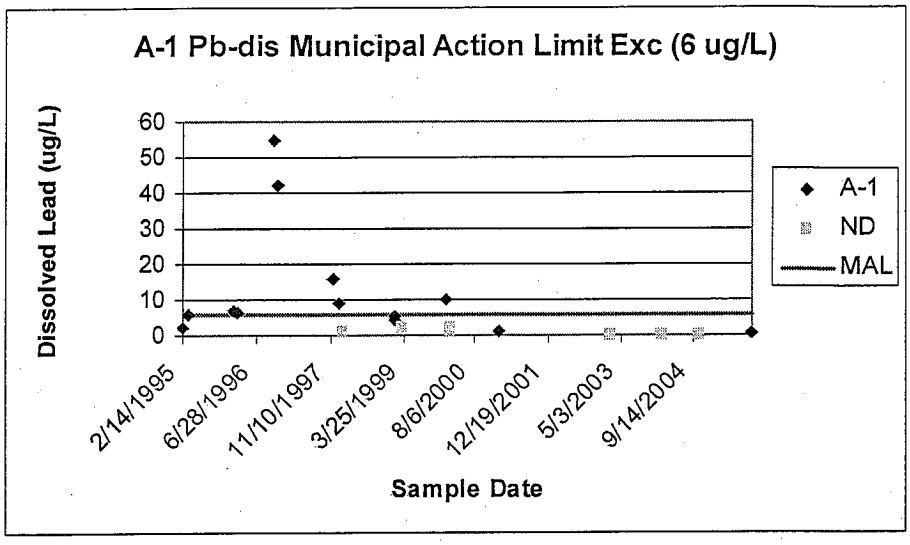

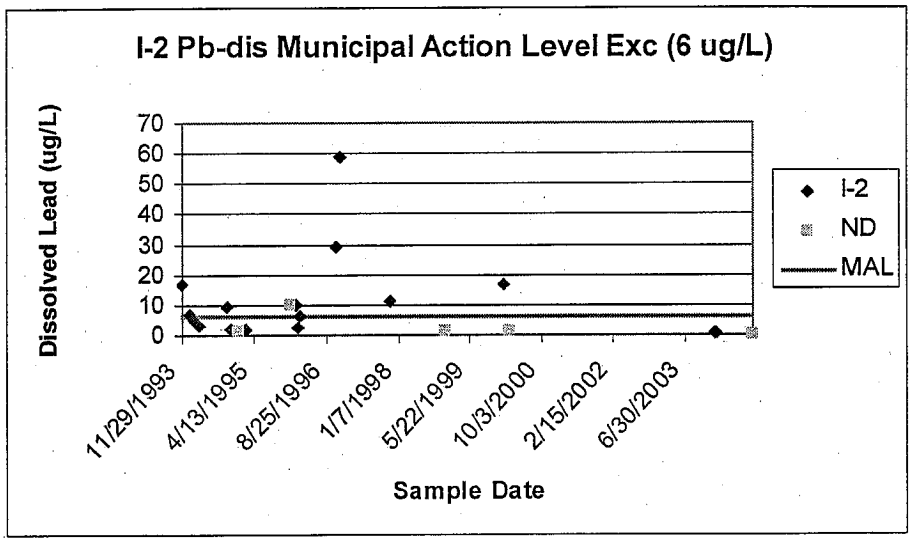

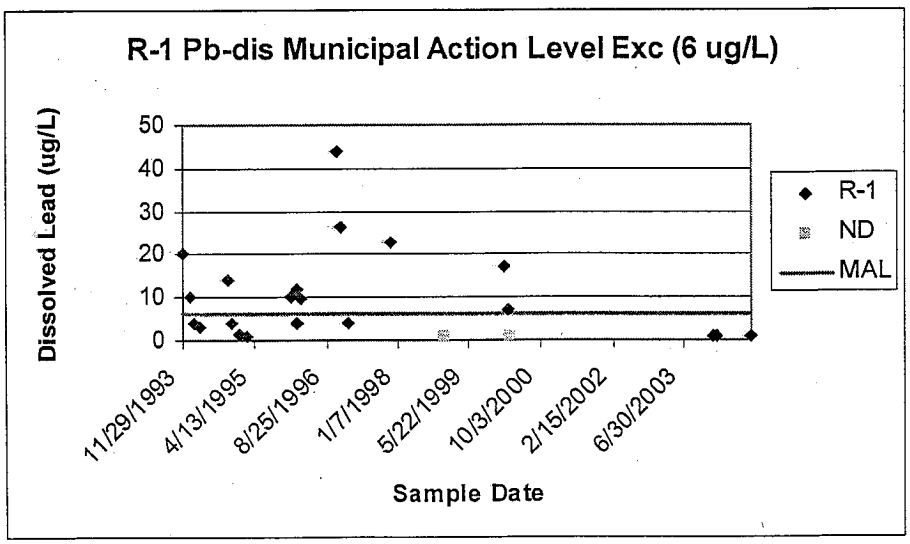

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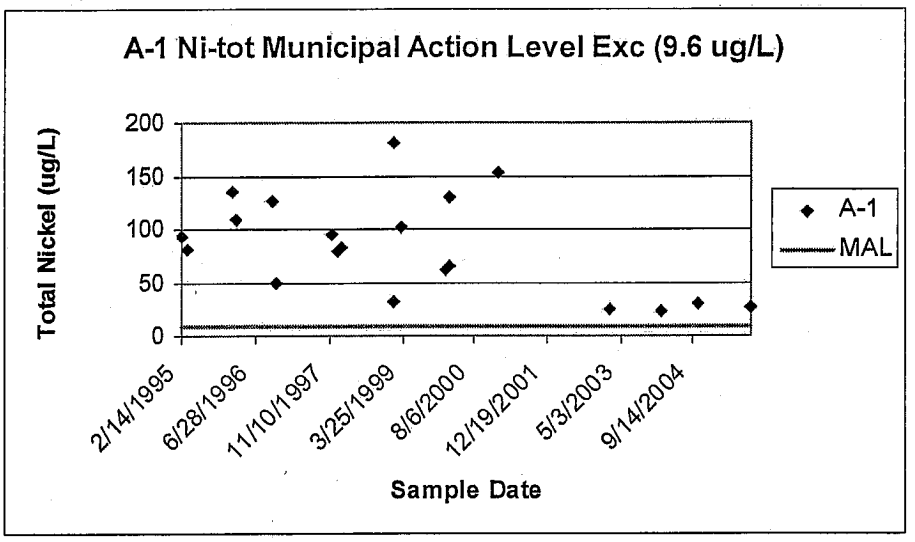

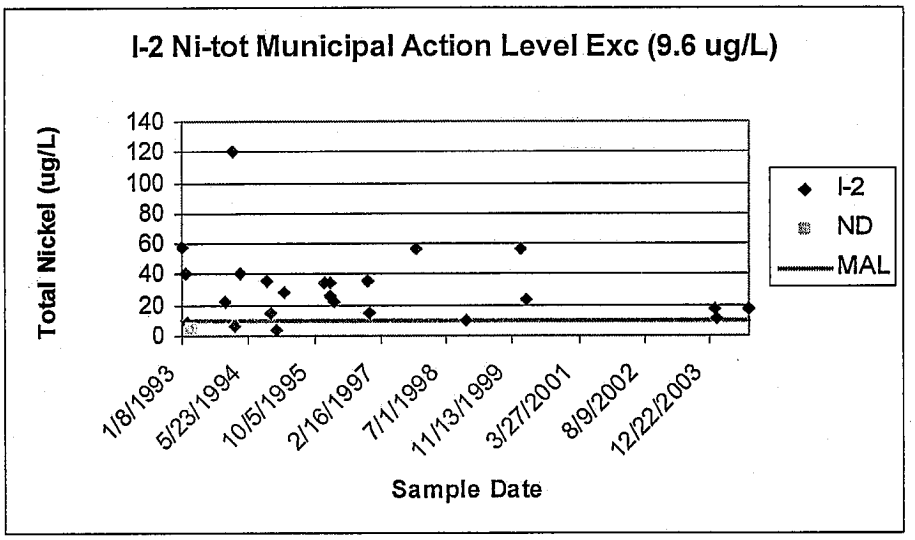

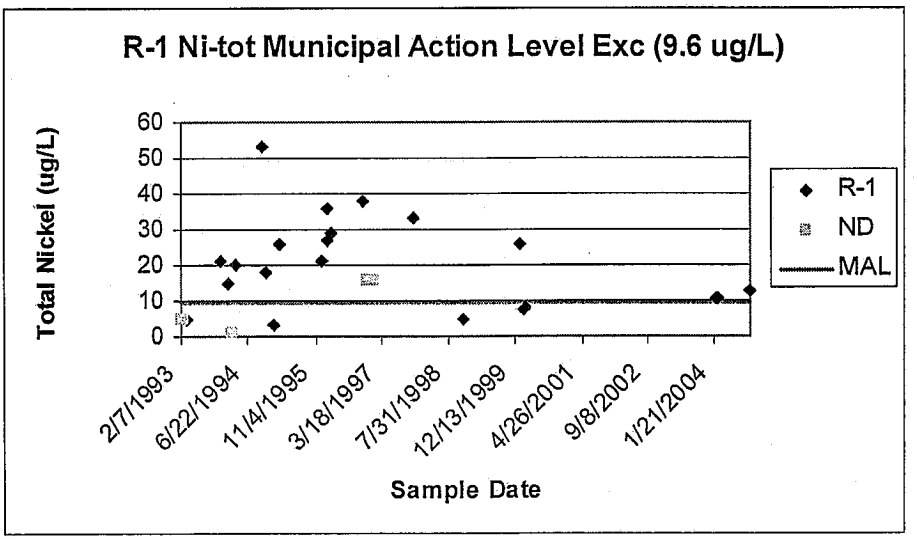

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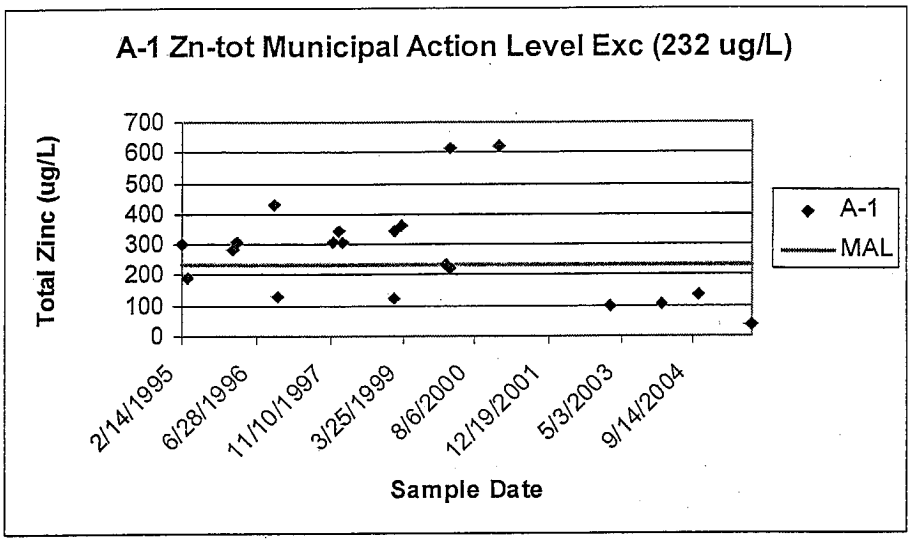
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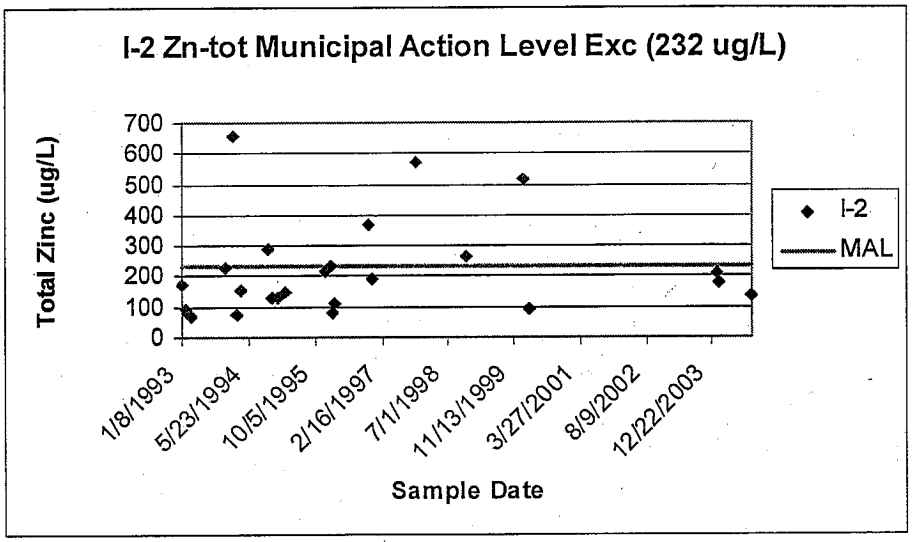
Sample Date
A-1
MAL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12/22/2003
Sample Date
I-2
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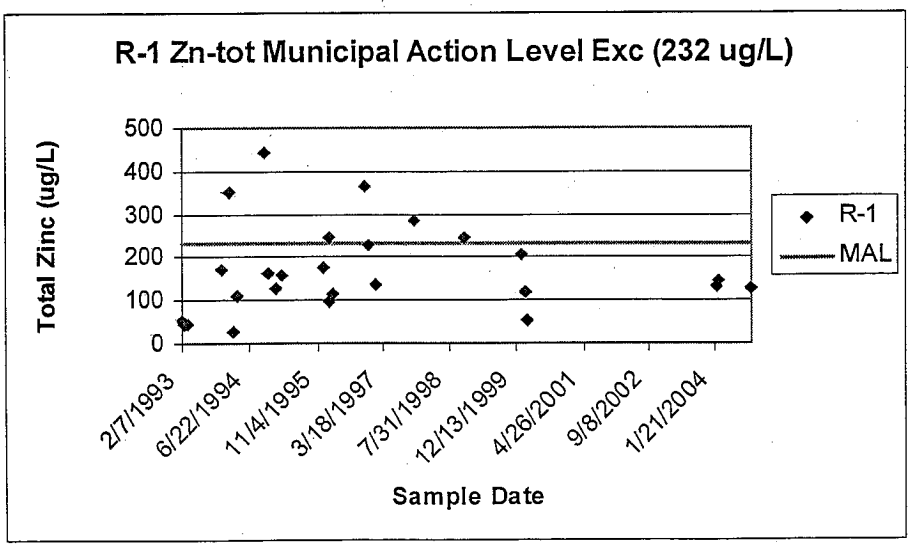
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Total Zinc (ug/L)
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6/22/1994
11/4/1995
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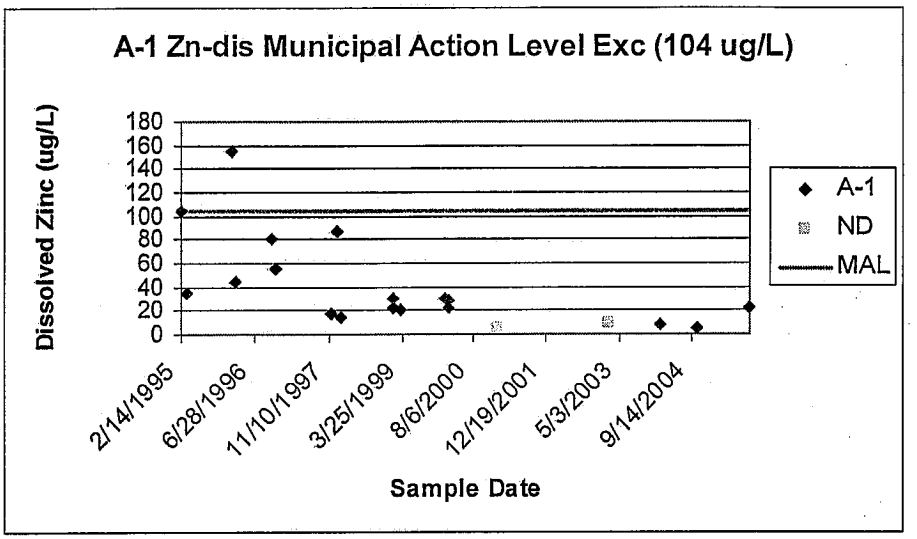
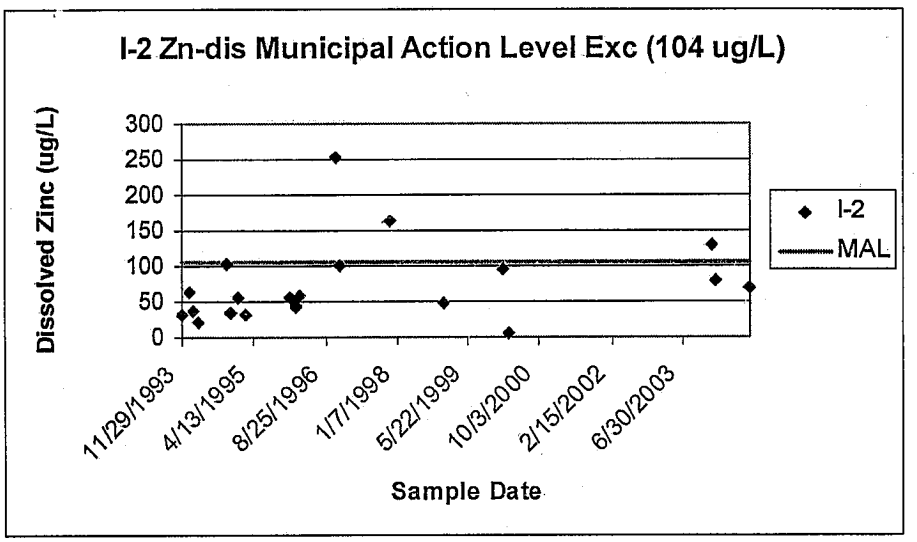
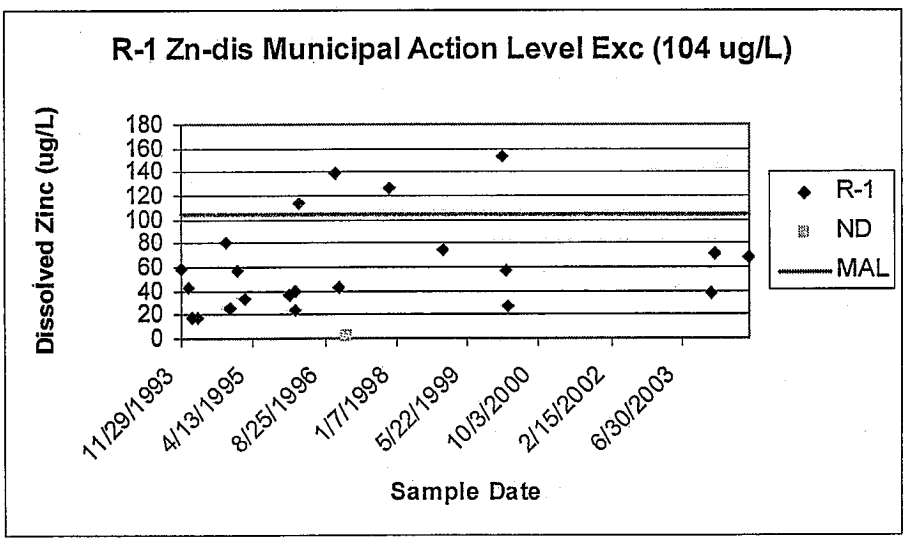
Sample Date
R-1
MAL

Zinc, Filtered







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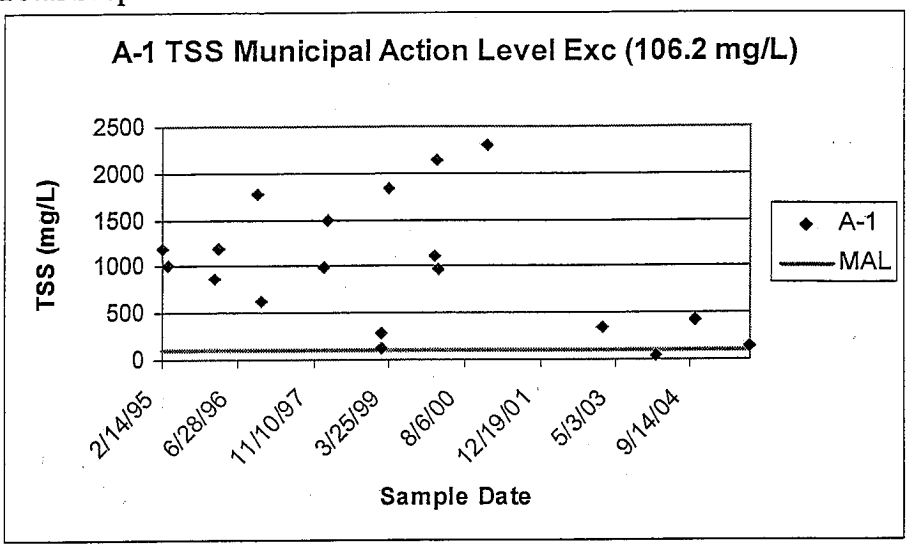

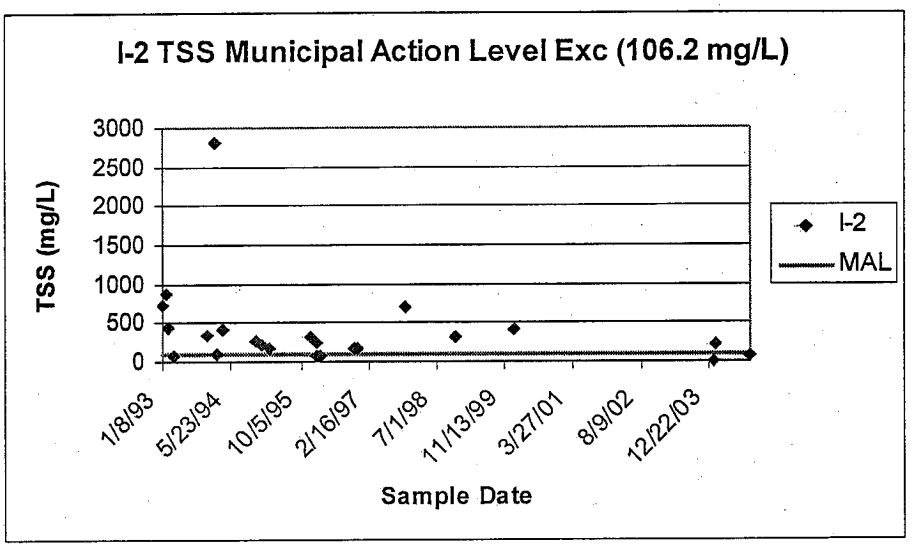

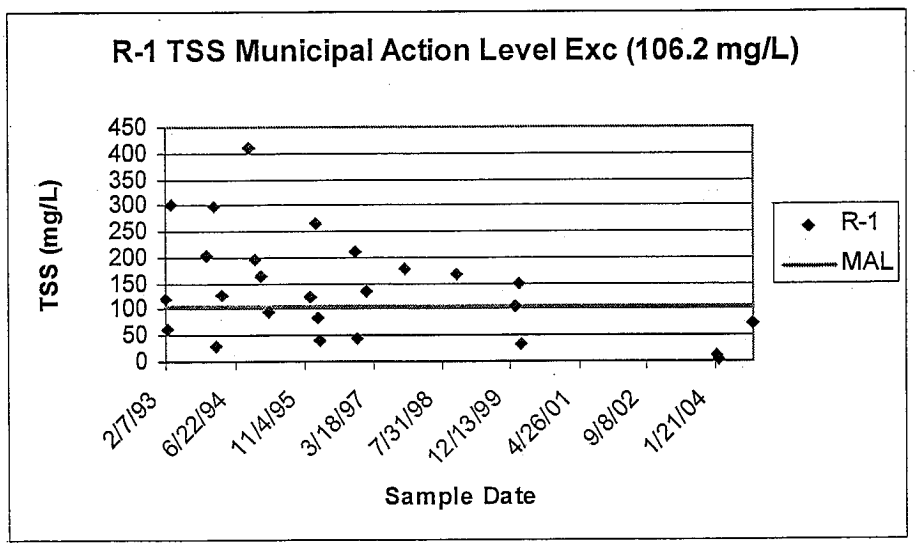

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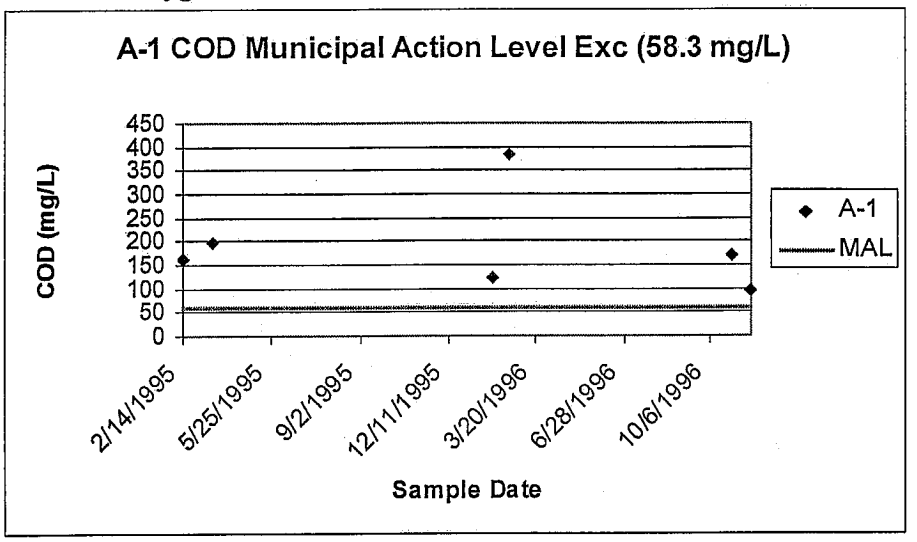
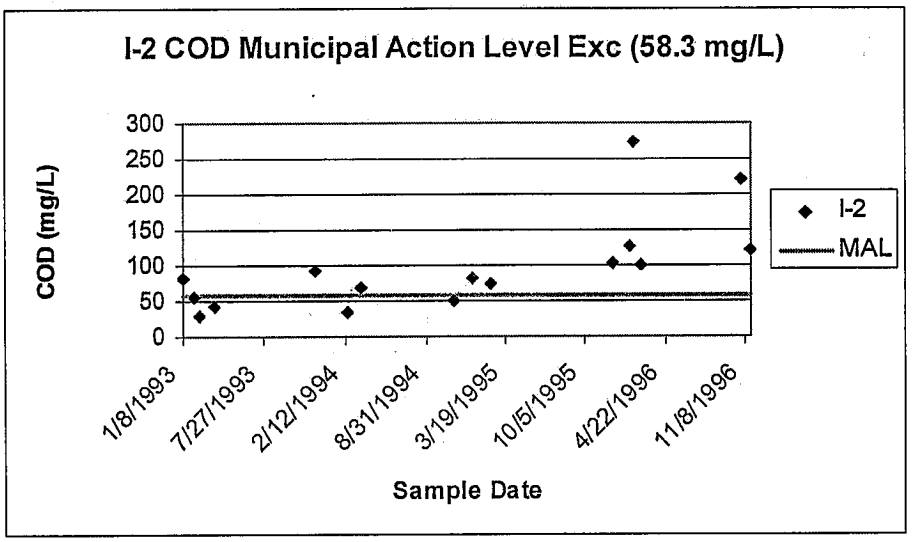
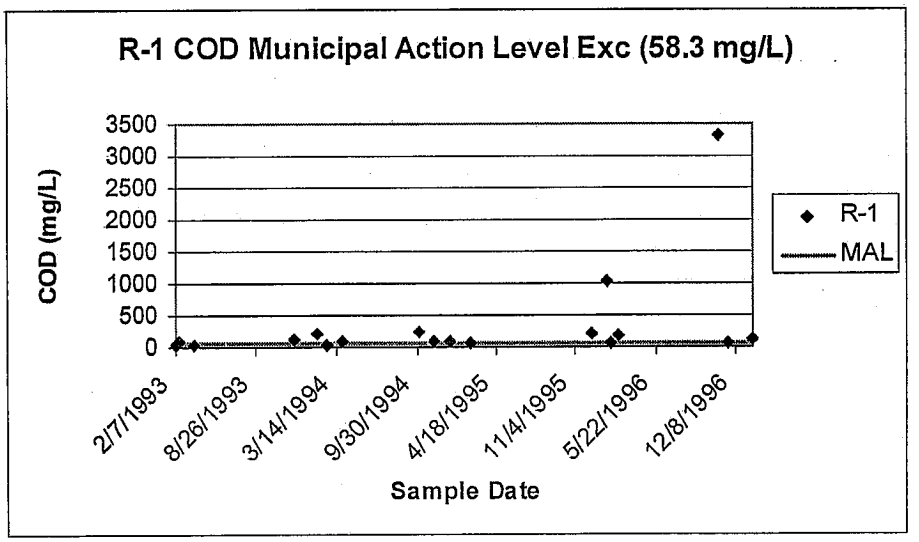






CITY OF OJAI

PUBLIC WORKS DEPARTMENT
408 SOUTH SIGNAL STREET
OJAI, CALIFORNIA 93023
TEL (805) 640-2560 • FAX (805) 640-2571

March 6, 2007

California Regional Water Quality Control Board
Attn: Xavier Swamikannu
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Swamikannu,

This letter will affirm the City of Ojai's support for the joint comment letter to the Regional Water Quality Control Board dated March 6, 2007 regarding the draft Ventura County MS4 permit.

Most of the issues that are of concern to the co-permittees are a concern to the City of Ojai and most particularly regarding the requirement for catch basin excluders and maintenance requirements that we believe to be excessive. As a small city, our budget would be significantly impacted if the issues addressed in the joint letter are not resolved.

We appreciate the intention to provide an environmentally sound permit, but not where the requirements appear to far exceed the potential benefits.

Sincerely,

Doug Breeze,
Public Works Director

cc: Gerhardt Hubner, Ventura Water Shed Protection District

county of ventura

PUBLIC WORKS AGENCY
RONALD C. COONS
Agency Director

Transportation Department
Wm. Butch Britt, Director
Central Services Department
Janice E. Turner, Director
Water & Sanitation Department
R. Reddy Pakala, Director
Watershed Protection District
Jeff Pratt, Director
Engineering Services Department
Alec T. Pringle, Director

March 6, 2007

Mr. Jonathan Bishop
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **DRAFT VENTURA COUNTYWIDE MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (NPDES PERMIT No. CAS004002)**

Dear Mr. Bishop:

We have received the draft National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) permit and appreciate the opportunity to provide comments on behalf of the Unincorporated Ventura County Stormwater Program. We have reviewed the document with the understanding that this is a draft and that our concerns will be taken into account before it is released as a tentative permit.

As currently crafted, the proposed Draft Order (Permit) will place undue financial and technical requirements on our program that may ultimately not result in efficiently improving water quality, which we and your agency are seeking to obtain. We concur with the comments as generated by the Ventura Countywide Stormwater Quality Management Program's letter and attachments dated March 6, 2007, and hereby incorporate our support for the record. In addition to the countywide comments, we have received a letter of concern from the Ventura County Resource Conservation District (VCRCD) addressed to the Ventura County Director of Public Works. In this letter, VCRCD voices their objection to several of the Permit's proposed requirements (Please see a copy of this letter as Attachment A.)

Additionally, we understand increased permit requirements are to be expected as part of the iterative process, and we agree with many of this draft permit's new provisions. As such, the comments presented here are not intended to argue against the increase in program requirements, but rather to maximize the overall effectiveness of the program to improve stormwater quality discharging from the MS4. Whenever possible, each comment suggests a viable alternative, however

in many cases the comment simply requests a re-evaluation what is being requested.

Please accept these following concerns, comments and suggestions:

1. The proposed Draft Order (Permit) utilizes and relies upon BMPs in a manner inconsistent with their development and intent. The Stormwater BMP Handbook clearly states the following:

   "However, due to the diversity in climate, receiving waters, construction site conditions, and local implementation across California, this handbook does not dictate the use of specific BMPs and therefore cannot guarantee compliance with NPDES permit requirements or local requirements specific to a user's site."

   Yet, the Permit requires implementation of the BMPs for all new development and redevelopment. Importantly, this is not only a misapplication of the BMPs themselves; it is a clear and direct infringement upon the County's authority to regulate land uses within its jurisdiction. The County of Ventura has been utilizing BMPs for several years and evaluating and applying them on a project-by-project basis as intended by CASQA when they prepared the Handbook. We are committed not only to continuing this practice in the future, but also continuing our efforts to further refine and improve our application of BMPs to specific projects. Broad and indiscriminate application of the BMPs will effectively end this long-standing and effective process.

2. The Permit defines the permit coverage area as the entire county, with the exception of "agricultural lands" and "forest lands." This definition is problematic and should be revised. Rather than defining the permit coverage area by describing what is not included, it should state clearly what is included. As such, we believe the definition used in the current permit (i.e. urban areas as defined in the latest U.S. Census) should continue to be used. This identifies a clear, distinct and, importantly, already mapped area. If the current definition is simply unacceptable, we strongly recommend that the proposed definition be clarified and revised to read "except forest lands in public ownership, and agricultural and open space lands identified in the applicable local general plan."

3. We are concerned about the fundamental disconnect between the required BMPs and the purpose of the Permit. This disconnect is created because the BMPs in the Permit have not been analyzed to determine the efficacy in general, let alone their measurable benefits. There appears only to be an "assumption" of their effectiveness. When the BMPs are applied as anticipated by CASQA and the Clean Water Act (i.e. flexibly and site specific),

using such a "qualitative" assessment is acceptable. However, where BMPs are required, as proposed in the Permit, this is unsound rule-making at best.

This issue is further contorted by the requirement in the Permit that alternative BMPs can be substituted only if there is documentation that it is more effective than the BMP it is replacing. Without any documentation for the required BMP, this is simply impossible. We strongly recommend that the BMPs be used as they were originally intended and as they are used in the current permit: Not a requirement that they must be used, but a requirement that they be applied as supported by local analysis on a project-by-project basis.

4. The Permit does not appear to take local costs into consideration. Based on our preliminary analysis, the costs to the County of Ventura to comply with the Permit will be substantial. These costs are not only associated with the initial efforts to prepare the implementing ordinances and procedures (which will require far more time to prepare than provided in the Permit), they are associated with on-going monitoring, enforcement and outreach. In addition, while these public agency costs will be substantial, they will be dwarfed by the costs to local residents and businesses. Ventura County and its ten cities have been grappling for the past decade with the difficult issue of providing affordable housing. Implementation of the Permit as written will set those efforts back more than any single regulatory or fiscal action in the past 30 years.

5. We believe Ventura County, through its use of BMPs under the current permit and its long-established land use policies, has done a good job protecting our water resources, especially compared to other areas in the southern California region. As such, we do not see a need to fundamentally alter the current permit. In fact, simply re-adopting the current permit would further the goals of the CWA by allowing the County to put its resources toward evaluating and implementing additional BMPs and associated programs, rather than toward a review and analysis of the new permit and the development of the required implementing ordinances and procedures.

6. The Permit is written in language and in a format that makes it extremely difficult to understand. It is recommended that the permit should be rewritten in clear and unambiguous language for ease of understanding, compliance and enforcement. Not doing so may prove to be an undesirable source of argument for several years.

7. The Permit encourages "smart growth" principles, and page 9 of the draft response states, "The Permittees agree that principles related to smart growth such as the avoidance of extensive roads, driveways, and other

impervious features will benefit water quality ....". However, the Public Works Agency considers "smart growth" a policy decision that goes well beyond NPDES implementation. "Smart growth", is open to a myriad of interpretations, and as interpreted by some special interest groups, may imply "traffic calming" or other neo-traditional transportation features. In this capacity, "smart growth" can mask implementation of physical road features that are not consistent with the California Vehicle Code, the Manual for Uniform Traffic Control Devices (MUTCD), or similar legislatively mandated practices. To install traffic control devices or any physical improvements on county roadways that are not in compliance with generally accepted design guidelines or regulations, would seriously reduce the County's ability to rely on statutory immunities in the numerous tort liability cases that we are exposed to on a regular basis. As such, the Public Works Agency does not want to give the impression that we support or endorse "smart growth" unless such a policy and the specifics associated with its implementation are identified and adopted by our Board of Supervisors.

8. The concept of an uninterrupted Municipal Separate Storm System (MS4) in the unincorporated parts of Ventura County is a myth. It is important that the Regional Board understand that such systems simply do not exist in the unincorporated areas, with few exceptions such as the Oak Park community. In almost all other instances, every drainage system involves one or more jurisdictions, including private property. As such, there is no feasible way to administer such a mixture of systems.

9. The Public Works Agency opposes the requirement of street sweeping of curbed streets in commercial areas at least 2 times per month as inconsistent with current Board policy as contained in the General Plan, the "Guidelines for Orderly Development".

   Additionally, under current funding limitations, there is no practical way to fund this requirement, except at the expense of other ongoing critical pavement rehabilitation or public safety efforts. The implementation of an assessment district to fund providing such an extraordinary service in the relatively few commercial areas in the unincorporated area would be highly problematic considering the limitations of California Constitution Articles XIII C and D.

10. The Permit does not appear to reference or take into account the considerable technical and scientific data, information, and recommendations contained in the National Cooperative Highway Research Program, Evaluation of Best Management Practices for Highway Runoff Control (NCHRP Report 565). This report provides a comprehensive review of the effectiveness of many BMP's and Low-impact Development (LID) facilities in

the highway environment, as well as a well written discussion of the difficulties (technical, jurisdictional, practical and political) encountered. The contents of this report should be considered and incorporated into the permit.

11. Hydrology and hydraulic analysis for land development projects within the unincorporated County of Ventura shall be as follows:

    All hydrology shall be determined using the Watershed Protection District Hydrology Manual. We further recommend that the difference between a Q10 developed storm flows and Q10 undeveloped flows be retained on site using an appropriate BMP that provides for percolation, evaporation, or storm storage so that the runoff from the property being developed does not create an adverse impact with sedimentation or siltation on the receiving property. This will revise the hydrology methods required by the NPDES permit on pp 53-54 / Part 3 II .1.(e), (f), (g) and 55-56 / Part 3 II .2. (a) to a common sense and traditional approach that is specific to the County's hydrology. There are very few subdivisions of land that are 50 or more acres. The method described above will work for all new subdivisions of land in the County unincorporated areas.

12. Post Construction BMPs could only be required on a private project through a discretionary permit process and that the Post Construction BMP clearly alleviates an adverse impact. These requirements could not be attached to ministerial permits such as a building permit. For the County of Ventura, Post Construction BMPs could be conditioned as part of the development, but its future maintenance and inspection could not be performed by the local agency due to access and privacy limitations by the subsequent owners. There would be no public easements and no monies for inspecting Post Construction BMPs on private property. We would only recommend Post Construction BMPs on subdivisions involving 5 or more parcels and when there is a homeowner's association being formed for the maintenance of improvements of such BMPs on private property. This pertains to pp 54-55 / Part 3 III .2. (a) & (b) and 58 / Part 3 III. 6.

13. The ban of "no grading" on slopes steeper than 20% in the rainy season is unreasonable in the County unincorporated areas. The County of Ventura issues approximately 100 grading permits per year and most of those grading permits are single lot developments that range in size from ¼ acre to 5 acres of disturbed area. Historically sediment runoff is efficiently minimized when a County grading permit has been issued, ongoing inspection is being performed by the County Public Works Agency, and there is either a SWPCP or SWPPP is in place during the rainy season. Very few violations have ever occurred with this approach. Additionally the rainy season should be

November 1 through April 15 for the entire County of Ventura. October is not a rainy season by any definition in any ordinance that the County has on file with regard to the rainy season definition. Ventura County rainfalls do not justify making October part of the rainy season. The County of Ventura also disagrees with the statement in Part 4 F that "sediment is a primary pollutant impacting beneficial uses of a watercourse." Sediment can have a beneficial value and it is part of the natural erosion process, which is taking place all the time. For this reason the sentence should be deleted.

The recommended grading restriction wording for Part 4 F1. (a) (1) (A) found on page 63 is:

(A) In the unincorporated areas of the County of Ventura, no grading greater than 50 CY shall occur between November 1 and April 15 (rainy season) for development projects on slopes greater than 20% without the implementation of a local or state SWPPP and a grading permit issued by the local agency.

(B) no change to wording.

(C) Within or adjacent to an environmentally sensitive area (ESA) as designated by the local agency.

14. The Permit has wording on page 67 could be removed and will not have a bearing on fulfilling the permit obligations by the local agency. The County of Ventura recommends that Part 4, F5. (a) (1) (A) (i), (ii), and (iii) be deleted and revise the wording in (iv) to read "*The project engineer or architect shall prepare the Local and State SWPPP and include a statement that they have selected the appropriate BMPs to minimize any adverse impacts by sedimentation and siltation to the downstream watercourse. This statement shall be sealed with the professional engineer or architect's stamp.*"

15. The Permit wording on page 68 can be simplified in Part 4 F5. (a) (2) (B): "*The Local SWPPP shall be signed by the property owner or owner's representative/designee. If the Local SWPPP is for a local agency, then the appropriate authority for the local agency shall sign the document.*"

The County of Ventura appreciates this opportunity to provide comments to the Permit and we want to reiterate our commitment to the collaborative effort in maintaining and enhancing water quality in our watershed. However, we have significant concerns about the Permit as currently proposed, including the TMDL provisions in the Permit. Additionally, we believe that a Permit can be developed that provides a practicable means for Ventura County to support its ongoing water quality and pollution prevention efforts. We look forward to working with the

Regional Board to incorporate these changes into the Order. If you have any questions regarding this letter, please contact me at (805) 654-2073.

Respectfully submitted,

Ronald C. Coons, Director

Attachment A: VCRCD Letter – March 2, 2007

C: Chris Stephens, Director of RMA
Wm. Butch Britt, Director of Transportation
R. Reddy Pakala, Director of Water & Sanitation
Jeff Pratt, Director of Watershed Protection
Alec T. Pringle, Director of Engineering Services Department
Janice E. Turner, Director of Central Services Department

RC/PT/cs/K:\WQ\Water Quality Section\NPDES Program\Unincorp County\New Permit\County Comments 3-06-07.doc

City of Thousand Oaks

PUBLIC WORKS DEPARTMENT
MARK D. WATKINS, DIRECTOR

March 5, 2007

Jonathan Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013

Re: Draft Ventura County Municipal Separate Storm Sewer System Permit (NPDES No. CAS004002) for the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein

Dear Mr. Bishop:

The City of Thousand Oaks appreciates the opportunity to provide comments on the draft Ventura County Municipal Separate Storm Sewer System Permit for the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities.

As background information, Thousand Oaks is a community of approximately 127,000 residents in eastern Ventura County. Incorporated in 1964, Thousand Oaks is a well-planned community that includes 15,000 acres of publicly owned open space within its incorporated boundaries. The City is committed to environmental excellence, an integral part of which includes an effective stormwater quality management program.

Thousand Oaks has been an active and supportive member of the Ventura Countywide Stormwater Quality Management Program since it's inception in 1992. The Countywide program has an exemplary record as an effective stormwater quality management plan. In 2003, the U.S. Environmental Protection Agency awarded the Ventura Countywide Program with its National Clean Water Act Recognition Awards Program, Storm Water Management Excellence Award. The intent of the awards is to "recognize municipalities and industries that are demonstrating their commitment to protect and improve the quality of the nation's waters by implementing outstanding, innovative and cost-effective Storm Water control programs and projects". The award reflects the Program's, and the City's, commitment to improve and protect water quality in Ventura County through a comprehensive and constructive best management practice (BMP) based program using an iterative process to guide our efforts.

In addition, for many years, and at significant cost, the City has worked cooperatively with the Regional Board and other stakeholders to develop the Calleguas Creek Watershed Management Plan and also to address water quality impairments through

the development of Total Maximum Daily Loads (TMDLs). The City believes that the cooperative effort in the Calleguas Creek Watershed is unprecedented and will result in significant water quality improvements.

Given the above, the City is dismayed that the draft permit is extremely prescriptive and ignores or requires duplication of much of the work that has been done to date. For example, the draft permit dictates "tributary monitoring" in the Calleguas Creek Watershed and seemingly disregards the fact that extensive monitoring has already been completed and will continue in the future as a result of TMDL requirements. Many significant elements in the proposed permit are unfocused, counter-productive and contrary to the progress and good-faith efforts established in the watershed management and TMDL processes.

The City participated with the other agencies in the county in developing the comments regarding the draft permit submitted to the Regional Board by the Ventura County Watershed Protection District on behalf of the Permittees. The City supports and agrees with these comments. In addition to those comments, the City of Thousand Oaks is also submitting comments for the Regional Board's review and consideration (Attachment A).

As stewards of scarce and limited public funds, we must insist that the actions and expenditures driven by regulatory requirements are consistent with each other, are cost-effective and capable of achieving the goals for which those expenditures are intended. The draft stormwater quality permit is inconsistent with those goals. Although we fundamentally disagree with the proposed approach being used by the Regional Board, we are in agreement with the need to continue and enhance our award-winning stormwater management program, which will lead to water quality protection and improvement and provide for adequate accountability. We look forward to working with the Board to craft a revised draft permit that supports this need.

If you have any comments or need additional information, please feel free to contact me at (805) 449-2399 at your convenience.

Sincerely,

Mark D. Watkins
Public Works Director

c: Scott Mitnick, City Manager
Amy Albano, City Attorney
Ventura County Stormwater Permittees

DPW:530-25(2)/jk

Attachment A
City of Thousand Oaks Comments
on the
Draft Ventura County Municipal Separate Storm Sewer System Permit (NPDES No. CAS004002) for the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein

1. **General Comment:** Numerous Findings cite outside source documents for support, however, it appears that at least some of these outside source documents are draft documents, have not undergone public review, or have not been formally adopted. To the extent that these outside source documents have not be finalized, publicly reviewed, and formally adopted, they should not form the basis to support a Finding. Please review all source documents to ensure that they have undergone public review and are available for review by the permittees.
2. **Page 7, B. 16. (Nature of Discharge)** The statement relies on research from Los Angeles County to find that "similar patterns of aerial deposition **likely** occur in Ventura County." (emphasis added.) Please provide supporting documentation for this assumption.
3. **Page 20, F. 1 (Implementation)** CEQA establishes statutory exemptions which are exempt from CEQA regardless of environmental impact. This appears to conflict with those provisions. Moreover, there are state statutes which define certain actions as ministerial. City ordinances are preempted by those statutes. This appears to conflict with those statutes. Please explain how municipal governments can enforce this permit requirement under these conditions.
4. **Page 20, F. 2 (Implementation)** The Order requires implementation of BMPs to reduce discharge of pollutants "to the maximum extent practicable (MEP)", but Finding F.4 requires "all necessary control measures". This is not defined and may be different than MEP. Please clarify.
5. **Page 21, F.4 (Implementation)** The proposed requirement to "implement all necessary control measures to reduce pollutant(s)..." is inconsistent with the concept of Maximum Extent Practicable (MEP). Please explain.
6. **Page 21, F.5 (Implementation)** States that this Order promotes "smart growth", but does not define it nor explain how it meets it. Please explain.
7. **Page 22, F.7 (Implementation)** What is the legal or technical support for the statement that the Order is "no more stringent than that required by federal law," and the conclusion that economic factors need not be considered.
8. **Page 22, F.9 (Implementation)** This order appears to go well beyond consideration of storm water quality objectives and MEP. Instead, the proposed regulations require numerous actions, studies and plans by Co-Permittees and would significantly restrict local land use decision-making authority. Please explain how the requirements of this permit do not "restrict or control local land use decision-making authority".
9. **Page 23, F. 11 (Implementation)** The "Municipal Action Levels" (MALs) established in the draft permit were computed based on an approach *recommended* by the by the California Water Board's Storm Water Panel in its

report, "*The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Commercial Activities* " (June 2006). The State Water Board has yet to take any action upon this report or give direction as to how the recommendations are to be utilized in preparing NPDES permits. The MALs are enforceable limits ("....two or more exceedences of a MAL will be ...considered a violation..."), yet these limits have never undergone public review or been formally adopted by the State Water Board. Based on the foregoing, and since no formal administrative process was utilized, the MALs should be removed from the permit.

10. **Page 24, F. 15. (Implementation)** States that the Order balances implementation of Smart Growth and Low Impact Development techniques, but does not define them. Furthermore, these regulations, if implemented, will conflict with state imposed housing requirements through city Housing Elements. The document referenced in this section is unavailable for review by the Permittees and the public. In an email from Regional Board staff dated February 1, 2006, we were informed that "The document *Considering Housing Needs in Actions Taken by the Regional Water Board: Moving from Costs to Value,* 2006, is a technical document that Regional Board staff ..... is currently working on, but it is still in draft form. The document is currently being finalized and it will be available before adoption of the Order." Referencing a document that is unavailable does not give the Permittees an opportunity to review the Regional Board's rational for certain permit requirements and to prepare a response based on the Board's reference material. Please remove the reference or make the document available. If reference to the document is removed, please explain the basis for this finding.
11. **Page 24, F.16 (Implementation)** This order would not have an incremental effect on costs required for compliance, but rather would greatly increase compliance costs, require additional staffing, and result in much longer permit processing time frames for applicants. Admits the regulations in the Order may have an "incremental" effect on costs and that it was taken into consideration. Where is the support for this statement? Moreover, if implemented, costs associated with this Order will be more than incremental and likely economically infeasible.
12. **Page 25, G.3 (Public Notification)** Although the Board conducted four scoping meetings, none of them involved this level of detail or discussion relating to the possible imposition of these new requirements.
13 **Page 26, Part 1, B (Prohibitions)** Requires Permittees to "effectively" prohibit non-storm discharges but does not define nor explain what is meant by "effectively" prohibit. Please clarify.
14. **Page 26, Part 1, B.2 (6) Potable drinking water supply and distribution system releases (Footnote 2)** "Releases may only occur with the implementation of appropriate BMPs..." This sentence should be revised to read "Planned releases shall only occur with the implementation of appropriate BMPs....".
15. **Page 26, Part 1, B.2 (6) Potable drinking water supply and distribution system releases (Footnote 2)** "Any agency or Municipal (i.e., water dept., fire

dept., etc.) that either individually or collectively discharges or reasonable expects to discharge 100,000 gallons of potable water per year, shall submit an ROWD to obtain a separate NPDES permit under this order [see section G.10]." Please define "Any agency or Municipal..." in order that we may understand to whom this requirement applies. The permittees have no control over other "agencies" that may discharge potable water. Furthermore, why should municipal permittees that operate a potable water system be burdened with a requirement (NPDES permit) that does not apply to private water purveyors and water districts? How was the 100,000 gallon per year figure derived and what justification exists for regulating discharges of potable water that are greater than 100,000 gallons per year? Section G.10 (actually Part 3, G.10) Footnote 1 requires Municipal Potable Water Supply Systems to obtain coverage under the Regional Water Board NPDES Permit No. CAG674001 if the discharge is greater than 100,000 gallons per year. This general permit specifically regulates the discharge of Hydrostatic Test Water. How does this general permit apply to nonspecific discharges from a municipally owned potable water system? A more appropriate method for regulating discharges from potable water systems, should the Board wish to do so, would be to develop a General Permit that would apply to all water purveyors, not just "municipal". Please comment on this option.

16. **Page 26, Part 1, B.2 (14) (Footnote 3)** "...BMPs shall be designed to drain within 72 hours" should be amended to read "...within 72 hours <u>of the end of the rain event</u>."
17. **Page 27, Part 1, B, Table 1** "Water that is hyper-chlorinated shall not be discharged...even after dechlorination." Hyper-chlorinated is not defined in the permit. If the dechlorinated water meets Basin Plan objectives, discharge to the storm drain system should be allowed. Please supply justification for this prohibition.
18. **Page 29, Part 1, A, 3** Requires the Permittee to prohibit discharges or require implementation of appropriate or additional BMPs, however, it does not address situations where the Permittee has no jurisdiction or permit authority over the entity conducting the discharge. What is the procedure to enable Permittees to monitor and impose conditions?
19. **Page 29 and 30, Part 2, Receiving Water Limitations** Requirements to meet "Municipal Action Levels" should be removed from the permit. See Comment No. 9 for further discussion.
20. **Page 29, Part 2, 3** Requires "timely implementation" of control measures, but does not define "timely implementation". Please define.
21. **Page 31, Part 3, A.3. (1)** "...effective prohibition of dry weather discharges." should be revised to read "..the effective <u>control</u> of dry weather discharges." Not all dry weather discharges are prohibited by the draft permit.
22. **Page 31, Part 3, B, 1** States that Permittees shall possess the necessary legal authority, but does not provide any support for this statement. Where does this legal authority come from?
23. **Page 32, Part 3, B.1 (b) 5.** Prohibition of swimming pool discharges: This section lists specific discharge limits for specific constituents in swimming pool discharges. What justification exists for regulating swimming pool discharges (de

minimus volumes) to this extent? This is not an efficient use of resources to improve water quality. Furthermore, this requirement contradicts the conditions under which swimming pool discharges are allowed in Table 1 (page 28) of the draft permit.

24. **Page 32, Part 3, B. 2**: States that Permittees shall possess adequate legal authority to do various things, but does not provide any support for this statement. Where does this legal authority come from?
25. **Page 33, Part 3, B. 2 (c), Footnote1:** "Where the Permittee has no direct authority, the Permittee is required to enter into an agreement with the agency or department that has the enforcement authority." Municipalities have no control over the state or federal government. Which agency does? How do we (legally) enter into an agreement with the appropriate agency to enforce a municipal code or permit requirement? Also, this requirement conflicts with Findings, D. 3 (Page 11). There is no legal support for the statement that the Permittee must retain enforcement authority over private responsible parties. Please explain.
26. **Page 33, Part 3, B. 3 and 4:** Six months is insufficient time to complete major revisions to the Municipal Code. We suggest that the permittees be allowed two years to complete this requirement. Requiring its legal counsel to declare that the Permittee has "obtained and possesses all necessary legal authority to comply with this Order" is infeasible, especially given the fact that it is unclear how Permittees will have legal jurisdiction to enforce some of the provisions of this Order (see above responses).
27. **Page 33, Part 3. C. 1**: "The Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this order." This sentence should be removed from the draft permit. Permittees can only allocate funds during the annual budget process. Compliance with the permit is a multi-year endeavor. Also, given the onerous financial burdens being imposed by this Order, it may be impossible to allocate sufficient funds to comply.
28. **Page 34, Part 3, D. 1:** Ninety days is insufficient time to complete revisions to "programs, protocols, practices and municipal code". We suggest that the permittees be allowed two years to complete this requirement. Also, this requirement conflicts with Part 3, B. 4 which provides for six months to complete revisions.
29. **Page 36, Part 4, B. 1.** "The Principal Permittee consents to participate in appropriate water quality meetings for watershed management planning, including but not limited to the following:" This requirement should be revised to read "The ~~Principal~~ Permittees consents to participate....." There is no reason that the Principal Permittee must participate in every watershed activity when co-permittees are already participating in the same activities.
30. **Page 38, Part 4, C. 1. (c) (1) (E)** There are already watershed based groups in the major watersheds of Ventura County such as Friends of the Santa Clara River, Calleguas Creek Watershed Management Plan and Malibu Creek Watershed Advisory Council. Working within the existing group structures will be more effective than starting a new group or committee. The sentence should be revised to read: "Work with existing local watershed groups or organize Citizen Advisory Groups/Committees . . ."

31. **Page 38, Part 4, C. 1. (c) (5)** The existing permit requirement is 2.1 million impressions based on three times the population of Ventura County. The latest US Census data (2005) shows Ventura County with a population of 796,000. The requirement in the draft for 10 million impressions is 12.5 times the population. This is an inappropriately large increase.

    During the last reporting period an extra effort was made by all permittees to ensure the success a new outreach campaign, and through that effort 10 million impressions were achieved. However, that was a unique year and would have not been possible without the in-kind donations given by the media organizations. To make 10 million impressions year-after-year is an excessive increase in the permit requirements. 5 million impressions, still over twice the previous requirement, would be realistically achievable and leave resources available for more in-depth educational opportunities.

32. **Page 39, Part 4, C. 1. (c) (6)** We are in agreement that educational outreach to children is an important way to affect a change in behavior. However, requiring that this be accomplished through the public school system presents difficulties. None of the Permittees has the authority to dictate school curriculum, including educational material developed through AB 1721. Prior experience suggests that schools are extremely resistant to any effort to include material in lesson plans that come from outside organizations, no matter how well intended. The Environmental Education Account is an option. However, there is no guarantee that money given to the account will be spent in Ventura County or on stormwater pollution, or that it will even be used in the classroom. We suggest a requirement to provide educational outreach to school-aged children and allow the Permittees the flexibility to develop a program that will maximize the benefit of their resources.

33. **Page 39, Part 4, C. 1. (c) (8)** Any measurement in classrooms will require cooperation from schools to administer a survey and share the data. The Permittees have no authority to require the school system to gather data for our use. This requirement should be removed from the permit. Moreover, there is no explanation as to how to measure effectiveness. Also, 180 days to formulate and implement (does implement mean adopt a strategy, begin implementation, or conduct the educational program and measure its effectiveness?) a measurement strategy is insufficient time.

34. **Page 39, Part 4, C. 1. (c)(9)** What is meant by "develop and implement a behavioral change assessment strategy? This requirement is vague. Also, 180 days to formulate and implement (what does "implement" mean?) this program is insufficient time.

35. **Page 39, Part 4, C.1(C)(9) (Footnote 1)** "Matching funds shall be equivalent to $10 per targeted student per year." How was the $10 per student figure derived? AB 1721 does not legislate a "dollar per student" equivalent figure. $10 per student seems extremely high. We suggest that the equivalent dollar amount be reduced to $1 per student, if donation to the Environmental Education Account remains an option.

36. **Page 40, Part 4, C. 2. (a) (2)** The previous section, Part 1, C. 2. (a) (1) defined the minimum number of corporate franchisees to target. Clarification is needed in this section to refer to the targeted franchisees. Please change to "Corporate Outreach for all targeted RGOs . . ."
37. **Page 40, Part 4, C. 2. (b) (1)** On-site technical assistance or consultation presents a serious liability problem for the Permittees. The section should be revised to read: "On-site technical assistance, or consultation via telephone or e-mail to provide recommendations or guidelines to identify and implement storm water pollution prevention methods and best management practices."
38. **Page 42, Part 4, D. 2.** This section requires the permittees to inspect "critical sources" as defined in the draft permit. We object to any requirement that obligates the Permittees to inspect facilities covered under the State Industrial Activities Stormwater General Permit (Phase I and Phase II facilities) or the Regional Board's Conditional Waiver for Irrigated Lands (including plant nurseries). These facilities require permits from the State, pay a fee to the State and are the State's responsibility to inspect. This requirement should be removed from the permit.
39. **Page 42, Part 4, D. 2. (a)** The requirement for the installation of treatment controls BMPs at all critical sources that discharge to a storm drain system which discharges to an ESA or a 303(d) listed waterbody is much too inclusive of facilities and pollutants. Source control BMPs can usually control the discharge of pollutants from these facilities, which makes the addition of treatment control BMPs superfluous in most cases. What type of treatment control BMPs should be installed to treat clean runoff? Furthermore, the suspected pollutants of concern that would come from a critical source must be matched to the impairment in the 303(d) list for the required treatment controls to be effective.

    In Thousand Oaks, every critical source would be required to install treatment control BMPs, since the City's storm drain system drains to 303(d) listed waterbodies. The City has worked cooperatively with the Regional Board to develop TMDLs to address the 303(d) listed pollutants in these waterbodies. The requirement for treatment control BMPs at every critical source is unwarranted and we strongly suggest that the requirement be removed from the permit.
40. **Page 42, Part 4, D. 2. (a) (1), (2), (3) and (4)** Tables 2 through 4 list the mandatory BMPs that shall be implemented by the critical sources. These BMPs came from the 2003 California Stormwater BMP Handbook which expressly states that "it is not the intent of this handbook to dictate the actual selection of BMPs, . . . but rather to provide a framework for an informed selection of BMPs". Furthermore, each BMP section listed has multiple and redundant BMPs which no single location could feasibly implement. Please change sections to read: "BMPs ~~in~~ from the following Table (X) shall be implemented to effectively control polluted runoff, unless the pollutant generating activity does not occur."
41. **Page 47, Part 4, D. 2. (b)** We object to any requirement that obligates the Permittees to inspect facilities covered under the State Industrial Activities Stormwater General Permit (Phase I and Phase II facilities) or the Regional Board's Conditional Waiver for Irrigated Lands (including plant nurseries). These

facilities require permits from the State, pay a fee to the State and are the State's responsibility to inspect. This requirement should be removed from the permit.

42. **Page 48, Part 4, D. 3. (a) and (b)** The requirement for the installation of additional BMPs at critical sources that discharge to a storm drain system which discharges to an ESA or a 303(d) listed waterbody is much too inclusive of facilities and pollutants. Additionally, determining if a facility is "causing or contributing to exceedences of MALs and/or water quality objectives" requires the Permittees to sample each critical source. This requirement is unwarranted and we suggest that the requirement be removed from the permit.

    Also, proving that a BMP "will achieve the equivalent reduction of pollutants" would require a database of baseline data on all the BMPs. Please provide this information or change language to read "will achieve ~~the equivalent~~ similar reduction of pollutants".

    In addition, for the record, we object to the use of MALs and request that they be removed from the permit (see Comment No. 9).

43. **Page 49, Part 4, D. 3. (d) (2)** We object to any requirement that obligates the Permittees to enforce the State Industrial Activities Stormwater General Permit (Phase I and Phase II facilities) or the Regional Board's Conditional Waiver for Irrigated Lands (including plant nurseries). These facilities require permits from the State, pay a fee to the State and it is the State's responsibility to take enforcement actions in the event that a facility is out of compliance with State General Permit or Conditional Waiver requirements. This requirement should be removed from the permit.

44. **Page 50, E. 1.** Development projects are defined in the draft permit to include any construction or reconstruction of residential projects (even if no land disturbing activities are conducted). Requiring these conditions on small home improvement projects is unwarranted and does not provide relief for the hardship of rebuilding a home after a fire or other catastrophe. Please provide a single family residence exclusion or redefine development project to exclude single family residences. This section is also redundant and vague. Subsections d and f, for example, reference Low Impact Development strategies, however, this already appears to be a proposed requirement under the following section E.I.1 labeled "Low Impact Development". Subsection f also requires the selection of an "integrated approach" to mitigate stormwater pollution, but does not define or reference 3 of the 4 available options, including "Integrated Water Resource Management Strategies", "Multi-benefit Natural Feature BMPs", or "Prefabricated/Proprietary Treatment Control BMPs. These options should be defined and referenced. Subsections c, and d also require Permittees to "minimize" impervious surface and pollutants. What criteria are used to evaluate if these factors have been minimized?

45. **Page 50, E. 1. (b)** Requiring a numeric standard of less than 5% Effective Impervious Area of total project area is competing with the concept of Maximum Extent Practicable as well as the concepts of Smart Growth, which envisions higher densities. Site relief, available area for vegetated swales and soil

characteristics may make achieving this standard infeasible. Sound engineering practices may discourage the percolation of water near improvements to prevent the integrity of the structures from being undermined. This requirement should be eliminated from the permit.

46. **Page 50, Part 4, E.1 (c)** Percolation and Infiltration: The City of Thousand Oaks exists atop rock and clayey soil types. The Ventura County Hydrology Manual specifies these type soils and numbers 1, 2 and 3. Percolation BMPs are not feasible using the native ground, and if storm drain systems are unavailable, some BMPs must by necessity be surface-drainage styles. Also, saturation of a created landscaped area (i.e., stratified soils beneath, but trapped vertically and laterally within the landscaped perimeter) may undermine adjacent buildings or pavements to the point of failure. Filter strips and shallow swales are considered the most-effective non-proprietary treatment BMPs under such circumstances. Additionally, high groundwater already exists in many communities and it can't easily be discharged anywhere (sewer nor storm drain). So, insisting the co-permittees employ percolation will worsen an existing known problem. This requirement should be revised to recognize that soil types and high groundwater levels might make this requirement impossible or impracticable.

47. **Page 51, Part 4, E. I. 1**. "All new development and redevelopment projects shall integrate Low Impact Development (LID) principals into project design." These LID principles must be explicitly defined, with references to related research, source documents, and successful case studies, in order to understand proposed requirements.

Development projects that have received their entitlements or have been deemed complete for processing (but have yet to begin construction) may no longer be subjected to new requirements (per State law).

Section E. I. 2. requires the permittees to develop a LID Technical Guidance Document within 18 months from the Order's adoption date. <u>These materials need to be developed for local and regional conditions before developers can be expected to meet the criteria.</u> Local pilot studies and case studies have not been performed. Thus 18 months is an insufficient period of time. Part 4, E I. 1. must specify an effective compliance date for "All new development and redevelopment..." and must exempt projects that have received their entitlements and/or have been deemed complete for processing. A phased approach of research, guidance development, pilot studies, training and implementation would be preferred and would be more effective. Eighteen months is an insufficient time period for development of an LID Technical Guidance Document. A greater period of time is needed to adequately prepare an effective LID Technical Guidance Document.

48. **Page 51, Part 4, E. I. 1** The "predevelopment hydrologic functions" statement is inappropriate for redevelopment projects. Redevelopment sites do not have what is termed in the "Definitions" section (Part 7, pg. 104) as "native vegetation and soils", thus such conservation measures cannot be summarily prescribed for all new development <u>and redevelopment</u>.

49. **Page 51, Part 4, E. I. 2. (e) (f) & (h)** Please provide information, examples and clarification on Integrated Management Practices, Flow Modeling Guidance and LID Translators.

50. **Page 52, Part 4, E. II. 1(a)** "This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations." The preferred means to maintain runoff at a pre-development rate has been through metered-flow out of a detention facility (tank, open basin, buried pipes, etc). The pre-developed flow rate can be simulated by design, but the *duration* of that flow must necessarily be longer due to a larger yield-volume being produced by the impervious surfaces of the developed site. If this requirement is included in the final permit language, development must necessarily stop in all watersheds tributary to natural drainage systems, including the Ventura River, Santa Clara River, Calleguas Creek and miscellaneous Ventura coastal watersheds.

51. **Page 52, Part 4, E.1.II.1(c)** Upon review of the equations involving Erosion Potential, E_P (in Attachment E), the prolonged flow-duration time resulting from the proposed detention solution discussed above will cause an increase in the delta-time. Similarly, it can be expected that applied shear stress (τ_i) will increase since the flow will be without sediment. Thus, the post-development value of Work (W_{post}) will be higher than the pre-developed (W_{pre}). The ratio value of Ep would therefore always be higher (i.e., exceed the value of 1.0) in the post-development era. If this requirement is included in the final permit language, development must necessarily stop in any watershed tributary to natural drainage systems.

52. **Page 52, Part 4, E.1.II.1. (d) and (f)** Pursuant to a January 24, 2007 conversation with Dr. Eric Stein of the SMC, their study is just getting underway with site-selection in the Spring 2007, with anticipated completion in March 2010. Given the timeframe of the SMC study, 18 months from the adoption of the proposed permit is insufficient time and should be extended.

53. **Page 53, Part 4, E. II. 1. (e)** Interim hydromodification criteria: As described in the comments above, the proposed requirement to maintain pre-development peak flow, volume and duration is infeasible, particularly on tight soils (i.e., soil types 1, 2 and 3).

54. **Page 54, Part 4, E. III.1 (a)** Please change to "...shall require that during the ~~construction~~ *design* of a single-family hillside home... ". "Hillside home" should be defined as homes requiring grading on natural slopes that are *25%* or greater, not 20% or greater. The current definition for a hillside in NPDES permit CAS004002 is a slope of 25% or greater. Please justify the change from 25% to 20%.

55. **Page 55, Part 4, E. III.1(c)** Reduction from 100,000 sq. ft. (current permit) to 5,000 sq. ft. (draft permit) is extreme and overly burdensome in that it will result in the conditioning of essentially every industrial and commercial development project for the design and implementation of treatment control BMPs. Please change the requirement to 100,000 sq. ft. for commercial and industrial developments. In addition, these conditions should apply to stand alone projects where the developer has control over the site to implement the treatment control

BMPs. Please identify the types of facilities by SIC and NAICS Codes as proposed, including SIC Code 5511, which is the only difference in SIC category between "automotive repair shops" as regulated under the current permit, and the proposed "automotive service facilities" in this draft permit. Please cross-reference definitions of automotive service facilities and automotive repair shop.

56. **Page 56, Part 4, E. III. 2 (a) (2) (B)** Ventura County has a high variety of rainfall intensities, please change to "...85th percentile hourly rainfall intensity for ~~Ventura County~~ local region;"
57. **Page 56, Part 4, III. 2 (b) (1)** Hydrodynamic models can be continuously developed and improved and the selection should not be limited to public domain models.
58. **Page 57, Part 4, III. 4 (c)** Impervious surface replacement of less than 5,000 square feet should not be defined as significant redevelopment. Also, please confirm that any parking lot overlay and restriping **is** considered to be a routine maintenance activity.
59. **Page 58, Part 4, III.5. (a)** Water quality control BMPs must be adequately maintained if they are to provide long-term water quality protection. Projects need to develop and implement a long-term operation and maintenance plan for water quality protection BMPs. Please change to: "...provide an operation and maintenance plan and verification of ongoing maintenance provisions for Structural an Treatment Control BMPs..."
60. **Page 59-60, Part 4, E.1.III.7(b)(1).** The cities define their own redevelopment districts. Why must the Regional Board define them? At a minimum, the list of "includes" should have City Redevelopment Areas.
61. **Page 60, Part 4, III.8** Please provide additional information regarding this entire section, particularly the discussion of funding and waivers. The "waiver for impracticability" must be defined and guidelines must be developed for its implementation.
62. **Page 61, Part 4,E.1.III.10(a)(1) Interim Hydrograph Matching.** This requirement has already been declared infeasible in the comments under §4.E.1.II.1. Additionally, the nature of the County's hydrology method is to assume saturation and consequent runoff varies over the course of a significant rain event. The first-day runoff is 10% of the 4th day runoff. This begs the question, under which day of the storm are we to consider the hydromodification effects?
63. **Page 62, Part 4, E. III.11(a)(2)** An MOU is an unnecessary and inappropriate mechanism to delineate authority within a municipal organization. This requirement should be deleted.
64. **Page 62, Part 4, E. III.12 (a)** Please define "with immediate effect".
65. **Page 62, Part 4, E. III. 12 (a)** Imposition of these thresholds as environmental issues results in inconsistencies between CEQA and this Order. The result will be the elimination of Categorical Exemptions under CEQA. Furthermore, these thresholds do not distinguish between ministerial versus discretionary projects. Please rectify these inconsistencies.
66. **Page 62, Part 4, E.III.12 (a)** This requirement is in direct conflict with many classes of categorical exemptions as provided for in the California Environmental

Quality Act (CEQA), as it would require consideration and mitigation of "potential" storm water quality impacts for small projects that do not currently require such mitigation because they are not considered to have a significant effect on the environment. As proposed, this requirement would significantly extend the time necessary for permit processing, add to the applicant's costs to obtain a permit and inspection, and increase all such project's exposure to CEQA legal challenges. This section should therefore be revised to reflect existing CEQA legislation.

67. **Page 63, Part 4, E.III.13** State law governs General Plan amendments and the obligations imposed on cities. If this is to be imposed, it should be done through legislative adoption.

68. **Page 63, Part 4, E. III.13 (a)** State Planning Law already requires that Conservation Elements address the conservation of natural resources, including "water and its hydraulic force", and that Open Space Elements identify strategies to preserve open space land, with corresponding benefits to water quality and quantity. Each general plan element must also carry equal weight and be internally consistent. It is therefore redundant to require storm water quality and quantity management considerations in Housing and Land Use Elements. Please make this section consistent with State Planning Law.

69. **Page 63, Part 4, E. III 13(b)** General Plan updates are already provided to the State Clearinghouse for distribution to related agencies such as the Los Angeles Regional Water Quality Control Board, therefore it appears redundant to send additional copies directly to the Water Quality Control Board. Please delete this requirement.

70. **Page 63, Part 4, F. 1. (a)** Active sites with properly designed and constructed detention basins will effectively have no discharge and should be exempted from this requirement.

71. **Page 63, Part 4, F. 1. (a)(1)(A)** Grading prohibitions: "On hillsides with slopes 20% or steeper prior to land disturbance." Define how large an area must be in the 20% or steeper terrain for grading to be prohibited. Grading of these areas during the wet season will not present pollutant runoff problems when effective BMPs are in place. More flexibility is warranted rather than a flat prohibition, since a complete prohibition could have more significant environmental impacts than allowing completion of grading. "Hillside" is defined in the current NPDES stormwater permit as a slope of 25% or greater. Please justify the change from 25% to 20%.

72. **Page 64, Part 4, F. 1. (b) (1)** A project proponent should be able to apply directly to the Regional Board for a Grading Prohibition Variance. Additionally, any variances granted by the Regional Board should become the Regional Board's responsibility for inspection, enforcement, and liability if BMPs are determined inadequate. Alternatively, if the Permittees hold all the responsibility for proposed BMP effectiveness, inspection, enforcement and liability, then they should be given the authority to grant the Grading Prohibition Variance.

73. **Page 64-66, Part 4, F. 2. (a), (b), and (c)** These sections require the implementation of the BMPs in Tables 6 through 8, however those table list duplicative BMPs designed to solve the same problems (e.g. six erosion control

measures in Table 7). It is not intended that all these BMPs be used concurrently. Please change each section to read: "Each Permittee shall require the implementation of an effective combination of the following BMPS . . ."

74. **Page 68, Part 4, F. 6. (a) (8)** Please revise as follows: "Cover the stockpiled "cold-mix" asphalt..."

75. **Page 69, Part 4, F. 8. (b)** During the building process, post construction BMPs may be exposed to some of the worst runoff they will encounter. No post construction BMP will be accepted as constructed in compliance with specifications unless it is cleaned and operational. This initial inspection must include an operation and maintenance inspection. Please strike the last sentence from this section.

76. **Page 70, Part 4, F. 9. (a) (1)** To avoid delays in the construction process while waiting for the State to respond to an NOI, permittees would prefer if proof of application for the Construction Activities Stormwater General Permit (CASGP) for construction activities was required instead of coverage. Any projects that have not filed for under the CASGP would be subject to Part 4 F. 10. (b) and therefore be referred to the Regional Board. Please change to: "Proof of application for coverage under a State NPDES permit . . ."

77. **Page 72, Part 4, G. 1.** Sewage system Maintenance, Overflow, and Spill Prevention, Response Plans: There is no reason to duplicate or add additional requirements for sewer systems when all collection systems are regulated the SWRCB's General Waste Discharge Requirements for Sanitary Sewer Systems. We request that these requirements be removed.

78. **Page 73, Part 4, G. 2 (c) (1)** Requirement for coverage under CASGP for construction activities "does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility." Street repaving and channel clearing are not required by the SWRCB to get coverage under the CASGP for construction activities and that should not be required under this permit.

79. **Page 74, Part 4, G. 3** Permittees would prefer to maintain flexibility in BMP selection from other sources than the Caltrans Stormwater Quality Handbook. Please allow for other sources of BMPs. Please title the BMP Tables.

80. **Page 76, Part 4, G. 3. (b)** Requirement for coverage under CASGP for construction activities "does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility." Long-term maintenance activities are not required by the SWRCB to get coverage under the CASGP for construction activities and that should not be required under this permit. Furthermore, Permits are issued for specific projects at specific locations, and can't be issued if "..1 or more acres of land are disturbed.... cumulatively as part of several projects involving a soil disturbance". "Several projects" could include many locations over an extended period of time. This requirement should be removed from the permit.

81. **Page 76, Part 4, G. 5 (a) (5)** It is beyond the scope of the Permittees authority to require any public agencies not named in this permit to comply with any section of this permit. This requirement should be removed from the permit.

82. **Page 76, Part 4, G. 5 (a) (7)** Entirely eliminating the use of pesticides is a noble goal, but public health and safety must come first. Additionally, the authority to determine if a pesticide is legal to use lies with the California Department of Pesticide Regulation. Please change to: " . . .and timelines with the goal of reducing and ultimately eliminating the use of pesticides . . ."
83. **Page 78, Part 4,G, 6 (a)(3)** Please revise as follows: "...Permittees shall ensure that any catch basin that is found to be 25% full of trash and debris shall be cleaned out."
84. **Page 78, Part 4, G, 6 (c)** Trash receptacles at all transit stops and schools: Six months is insufficient time to accomplish this requirement. Locations must be determined, specifications must be developed, the project must be bid, etc. We request one year to implement this requirement.
85. **Page 78, Part 4,G, 6 (e)** Trash excluders on all catch basins: There is no justification provided for this requirement. There are only three reaches of stream/river in Ventura County that are 303(d) listed for trash. A TMDL is being developed to properly remove the pollutant. In addition, the draft permit requires the Permittees to perform a trash and debris study. Thousand Oaks has over 3,400 catch basins, the vast majority of which are located in residential neighborhoods. At a conservative cost of $1000 per trash excluder, that's $3.4 million dollars (plus installation and maintenance costs) to fix a problem that doesn't exist in the City or it's downstream waterbodies. Furthermore, it would be impossible to complete this multimillion-dollar project in 180 days. The requirement should be deleted from the permit.
86. **Page 81, Part 4,G, 8 (a)** Coverage under the CASGP for construction activities should not be required for projects that are performed to maintain or restore original line, grade or capacity. How would roadside maintenance "vegetation removal" be covered under the CASGP for construction activities? This requirement needs to be removed or revised.
87. **Page 81, Part 4, G, 10** Why should municipal permittees that operate a potable water system be burdened with a requirement (NPDES permit) that does not apply to private water purveyors and water districts? How was the 100,000 gallon per year figure derived and what justification exists for regulating the discharges of potable water that is greater than 100,000 gallons per year? Section G.10 Footnote 1 requires Municipal Potable Water Supply Systems to obtain coverage under the Regional Water Board NPDES Permit No. CAG674001 if the discharge is greater than 100,000 gallons per year. This general permit specifically regulates the discharge of Hydrostatic Test Water. How does this general permit apply to nonspecific discharges from a municipally owned potable water system? A more appropriate method for regulating discharges from potable water systems, should the Board wish to do so, would be to develop a General Permit that would apply to all water purveyors, not just "municipal". Please comment on this option.
88. **Page 84, Part 4, H. 3. (a) (1) (A)** Permittees can only be responsible for infrastructure under their control. Please change to: "A GIS layer showing the location and length of publicly owned underground pipes...."

89. **Page 84, Part 4, H. 3. (a) (2)** Field screening was performed by Permittees during the term of the first permit and was determined to be an inefficient use of resources considering the time spent and the limited number of illicit connection discovered. What is the justification for requiring an even more rigorous field screening program during the third permit cycle? This requirement should be removed from the permit.
90. **Page 85, Part 4,H, 4 (a)** Illicit discharge investigation: "...shall take formal enforcement action to eliminate the illegal discharge." Enforcement actions may only be taken when we know, without a doubt, who the responsible party is. This isn't known in many cases. Furthermore, formal enforcement actions aren't necessary to resolve most illicit discharge incidents. Permittees should be allowed some discretion in code enforcement situations. This requirement should be deleted.
91. **Page 85, Part 4, H. 4. (b)** In many cases of illicit discharges, even with immediate response, the action and discharge have ceased by the time inspectors arrive on scene. Often the discharge has entered into the MS4 making containment and cleanup an extraordinary effort only necessary in the cases of hazardous materials. Please change to: ". . .with action to abate, contain, ~~and~~ or clean up all illegal discharges, including hazardous waste."
92. **Page 86, Part 5, 1.** Watershed Ecological Restoration Planning: There are many potential causes for aquatic ecosystem degradation. What is the justification for requiring municipal stormwater permittees to assume the entire responsibility for restoration? This requirement should be deleted.
93. **Page 89, Part 6, 2. (a)(1)** Malibu Creek Bacteria TMDL, WLA Implementation (field screening for illicit discharges): This requirement, which will require substantial time, effort and funds, is not part of the Implementation Plan for the Malibu Creek bacteria TMDL. The Implementation Plan was submitted to the Regional Board on January 24, 2007. What is the justification for placing a higher implementation burden on only a few of the TMDL's Responsible Parties? Please remove this requirement.
94. **Page 90, Part 6, 2. (a)(2)** The WLA discussion should include the effective date of the numeric receiving water limits.
95. **Page 91, Table 11** The single sample marine limits presented in Table 11 are incorrect and are currently set equal to the geometric mean limits. The correct values should be included. Additionally, the limits table should be clarified to state that the WLAs are the number of exceedence days and the targets are the values used to determine if an exceedence day results from the monitoring results.
96. **Pages 91 & 92, Part 6, 3.** The WLAs included in the Toxicity TMDL should include the effective dates for the interim and final limits. The WLAs included in the Toxicity TMDL apply during both dry and wet weather. The dry label should be removed from the tables. The Toxicity WLA is implemented as a trigger for conducting TIEs. "The toxicity WLAs will be implemented in accordance with US EPA, State Board and Regional Board resolutions, guidance and policy at the time of permit issuance or renewal. Currently, these WLAs would be implemented as a trigger for initiation of the TIE/TRE process as outlined in

USEPA's "Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program" (2000) and current NPDES permits held by discharged in the CCW." (Calleguas Creek Toxicity TMDL BPA). The trigger language should be included in the Numeric Limits discussion.

97. **Pages 92 & 93, Part 6, 4.** The WLAs included in the OC Pesticides TMDL should include the effective dates for the interim limits. The final limits should not be included in the Order because the effective date of the final WLA is not within the permit term covered by the Order. The WLAs included in the OC Pesticides TMDL are annual averages. The table showing the limits should state that they are annual average limits, not dry weather allocations.

The Siltation TMDL allocation is a **reduction** in sediment discharges of 2496 tons/yr, not a limitation on the amount of sediment that can be discharged. The limits should be changed to reflect that the allocation is a reduction in the amount discharged.

98. **Page 96, Definitions** Construction: "Construction also includes...routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility;..." Definition needs to be revised to exclude projects that are performed to maintain or restore original line, grade or capacity. Also, please explain "greater than 5 acres but not necessarily at once" and include justification for this requirement. "...not necessarily at once" could potentially cover a lengthy period of time (years). "....or any other activity that results in land disturbance" encompasses far too many activities to be reasonable or practical. For example, the definition, as currently stated, would make putting in a small vegetable garden or flowerbed at a home a "construction" project subject to permit requirements. "....or any other activity that results in land disturbance" should be removed from the definition.

99. **Page 97, Definitions** Dechlorinated/Debrominated Swimming Pool Discharge: "The term does not include .....swimming pool water containing bacteria." Does this mean any type of bacteria, at any concentration? This definition needs substantial revision.

100. **Page 97, Definitions** Discharge of a Pollutant. Please define the meaning of "conveyance" in the context of this permit.

101. **Page 97, Definitions** Disturbed Area: "..ect...." does not belong in a definition. Please remove it.

102. **Page 98, Definitions** Environmentally Sensitive Areas: Need to limit the RARE areas to "unimproved drainage systems" or "Natural Drainage Systems" (as defined in the permit) so that we don't have concrete channels designated as an ESA.

103. **Page 98, Definitions** Hillside: Should address grading on natural slopes that are *25%* or greater, not 20% or greater. The current definition for a hillside in NPDES permit CAS004002 is a slope of 25% or greater. Please justify the change from 25% to 20%.

104. **Page 102, Definitions** "Open Channel means a storm drain channel that is not a natural water course." Does "open channel" include box (enclosed) channels? This definition needs to be revised.
105. **Page 103, Definitions** Point Zero: Please explain " ...the point at which water from the storm drain or creek initially mixes with water." "Point Zero" is not included in the Malibu Creek TMDL and should be removed from the permit.
106. **Page 103, Definitions** "Potable Drinking Water Supply" and the following definition of "Potable Drinking Water Supply Releases" are defined with exactly the same language. The definition is incorrect for "Potable Drinking Water Supply".
107. **Attachment C** MALs: The "Municipal Action Levels" (MALs) established in the draft permit were computed based on an approach *recommended* by the by the California Water Board's Storm Water Panel in its report, "*The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Commercial Activities* " (June 2006). The State Water Board has yet to take any action upon this report or give direction as to how the recommendations are to be utilized in preparing NPDES permits. The MALs are enforceable limits (....two or more exceedences of a MAL will be ...considered a violation...), yet these limits have never undergone public review or been formally adopted by the State Water Board. The MALs should be removed from the permit.
108. **Page F-7, C. Monitoring** Tributary monitoring program: Within the Calleguas Creek watershed, tributary monitoring will be conducted as a part of the TMDL compliance monitoring process. Further monitoring in the watershed is duplicative and a waste of funds. This requirement should be deleted.
109. **Page F-9, C. 4. Monitoring** Tributary monitoring, corrective action plans: The Regional Board assumes that any violation of water quality objectives is attributable to urban runoff, that the source of the exceedence can be identified and that a "corrective action plan" can be developed and implemented. This is an entirely inappropriate requirement because urban runoff is only one component of the flow in a waterway (POTW discharges, agricultural runoff, groundwater discharges or aquifer spillage also exist in many tributaries). As Municipal stormwater permittees, we can't control other sources that discharge to a watercourse. This requirement should be removed from the permit.
110. **Page F-11, D. 2. Monitoring** Malibu Creek Bacteria TMDL: The discharge prohibition, monitoring and implementation requirements are extremely burdensome. The TMDL compliance monitoring plan was submitted to the Regional Board on May 24, 2006. The Implementation Plan was submitted to the Regional Board on January 24, 2007. What is the justification for including onerous monitoring and implementation requirements in the draft Municipal Stormwater permit for TMDL Responsible Parties located in Ventura County? These requirements should be removed, or revised to reflect the monitoring plan and implementation plan submitted to the Regional Board.
111. **Reporting Program (Attachment H)** The reporting program is formatted as questions asked by the Regional Board that must be answered by the permittees. This is unnecessary and confusing. The reporting program

requirements should be very straightforward list of items or activities regarding which Regional Board requires information to determine compliance with the permit.

Oxnard
Chamber of Commerce

March 7, 2007

Los Angeles Regional Water Quality Control Board
320 W. 4th Street #200
Los Angeles, CA 90013-2343

Honorable Board Members:

The Oxnard Chamber of Commerce opposes the draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System (MS4) permit requirements within the Ventura County Watershed. We base our opposition on the following:

1. Oxnard has an expansive redevelopment area. Since our community is more than a century old, there are numerous redevelopment projects on the horizon. We feel these projects will revitalize some areas in the city and provide jobs for our community. We find the draft permit provision requiring any redevelopment projects of more than 5000 square feet to contain and treat storm water is excessive.
2. We believe the revised permit requirements take away local land use decisions and impair municipal projects. The draft permit language would give the Regional Water Quality Board the power to make land use decisions on a project-by-project basis, bypassing local control.
3. In addition, we do not believe the new required method of containing runoff has been proven to reduce the discharge pollutants in storm water. We believe that redevelopment utilizes environmentally-friendly methods and materials.

Finally, we feel that the proposed revisions to the MS4 permit requirements would stifle redevelopment of blighted areas and severely hurt small businesses, which are the backbone of our economy.

The Oxnard Chamber of Commerce urges you to discard the proposed revisions to the MS4 permit requirements. Thank you for your consideration.

Sincerely,

Nancy Lindholm
President/CEO

400 E. Esplanade Drive, Suite 302 Oxnard, CA 93036 Phone (805) 983-6118 Fax (805) 604-7331 OxnardChamber.org

Ventura County Resource Conservation District

P.O. Box 147 • 3380 Somis Road • Somis, California 93066
Phone: (805) 386-4685 • Fax: (805) 386-4890
www.vcrcd.org • email: marty.melvin@vcrcd.org

March 2, 2007

Ron Coons
Public Works Agency Director
County of Ventura
800 S. Victoria Avenue
Ventura CA 93009

Dear Mr. Coons:

The Ventura County Resource Conservation District administers the Hillside Erosion Control Ordinance No. 3539 [HECO] for the County Ventura. This ordinance deals with issues related to grading of agricultural land within the county. The ordinance has provided an effective process whereby Ag users can grade their hillside property and still comply with water quality and erosion BMPs.

The Board of Directors and staff of the VCRCD would like to lend their voice to the comments and objections to the new NPDES Permit for the Regional Water Quality Control Board [RWQCB]. The draft document from the RWQCB is unclear and contradictory of existing water conservation measures, BMPs, and other agency standards.

It appears that agricultural grading is exempt [see pages 11/118 Section D/1 and 7/118 paragraph 15], however, the RCD requests that the RWQCB:

- Provide specific written confirmation of the exemption for agricultural grading and clearing for agricultural purposes within the permit document.

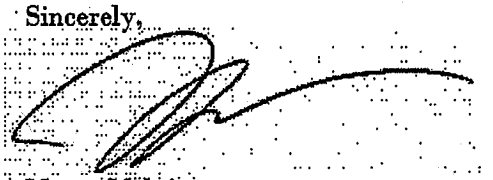
- Eliminate any proposed restrictions of land clearing and grading during the months from October to April. This requirement will put undue strain on annual agricultural operations and create an additional economic hardship on the Ag community/business in Ventura County. For example, orchard planting, normally performed in March, April, or May will require several months of land preparation work, which will involve grading and land clearing.

- Recognize that the Hillside Erosion Control Ordinance drives Best Management Practices that greatly curtail agricultural grading and clearing sediment into the watersheds. The RWQCB already has direction on irrigated lands and Ag through the TMDL effort.

The Ventura County RCD is a strong advocate and service agency committed to best practices in agriculture and throughout the District. Please include this letter with the County of Ventura's specific NPDES draft permit comments. We do not support the proposed NPDES draft permit as it written for the reasons stated in this letter.

Please direct any questions about the Hillside Erosion Control Ordinance or the Resource Conservation District to me at 805-386-4685.

Sincerely,



Marty Melvin
District Manager

Ventura County Resource Conservation District
P.O. Box 147 • 3380 Somis Road • Somis, California 93066
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Flex your power!
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March 7, 2007

Dr. Xavier Swamikannu
Storm Water Permitting
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, CA 90013
By email: XSwamikannu@waterboards.ca.gov

RE: Draft MS4 NPDES Permit for the Ventura Countywide Storm Water Program

Dear Dr. Swamikannu:

The California Department of Transportation (Department) appreciates the opportunity to comment on the Draft NDPES permit for the Ventura County Storm Water Program. This permit does not pertain to State Highways; however, we have an interest, because portions of this permit may be referenced in our Statewide Storm Water Management Plan (SWMP).

As you know, the Department has broad experience implementing storm water controls throughout the state. Our research program investigating storm water issues is possibly one of the most comprehensive in the nation. We also began implementing a statewide storm water runoff characterization program in 1996. Consequently, in addition to experience in implementing and evaluating storm water controls, we have obtained ample data on our typical roadway runoff. We note that the permit references our best management practice (BMP) descriptions and guidance documents.

The proposed Ventura Countywide permit is innovative, in that it introduces municipal action levels (MALs), which have not been used previously for municipal runoff in the State. In this draft permit, the MALs are used to determine if maximum extent practicable (MEP) pollutant controls are being implemented. In other words, they define the technology-based minimum measures necessary for storm water management. Although we understand your ultimate goal, we believe this use of the MALs is not appropriate, at this time, for the following reasons:

- *Inconsistent relationship between numeric levels of pollutants in runoff and control measures* – Based on our statewide monitoring of runoff, it is clear that pollutant concentrations vary by orders of magnitude. Caltrans implements a consistent program throughout the state, yet extreme variability is evident in the runoff concentration. Much of this variation is obviously independent of pollution controls such as standard BMPs for existing roadways. The variation is affected by such factors as proximity to open land (dust), traffic volume, traffic controls (e.g., stops, access ramps), traffic congestion, age of roadway, period between storms, strength and duration of storms, etc.

The variation in runoff is more likely to be related to one of these independent factors rather than the successful implementation of BMPs. Therefore, we have not seen any technical basis for linking a definition of MEP to any specific concentration of pollutants in the runoff.

The MALs in the permit were obtained by multiplying median values (based on nationwide Phase I MS4 monitoring data) with the coefficient of variance. [i] The permit specifies that after permit year 3, two or more exceedances of a MAL will create a presumption that inadequate implementation of measures to reduce the pollutant(s) to the MEP. "The Permittee is then required to augment measures to reduce the discharge of the pollutant(s) to not violate the MEP."

In the following table, we compared a selection of MALs, as well as the median data on which the MALs are based, with our monitoring results.

Comparison of California Statewide Monitoring Data with Municipal Action Levels
(Note: This table does not include all MALs)

Pollutant	Municipal Action Level	Median (from permit)	Caltrans Median 2000-2001, *Urban* [1]	Caltrans Median 2000/01-2002/03 *Statewide* [2]	Caltrans Range [2]
Total suspended solids *mg/L*	**106.2**	59	160	59.1	1 - 2988
COD mg/L	**58.3**	53	-	-	27 - 260 *(3)*
Copper (total) *ug/L*	**32**	16	39	21	1.2 - 270
Zinc (total) *ug/L*	**232**	116	260	111	5.5 - 1680
Lead (total) *ug/L*	**30.6**	17	64	12.7	1 - 2600

[1] Caltrans data from *2000–2001 Annual Data Summary* for 230 sites.
[2] Caltrans data from *Discharge Characterization Study Report* (Nov. 2003) for 635 sites.
[3] COD whole storm data from *1998–1999 Annual Data Summary* for 20 sites.

As shown, in any given year, even the median values may exceed the MALs. In addition, the high range may exceed the MAL by almost two orders of magnitude. These exceedances do not necessarily indicate any lack of performance by the permittee but are rather representative of the natural variability in storm water runoff.

- *Incorrect emphasis on technology-based controls rather than water quality-based controls (TMDLs)* – Increasingly, implementation of storm water controls will be driven by TMDLs. This is particularly true for structural controls. The TMDL process focuses on those waterways where water quality is impaired. We believe this emphasis is correct, and that permittee efforts should be directed toward TMDL compliance.

In addition, we would like to note that the State Board's Storm Water Panel on Numeric Limits ("Blue Ribbon Panel") found that numeric limits were not appropriate for municipal runoff. For municipal discharges, the panel concluded:

[i] The permit notes that since the MALs are based on the median, which includes the variability of the sample results, the maximum value for the coefficient of variation has been set at 2.0.

> It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, ... Depending on the pollutants and parameters of concern and BMP choices, it is very likely that treatment trains of structural BMPs will be required in many cases.
>
> — *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities*, June 19, 2006

The panel also proposed *Action Levels* to identify "bad actor" catchments (e.g., dissolved copper at 100 ug/l). The panel's report discusses very specific approaches for developing action levels and identifying appropriate BMPs.

In conclusion, we note that CASQA is preparing a *Guidance Manual on Assessing Stormwater Program Effectiveness*, which may present a more appropriate approach for evaluating MS4 performance.

Thank you for this opportunity to submit our comments. If you have any questions, please contact Keith Jones at (916) 653-4947.

Sincerely,

G. SCOTT MCGOWEN
Chief Environmental Engineer

c: Bruce Fujimoto, SWRCB, bfujimoto@waterboards.ca.gov

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OF LOS ANGELES COUNTY

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STEPHEN R. MAGUIN
Chief Engineer and General Manager

March 7, 2007
File No. 31-370.40.4A

Via electronic and U.S. mail

Mr. Jonathan Bishop, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

ATTN: Mr. Xavier Swamikannu

Dear Mr. Bishop:

Comments on the Proposed Changes to the Waste Discharge Requirements for Municipal Storm Water Discharges within the Ventura County Watershed Protection District (NPDES NO. CAS004002)

The Joint Outfall System[1] and the Santa Clarita Valley Sanitation District of Los Angeles County (Districts) appreciate the opportunity to provide comments on the proposed changes to the Waste Discharge Requirements for Municipal Storm Water Discharges within the Ventura County Watershed Protection District. The Districts are providing comments on two elements of the Draft Order that appear out-of-step with the efforts of the lead agencies across the state, and one item where clarified language is requested.

1. The requirement to develop Watershed Ecological Restoration Plans may be unnecessarily triggered by natural conditions in some areas.

The Draft Order requires Ecological Restoration Plans (ERPs) for all stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring. This requirement to develop ERPs exclusively in response to low benthic macro-invertebrate index of biological integrity scores (BMI IBI) fails to recognize that habitat conditions are often the driving influence on BMI IBI scores and that in some instances, slow and shallow watercourses may not be able to obtain scores greater than poor. The USEPA and SWRCB recognized this limitation when they supported an approach to evaluate multiple lines of evidence in identifying impairments, known as the "triad" approach. The Districts are supportive of using the triad approach, since it takes into account biological assessments, water chemistry, and toxicity data. It is well documented that areas with wider flood plains and lower gradient portions of rivers, such as the portion of the Santa Clara River from the Los Angeles County Line to the Pacific Ocean, naturally deposit significant amounts of the fine particulates that correlate with a lower BMI IBI scores. Monitoring conducted in natural tributaries to the Santa Clara River (SCR) obtained as part of the SCR Nutrient Study indicate that "poor" to "very poor" might be the natural condition for portions of that system. The requirement to develop an ERP based solely on the bioassessment IBI results, when those results may not be directly linked to water quality or toxicity, is unreasonable and not likely to be successful. It is also known that relatively pristine areas below dam releases consistently score poorly due to the lack of upstream invertebrate recruitment. It is estimated that

[1] Ownership and operation of the Joint Outfa[illegible] among the signatory parties to the amended Joint Outfall Agreement effective July 1, 995. The [illegible]n Districts of Los Angeles County Nos. 1, 2, 3, 5, 8, 15, 16, 17, 18, 19, 21, 22, 23, 29, and 34, a[illegible]trict of Los Angeles County.

it takes several months of consistent flow to establish a mature aquatic invertebrate community, and areas with periodic or intermittent flows in the best of habitats and the highest water quality will never score very high. For these reasons, it would be most appropriate to require development of an ERP only when low BMI IBI scores are correlated with water quality measurements and/or elevated toxicity results. Alternatively, it would also be appropriate to require development of an ERP if BMI IBI scores are lower than those obtained from pre-established background locations in the watershed sharing similar elevation, gradient, flow, and habitat/riparian conditions.

2. The requirement to report sewer spills to California Governor's Office of Emergency Services is unnecessarily beyond what is required and/or desired by the State.

The Draft Order requires notification to the Office of Emergency Services (OES) for every sewer spill that reaches the MS4 system. The requirement is inconsistent with Section 13271 of the Water Code and Title 23, Section 2250, whereby the OES is only required to be notified of sewer spills of 1,000 gallons or more that are, or probably will be discharged to Waters of the State. The proposed requirement is unnecessarily broad and would require calls to OES for very small sewer spills and sewer spills that are fully contained within the MS4 system and are subsequently removed and are thus prevented from reaching Waters of the State. Small sewer spills and sewer spills that are fully contained and removed from the MS4 system do not present a threat to Waters of the State and would be a poor use of the resources at OES, which is tasked with all emergencies statewide, from earthquakes to flu pandemics. Additionally, OES is not likely prepared to handle the increased volume of calls for every spill that reaches the MS4 system. The Statewide Sanitary Sewer Overflow WDRs already require reporting of all sewer spills independent of volume. In addition, publicly owned treatment works (POTWs) within the Los Angeles Regional Board's jurisdiction are already required to notify the local health department within two hours of knowledge of any sewer spill (independent of volume) that may reach Waters of the State.

3. The requirements for BMP substitution are inconsistent and unclear

Part 4.A.2. of the Draft Order states that "The Regional Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s) and after public notice, if the Permittee can document that [specific conditions provided]...". This requirement appears to be in conflict with Part 4.D.3.(a), which states that "In the event that a Permittee determines that a BMP is infeasible at any site, including those specified in the California Stormwater Industrial and Commercial Handbook (2003), the Permittee shall require implementation of similar BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve MALs and/or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs". It is requested that the Regional Board clarify that Part 4.A.2. applies only to BMPs to be implemented directly by the Permittees and that the Permittees maintain their authority to approve alternate BMPs for industrial and commercial facilities as stated in Part 4.D.3.(a). Further, requiring Executive Officer approval for BMP substitutions adds administrative steps that could serve to inhibit the use of new or more effective BMPs.

We appreciate your consideration of these comments. If you have any questions concerning this letter, please contact Ms. Kristen Ruffell at (562) 908-4288, extension 2826.

Very truly yours,

Stephen R. Maguin

Robert Asgian
Division Engineer
Water Quality & Soils Engineering Section

RA:KR:PM:drs

cc: April122007workshop@waterboards.ca.gov

Executive Advisory Committee
Stormwater Program – County of Los Angeles

March 7, 2007

Dr. Xavier Swamikannu (april122007workshop@waterboards.ca.gov)
Regional Water Quality Control Board, Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, CA 90013

Subject: Comments on the draft Ventura MS4 Permit (NPDES No. CAS004002)

Dr. Swamikannu:

The Executive Advisory Committee (EAC) has represented the interests of the Los Angeles County Municipal Stormwater Permittees since adoption of the 1996 NPDES and City of Long Beach Municipal Permits. Our meetings occur on the second Wednesday of each month, at the Los Angeles County Department of Public Works Headquarter in Alhambra. These meetings are typically attended by representatives from over half of the 87 municipal agencies identified in the 2001 Municipal Separate Storm Sewer System (MS4) Permit and are exceptional forum for discussion and clarification regarding Regional Water Board initiatives, intentions, and goals.

The EAC members and MS4 permittee representatives would like to support the concerns raised by the Ventura County municipalities in reviewing their permit. Like the recently adopted San Diego MS4 Permit and soon to be considered South Orange County MS4 Permit, the draft document includes many new initiatives that unfairly mandate new programs and litigation risks, along with the significant costs they entail, upon local municipalities. Given that the Regional Water Board has recently felt it necessary to clarify the most basic tenants of its 2001 permit, we encourage you to meet with municipal representatives from both Ventura and Los Angeles Counties to negotiate new permits which are clear and can be implemented by our agencies. The following comments are representative of some of the many concerns EAC member have with the Draft Ventura County Permit, but may not be shared by each EAC member or Permittee.

1. Our initial comment relates to the shear length and complexity of the draft permit. Its intricacies cannot be easily remembered or applied in the field, which is exactly where the first line of water quality defense is located. The municipal staff who will implement this document are neither lawyers nor regulatory experts, but simply local government representatives trying to implement it to the best to their resource limited abilities.
2. Section B.1. Brush or forest fires also appear to have a significant impact on water quality, both directly as runoff and indirectly through aerial deposition of ash.
3. Section B.2. There many sources of bacteria, including soils and sediment. There are many sources of PAHs including natural fires. These findings should either be expanded to include natural and international sources of these water quality constituents, or deleted.

4. Section B.4. The first and last sentences are broad, do not relate to runoff quantity, and should be moved to a water quality related finding to or deleted. Hydromodification by developments is normally addressed through hydrology and hydraulic studies.
5. Section B.5. The EAC recommend that the Regional Board assist with this task, since it is directly involved with day to day "maintenance" of the 303(d) list. The board could simply post a listing of water bodies on its website, followed by the POC for that water body, and what BMPs the Board considers to be effective. This is something the cities would be able to quickly and efficiently refer developers and their consultants to. Currently we have to "educate" each consultant about the many possible potential POC defining documents, including multiple drafts of 303(d) lists, consent decrees, the MS4 Permit itself, CASQA handbooks, and professional experience. The permit should reference this proposed website by hotlink.
6. Section B.7. This section combines the issues of development and ESAs. The latter should be left to the permit requirements related to ESAs and (re)development.
7. Section B.8. The California Stream Bioassessment Procedure is technical assessment that cannot be performed by Permittee staff. This effort should be funded from the SWAMP assessments paid with our Waste Discharge Permits Surcharge.
8. Section B.10. This section refers to degradation with as little as 3% impervious cover. The state should convey this criteria directly to the commercial and residential community so that they may implement this goal into the plans submitted to cities.
9. Section B.11. The Board notes that its GIASP monitoring program indicates those state Permittees "contribute significant quantities of pollutants in storm water runoff." This may explain a significant source of contaminants to the MS4 Permittee discharges. We encourage the state to review the industrial program monitoring results and perform focused inspections, in collaboration with the MS4 Permittees, to eliminate these identified priority discharges from both the GIASP and MS4P programs.
10. Section C.5. The proposed municipal monitoring program is open-ended, expensive and probably ineffective. The cost of this program should be limited to the funds that are already paid by the MS4 Permittees as the SWAMP surcharge on our annual Waste Discharge Permit. Federal and State (Pesticide) Regulatory agencies should be responsible for conducting the Pyrethroid assessment, since they authorized the use of these pesticides for agriculture, commercial and residential applications (note E.23).
11. Section C.6. The intent of this paragraph is unclear and it should either support the Principal Permittee for participating in these efforts, or be deleted as extraneous.
12. Section D.4. Over time, the incorporation of TMDLs into the MS4 Permit will make the document excessive long, complicated unwieldy and ineffective. We should start planning now to cross reference TMDL related documents external from the permit.
13. Section E.4. It should be noted in this paragraph, that Porter-Cologne is not a "water quality at any cost" act. It addresses the need to do CEQA, consider housing, etc. The Board should address assert that this document is fully compliant with Porter-Cologne.

14. Section E.6. Please reference the 2006 303(d) list, which no longer includes many of the impairments originally identified in the consent decree and therefore no longer deserve the resources required in preparing or implementing a TMDL.
15. Section E.9. The MS4 Permittees continue to advocate, based on state monitoring data summaries (see B.9), that GIASP and GCASP sites are significant sources of constituents to the MS4. This paragraph should note the State's duty to discharge acceptable quality from these Permittees, so that municipalities can accurately assess the degree to which our jurisdictions are the source of contaminants and institute resource effective BMPs.
16. Section E.11. This paragraph could be misconstrued to indicate that each of the 20 beneficial uses apply to each watershed. We assume it is not your intent to apply Ocean Sportfishing beneficial use to upper Malibu Creek, for example. The paragraph should be deleted allowing the Basin Plan to stand alone, or at best simply reference the plan.
17. Section E.18 and 19. Appears to be perilously close to suggesting that (re)development projects should be considered under the State's Antidegradation Policy. This is beyond the qualification of most MS4 Permittee staff and would probably require certification by government agencies that are currently resource limited, entailing significant delays.
18. Section F.1. The Regional Board is making judgments in deciding whether and how to move forward in issuing this MS4 Permit. We believe that CEQA should be applied so that the impact on the environment, including Municipal Services, is considered.
19. Section F.2. While the MEP standard is expected to eliminate impairments, it is not a blanket authorization to institute numeric standards. This was reiterated in the November 22, 2002 letter from USEPA headquarters to the Regional offices.
20. Section F.4. This paragraph is overly broad and could be interpreted as suggesting that cities should issue controls on wildlife that discharge bacteria into an impaired water. This paragraph should be limited to 303(d) listed POC or deleted entirely.
21. Section F.7. The word "permit" seems to be missing after the second use of NPDES. We disagree that this draft permit is no more stringent the federal law and note the MEP is an iterative non-numeric standard and TMDLs are daily, not never to be exceeded standards.
22. Section F.9. The previously alluded to use of Antidegradation Policy considerations, LID, and impervious areas, appears to be a potential grievous intrusion in to local land use decision making authority and runs counter to the platitudes stated in this paragraph.
23. Section F.10. There is no reason to use the SIP MLs, when other analytical methods are adequate to detect contaminants near the regulatory standard. This clause is essentially mandating the use of expensive methodologies to track de minimis concentrations.
24. Section F.11. The MEP standard was never intended to be a numeric standard, however that appears to be a defacto result of triangulating two MAL exceedances into an MEP violation. Furthermore, how can a monitoring program be "cost-effective" when agencies are analyzing for total and dissolved fractions, without considering hardness.
25. Section F.14. This section and part 4.G.1 should be deleted as redundant with other state SSO-WDR requirements. It provides no additional benefit and confuses priorities.

26. Section F.15. This section should explain how limiting impervious portions of a development to 3% of its area (inclusive of streets and other structures) considers the housing needs of an area, especially during redevelopment of highly impervious sites.
27. Section G.3. This date of the scoping meetings and workshop should be referenced.
28. Attachement C. It is impossible for Permittees to meet the identified Coefficient of Variation. It is a characteristic of the samples and analytical methods. Bacterial counts and pH should be deleted from the table, since no MALs are appropriate.

The EAC would like to reiterate our interest in participating in crafting the contents and requirements of the draft Ventura County MS4 Permit, so as to avoid having conflicting requirements in adjacent jurisdictional areas, and reserves the right to provide additional oral or written comments at the planned public workshop. If you wish to further discuss these issues, or seek greater input from the EAC, please feel free to contact me at 562-904-7102.

Sincerely,

Mary Greene for

Desi Alvarez, P.E.
Chair, Executive Advisory Committee

cc: Ventura County MS4 Permittees
Los Angeles County, Department of Public Works
EAC MS4 Permittee mailing list

COUNTY OF LOS ANGELES

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DONALD L. WOLFE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

March 7, 2007

IN REPLY PLEASE
REFER TO FILE: WM-9

Mr. Jonathan Bishop
Executive Officer
California Regional Water Quality
Control Board - Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-2343

Attention Dr. Xavier Swamikannu

Dear Mr. Bishop:

DRAFT VENTURA COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

Public Works has reviewed the proposed draft Ventura County Municipal Separate Storm Sewer System National Pollutant Discharge Elimination System Permit made available for public comment by the Regional Water Quality Control Board. We understand this draft permit may be used as a template for the next Municipal Separate Storm Sewer System National Pollutant Discharge Elimination System Permit in the County of Los Angeles. Our comments are enclosed.

Please note that the comments enclosed in this letter represent our current understanding of the draft Ventura County permit. Public Works reserves the right to make further or different comments prior to the adoption hearing for the Ventura County Permit or with respect to the forthcoming County of Los Angeles permit.

If you have any questions, please contact Mr. Daniel Lafferty at (626) 458-4325.

Very truly yours,

DONALD L. WOLFE
Director of Public Works

for MARK PESTRELLA
Assistant Deputy Director
Watershed Management Division

FW:sw
P:\wmpub\Secretarial\Letters\NPDES Permit.doc\C

Enc.

County of Los Angeles Department of Public Works
Comments in Response to the
Draft Ventura County Municipal Separate Storm Sewer System NPDES Permit
Dated December 27, 2007

A. General Comments

A1: Permit Renewal Process

One of the strategic plan goals for the Department of Public Works is "proactive compliance with environmental regulations". To achieve this goal, it is important to start with common-sense environmental regulations designed to cost-effectively reduce stormwater and urban runoff pollution. A cooperative Regional Board-permittee relationship in which ongoing dialog facilitates mutual understanding forms the foundation for such regulations. In the end, it is our constituencies who benefit from this cooperative spirit as it leads to more efficient expenditures of public funds. The Department hopes that, in future permit renewal processes such as concerning the renewal of the Los Angeles County permit, the Regional Board will involve the permittees as early as possible including providing them with advanced copies of the draft permit, well ahead of the public comment stage.

A2: Municipal Action Levels (MALs)

The Municipal Action Limits appear to be numerical limits, which were determined not to be feasible at this time by the Storm Water Panel Recommendations to the California State Water Resources Control Board in their document entitled, *The Feasibility of Numeric Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities*. (the "Blue Ribbon Panel.") They should be removed from the draft permit, and the RWQCB should use the existing system of TMDLs, the Basin Plan, the Ocean Plan and other applicable water quality objectives to enforce the permit. Exceedences of constituents identified by the permittees should be reviewed by RWQCB staff, and the existing permit mechanisms for identifying and mitigating sources of pollution, including exceedences identified in the annual reports, should be utilized fully before implementing numerical limits in the municipal permit.

Moreover, using MALs or any other numeric threshold to quantify the technology-based Maximum Extent Practicable (MEP) standard is inappropriate. The proposed MAL approach would require the implementation of additional management measures to reduce stormwater pollution when certain triggers are reached, presuming a known cause-effect relationship between management actions and receiving water quality. Based on our experience such a relationship

does not exist today. Forging ahead with BMP implementation without a better understanding of this relationship would most likely lead to a waste of public funds. The use of the MALs or other numeric limits to establish a MEP standard is arbitrary because the practice does not take technological effort or economics into account. The MEP standard necessarily must consider what efforts are technologically and economically feasible, because these factors define what is "practicable." The MALs, however, which simply represent an arbitrary selection of median values of stormwater quality samples collected across the country in a national database, do not have any connection to the efforts that would be required to attain them.

Instead of establishing action levels at this time, we believe the priority should be to better understand the cause-effect relationship between management actions and receiving water quality by 1) making advances in the area of program effectiveness measurement and 2) developing predictive watershed models that would assist stormwater managers in making strategic BMP implementation decisions. Efforts in both areas are in progress, led by the California Association of Stormwater Quality Agencies (CASQA) and the Southern California Coastal Research Project (SCCWRP), respectively. We recommend the Regional Board and permittees cooperatively work toward the common goal of finding cost-effective solutions to reduce storm and urban runoff pollution.

A3: Incorporation of TMDL Numeric Waste Load Allocations (Finding D4 and Part 6).

The County has previously objected to the inclusion of TMDL numeric WLAs into the Los Angeles County Municipal Stormwater NPDES Permit. The grounds for our objections, which focus on the improper incorporation of numeric limits, were described in a letter to the Executive Officer dated June 20, 2006. We hereby incorporate those same objections by reference. Moreover, simply incorporating the WLAs, without a separate examination of whether the permittees' efforts to attain the WLAs would comply with the MEP standard, is arbitrary and capricious. In adopting the TMDLs, the Regional Board made specific representations that it would hold hearings before incorporating the TMDLs into an enforceable permit. Such hearings would allow permittees and other interested parties to comment on the MEP issue, which was not considered by the Board when the TMDLs were originally adopted. (E.g., Resolution 2004-019R, Finding 4 (Malibu Creek Bacteria TMDL.) The draft permit does not inform the community as to whether any analysis has been undertaken by staff to determine whether the WLAs can be met using MEP. Because this issue must be determined, we recommend that the next draft of the permit contain an analysis of MEP for each WLA, as to which permittees and other interested parties can comment.

A4: Inspection Requirements

The draft permit contains a number of inspection requirements which are not found in the CWA regulations, including requirements to inspect various commercial and industrial facilities and construction sites. Because these requirements are not found in the CWA regulations, their inclusion should be subject to economic review, as required by the Supreme Court in *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 618. Also, these separate state requirements represent an unfunded state mandate.

A5: Impacts on Housing

The Development Construction Program set forth in Part 4.F of the Draft Permit would affect the construction of housing, as it limits work during the wet season and mandates other requirements that will increase the cost of development and potentially slow the rate of construction. Other aspects of the Draft Permit also may affect housing. Staff should set forth what evidence it has considered with respect to these specific impacts.

A6: Watershed Ecological Restoration Planning

This requirement in Part 5 of the Draft Permit may have serious implications for the Permittees. Staff should meet with interested parties to discuss this item.

B. Comments Relating to the Findings

B1: Finding D4, which states that the Regional Board will incorporate the monitoring requirements for TMDL compliance, does not reflect that the Regional Board has made the findings required by Water Code § 13267 regarding the burden and benefits of the monitoring programs. Also, as noted in our General Comments, a separate MEP analysis is required with respect to the incorporation of the WLAs in the Permit.

B2: Finding E14(a) references Board Order 01-182 and litigation arising in the Los County Superior Court concerning SUSMP provisions. That Order and the litigation are not relevant to Ventura County, as they covered only Los Angeles County.

B3: Finding F4 appears to be prescriptive, requiring Permittees to address pollutants that may cause or contribute to water quality impairments with "all necessary control measures." Prescriptive findings are not an enforceable part of the Permit and are thus not appropriately included.

B4: Finding F7 asserts that the requirements of the Draft Permit "have been prescribed to be consistent with" the Clean Water Act, and thus would not require the consideration of economic factors under the *City of Burbank* case. There are a number of requirements in the Draft Permit which clearly exceed the

requirements of federal law and regulation, as will be noted below, making erroneous the finding's conclusion that the provisions "are no more stringent than that required by federal law."

B5: Finding F11 is prescriptive, as it requires that "Permittees shall implement a timely, comprehensive, cost-effective storm water pollution program to reduce the discharge of storm water from the permitted areas to not exceed the MALs." Moreover, the Finding states that on and after the third year of the Permit, two or more exceedances of a MAL "will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order." In addition to the improper prescriptive nature of the Finding, as noted above in our General Comments, use of the MALs as a determinant of MEP compliance is improper because the MALs do not represent an evaluation of what may be considered to be technologically or economically feasible. Also, use of the MALs as enforcement tools is contrary to the recommendations of the Blue Ribbon Panel. Finally, incorporation of the MALs as enforceable water quality standards (since their violation will be construed as a violation of the Order) is improper because the MALs have not been properly adopted as water quality objectives pursuant to Water Code § 13241.

B6: Finding F15 recites that the Order "takes into consideration the housing needs in the area." The finding should more clearly indicate how the Board has made this determination, especially in light of the new curbs on development contained in Parts 4E and F of the Draft Permit.

B7: Finding F16 recites that the Regional Board "considered costs in preparing this Order." The finding should clearly state how the Board considered costs. For example, what estimates of implementation costs were provided to the Board? How were those cost estimates derived? How did those estimates relate to the specific facts of Ventura County?

C. Comments Relating to Part I, Discharge Prohibitions

C1: Part 1.A.(1) and (2) are flat prohibitions that do not reference the MEP standard. These prohibitions raise issues related to the fact that exceedances of water quality standards already are occurring, as represented by the waterbodies on the 303(d) lists and those subject to TMDLs. Thus, these sections of the draft permit are impossible to comply with before the inception of the permit. Provisions that are impossible to comply with under the Clean Water Act have been struck down by the courts. *See Hughey v. JMS Dev. Corp.* (11th Cir.) 78 F.3d 1523, cert. den. 519 U.S. 993 (1996). Also, these prohibitions appear to be duplicated, at least in part, by Parts 2.1 and 2.2. In the previous version of the permit, Part 1 was limited to the prohibition of non-stormwater discharges into the MS4.

C2: Part I.B requires prohibition of non-storm discharges into both the MS4 and to "watercourses." While the MS4 clearly is subject to the terms of the Draft Permit, the Order does not apply to natural watercourses or other waterbodies that are not defined as part of the MS4. This provision should be clarified accordingly. Also, the permit should include a provision which would enable a permittee to prohibit conditionally exempt discharges which are determined by the permittee to be in violation of local ordinances. This would provide additional authority to permittees to enforce and prohibit discharges that may be considered a nuisance.

D. Comments Relating to the Receiving Water Limitations

D1: Parts 2.1 and 2.2 are flat prohibitions that do not reference the MEP standard. These prohibitions raise issues related to the fact that exceedances of water quality standards already are occurring, as represented by the waterbodies on the 303(d) lists and those subject to TMDLs. Thus, these sections of the Draft Permit are impossible to comply with from the inception of the Permit. Such provisions under the Clean Water Act have been struck down by the courts. *See JMS* case, cited above. Also, requiring MS4 discharges to meet numeric water quality standards was an approach rejected by the Blue Ribbon Panel, as noted above. Finally, Part 2.1 references "water quality standards," which is an undefined term, making the provision vague and ambiguous.

D2: Part 2.3 describes a process by which compliance efforts to achieve receiving water limitations ("RWLs") can be reviewed, and, if the RWLs are not being achieved, additional BMPs can be identified and implemented. It is this process, one recommended by the Blue Ribbon Panel, that should replace the RWL compliance program for the Draft Permit.

D3: Part 2.4 provides to members of the public the opportunity to petition the Executive Officer if they have "documentary evidence" of a RWL violation. This provision is not authorized by any part of the Clean Water Act or the Porter-Cologne Act. The provision places such members of the public in a privileged position vis-à-vis all other interested parties, including the Permittees. The provision has the potential to encourage members of the public to undertake their own monitoring, an action which may lead to harm to the individuals involved in the monitoring. The provision also increases the burden on Permittees by forcing them to address potentially incorrect allegations of RWL violations while attending to all other requirements of the permit. Members of the public are always free to provide information to Regional Board staff if they believe that the RWLs, or other aspects of the permit, are not being complied with, and staff can take appropriate action to further investigate. We believe that this provision should be removed.

D4: Part 2.5 states that so long as the Permittee is complying with the procedures in Part 2.3, "is in compliance with the MALs" and is implementing the permit, the Permittee does not need to repeat the procedure for continuing or recurring exceedances of the same water quality standard unless directed by the Board to develop and implement additional BMPs. As noted above, we object to the inclusion of MALs as an enforcement tool on numerous grounds. The separate requirement of MALs compliance should be removed from Part 2.5.

E. Comments Relating to the Storm Water Quality Management Program Implementation

E1. Part 3.A.2 states that each Permittee shall take steps "to reduce the discharges of pollutants in storm water to the MEP and achieve water quality objectives." This requirement appears to exempt the achievement of water quality objectives from the MEP standard. This violates the Clean Water Act's MEP requirements and also reflects a provision that is not required by federal law, contrary to Finding F7 discussed above. The current Permit does not contain this language, and it should be removed.

E2: Part 3.A.3.1 requires Permittees to achieve dry-weather TMDL WLAs through "effective prohibition of dry weather discharges." This requirement is not realistic because many sources of dry-weather discharge are outside of the Permittees' control (i.e., POTW discharges that are Regional Board-permitted). This requirement also ignores MEP analysis. Moreover, specifying the minimization of dry weather discharges as the control technique may violate Water Code § 13360(a), which prohibits the Regional Board from specifying the "particular manner" of compliance with a WDR or order of the Board. Compliance with the dry weather WLAs may, for example, be achieved through treatment BMPs as well as through the reduction or prohibition of dry weather discharges. The dry weather discharge prohibition should be removed.

E3: Part 3.A.3.2, relating to wet weather discharges, should reference the MEP standard and be implemented in accordance to the TMDL implementation plans approved by the Regional Board.

E4: Part 3.B.2(f) requires the use of control measures to prevent or reduce the discharge of pollutants "to achieve water quality objectives." This states an incorrect standard, which is to prevent or reduce the discharge of pollutants to the MEP. The provision should be changed to reflect the correct legal standard.

E5: Part 3.D.1 requires each Permittee to modify storm water management programs, protocols, practices and municipal codes to make them consistent with the permit. This period of time is too short, for the reasons noted above. The provision is also inconsistent with Parts 3.B.3 and 3.B.4, which provide 180 days.

E6: Footnote 3 on page 33 of the Draft Permit sets forth sources of funding for implementation of the Permit. These funding sources should not be limited to local sources, but should also include state or federal funding sources.

F. Comments Relating to the Special Provisions (Baseline) General Requirements

F1: Part 4.A.1 states that the Permit is intended to achieve a storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP "and achieve water quality objectives for the permitted areas in the County of Ventura." As discussed above in comments E1 and E4, the requirement to achieve water quality objectives should be deleted. Moreover, the provision does not reference the MEP standard, which is applicable to all efforts undertaken by Permittees under the Permit.

G. Comments Relating to the Public Information and Participation Program

G1: Regarding Part 4.C.1.(c).(1) (A), Public Works refers to our program messages as public service announcements whether they are broadcast as paid or unpaid spots as part of our advertising campaign. This language doesn't include mention of conducting media relations efforts to garner pro bono coverage of stormwater issues by local media outlets.

G2: Regarding Part 4.C.1.(c).(1).(E), the description about organizing watershed Citizen Advisory Group/Committees is vague. It isn't clear which jurisdiction will be responsible for funding, implementing, and monitoring the "effective methods" and for how long. I recommend revising the text to read, "to gain their input on methods to educate the public..." instead of "to develop effective methods..." Funding for implementation of the "methods" and evaluation of this program should be addressed.

G3: Regarding Part 4.C.1.(c).(1).(F), the description is vague. The County of Los Angeles participates in numerous community events as well as events sponsored by the County Board of Supervisors. This task will require a large budget for a jurisdiction. While events allow us to interact with the public, which is extremely valuable, we usually can't interact with more than 200 people at an event and have a meaningful conversation to facilitate their understanding of the stormwater pollution problem. Receiving a pollution prevention message on numerous occasions through a media outlet is the recommended method to promote behavior change. It is recommended that the jurisdictions continue to participate in community events to reach their target audience with pollution prevention messages and information about programs offered by their jurisdiction to facilitate proper disposal of trash, recyclables and hazardous materials.

G4: Regarding Part 4.C.2.(b), recommend changing the word "shall" to "may" in the paragraph where it appears on the first and fourth line to clarify that offering the program is optional instead of mandatory. The County of Los Angeles evaluated offering this program during the previous Permit cycle (2001 – 2006). We determined we didn't have enough manpower to implement this program because expertise would be required on numerous BMPs which is beyond our manpower and budget capabilities. This task would require developing a tracking method to identify the status of small businesses (open or closed) that would require numerous manpower hours. An option would be to include providing general housekeeping BMPs to small businesses who register for permits. Again, the cost to implement this program is unknown.

H. Comments Relating to the Industrial/Commercial Facilities Program

H1: The provision in Part 4.D.2.a suggesting additional treatment control BMPs at a commercial site if MALs are not met is not feasible because there is no way to establish a linkage between receiving water quality (where MAL-compliance is measured) and a particular BMP in the watershed. If, however, this requirement is intended as a suggestion, it is not objectionable.

H2: Inspection Frequency (Page 47)

The language relating to inspection frequency is vague and difficult to plan for since the Regional Board does not provide Permittees a schedule of inspections that are to be performed in their jurisdiction, nor is the Regional Board required to notify the Permittees of any inspection it is performing.

To improve cooperation and provide better coordination between the Regional Board and Permittees, the Regional Board should be required to: 1) identify the frequency of their inspections performed under the IASGP, 2) provide notification to the Permittee agency of any inspections performed under the IASGP, 3) update its database of IASGP facility inspections on a more timely basis, and 4) add a jurisdiction code to its IASGP facility database which will identify the physical address jurisdiction (of each Permittee).

H3: Addition of Nurseries as a Critical Source (Page 46)

It is not clear whether this is a resource or cost issue, but based on our experience, it is easier to add new facilities and utilize a new facility coding scheme for them than to update the existing list of facilities.

H4: Support of Regional Water Board Enforcement Actions (Page 49)

With respect to Part 4.D.3.d.4, language should be added which requires that the Regional Board consider existing local government enforcement with respect to

civil and criminal cases. The Regional Board should not expose or damage existing cases which the local agency has already begun enforcement on, and should consult with the local government to determine if an existing case is pending or ongoing and an offer to join the case should be made in order to not compromise the case. These issues should be discussed during the Stormwater Task Force meetings. In addition, requiring Permittee staff to join Regional Board investigations or to serve as witnesses in enforcement proceedings exceeds the Regional Board's authority under either the CWA or the Porter-Cologne Act. The Regional Board staff has no authority to require Permittee staff to cooperate in investigations or to serve as witnesses, unless subpoenaed. While the term "available" suggests that the provision of staff is subject to the convenience of Permittees, the provision should, at minimum, provide for reimbursement of Permittee staff serving at the request of the Regional Board. With respect to the appearance of Permittee witnesses, the Regional Board can use its subpoena power. Thus, this provision should be deleted from the Draft Permit.

I. Comments Relating to the Planning and Land Development Program

I1: The first paragraph of this section appears to be a preamble; this may create an ambiguity with the specific requirements of the Permit, which are set forth later in Part 4.E. All enforceable provisions of the Permit should be located in specific sections, not set forth in the preamble, which may set forth general goals to be achieved by the specific provisions.

I2: The 5% effective impervious value noted in Part 4.E.1(b) is excessive and more related to preliminary findings from the Peak Flow study. The current Los Angeles County MS4 permit recognizes the Center for Watershed Protection's study citing 10% imperviousness in a watershed as the threshold of degradation. In light of this fact, the effective impervious value should be changed to 10% or more. Also, the footnote to this paragraph should state that any properly designed vegetated buffer should be allowed, not just a vegetated swale. Specifying only a vegetated swale appears to violate Water Code §13360(a). If the 5% value is to remain, it should only apply to development in area that drains directly to a natural stream.

I3: Part 4.E.1(d) introduces the terms Source Control, Low Impact Development (LID) Strategies, and Treatment Control. While the terms "Source Control" and "Treatment Control" are in the CASQA manuals, Permittees may be using other suitable controls and should be allowed to use them if the controls can be shown to be equivalent. LID is a newly introduced concept and could be burdensome to many agencies. The Permit should allow phasing in of LID compliance according to development type. There should also be incentives offered to permittees for adopting LID strategies, such as opting out of a special study, reduced

monitoring, or permission to adopt the standard storm to be derived by the Wet Weather Task Force.

I4: Part 4.E.1(f) introduces an "order of preference" for mitigation beginning with LID strategies and ending with proprietary treatment control BMPs. Until now, the emphasis in the private and public development community has been on end-of-pipe proprietary BMPs. Permittees should be allowed to set their own mitigation priority, but be provided incentives to adopt the Board's preferred order, such as opting out of a special study, reduced monitoring, or permission to adopt the standard storm to be derived by the Wet Weather Task Force.

I5: With regard to Part 4.E.I, covering the Low Impact Development (LID) requirements:

- LID criteria represent a significant change in permittees' operating procedures and will require zoning code rewriting, building and safety code revamping, and other administrative steps. Significant incentives should be offered to Permittees to adopt LID criteria, such as opting out of a special study, reduced monitoring, or permission to adopt the standard storm to be derived by the Wet Weather Task Force.
- The term "LID" needs a more precise definition and needs to be placed in the glossary.
- The interrelationship between LID and post-construction BMP requirements is not clear in the Draft Permit. There appears to be conflicts and overlaps between these requirements. For example, while paragraph 1 requires LID compliance on all new development and redevelopment, Part 4.E.II.1(b) only requires post-construction BMPs to be installed on developments of one acre or greater. This apparent discrepancy should be resolved.
- Based on the broad language in Part 4.E.I.1, it appears that single unit single-family residences on level terrain may also require LID. This represents an expansion of the current requirements. Single unit level-terrain SFR compliance should be encouraged, not required, with incentives offered to the Permittees.

  Part 4.E.I.2 requires preparation of an LID Technical Guidance Document to include a number of objectives and specs. The document can only be achieved through a likely revamping of zoning, land use, and building codes. The permit requires 8 areas of general compliance. However, there are no criteria as to what would be acceptable to Regional Board staff. Moreover, either the Permit should explicitly not require the LID Technical Guidance Document to be submitted to the Executive Officer or, if so, should provide a deadline for the Executive Officer to approve the Document, and, if no such approval has been given by the deadline, the Permit should provide that the Document is to be deemed approved. The Permit should state that development of the Guidance Document will not occur until after peer review and publication of the SMC LID study.

Finally, the Permit should state that no implementation of LID methods is to occur until after publication and approval of the LID Technical Guidance Manual.

I6: With regard to Part 4.E. II, covering hydromodification (peak flow) mitigation criteria:

- Paragraph 1(a) should be worded to make it clear that the requirements apply only to projects draining to natural streams. It should also state if compliance is required if the project is upstream of (not adjacent to) a natural channel but connected by a lined conveyance. The paragraph omits references to controls on runoff volume, although "volume" is used in the paragraph title—either volume control should be included or the title changed.
- Paragraph 1(c), Erosion Potential: It may be overly burdensome to characterize the erosion potential for a given natural stream if that stream is not located at the project site. Developers should be allowed to use criteria other than erosion potential and should be allowed to adopt management strategies approved by other Regional Boards.
- Documentation needs to be presented for the choice of the "2-year 24 hour storm" mentioned in Paragraph 1(e) and a definition of that storm event needs to be included in the glossary.
- Paragraph 1(f) requires Permittees to participate in the SMC hydromod phase II study, and to conduct its own study if the SMC study does not occur. The Regional Board lacks authority to require such participation, as this is a violation of Water Code § 13360(a). Instead, the Permit should provide Permittees with the option of participation, conducting their own study or adopting a hydromodification plan already adopted by another Regional Board.

I7: With regard to Part 4.E.III, covering post-construction mitigation criteria:

- Paragraph 1(a) is vague and ambiguous in several respects. First, the interrelationship between these requirements and the LID requirements contained in Part 4.E.I.1 is not clear. Staff needs to make clear exactly how these elements are to interrelate and as to which development projects. Second, the paragraph is confusing in that it applies "during the construction" of hillside single-family homes. This phrase should be more clearly defined. Third, the definition of "Hillside home" applies to those on 20% slopes. It should be made clear if this slope applies to any part of the parcel or only the location of the house.
- The interrelationship between the requirements of Paragraph 1(b), which apply only to certain developments, and the "all development" requirements of Part 4.E.I.1 is vague and ambiguous.
- Paragraph 1(c): The interrelationship between the Paragraph 1(c) requirements and the requirements in Part 4.E.I.1 is vague and ambiguous. Also, this paragraph should make clear that the requirements

for conditioning and approval shall apply only to projects with the jurisdiction of the Permittee. Freeway and highway post-construction BMPs are within the authority of Caltrans, for example.

- Paragraph 2 introduces tiered criteria for designing BMPs
  - There should be provision for adoption of the standard storm to be derived by the Wet Weather Task Force.
  - A footnote removes "construction projects that disturb land area 5 acres or greater" from the ¾ inch volumetric option for BMP design. There is no apparent reasoning for this removal. Also, the term "construction" in the footnote needs to be better defined to eliminate possible confusion with GCASP projects and/or priority projects.
  - The second tier applies to areas ≥ 50 acres and calls for WQ and flow simulations using SWMM or similar. The Regional Board needs to recognize that this requirement could be a burden on private and public developers.
  - Paragraph 4(c) appears to require post-construction BMPs to be installed on on routine infrastructure maintenance, such as road surface repaving. This requirement could cause major hardship to Permittees, both with respect to the cost of repaving projects and delays and traffic disruption attendant to installing post-construction BMPs as well. Requiring post-construction BMPs in the repaving of Permittee-owned surfaces should be made optional with an incentive offered, such as opting out of a special study, reduced monitoring, or permission to adopt the standard storm to be derived by the Wet Weather Task Force.
  - Paragraph 5(a)(E) presents enforceability problems. Permittees may not have authority to specify the terms of sale or lease agreements. Moreover, the success of tenant-maintained BMPs is questionable without enforcement or inspection.
- Paragraph 6 requires that Permittees inspect project sites and approve post-construction BMPs before issuing certificate of occupancy. This requirement is not included within the CWA regulations governing MS4 permits and, as noted above, requires the economic analysis mandated by the Supreme Court in the *City of Burbank* case and also represents an unfunded state mandate. Moreover, the provisions of Paragraph 6(b) have no place in the Draft Permit, as they relate exclusively to enforcement actions that could be taken by the state or U.S. EPA, and not the Permittees. Also, the subparagraph is vague and ambiguous with respect to what is considered to be "inadequate" or "ineffective" BMPs.
- Paragraph 9(a) calls for a GIS to track post-construction BMPs. Smaller Permittees will find this burdensome. It should be made clear whether the Permittee must submit the GIS for approval by the Executive Officer. If such approval is not provided after a period of time, the permit should provide that the submission is deemed approved.

- Paragraph 9(a)(2) requires inspection of BMPs. As noted, such non-CWA regulation mandated inspections require an economic assessment and is an unfunded state mandate. In addition, the provision requires inspection of BMPs previously approved, without specifying how far back the BMPs were approved. This is onerous and could be a major hardship for many Permittees. An incentive to Permittees should be offered, such as opting out of a special study, reduced monitoring, or permission to adopt the standard storm to be derived by the Wet Weather Task Force.
- Paragraph 10 requires a technical guidance manual. It should be made clear whether or not the Executive Officer must approve the submittal, and, if so, the Permit should provide that after a certain time period following submittal, the failure to act by the Executive Officer constitutes approval of the manual.
- Paragraph 11 requires a process to approve BMPs and to coordinate between agencies. It should be made clear whether or not the Executive Officer must approve the submittal, and, if so, the Permit should provide that after a certain time period following submittal, the failure to act by the Executive Officer constitutes approval of the manual.

J. Comments Relating to the Development Construction Program

J1: The first paragraph is a preamble stating general principles and it is presumed that there are no enforcement consequences attached to it. If this understanding is incorrect, staff should provide a clarification.

J2: Paragraph 1 introduces Grading Prohibitions that can cause considerable hardship for permittees and developers. The Executive Officer may grant a variance based on certain required evidence. The Permit should provide a time period within which the Executive Officer must act after full submittal of the variance information and, if the Executive Officer has not acted within that time, the variance should be deemed approved. Also, since variances benefit developers, not the Permittees; the Permit should provide that the developer should be the party required to make the demonstration called for in this paragraph.

J3: Paragraph 2 requires minimum BMPs for sites < 1 acre and provides a table of BMPs from the CASQA and Caltrans handbooks. This requirement could be a problem if Permittees are not currently using these handbooks. Permittees may be using other suitable controls and should be allowed to use them if the controls can be shown to be equivalent to the BMPs contained in the CASQA and Caltrans handbooks. Also, specifying particular BMPs to be used may violate Water Code § 13360(a). The paragraph also requires the calculation of an Erosivity Factor and use of specific BMPs if the factor is $\geq$ 50. The Erosivity Factor is not defined, not in the glossary, and it is unknown if it is reasonable and easy to use.

J4: Paragraph 3 covers projects ≥ 1 acre and < 5 acres and provides a table of acceptable BMPs, also out of the CASQA and Caltrans handbooks. As noted above, this requirement could be a problem if permittees do notcurrently use the handbooks. Permittees should be allowed to use other suitable BMPs if the controls can be shown to be equivalent. Also, specifying certain BMPs may violate Water Code § 13360(a).

J5: Paragraph 4 covers projects ≥ 5 acres and provides a table of acceptable BMPs also out of the CASQA and Caltrans handbooks. As noted above, this requirement could be a problem if permittees do not currently use the handbooks. Permittees should be allowed to use other suitable BMPs if the controls can be shown to be equivalent. Also, specifying certain BMPs may violate Water Code § 13360(a).

J6: Paragraph 5 requires a local SWPPP for construction ≥ 1 acre, however there appears to be a conflict in referring to paragraph 2, which covers < 1 acre. This conflict should be resolved.

J7: Paragraph 6's specification of 12 housekeeping BMPs for road repairs appears to violate Water Code § 13360. Permittees may be using other suitable controls and should be allowed to use them if the controls can be shown to be equivalent. In addition, there should be provisions for exemptions from some or all of the BMPs during emergencies, such as flooding or earthquake repairs.

J8: Paragraph 7's requirement for an electronic site tracking system for grading, encroachment, demolition, building, or construction permits should be subject to a reasonable time frame for Permittees who do not already have such a system to implement one.

J9: Paragraph 8's inspection requirements go beyond the inspection requirements of the CWA regulations and, therefore, are subject to the review mandated by *City of Burbank*. In addition, the requirement in Paragraph 8(a)(3) that enforcement action must be undertaken purports to eliminate the prosecutorial discretion of city attorneys, county counsel or district attorneys to enforce municipal codes. The Permit could lawfully require Permittees to request such agencies to bring enforcement actions.

Paragraph 8(b) is mostly redundant of paragraph E.III.6(a)(1) of the Development Planning program, except the additional qualifying sentence at the end appears to miss-cite the earlier paragraph E.III.7(a)(1) which does not appear to relate to BMP verification. This discrepancy should be cleared up.

J10: The requirements of Paragraph 10(c) for Permittees to conduct inspections of facilities where complaints were received by Regional Board staff go beyond the

requirements of the CWA and require the review mandated by *City of Burbank.* Moreover, the requirement should in any event be limited to complaints of violation of local ordinances, and not general stormwater non-compliance and should be subject to a minimum importance threshold, such as multiple complaints.

J11: Paragraph 10(d)'s requirement of Permittee support of Regional Board enforcement actions through providing staff for joint inspections and appearing as witnesses at hearings goes beyond the Regional Board's authority under either the CWA or the Porter-Cologne Act. The Regional Board staff has no authority to require Permittee staff to cooperate in investigations or to serve as witnesses, unless subpoenaed. While the term "available" suggests that the provision of staff is subject to the convenience of Permittees, the provision should provide for reimbursement of Permittee staff serving at the request of the Regional Board. With respect to the appearance of Permittee witnesses, the Regional Board can use its subpoena power, and thus the provision should be deleted from the Draft Permit.

K. Comments Relating to the Public Agency Activities Program

K1: Regarding Part 4.G.1, Septic Sewer Overflows Notifications, when a spill overflows to the MS4, the responsible sanitary agency should be required to notify not only the affected public health agencies, but also the affected MS4 owner/operator, within 2 hours.

K2: Regarding Part 4.G.2, Public Construction Activities Management, while we understand and applaud the goal of improving consistency in inspections conducted by State and municipal inspectors, we are concerned about using the Caltrans staff guide as "rule" at this time. Such a specification of BMPs also appears to violate Water Code § 13360(a). The Permit should provide flexibility for Permittees to use equivalent BMPs to those specified.

K3: Regarding Part 4.G.3, Maintenance Activities, requiring Permittees to obtain coverage under the Construction Activities Storm Water General Permit (CASGP) for long-term maintenance activities such as channel clearing and sidewalk or street replacements is inappropriate. These activities do not constitute "construction." The coverage of activities under the CASGP is a separate legal issue which cannot be modified by terms of the MS4 Permit.

K4: Regarding Part 4.G.6, the requirement for catch basin cleanouts on a particular schedule appears to violate Water Code § 13360(a), by specifying a means of compliance. The schedule should be deleted. Also, the blanket installation of excluders on all catch basins called for in paragraph (e) would not be a responsible expenditure of public funds, because for many catch basins located in low trash generation areas, excluders simply would be unnecessary.

Implementation of BMPs must be strategic and targeted to extract the most return on the capital investment. We recommend that this requirement be deleted.

K5: Regarding Part 4.G.7, Streets and Roads, paragraph (b) sets forth required BMPs for road reconstruction. The specification of these BMPs appears to violate Water Code § 13360(a). Permittees should be given flexibility to adopt BMPs that achieve equal or superior performance to the BMPs specified in this section.

K6: Regarding Part 4.G.10, Municipal Potable Water Supply Discharges, municipal potable water supply system discharges should remain conditionally exempt from coverage under the Permit. Potable water discharges do not pose a water quality threat, and limiting discharge to 100,000 gallons for the system per year would be prohibitive.

K7: Regarding Part 4.G.11, Emergency Procedures, 14 instead of 7 business days should be allotted to submit a statement of the occurrence to ensure quality reporting.

L. Comments Relating to the Illicit Connections and Illicit Discharge Elimination Program

L1: Regarding Part 4.H.2, IC/ID Complaints Website,hosting an Internet site to receive IC/ID complaints is extraneous and would be an irresponsible expenditure of public funds. A telephone hotline such as Los Angeles County's 888-CLEANLA is the best way to field complaints.

L2: Regarding Part 4.H.3, Illicit Discharge Investigation Protocol,the reference to the Center for Watershed Protection guidance manual belongs in Part 4.H.4.a, as it deals with illicit discharge investigation instead of field screening of the storm drain system. Adherence to the guidance manual should be voluntary instead of mandatory, as mandatory adherence violates Water Code § 13360(a).

M. Comments Relating to the Glossary

M1: "Authorization to discharge storm water from storm water treatment BMPs" – This definition contains prescriptive language, which should be in the enforceable sections of the Permit. We recommend deletion of this definition.

M2: "Automotive Repair Shop" – This definition is subsumed by "Automotive Service Facilities" and should be deleted.

M3: "Commercial Area(s) and "Commercial Development" – These two definitions appear to cover similar areas, but are somewhat different in scope. To avoid confusion, one definition should be included and the other deleted.

M4: "Construction" – This definition is overbroad and includes routine maintenance not involving new construction. We recommend retention of the definition of "construction" in the current Ventura County MS4 permit.

M5: "Development" – This definition should include the specific exemptions contained in the current Ventura County MS4 permit.

M6: "Inspection" – This definition includes prescriptive requirements (the steps involved in performing an inspection), which are more properly contained in the enforceable sections of the Permit.

M7: "Potable Water Distribution Systems Releases" – This definition contains prescriptive requirements relating to the nature of releases, all of which are contained in the Permit and should not be repeated in the glossary. It should be noted that we object to the restrictions included in the definition relating to such releases.

N. Comments Relating to the Standard Provisions

N1: Part 8.C, relating to public review of documents, should make clear that it is the Regional Board that will make the submitted documents available to the public, not the Permittee. The response to public comments, should it be necessary, should also be the responsibility of the Regional Board.

O. Comments Relating to the Monitoring Program (Attachment F)

O1: TSS Monitoring and Correlation

The requirement for TSS monitoring and correlation (F-2, 9.) should be removed. Analysis of Los Angeles' County Flood Control District (LACFCD) NPDES data has shown that there is poor correlation between pollutants of concern and total suspended solids. This was detailed in the LACFCD's 1994-2005 Integrated Receiving Water Impacts Report and in the 2006 Report on Waste Discharges.

O2: Flow-Weighted Composite Sampling

The language defining the duration of flow-weighted composites currently calls for sampling only the first 3 hours of storm (Page F-2, 6.). The first sentence should be revised such that it refers to manually collected samples. We recommend restating the first sentence as follows: "Manually collected samples shall be flow-weighted composites, collected during the first 3 hours or for the

duration of the storm if it is less then 3 hours." The following sentence should be added at the end of statement #6: "Sampling at automated sampling locations should occur for the full duration of a storm to properly determine event mean concentration."

O3: Dry-Weather Sampling Periods

The language regarding the scheduling of dry weather sampling (F-2, 8. (b)) should be revised such that sampling after the wet season should occur during May or June, and sampling prior to the wet season should be conducted in August or September. The following change is recommended: 8. (b) (A) Monitor 1 prior to the onset of wet weather – October 1st (during the months of August - September). 8. (b) (B) Monitor 1 post wet weather – April 15th (during the months of May – June).

O4: Constituents to be Grab Sampled

On page F-3, 10., the draft Permit specifies grab samples for pathogen indicators and oil and grease only. This will preclude grab samples for volatile substances such as MTBE, and substances subject to biological activity such as phenols and dissolved oxygen. Composite samples are not appropriate for these constituents as they tend to transform to different substances or change in concentration after a short time span. These changes may very likely occur in the presence of other reactive pollutants. We recommend that the following statement be used for F-3, 10.: "Grab samples shall be taken for pathogen indicators, oil and grease, volatile substances such as Methyl Tertiary Butyl Ether, and analytes subject to biological activity such as phenols and dissolved oxygen. Other substances that should be monitored by grab sample include, pH, temperature, and cyanide, as required in 40 CFR 122.21(g)(7)."

O5: Electronic Submission of Monitoring Results

Monitoring results are required to be submitted electronically 45 days after a sampling event (page F-3, 15.). This requirement applies to toxicity tests (F-7, 8.), and tributary monitoring (F-8, 3.(g)) as well. Forty-five days may not provide enough time for complete laboratory analysis, especially for toxicity tests that result in one or more TIEs. An exemption should be granted for toxicity tests that result in TIEs, and reporting of electronic test results should occur within 90 days after a sampling event.

O6: Pyrethroid Insecticides Study

The proposed Pyrethroid study requires the collection of 3 L of sediment at each sampling location (F-20, 2. (e)). Concrete-bottom channels are designed to scour themselves clean, which will present great technical difficulties in obtaining

sediments. An EPA approved sampling protocol for sediment in concrete lined channels should be provided by the RWQCB before including this requirement in a permit.

O7: Aquatic Toxicity Monitoring

The draft permit specifies that toxicity samples should be flow-weighted (F-6, 4(g)). This will be quite onerous and burdensome to achieve at many sites, requiring large expenditures for automated equipment and/or many hours of labor in a risky situation during a storm event. We recommend that the requirement be changed to allow for 3 grab samples taken at representative times during a storm runoff event, during the rising limb of the runoff hydrograph, at or near the peak flow rate of the hydrograph, and during the descending limb of the hydrograph.

(F-5, 2.) The Permit should state specifically how it measures toxicity for each test, for each species.

Regarding the reference to acute Phase I Toxicity Identification Evaluations (TIE) (F-5, 2.), we recommend maintaining data continuity by continuing to use the long used EPA chronic toxicity tests on the sea urchin and water flea - *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms*, EPA/600/R-95-136, August, 1995. Please delete any references to acute toxicity tests.

The Regional Board should state specifically how the Year 1 and Year 2 toxicity thresholds are to be applied.
(F-5, 4.(a)) Toxicity Reduction Evaluations (TRE) based upon drastically different Year 1 and Year 2 (stricter) TIE toxicity thresholds may be onerous and burdensome. The Regional Board should state specifically how those thresholds are to be applied.
(F-5. 4.(a)) Development of a TRE Corrective Action Plan at the mass emissions and/or tributary monitoring program level is onerous and burdensome. It should be reserved for smaller, more source-trackable and BMP-developable watershed areas. This requirement should be removed.

O8: Bioassessment

The five objectives listed on Page F-14 may not be achievable even with all the subsequent requirements being met. We recommend these objectives be deleted.

The Bioassessment Monitoring requirement is tied to the requirements for Watershed Ecological Restoration Plans (Page F16, 16.). It is important to explicitly define the reaches of the MS4 system that are considered to be

streams such that engineered portions of the MS4 system are not identified as needing a restoration plan based upon low Index of Biotic Integrity scores.

Currently available SoCal IBI is still under further development by California Department of Fish and Game (DFG), SWAMP, and other groups/agencies. This is because the existing SoCal IBI cannot be used to evaluate non-perennial streams, low gradient streams (or lower reaches of streams where deposition rather than erosion is dominant), and engineered streams. Until the SoCal IBI is completed, it cannot be used to determine whether a stream is impaired and thus needs an ecological restoration. Instead, we recommend continuing the existing bioassessment at streams of all types based on latest available SoCal IBI mainly for regional evaluation. The data can be made available directly to California DFG and SWAMP to help their ongoing study to remedy the deficiencies of the existing SoCal IBI.

The bioassessment can only provide an evaluation of the biological condition of a water body by measurements of resident biota. It does not produce results that allows direct link between apparent poor ratings and types of pollutants and sources. Therefore, the bioassessment results cannot be used to determine the necessity of ecological restoration and it can only be used for evaluation of biological condition of streams after appropriate standards (IBIs) have been fully developed.

O9: Trash and Debris Study.

Assessment of trash and debris by the permittees should be limited to the ones transported by the stormwater discharges, since the MS4 Permit is applicable only to such discharges. Therefore, the assessment should be only at the stormwater outlets in the beach. The remaining areas of the beach, where trash and debris are from non-point sources, must be excluded from the study or performed by other parties.

Developing control strategies for trash-impaired areas have been achieved by TMDL process under an appropriate legal framework after the impairment had been identified. Trash and debris study under the MS4 permit should be limited to identifying the impairment.

The bulleted objectives on Page F-17 may not be achievable, even if all other aspects of the Study are undertaken. Thus, they should be deleted.

To do a trash study correctly, there should be an effort to include sorting of man-made trash by size. There should also be correlation to storm size, duration, and peak intensity.

O10: Hydromodification Control Study.

The Regional Board should allow adoption of hydromodification control methods already approved by other regional boards, and this study should not be required.

O11: Southern California Bight Project.

The last sentence of the first paragraph should be rewritten to say:

> "Studies sponsored by the participation of the Principal Permittee and Permittees are to assess the special extent and magnitude of ecological disturbances due to stormwater runoff from the mainland shelf of the SCB, to describe relative conditions among different regions of the SCBP due to stormwater runoff, and to suggest possible management practices to help reduce disturbances caused by stormwater runoff."

O12: Volunteer Monitoring Programs

To minimize risk to the volunteers, and legal liability to the Permittees, add to the first paragraph:

> "Any volunteer monitoring programs will take place in dry weather and in such a way as to eliminate risk to the volunteers. Any volunteers participating in the program will be required to sign written agreements holding the Permittees harmless in the event of death or injury or loss of property."

If the release language is not added to this section, the volunteer monitoring program should be deleted from the Permit.

P. Comments Relating to the Reporting Program (Attachment H)

P1: We support the change in the Annual Report submittal date to December 15.

P2: The questions in the Reporting Program are sometimes inconsistent with the requirements in the main body of the draft permit. For example, see Parking Facilities Management (Page H-31 of 34).

Inglewood California

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GLEN W. C. KAU, P.E.
Public Works Director

March 12, 2007

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

Subject: Comments Regarding Draft Ventura MS4 Permit

Dear Dr. Swamikannu:

The City of Inglewood is pleased to submit for your consideration comments regarding the Ventura County MS4 NPDES.

1. Atmospheric Deposition

   The draft Ventura Permit (DVP) contains a reference to atmospheric deposition under the findings section. Its effect on Permit regulatory requirements, however, is unclear. Given that the DVP calls for infiltration, which should be sufficient to address atmospherically deposited pollutants, there does not appear to be a need to deal with atmospheric deposition at all. It should also be mentioned that neither the draft North Orange County MS4 Permit nor the San Diego MS4 Permit references atmospheric deposition. In the case of Los Angeles MS4 Permittees, atmospheric deposition needs to be de-referenced because a number of municipalities are looking into funding an atmospheric deposition study as a means of reducing the WLA for metals. Since infiltration is going to be the structural control of choice, atmospheric deposition should be a non-issue.

   Recommendation: Delete reference to atmospheric deposition.

2. Small Linear Underground/Overheard Construction Projects General Permit (LUP)

   The LUP is extremely complicated, which may explain why San Diego County does not have an equivalent requirement in its recently adopted MS4 Permit and why the San Diego Regional Board has not proposed it for the North Orange County MS4 Permit, which is scheduled for renewal. Beyond this, it is unnecessary -- at least for municipalities.

This proposed Permit addition would: (1) subject municipalities to LUP requirements; and (2) compel municipalities to enforce LUP requirements on behalf of the Regional Board. The LUP seems superfluous for municipalities given that: (1) a GCASWP can also address removing or relocating lines and facilities; and (2) activities that have the potential for generating pollutants can be covered by specific BMPs in the public (municipal) agency program.

It is also worth noting that according to the LUP fact sheet, municipalities covered under an MS4 Permit may not even require compliance with the LUP. Because the GCASWP is significantly less complicated than the LUP, a GCASWP should be allowed for non-municipal dischargers. Or, perhaps minimum BMPs for LUP projects should be prescribed by municipalities.

Recommendation: Remove the LUP requirement to make it consistent with the San Diego and North Orange County MS4 Permits.

3.State Conformity Requirements

The DVP proposes to condition the issuance of grading, encroachment, demolition, building, electrical, or construction permit by requiring a GCASWP or a Small LUP. This requirement is unclear as to intent and purpose. While it makes sense to require evidence of having applied for a GCASWP or a Small LUP as a condition for a grading permit, it is not clear as to why the issuance of an encroachment, demolition, building, or construction permit would need this condition. If soil disturbance is the determinant, which is the case for the GSCAWP and LUP, then simply make it so.

Recommendation: Retain conditioning grading permit issuance on GCASWP or LUP application, but eliminate such condition for the other permit types.

4.Mandatory Installation of Catch Basin Debris Excluders

The DVP calls for the installers of trash excluders, or similar devices on catch basin inlets to prevent discharge of trash to the storm drain system on all catch basin inlets, no later than 180 days from Permit adoption. Because of the cost associated with this requirement, and because not all watershed areas of Ventura County are subject to a trash TMDL, perhaps it would be more prudent to require debris excluders only for those catch basins that are situated within a watershed area that is subject to a trash TMDL.

Beyond this, provide a schedule for installing the devices over a 5 year period instead of 180 days. 180 days is not enough time to install these controls, which for some municipalities could range from several hundreds to several thousands. It should be noted that not every catch basin can be retrofitted with a debris excluder. A field evaluation will need to be conducted to determine which ones can be. Then there is time needed to budget for the expenditure and select a vendor. Once the vendor is selected, installing the controls will depend on the number of catch basins and whether the vendor has the capability of installing them within a time frame that will be significantly less than 180 days. Further, given that there aren't too many catch basin debris excluder

manufacturers to begin with, it is highly doubtful that the vendor(s) would be able to install debris excluders for all Ventura municipalities within this time frame.

Recommendation: Please address/discuss this issue with Permittees.

5.Absence of SUSMP Under Planning and Land Development Program

SUSMP is only mentioned under the findings section of the DVP. Nowhere, however, is it mentioned under the Planning and Land Development Program (the equivalent to the Los Angeles County MS4 Permit's Development Planning Program). Does this mean that the SUSMP has been eliminated – or is this just an accidental omission? It should be noted that the proposed North Orange County MS4 Permit and the San Diego MS4 Permit clearly call for a SUSMP under their development planning programs.

Recommendation: Please explain why SUSMP is no longer a Planning/Land Development sub-set.

6.Development Planning/Land Use Program: Infiltrate Only?

The development planning program contains language relating to treatment controls for subject development/re-development projects. Under 4.E, Planning and Land Development Program, all new development and re-development projects must, among other things: (1) *minimize pollutants emanating from impervious surfaces by reducing the percentage of effective impervious area*; and (2) *minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.* However, under Post-Construction Storm Water Mitigation Criteria (III.2.a) projects disturbing land areas less than 50 acres are required to install post-construction treatment BMPs, consistent with Part 4.E.1 (viz., the infiltration requirement). This requirement appears to be in conflict, however.

Part 4.E.1 essentially calls for infiltration. But section III.2.a calls for post-construction treatment controls, which it says -- in parenthesis -- to "infiltrate, filter, or treat." This means that non-infiltrative controls such as concrete detention basins, catch basin inserts, storm water interceptors, and other manufactured controls that filtrate runoff before discharging the clarified effluent to the MS4 are acceptable. The question is which requirement prevails?

This issue is also being raised because the Los Angeles Regional Board recently has been issuing notices of violations (NOVs) to subject planning priority projects (basically the same projects specified in the DVP) for not including infiltration as a post-construction pollution mitigation measure – despite the fact that the MS4 clearly allows infiltration, filtration, or treatment.

Recommendation: Resolve conflict. Also define "land area." Is it the same soil as disturbance by grading, clearing, and/or excavating?

7. Development Planning/Land Use Program: Infiltration and Groundwater Contamination

The DVP has the potential to require widespread infiltration controls. However, nothing in it warns against siting infiltration controls in areas where there is the potential for infiltration to contaminate groundwater. The Regional Board has taken the position that a 10 foot distance between the infiltration control and water table is sufficient to bio-remediate contaminants. This is not mentioned in the DVP. Given the Regional Board's recent paradigm-shift from manufactured treatment to infiltration the potential impact infiltration can have on groundwater should be addressed. Subject projects should be evaluated for their potential to discharge pollutants to the sub-surface by non-stormwater runoff and stormwater runoff that could contaminate groundwater. There should also be some discussion on how to deal with impermeable soil.

Recommendation: Do not mandate LID as a means of achieving infiltration. Instead, make it a strategy for so doing. In other words, it should be a means to an end instead of an end in itself.

7.Low Impact Development is Excessive

In addition requiring infiltration under the development planning/land use program, the DVP proposes to require all development and redevelopment projects to integrate Low Impact Development (LID) principles into project design. LID represents a viable strategy that Permittees should consider in meeting post-construction pollution mitigation requirements – not to mention certain TMDLs as well. Nevertheless, LID seems to have the potential to go beyond the basic purpose of the development planning/land use program, which is to reduce pollutants in post-construction runoff – a requirement that is already covered under the infiltrate, filtrate, or treat provision. Further, some requirements associated with LID have nothing to do with runoff quality. Techniques to minimize land disturbance and conversation appear to be among them. This is not to criticize the concept of LID. Indeed, LID offers several aesthetic and environmental benefits, but each community must decide whether it is appropriate.
Recommendation: Allow Permittees to use LID as an optional means of meeting infiltration requirements, to the extent feasible, and to meet certain TMDLs.

8.Trash Receptacle Deployment

The DVP proposes to require the installation of trash receptacles at all transit stops in commercial areas and near schools, no later than 6 months from the Order's adoption. Given that the DVP also calls for the installation of debris excluders for all catch basins, deploying trash receptacles as well seems superfluous. Further, providing 6 months to deploy trash receptacles is not sufficient time to budget and procure them.

Recommendation: Eliminate the trash receptacle deployment requirement or allow a Permittee to substitute a trash receptacle for a catch basin debris excluder. Extend the trash receptacle deployment deadline to one year from the adoption of the next Permit, provided that it is adopted 4 months before the Permittee's next budget is approved.

9. Treatment for Streets, Roads, Highways, and Freeways

This requirement calls for runoff treatment from streets, roads, highways, and freeways over 5,000 square feet. It is not clear, however, what treatment means here. Does it mean infiltration, filtration, or street sweeping? If it means infiltration, more discussion will be needed. There are definite disadvantages to infiltrating runoff into a street, not the least of which include injecting into sub-surface metals such as lead from vehicle emissions and hazardous materials releases caused by an accident.

Recommendation: Please clarify.

10. Trash Receptacle Deployment

The DVP proposes to require the installation of trash receptacles at all transit stops in commercial areas and near schools, no later than 6 months from the Order's adoption. Given that the DVP also calls for the installation of debris excluders for all catch basins, deploying trash receptacles as well seems superfluous.

Recommendation: Require either trash receptacles or debris excluders, but not both in the same areas.

11. Projects Disturbing Land Area 50 Acres or Greater

It is unclear as to why a separate category for projects 50 acres or greater requiring post-construction pollution mitigation is needed and why such projects must be:

Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate the following: (A) Rainfall intensity based on hourly rainfall records; (B) An adjustment factor for within hour rainfall variability; and (C) Hydraulics of BMP Performance.

Recommendation: Explain the rationale for creating a separate development planning/land use post-construction treatment requirement for projects 50 acres or greater (why 50 acres?). Also explain the need for hydrodynamic modeling.

12. Illegal Discharge Definition

This definition is exactly the same as an *illicit discharge*. Further, there is no reference to illegal discharge in federal stormwater regulations.

Recommendation: Explain the need to have a definition for illegal discharge given that they appear to be the same.

13. Illicit Connection Definition

The definition of illicit connection raises a couple of issues. First, as it is written, this definition could be interpreted to mean that even if an illicit discharge is released to the MS4 through an engineered conveyance it would be permissible as long as such conveyance is a "permitted connection" to the storm drain or has been authorized by a municipality. This is a separate and apart from the second part of the definition which is: *It also means any engineered conveyance* ***through which*** *discharges of pollutants to the separate storm drainage systems, which are not composed entirely of storm water or are not authorized by an NPDES permit.*

It is understood that legal authority is needed in the stormwater permit to force the removal of unauthorized or unpermitted connections to the storm drain – regardless of whether they are used, ultimately, to convey illicit discharges. But placing it under the definition of an illicit connection would only confuse matters. Instead, unpermitted or unauthorized connections should be dealt with under a separate definition called **"illegal connection,"** which would mean: *any connection that causes an illicit discharge.*

Recommendation: Consider creating an illegal connection category that address unpermitted or unauthorized connections and revise the definition of illicit connection to be any connection that conveys an illicit discharge.

14. Illicit Disposal Definition

Illicit disposal means "any disposal, either intentionally or unintentionally of material or waste that can pollute storm water." The problem is that it is only referenced in the definition section of the DVP. Not only is its purpose unclear, but it seems to operate in the same manner as an illicit discharge. From an enforcement perspective this definition could pose a problem because of the issue of "intent."

Recommendation: Delete definition of illicit disposal or explain its relevance.

15. Pollutants of Concern Definition

Although Pollutants of Concern (POC) is referenced in several places in the DVP, there is no tangible definition of it. Clearly a definition would be helpful in determining what specific type of control technology would be required to meet the SUSMP (provided that it will be included in the Ventura Permit), a TMDL, or a numeric limit for a specific pollutant.

Recommendation: Provide a definition of POC or explain why one is not needed.

16. Reimbursement for Industrial Inspections

Under the current and proposed Ventura MS4 Permit, Permittees are required to inspect industrial facilities identified in Code of Federal Regulations 40, CFR 122.26(c). These facilities are required to obtain coverage under the General Industrial Activity Storm

Water Permit (GIASWP) Program are obligated to annual permit fees. Since industrial permittees are required to pay a fee to the State Water Resources Control, which presumably includes the cost of inspection, the City should be entitled to a portion of the GIASWP fee to defray its inspection costs.

Recommendation: Consider reimbursing Permittees for inspections at a rate of $300 per facility.

17. Reimbursement for Monitoring

Each Permittee pays an annual MS4 Permit Fee that amounts to several thousands of dollars, based on population. The fee also includes a surcharge. Permittees should be entitled to a portion of the annual fee to pay for Permit-related requirements such as monitoring.

Recommendation: Consider sharing annual MS4 Permit fees.

The City appreciates the opportunity to provide comments on the DVP and looks forward presenting them at the April 22 workshop. In the meantime, should you have any questions please call me.

Sincerely,

Glen W. C. Kau, P.E.

COALITION FOR PRACTICAL REGULATION

"Cities Working on Practical Solutions"

March 7, 2007 Via E-mail and U.S. Mail

Dr. Xavier Swamikannu
Storm Water Permitting
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013-2343

Subject: Draft MS4 NPDES Permit for the Ventura Countywide Stormwater Program

Dear. Dr. Swamikannu and members of the Board:

On behalf of the Coalition for Practical Regulation (CPR), an *adhoc* group of 43 cities within Los Angeles County that have come together to address water quality issues, I would like to submit the following comments on the Draft MS4 NPDES Permit for the Ventura Countywide Stormwater Program. CPR is interested in the draft Ventura County MS4 permit because it proposes new precedent setting requirements that, in some cases, appear to attempt to set new state policy through the permitting process. An additional problem is that the draft permit is extremely prescriptive and even mandates the use of particular best management practices (BMPs). In addition, it contains short timelines for implementation that reflect a lack of sensitivity to the budgeting and competitive bidding processes followed by local governments in California. CPR will present additional comments at the April 5 workshop; today we want to briefly address a few major policy issues and ask staff to reconsider their recommendations related to these issues before the workshop.

We appreciate the Regional Board's holding a workshop on the draft permit and deferring action to a future meeting. We also support the City of Ventura's request that the Regional Board defer adoption of the Permit and engage in a collaborative process with stakeholders to rewrite sections of the Permit to better match the recommendations of the State Water Board's Blue Ribbon Panel and to make the permit meet the maximum extent practicable (MEP) standard that Congress set for municipalities.

Perhaps the most far reaching and troubling component of the draft permit is the proposal to establish Municipal Action Levels (MALs) as statistically-derived numeric effluent limits in a manner inconsistent with the iterative process in State Water Board Order 99-05. Instead of being

ARCADIA
ARTESIA
BALDWIN PARK
BELL
BELL GARDENS
BELLFLOWER
BRADBURY
CARSON
CERRITOS
COMMERCE
COVINA
DIAMOND BAR
DOWNEY
GARDENA
HAWAIIAN GARDENS
INDUSTRY
[illegible]DALE
L[illegible]AÑADA FLINTRIDGE
LA MIRADA
LAKEWOOD
LAWNDALE
MONROVIA
MONTEREY PARK
NORWALK
PALOS VERDES ESTATES
PARAMOUNT
PICO RIVERA
POMONA
RANCHO PALOS VERDES
ROSEMEAD
SANTA FE SPRINGS
SAN GABRIEL
SIERRA MADRE
SIGNAL HILL
SOUTH EL MONTE
SOUTH GATE
SOUTH PASADENA
VERNON
WALNUT
WEST COVINA
WHITTIER

designed to assist permitted municipalities with determining when additional measures should be undertaken to improve water quality, the MALs have been designed to facilitate the Regional Board's finding municipalities in violation of the MEP provisions of the Order. The Draft Permit defines MEP as compliance with the statistically defined municipal action levels. As structured in the current draft, the proposed municipal action levels will function as "enforceable numeric effluent criteria for municipal BMPs," which the State's Blue Ribbon Panel found to be "not feasible at this time."

The California Stormwater Quality Association (CASQA) has included action levels in its proposed Progressive Approach for regulating stormwater discharges. This approach has attracted the attention of the regulated community, the environmental community, and regulators, including members of the State Water Board. It is a tiered approach for complying with TMDLs and meeting water quality standards. CPR recommends that the Regional Board work with CASQA and the municipal permittees to develop an alternative municipal action level provision for the draft permit that would build on State Water Board Order 99-05 and provide a permit cycle trial of action levels as tools to improve the stormwater quality program, rather than as tools for punitive action against municipal permittees.

A second major concern that we have with the Draft Ventura Permit is its overly prescriptive and potentially unachievable low impact development component. We agree with the Draft Order's promotion of a land development and redevelopment strategy that considers the water quality and water management benefits associated with smart growth and low impact development. However, we are not sure that it will be practical or even possible to always reduce the percentage of effective impervious area to less than five percent of a project, especially for small redevelopment projects in already developed areas.

More research is needed in developed watersheds with water quantity and water quality best management practices in place before limits on the percentages of effective impervious area are placed in MS4 permits. The implementation of low impact development can be promoted without placing low numeric targets on the percentage of effective impervious area in permits. Furthermore, the use of imperviousness as a predictor of potential impacts of new development and redevelopment on receiving waters is not appropriate in all situations. There will be few hydromodification impacts to concrete flood control channels. Runoff from impervious surfaces will transport pollutants, but that runoff can be filtered, infiltrated, or treated in off-site as well as on-site locations. CPR recommends that the requirement to reduce the percentage of effective impervious area be removed from the draft permit.

A related concern that we have with the draft permit is the numeric hydromodification mitigation criteria. Municipalities are mandated in the Draft Order to require all new development and redevelopment projects to maintain the projects' predevelopment stormwater runoff flow rates and durations. Our cities question whether it is possible to replicate both pre-development flow rates and pre-development flow duration at the same time, especially in redevelopment situations. Furthermore, what are the pre-development

flow rates and duration for re-development projects? If we were to convert an impervious parking lot to an alternative use that was not totally impervious, we would not want to maintain the pre-development runoff flow rate and duration of the impervious parking lot. We will be interested in listening to the engineering analysis and comments on this permit request at the workshop. It appears to us that the proposed requirements are overly complex and may not be achievable.

CPR also is concerned that Finding 7 in the Draft Permit appears to be an attempt to circumvent the City of Burbank Decision by placing many restrictions in the permit that are more stringent than required by Federal Law and asserting that the requirements have been prescribed to be consistent with the Clean Water Act and are necessary to reduce the discharge of pollutants to the maximum extent practicable and to meet water quality standards. This appears to be an attempt to impose costly and restrictive requirements on municipalities without considering economic factors.

Not only does the permit language avoid a serious consideration of economic factors, it is mandating that "the Permittees shall allocate all necessary funds to implement this Order." This language is unworkable based on the demands placed on municipal budgets to provide for safety and other critical services.

The Draft Permit also contains a series of short implementation schedules, including a mandatory 180-day schedule for installation of catch basin debris excluders, or similar devices. This requirement is imposing a schedule that disregards costs as well as municipal budgeting and bidding procedures.

CPR looks forward to the workshop on this permit and will have further comments at that time. We encourage the Regional Board to enter into a collaborative process with stakeholders from both Ventura County and Los Angeles County to make the draft permit more workable and affordable. A wide range of municipalities from both counties should be involved in this process since the Ventura Permit is a likely model for the Los Angeles County permit or permits.

Sincerely,

Kenneth C. Farfsing
City Manager, City of Signal Hill

Cc: CPR Steering Committee
CPR Members

CITY OF LONG BEACH

DEPARTMENT OF PUBLIC WORKS

333 West Ocean Boulevard • Long Beach, CA 90802

VIA FACSIMILE, INTERNET

March 7, 2007

Mr. Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, #200
Los Angeles, CA 90013-2343

SUBJECT: COMMENTS ON PROPOSED CHANGES TO THE WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN, (NPDES NO. CAS004002).

Dear Mr. Swamikannu:

This letter serves to comment on the draft National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit and waste discharge requirements for storm water discharges from the MS4 within the Ventura County Watershed Protection District, County of Ventura and the incorporated cities therein dated December 27, 2006.

In order to facilitate review of the comments, they are written in summary format:

- Using Municipal Action Levels from a national database or any other numeric limit to quantify Maximum Extent Practicable (MEP) is problematic and inappropriate.
- Incorporating TMDL Numeric Waste Load allocations into a MS4 Permit is contrary to the recommendations of the State's Blue Ribbon Panel and inappropriate.
- The added specific concentration levels for chlorine/bromine, chloride, cyanuric acid, e.coli, enteroccocus, and fecal coliform for swimming pool/spa discharges, decorative fountains, mobile pet grooming and trash container leachate are onerous and inappropriate.
- Fiscal Reporting requirements and watershed participation requirements are onerous and inappropriate.
- Minimizing pollutants from impervious surfaces to less than 5% of the total project area is too restrictive and prescriptive.

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- Expansion of SUSMP requirements to include streets, roads, highways & freeway construction and the reduction in size to 5,000 square feet for industrial /commercial development is onerous and inappropriate.
- Low Impact Development (LID) should have a phased in approach and the costs associated with adopting an LID strategies should be substitutive not additive.
- LID needs to be more clearly defined and that definition should be added to the glossary.
- The LID Technical Guidance Document and Training Program development should not occur until after peer review and publication of the SMC LID study. Implementation of LID methods should not be required until approved by the Executive Officer.
- Development of an Inspection and Tracking System for Post-Construction BMPs and an Electronic Site Tracking System are duplicative, onerous and inappropriate.
- The mandatory installation of catch basin debris excluders is too prescriptive, does not address design and or procurement issues, has an unrealistic installation timeline, does not incorporate a cost/benefit analysis or address O&M costs, provides no guarantee of trash reduction, and may impair flood control protection.
- The requirement to obtain coverage under the General Construction Permit, within 7 days, of the adoption of a new Order for long-term maintenance programs, including but not limited to maintenance of flood control channels, maintenance of streets, sidewalks, roads and any other CIP project that disturbs 1 or more acres is duplicative, onerous and inappropriate.
- The trash receptacle deployment requirement is too prescriptive, does not address design procurement issues, has an unrealistic installation timeline, does not incorporate a cost/benefit analysis or address O&M, and provides no guarantee of trash reduction.
- The proposed grading prohibitions during the wet season (October 1 through April 15) are onerous and inappropriate.
- The Erosivity Factor required in the Development Construction Program is not defined nor is there a way for the Permittee to determine if it's reasonable, implementable and/or enforceable.
- Municipal potable water supply system discharges should remain conditionally exempt.
- The Pyrethroid Insecticides Study requirement is onerous, not based on sound science, has no cost/benefit analysis and should be deleted.
- Pollutants of Concern (POC) are referenced in several sections, however, not clearly defined.

- Pollutants of Concern (POC) are referenced in several sections, however, not clearly defined.
- Should the requirement to inspect industrial facilities remain then the Permittee should be reimbursed a minimum of $300 per inspection.
- The Ambient Water Quality monitoring surcharge should be eliminated.
- A minimum of one year is need to submit changes, adds or deletes to the statement of legal authority, update stormwater management programs (manuals, training programs, websites), protocols, and practices.

City staff will be present at the Public Workshop on April 5, 2007 at the City of Burbank Council Chambers and will be available to answer questions and/or provide clarifications regarding the content of this letter. Thank you for the opportunity to comment.

Thomas F. Leary

Thomas F. Leary
Stormwater Program Officer

TFL:ll

cc: Christine F. Shippey, Assistant City Manager
Christine F. Andersen, Director of Public Works
Mark Christoffels, City Engineer
Lisa Peskay Malmsten, Deputy City Attorney

CITY OF CARSON

March 6, 2007

Xavier Swamikannu, DEnv
Chief, Storm Water Permitting
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street - Suite 200
Los Angeles, CA 90013

Subject: Comments Regarding Draft Ventura MS4 Permit

Dear Dr. Swamikannu:

The City of Carson is pleased to submit for your consideration the following comments regarding the Ventura County MS4 NPDES Permit.

1. Atmospheric Deposition

   The draft Ventura Permit (DVP) contains a reference to atmospheric deposition under the findings section. Its effect on Permit regulatory requirements, however, is unclear. Given that the DVP calls for infiltration, which should be sufficient to address atmospherically deposited pollutants, there does not appear to be a need to deal with atmospheric deposition at all. It should also be mentioned that neither the draft North Orange County MS4 Permit nor the San Diego MS4 Permit references atmospheric deposition. In the case of Los Angeles MS4 Permittees, atmospheric deposition needs to be de-referenced because a number of municipalities are looking into funding an atmospheric deposition study as a means of reducing the Waste Load Allocation for metals. Since infiltration is going to be the structural control of choice, atmospheric deposition should be a non-issue.

   Recommendation: Delete reference to atmospheric deposition.

2. Small Linear Underground/Overheard Construction Projects General Permit (LUP)

The LUP is extremely complicated, which may explain why San Diego County does not have an equivalent requirement in its recently adopted MS4 Permit and why the San Diego Regional Board has not proposed it for the North Orange County MS4 Permit, which is scheduled for renewal. Beyond this, it is unnecessary -- at least for municipalities.

This proposed Permit addition would: (1) subject municipalities to LUP requirements; and (2) compel municipalities to enforce LUP requirements on behalf of the Regional Board. The LUP seems superfluous for municipalities given that: (1) a GCASWP can also address removing or relocating lines and facilities; and (2) activities that have the potential for generating pollutants can be covered by specific BMPs in the public (municipal) agency program.

It is also worth noting that according to the LUP fact sheet, municipalities covered under an MS4 Permit may not even require compliance with the LUP. Because the GCASWP is significantly less complicated than the LUP, a GCASWP should be allowed for non-municipal dischargers. Or, perhaps minimum BMPs for LUP projects should be prescribed by municipalities.

Recommendation: Remove the LUP requirement to make it consistent with the San Diego and North Orange County MS4 Permits.

3. State Conformity Requirements

The DVP proposes to condition the issuance of grading, encroachment, demolition, building, electrical, or construction permits by requiring a GCASWP or a Small LUP. This requirement is unclear as to its intent and purpose. While it makes sense to require evidence of having applied for a GCASWP or a Small LUP as a condition for a grading permit, it is not clear as to why the issuance of an encroachment, demolition, building, or construction permit would need this condition. If soil disturbance is the determinant, which is the case for the GSCAWP and LUP, then simply make it so.

Recommendation: Retain conditioning grading permit issuance on GCASWP or LUP application, but eliminate such condition for the other permit types.

4. Mandatory Installation of Catch Basin Debris Excluders

   The DVP calls for the installation of trash excluders, or similar devices, on all catch basin inlets no later than 180 days from Permit adoption to prevent discharge of trash to the storm drain system. Because of the cost associated with this requirement, and because not all watershed areas of Ventura County are subject to a trash TMDL, perhaps it would be more prudent to require debris excluders only for those catch basins that are situated within a watershed area that is subject to a trash TMDL.

   Beyond this, provide a schedule for installing the devices over a 5 year period instead of 180 days. Given the municipal codes for purchasing, 180 days is not enough time to procure and install these controls, which for some municipalities could range from several hundred to several thousand. Furthermore, it should be noted that not every catch basin can be retrofitted with a debris excluder. A field evaluation will need to be conducted to determine which ones can be retrofitted. A field evaluation performed at the right time and in the proper manner could also provide the municipality with a rating of the amount of trash in their catch basins and thus a system of prioritizing the installation of the devices over a period of time. Additionally, time is needed to budget for the expenditure, prepare specifications and solicit proposals for a vendor. Once the vendor is awarded a contract, installing the controls will depend on the number of catch basins and whether the vendor has the capability of furnishing and installing them within that time frame. Given that there aren't too many catch basin debris excluder manufacturers to begin with (currently), it is highly doubtful that the vendor(s) would be able to install debris excluders for all Ventura municipalities within the 180 day time frame.

   Recommendation: Please address/discuss this issue with Permittees and consider limiting the installation of excluders to high priority areas.

5. Absence of SUSMP Under Planning and Land Development Program

   SUSMP is only mentioned under the findings section of the DVP. Nowhere, however, is it mentioned under the Planning and Land Development Program (the equivalent to the Los Angeles County MS4 Permit's Development Planning Program). Does this mean that the SUSMP has been eliminated – or is this just an accidental omission? It should be noted that the proposed North Orange County MS4 Permit and the San Diego MS4 Permit clearly call for a SUSMP under their development planning programs.

   Recommendation: Please explain why SUSMP is no longer a Planning/Land Development sub-set.

6. Development Planning/Land Use Program: Infiltrate Only?

   The development planning program contains language relating to treatment controls for subject development/re-development projects. Under 4.E, Planning and Land Development Program, all new development and re-development projects must, among other things: (1) *minimize pollutants emanating from impervious surfaces by reducing the percentage of effective impervious area*; and (2) *minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.* However, under Post-Construction Storm Water Mitigation Criteria (III.2.a) projects disturbing land areas less than 50 acres are required to install post-construction treatment BMPs, consistent with Part 4.E.1 (viz., the infiltration requirement). This requirement appears to be in conflict, however.

   Part 4.E.1 essentially calls for infiltration. But section III.2.a calls for post-construction treatment controls, which it says -- in parenthesis -- to "infiltrate, filter, or treat." This means that non-infiltrative controls such as concrete detention basins, catch basin inserts, storm water interceptors, and other manufactured controls that filtrate runoff before discharging the clarified effluent to the MS4 are acceptable. The question is which requirement prevails?

   This issue is also being raised because the Los Angeles Regional Board recently has been issuing notices of violations (NOVs) to subject planning priority projects (basically the same projects specified in the DVP) for not including infiltration as a post-construction pollution mitigation measure – despite the fact that the MS4 clearly allows <u>infiltration, filtration, or treatment</u>.

   Recommendation: Resolve conflict. Also define "land area." Is it the same as soil disturbance by grading, clearing, and/or excavating?

7. Development Planning/Land Use Program: Infiltration and Groundwater Contamination

   The DVP has the potential to require widespread infiltration controls. However, nothing in it warns against siting infiltration controls in areas where there is the potential for infiltration to contaminate groundwater. The Regional Board has taken the position that a 10 foot distance between the infiltration control and water table is sufficient to bio-remediate contaminants. This is not mentioned in the DVP. Given the Regional Board's recent paradigm-shift from manufactured treatment to infiltration, the potential impact infiltration can have on groundwater should be addressed. Subject projects should be evaluated for their potential to discharge pollutants to the sub-surface by non-stormwater runoff and

stormwater runoff that could contaminate groundwater. There should also be some discussion on how to deal with impermeable soil.

Recommendation: Do not mandate LID as a means of achieving infiltration. Instead, make it a strategy for so doing. In other words, it should be a means to an end instead of an end in itself.

8. Low Impact Development is Excessive

In addition to requiring infiltration under the development planning/land use program, the DVP proposes to require all development and redevelopment projects to integrate Low Impact Development (LID) principles into project design. LID represents a viable strategy that Permittees should consider in meeting post-construction pollution mitigation requirements – not to mention certain TMDLs as well. Nevertheless, LID seems to have the potential to go beyond the basic purpose of the development planning/land use program, which is to reduce pollutants in post-construction runoff – a requirement that is already covered under the infiltrate, filtrate, or treat provision. Further, some requirements associated with LID have nothing to do with runoff quality. Techniques to minimize land disturbance and conservation appear to be among them. This is not to criticize the concept of LID. Indeed, LID offers several aesthetic and environmental benefits, but each community must decide whether it is appropriate.

Recommendation: Allow Permittees to use LID as an optional means of meeting infiltration requirements, to the extent feasible, and to meet certain TMDLs.

9. Trash Receptacle Deployment

The DVP proposes to require the installation of trash receptacles at all transit stops in commercial areas and near schools, no later than 6 months from the Order's adoption. Given that the DVP also calls for the installation of debris excluders for all catch basins, deploying trash receptacles as well seems superfluous. Further, providing 6 months to deploy trash receptacles is not sufficient time to budget and procure them.

Recommendation: Eliminate the trash receptacle deployment requirement or allow a Permittee to substitute a trash receptacle for a catch basin debris excluder. Extend the trash receptacle deployment deadline to one year from the adoption of the next Permit, provided that it is adopted 4 months before the Permittee's next budget is approved.

OR

Apply the same process recommended for the debris excluder installation which is to essentially require the municipality to prioritize which locations should receive trash cans first based on a field review and specific criteria such as the number of riders at that transit stop, amount of trash observed/documented, and location to nearby convenience stores, schools or other known sources of trash. Extend the trash receptacle deployment deadline to facilitate the survey, evaluation, procurement and installation.

It is also recommended that a minimum size for the trash receptacle be specified and that the number of trash receptacles at each transit stop be based on the volume of trash generated/anticipated and the frequency of pickup. Otherwise the trash receptacles overflow and create more of a problem than when there was no trash can at all.

10. Treatment for Streets, Roads, Highways, and Freeways

This requirement calls for runoff treatment from streets, roads, highways, and freeways over 5,000 square feet. It is not clear, however, what treatment means here. Does it mean infiltration, filtration, or street sweeping? If it means infiltration, more discussion will be needed.

Recommendation: Please clarify.

11. Projects Disturbing Land Area 50 Acres or Greater

It is unclear as to why a separate category for projects 50 acres or greater requiring post-construction pollution mitigation is needed and why such projects must be:

Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate the following: (A) Rainfall intensity based on hourly rainfall records; (B) An adjustment factor for within hour rainfall variability; and (C) Hydraulics of BMP Performance.

Recommendation: Explain the rationale for creating a separate development planning/land use post-construction treatment requirement for projects 50 acres or greater (why 50 acres?). Also explain the need for hydrodynamic modeling.

12. Illegal Discharge Definition

This definition is exactly the same as an *illicit discharge*. Further, there is no reference to illegal discharge in federal stormwater regulations.

Recommendation: Explain the need to have a definition for illegal discharge given that they appear to be the same.

13. Illicit Connection Definition

The definition of illicit connection raises a couple of issues. First, as it is written, this definition could be interpreted to mean that even if an illicit discharge is released to the MS4 through an engineered conveyance it would be permissible as long as such conveyance is a "permitted connection" to the storm drain or has been authorized by a municipality. This is separate and apart from the second part of the definition which is: *It also means any engineered conveyance* ***through which*** *discharges of pollutants to the separate storm drainage systems, which are not composed entirely of storm water or are not authorized by an NPDES permit.*

It is understood that legal authority is needed in the stormwater permit to force the removal of unauthorized or unpermitted connections to the storm drain – regardless of whether they are used, ultimately, to convey illicit discharges. But placing it under the definition of an illicit connection would only confuse matters.

Recommendation: Consider creating an illegal connection category. Unauthorized connections should be dealt with under a separate definition called **"illegal connection**," and defined as any connection that is unauthorized by the permitting authority (and could therefore convey an illicit discharge).

14. Illicit Disposal Definition

Illicit disposal means "any disposal, either intentionally or unintentionally of material or waste that can pollute storm water." The problem is that it is only referenced in the definition section of the DVP

Recommendation: Delete definition of illicit disposal or explain its relevance.

15. Pollutants of Concern Definition

Although Pollutants of Concern (POC) is referenced in several places in the DVP, there is no tangible definition of it. Clearly a definition would be helpful in determining what specific type of control technology would be required to meet the SUSMP (provided that it will be included in the Ventura Permit), a TMDL, or a numeric limit for a specific pollutant.

Recommendation: Provide a definition of POC or explain why one is not needed.

16. Reimbursement for Industrial Inspections

Under the current and proposed Ventura MS4 Permit, Permittees are required to inspect industrial facilities identified in the Code of Federal Regulations 40, CFR 122.26(c). These facilities are required to obtain coverage under the General Industrial Activity Storm Water Permit (GIASWP) Program and are obligated to pay annual permit fees. Since industrial permittees are required to pay a fee to the State Water Resources Control Board, which presumably includes the cost of inspection, the City should be entitled to a portion of the GIASWP fee to defray its inspection costs.

Recommendation: Consider reimbursing Permittees for inspections at a rate of $300 per facility.

17. Reimbursement for Monitoring

Each Permittee pays an annual MS4 Permit Fee that amounts to several thousands of dollars, based on population. The fee also includes a surcharge. Permittees should be entitled to a portion of the annual fee to pay for Permit-related requirements such as monitoring.

Recommendation: Consider sharing annual MS4 Permit fees.

The City appreciates the opportunity to provide comments on the DVP and looks forward to presenting them at the April 22 workshop. In the meantime, should you have any questions I can be reached at (310) 847-3529.

Sincerely,

Patricia Elkins
Building Construction Manager

CASQA
California Stormwater Quality Association™
Dedicated to the Advancement of Stormwater Quality Management, Science and Regulation

March 7, 2007

Dr. Xavier Swamikannu
Storm Water Permitting
Los Angeles Regional Water Quality Control Board
320 4th Street, Suite 200
Los Angeles, Ca 90013

Subject: Draft MS4 NPDES Permit for the Ventura Countywide Stormwater Program

Dear. Dr. Swamikannu

Thank you for this opportunity to comment on the December 27, 2006 draft of the Ventura MS4 Permit (Draft Ventura Permit). Please accept these comments regarding the Draft Ventura Permit submitted by the California Stormwater Quality Association (CASQA) on behalf of its members. CASQA is composed of public entities and individuals including cities, counties, special districts, industries, and consulting firms throughout California. Our membership represents the vast majority of the Phase 1 MS4s regulated in California. CASQA was formed in 1989 to recommend approaches for stormwater quality management to the California State Water Resources Control Board (State Water Board). CASQA continues to assist the State Water Board with the development and implementation of stormwater regulations.

Although CASQA typically refrains from commenting on individual municipal permit issues, the Draft Ventura Permit proposes for the first time development and use of municipal action levels (MALs) in the State. Therefore, our comments focus on the proposed MALs and their use as a numeric compliance metric for the technology-based standard of maximum extent practicable (MEP). Although we concur with the Regional Water Board's efforts to develop an NPDES permit that improves the permittees' accountability and ensures that water quality will be improved in a reasonable time frame, we strongly disagree with the MAL approach as currently structured and question its value for addressing water quality issues. CASQA strongly believes the MALs, as proposed, will not improve water quality (the MALs will have the net effect of directing limited public resources from the pollutants relevant to water quality in Ventura County such as legacy pesticides and bacteria, to ones identified in the MALs; e.g., nickel, cadmium, etc.) and suggests an alternative approach for your consideration. Our comments are organized into four areas: Implication of MALs, Blue Ribbon Panel Report Recommendations, Developing and Implementing MALs, and Alternative Approach for Regulating Municipal Stormwater.

Implication of MALs

The Draft Permit proposes to use the concept of MALs – a set of numeric metrics (largely chemical concentration measurements) to be applied at stormwater outfalls to receiving waters of

36 inches or greater beginning 3 years after the permit's adoption. The Draft Permit's findings and provisions are somewhat unclear and seem to be in conflict with each other with respect to the implications of the MALs. At one point, it is suggested that successive exceedances of the MALs "will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order."(Finding F.11, page 23)

However, at another point (page 29), the draft permit states that such exceedances of MALs "will create a presumption that the implementation of measures to reduce the pollutant(s) in MS4 discharges to the MEP are inadequate" and thereby require the permittee "to augment measures to reduce the discharge of pollutant(s) to not violate the MEP. (A similar subsequent reference suggests that "compliance with the MALs" means that the permittee need not go through the iterative BMP assessment, revision, and implementation process set forth under State Water Board Water Quality Order 99-05 and incorporated in to the draft Permit's Receiving Waters Limitations No. 3.)

The difference between the potential implications of the use of MALs for purposes of determining compliance with an MS4 permit's MEP provisions (which both the State Water Board and the courts recognize must be informed by technical feasibility and, at least to some extent, economic considerations) is critical. Further clarification and refinement is necessary to put MALs in proper context, and their potential use for determining the need for BMP revisions designed to assure that receiving water quality meets applicable narrative and numeric standards.

Blue Ribbon Panel Report Recommendations

As a result of this apparent conflict, the Draft Ventura Permit may be read as proposing to use MALs as a numeric metric for assessing compliance with the technology-based MEP standard. We believe this is the first attempt in California to use numeric metrics in municipal stormwater permits to define the technology-based MEP standard. To determine whether numeric metrics were appropriate for stormwater discharges the State Water Board convened a panel of experts in September 2005 (Blue Ribbon Panel) to address the following question: "Is it technically feasible to establish numeric effluent limitations or some other quantifiable limit for inclusion in storm water permits?" The Blue Ribbon Panel's report, issued in June 2006 (BRP Report), unequivocally states the position that numeric limits for municipal stormwater discharges are not possible at this time. Specifically, the BRP Report states, in the "Municipal Recommendations" Section:

> *"It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges.....*
>
> *For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an "upset" value, which is clearly above the normal observed variability, may be an interim approach which would allow "bad actor" catchments to receive additional attention. For the purposes of this document, we are calling this "upset" value an* ***Action Level*** *because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken ... ..."* Underline added. (Page 8)

However, the MALs proposed in the Draft Ventura Permit would be implemented as a numeric metric for defining the technology-based standard of MEP (see footnote 1, page 29), not as an upset value as described in the Panel Report. As proposed, the MALs in the Draft Ventura Permit appear to function indistinguishably from numeric effluent limits.

Developing and Implementing MALs

MALs, as proposed, are not consistent with the BRP Report, and are therefore not appropriate to define a numeric MEP standard. However, MALs could be developed consistent with the BRP Report recommendations. Our suggestions for incorporating the BRP Report recommendations into the development of MALs are discussed below:

1. **Purpose/Application of MALs**. The derivation and use of action levels stated in the BRP Report reflects an approach to identify the "bad actor catchments" through the use of "upset values". The BRP Report used the term "action level" as equivalent to "upset values". However, the Regional Water Board in the Draft Ventura Permit proposes action levels as numeric compliance metrics for MEP. CASQA suggests that, instead, the Draft Ventura Permit adopt an approach, consistent with the expert BRP report, where the action level is used to trigger more aggressive efforts to investigate the cause of the elevated constituent concentrations and implement appropriate corrective actions.

2. **Approach for Developing MALs**. The Blue Ribbon Panel provided the following approaches for developing action levels: 1) a consensus based approach; 2) a ranked percentile distribution; and 3) statistically based population parameters. The Draft Ventura Permit (Finding 11, page 23) used a "statistical based population approach" that purports to account for the central tendency of the dataset and data variability. Furthermore, the Finding states the following "The MALs were obtained by multiplying the Median (central tendency measure) with the Coefficient of Variance (estimate of variable measure)". However, the Draft Ventura Permit did not provide a rationale for this approach and thus, it is difficult to understand how this approach supports one of the approaches offered by the BRP.

   In fact, the approach proposed by the Ventura Draft Permit does not reflect the stated intent of measuring the central tendency and accounting for data variability. A review of the definition of the coefficient of variation and its relationship to a median value, and how this is implemented in setting the MAL makes this clear.

   The Coefficient of Variation (CV) is a standardized measure of variability, calculated as the standard deviation divided by the mean. The median and mean are both population central tendency estimators, and are approximately equivalent for normally distributed populations. For log normally distributed data (which includes most stormwater data), the median is always less than the mean. In the Regional Water Board's method of calculating the MAL, the central tendency estimators (mean and median) cancel out, and that the MAL is approximately equivalent to the standard deviation:

$$CV = \frac{SD}{Mean}$$
$$Mean \approx Median$$
$$MAL = Median \times CV$$
$$MAL \approx Mean \times CV$$
$$MAL \approx Mean \times \frac{SD}{Mean}$$
$$MAL \approx SD$$

...where, *CV* is the Coefficient of Variation,
SD is Standard Deviation, and
MAL is the Municipal Action Level.

The Regional Water Board approach actually returns the standard deviation for normally distributed data. For log normal distributed data, the MAL will be less than the standard deviation by a factor equal to the ratio of the median to the mean. This approach removes the measure of central tendency parameter from the MAL (i.e., it considers only the variability and not the magnitude of "typical" concentrations). The Regional Water Board approach is not statistically valid or consistent with the BRP report recommendations because this method results in an MAL that has no meaningful relationship to commonly observed concentrations, to any effect concentration, or to any reasonable measure of a concentration of concern. Instead, this method results in a value that may be multiples above or below any observed concentrations. This was almost certainly not the Regional Water Board's intent in setting MALs and should be corrected.

To further demonstrate the shortcoming of this approach the MALs developed in the Draft Ventura Permit are actually more stringent than the Board's own Basin Plan. As an example, TMDL requirements have been developed for Malibu Creek and Lagoon, and Calleguas Creek. Waste load allocations were identified and noted for a number of constituents including copper, nickel, and zinc. As recommended by federal TMDL guidance, numeric targets have been developed to ensure compliance with water quality standards and adopted into the Basin Plan as water quality objectives. A comparison of the MALs with the TMDL targets as approved in the Basin Plan is shown below in the table below.

Comparison of MALs v. TMDL Adopted Targets

Constituent [3]	Municipal Action Levels[1]	Basin Plan[2]
Copper (dissolved, ppb)	12.8	26.3-41.6
Nickel (total, ppb)	9.6	74-1292[3]
Zinc (dissolved, ppb)	104	90-324

1. Attachment C to Draft Ventura Stormwater Order.
2. Attachment A to Resolution No. R4-2006-012.
3. Measured as dissolved.

3. **Appropriate Dataset for Establishing "Upset Values"**. The use of the national database (see Finding F.11) is not the preferred data to generate MALs when robust local or regional datasets are available. In establishing upset values the BRP Report suggested three data options in order of preference:

   - Local urban stormwater monitoring data (the Panel notes the existence of such data sets from Los Angeles County, Orange County and other California MS4 programs)
   - Combine municipal permit monitoring datasets if there is a lack of data for specific constituents in any one location
   - National database.

   The Panel described the advantages and disadvantages of each of these, and, given the state of the local data sets and the climatology of southern California, using a local data set would appear preferable from the panel's perspective[1].

   Nor is it necessary to employ a national dataset here as California MS4s have some of the most complete and comprehensive stormwater datasets in the country. In fact, use of the national database would likely lead to inappropriately calculated MAL values. The national database, as the name implies, consists of a number of municipal monitoring programs, including programs in the nine EPA defined rain zones. One of the conclusions based on the national database is that there are differences in pollutant concentrations between rain zones. As an example, the chemical oxygen demand (COD) monitoring data for residential land use for EPA Zone 6 (which includes California) showed that zone 6 was different and higher than other rain zones. This comparison is summarized below.

Summary of Residential COD Data by Rain Zone[1]

EPA Rain Zone	Location	Average (mg/L)	Number of Observations	Std. Deviation (mg/L)
3, 7	Southeast and Northwest	44.4	102	41.9
2, 4, 5	TX, Mid Atlantic	72.3	628	61.6
6	CA and AZ	162.1	44	100.0
Overall		74.1		69.2

1. From Figure 14, The National Stormwater Quality Database, NSQD, version 1.1, February 2004

[1] *"Using permit specific data sets may make sense if issues of climatic variability or localized geomorphology are important....The next scale would be to combine...data sets, especially if lack of data...in any one location or region is an important issue. The largest scale would be the National Stormwater Quality Database (NSQD)...which is especially useful if small sample size limits the use of local data. One advantage of using smaller (and local), rather than larger, spatial scales is the ability to update data sets for revising Action Levels."* (pages 8-9)

As an exercise for this comment letter CASQA compiled stormwater monitoring data for three municipal stormwater programs (one northern California and two southern California) and compared these data with the national data set used by the Regional Water Board to determine if the data were statistically different. Two comparisons were provided, in one case all California data were combined and in the other case only southern California data were considered. These comparisons are summarized in our Attachment A. The results of the "t" test unpaired analysis for COD indicate a >99.9% probability that the means of the data sets are different for both cases. This conclusion is consistent with the conclusion from the national study as noted above.

A review of the plots in Attachment A demonstrates that, in general, the local dataset for southern California is different from the national dataset used by the Regional Water Board and would lead to different, and probably more appropriate, MALs. Given the potential implications of these differences, extra efforts should be made to engage various stakeholders in the consideration and development of the MALs.

Alternative Approach for Regulating Municipal Stormwater

One of the primary reasons the Regional Water Board has proposed MALs to determine whether the MEP standard has been achieved is because there is increasing pressure from environmental groups to institute a more quantitative method for assessing permit compliance. CASQA can understand this pressure and has been working diligently with the State and environmental interests to address this issue. Currently CASQA is leading two efforts to address this issue.

First, we are preparing a Guidance Manual on Assessing Stormwater Program Effectiveness. This Manual is going through final review and will be available this spring. This Manual provides concrete examples of how to assess program effectiveness and the data needed to support the assessment and, it establishes a framework to integrate program implementation and water quality improvement. Furthermore, the Manual begins to establish implementation performance standards to support MEP. Permits and stormwater management plans could incorporate the concepts provided in the Manual as an alternative to the MAL compliance approach.

Second, CASQA has developed guidance for regulating stormwater discharges through our proposed *Progressive Approach*. This approach was presented to the State Water Board during the initial Sacramento workshop on the Blue Ribbon Panel report. The State Water Board members were interested in the approach and requested CASQA to make an expanded presentation at the Los Angeles workshop. We also have shared our approach with selected environmental groups; again, with relative agreement in principle that accountability is needed as well as follow up action. A graphic representation of our approach is provided in Attachment B. Embedded in our approach is the concept of quantifiable measurements that may be used to assess the progress and effectiveness of the stormwater management program. Such quantifiable measurements may take the form of the "upset values" for monitoring as well as "performance standards" for program implementation. We intend to provide more concrete examples of our thoughts regarding the use of quantifiable measurements in the April 5 workshop. In the mean time we would welcome the opportunity to meet with you to discuss how such quantifiable

measurements may be included in a municipal permit to further efforts to protect and improve water quality and provide accountability.

In closing, we concur with the Regional Water Board in that MALs can and should be part of an approach to regulating municipalities. We are working to better clarify how these MALs may be incorporated into the *Progressive Approach*. However, our fundamental difference with the approach presented in the Ventura Draft Permit is in using the values as compliance end points as opposed to instigating increased action in addressing pollutants of concern. We fully believe that was the intent of the Panel Report, prepared on behalf of the State Water Board, and their concept of "action levels".

We thank you again for the opportunity to submit these comments and to provide our thoughts in developing a more proactive and constructive stormwater management program. If you should have questions regarding our proposal or comments please feel free to contract either me or Geoff Brosseau.

Yours truly,

Bill Busath, Chair
CASQA

Attachments

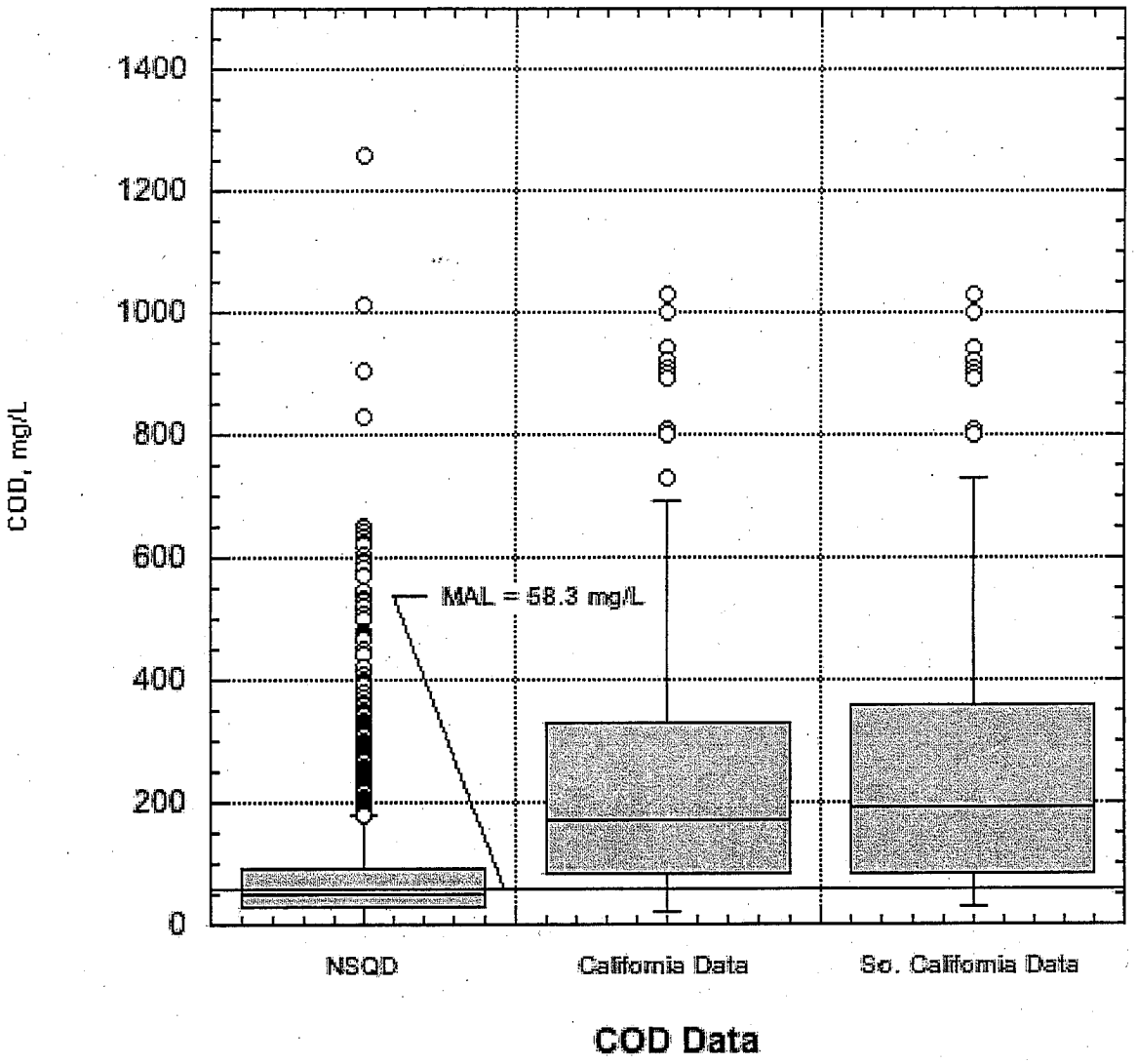
March 7, 2007

Table 1. Student t Test for unpaired data with unequal variance – NSQD vs. CA Data

Parameter	ln (NSQD)	ln (CA Data)
Count	2750	177
Mean	3.91673	5.12617
Variance	0.961833	0.892794
Std. Dev.	0.980731	0.944878
Std. Err	0.0187018	0.0710213
Mean Difference	-1.20943	
Degrees of Freedom	201	
t Value	-16.468	
t Probability	< .0001	

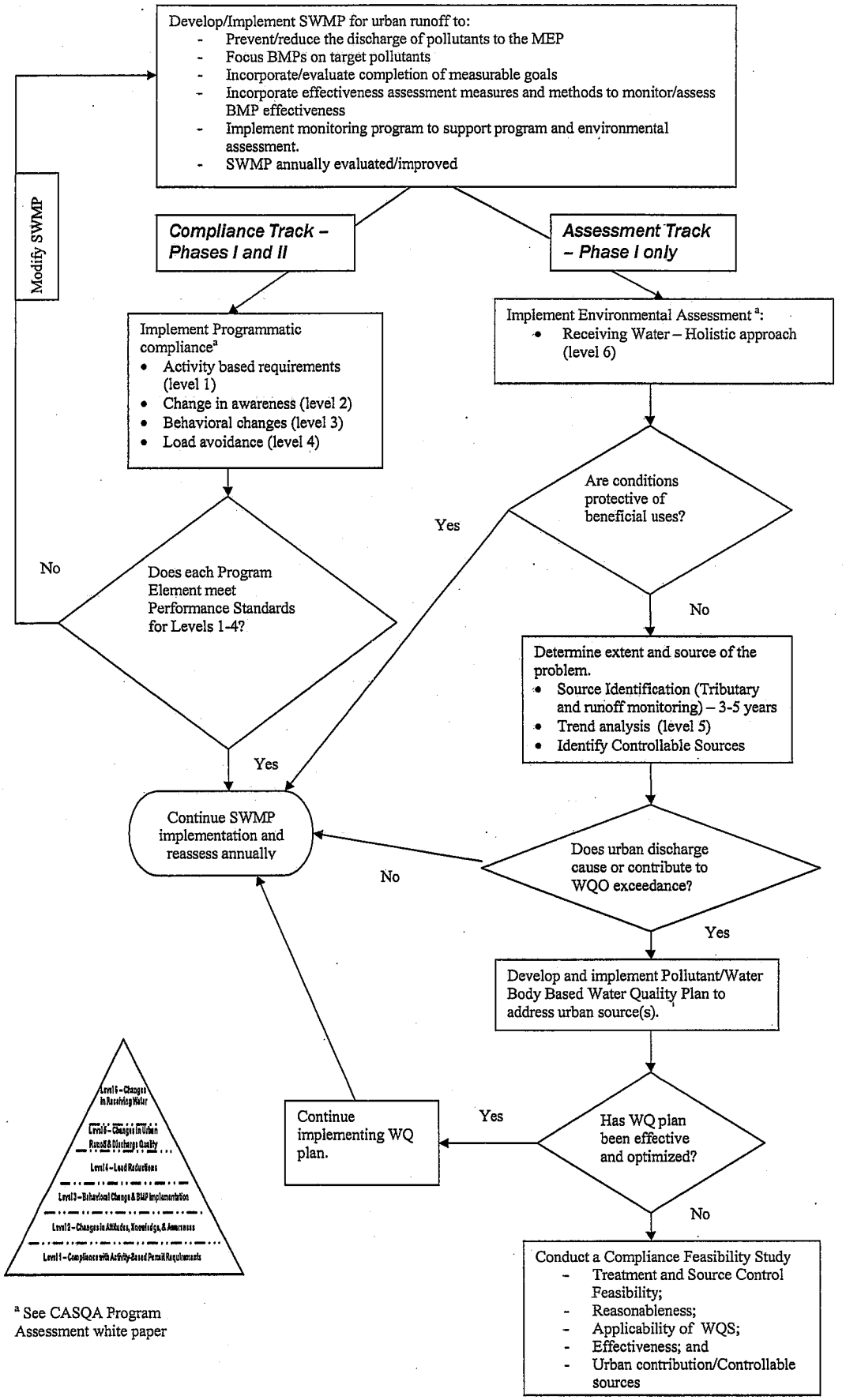
Table 2. Student t Test for unpaired data with unequal variance – NSQD vs. So. CA Data

Parameter	ln (NSQD)	ln (So. CA Data)
Count	2750	168
Mean	3.91673	5.19002
Variance	0.961833	0.843122
Std. Dev.	0.980731	0.918217
Std. Err	0.0187018	0.070842
Mean Difference	-1.27329	
Degrees of Freedom	191	
t Value	-17.378	
t Probability	< .0001	


1400
1200
1000
800
600
400
200
0
COD, mg/L
MAL = 58.3 mg/L
NSQD
California Data
So. California Data

COD Data

Municipal Stormwater Permit Strategy: Stage 2 Roadmap (9-01-06 Draft)



[a] See CASQA Program Assessment white paper

CASQA Progressive Approach

Construction Industry Coalition on Water Quality

Via Electronic Submission

March 7, 2007

Xavier Swamikannu
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, #200
Los Angeles, CA 90013-2343

RE: Draft Ventura County Municipal Separate Storm Sewer System Permit (NPDES Permit No. CAS0040002)

Dear Mr. Swamikannu

On behalf of the more than 3,300 member companies of the Construction Industry Coalition on Water Quality (CICWQ) and the 2,000 member companies of the Building Industry Association of Southern California, we would like to thank the Los Angeles Regional Water Quality Control Board (Regional Board) for the opportunity to express our interest in the Draft Ventura County Municipal Separate Storm Sewer System Permit (Draft Permit). This cover letter outlines the issues and constructive suggestions that we have with the Draft Permit as written and is supported by a detailed technical memorandum authored by Geosyntec Consultants on behalf of CICWQ.

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), the Building Industry Association of Southern California (BIA/SC), the Engineering Contractors Association (ECA) and the Southern California Contractors Association (SCCA). The membership of CICWQ is comprised of construction contractors, labor unions, landowners, developers, and homebuilders throughout the region and state. These organizations work collectively to provide the necessary infrastructure and support for the region's business and residential needs. Members of all of the above-referenced organizations are affected by the Draft Permit, as are hundreds of thousands of construction employees and builders working to meet the ever-growing demand for modern infrastructure and housing in Ventura County. Our organizations support efforts to improve water quality cost effectively and our comments and our suggestions were developed and presented in that context.

The Draft Permit introduces sweeping new provisions that fundamentally change how land development and building projects are designed and perhaps more importantly, how they are conditioned and approved by the co-permittees. The attached technical memorandum is divided into five principal areas and our major concerns and suggested improvements within each focal area are summarized below.

Municipal Action Levels

CICWQ is concerned about the technical basis and policy direction for imposing Municipal Action Levels (MALs) that, when exceeded, trigger a violation of MEP. With respect to the technical basis for the MALs, CICWQ has several concerns. First, CICWQ questions using median concentrations and coefficients of variation from the National Stormwater Quality Database for setting MALs. The Regional Board has based its recommendations on an outdated and regionally inappropriate data set and the attached memorandum clearly points out the problems in using this database to set a Ventura County specific MAL. The memorandum also includes recommendations for developing MALs based on a more appropriate data set representative of local conditions pertinent to runoff water quality

Second, CICWQ is concerned that the Regional Board has misinterpreted the findings of the State Board's Expert Panel Report by setting an MAL that is based on exceeding a median pollutant concentration value, representing the central tendency of stormwater quality data, rather than choosing, as the Expert Panel suggested, an MAL value that represents an "upset" value that would identify discharges containing pollutants in amounts that exceed typical loads and concentrations taking into account normal stormwater quality variability . The Expert Panel intended that the concentration be set for action levels to identify "above normal observed variability." The Expert Panel did not recommend setting an action level that would identify an exceedence of the median or central tendency of monitoring data. The Expert Panel recommended that the uppermost 10^{th} percentile be set as the action level value that would trigger additional BMPs within the tributary watershed.

With respect to the policy direction of the MALs, CICWQ has two major concerns. First, CICWQ is very concerned that, contrary to the Expert Panel's recommendations and available State Water Quality Control Board guidance, the Regional Board has chosen to specify that two exceedences of an MAL will constitute a violation of MEP and of the permit. From a practical perspective, this approach creates a numeric effluent limit for stormwater discharges, which, in the opinion of the Expert Panel, is an infeasible approach, and is contrary approach recommended by EPA regulations, the Panel and the State Board, which is the use of monitoring data to trigger iterative improvements to BMPs to enhance stormwater quality. As detailed more fully in the attached memo, CICWQ recommends that properly set MALs should serve as a trigger for source analysis and improved BMPs in "bad actor" catchment areas, rather than as an opportunity for enforcement. Municipal action levels should be used as a tool in implementing the technology based MEP water quality control standard, rather than replacing that technology based standard with an effluent limit approach.

Second, CICWQ is equally concerned that the Draft Permit language creates the potential for improper use of monitoring data in comparison to MALs to determine the quality of discharges and receiving waters. As currently drafted, Part 2 of the Draft Permit indicates that "end-of-pipe" exceedences of MALs at the point of discharge to receiving waters will create a presumption of a receiving water quality standard violation, and require a receiving water limit violation report. This would be an inappropriate use of end-of-pipe discharge data, as receiving water monitoring data is appropriate for determining receiving water violations. Exceedences of properly set MALs at the point of discharge to receiving waters should be used only to trigger source investigation and iterative improvements to BMPs within particular catchment areas.

Conversely, Part 2 of the Draft Permit also provides that in-stream mass emission monitoring data will determine compliance of discharges with MALs. Similarly, this is an inappropriate use of receiving water quality monitoring data. Receiving water data may show exceedences of MALs that have nothing, or very little to do with the quality of MS4 discharges, and therefore cannot properly be used to determine quality of those discharges.

BMP Maintenance and Dewatering Numeric Discharge Limitations

CICWQ is asking that the Regional Board modify some of the draft language in the permit to clarify for entities performing BMP maintenance the appropriate process for properly disposing of related discharges in a manner that protects surface water quality, rather than solely prescribing proposed discharge limits, which, in many cases are too low to be achieved by available dewatering BMPs. As detailed more fully in the attached memorandum, we have concerns about the numeric discharge limits prescribed. For example, we ask the Regional Board to explain the basis for the metals discharge limits considering such factors as what hardness values were assumed and is the hardness data assumed to be representative of the discharge or the receiving water. In addition, we suggest providing a BMP prioritization process that defines various appropriate disposal options. Such a process will be more helpful to entities performing maintenance, more likely to be implemented, and more beneficial to water quality.

New Development and Redevelopment

The requirements on new and redevelopment projects proposed by the Regional Board appear to CICWQ to be drafted with little input or technical review of project proponents, including the co-permittees and organizations who are members of and support CICWQ. The Draft Permit as written contains one-size-fits all approaches to hydromodification control, and requirements that do not reflect the soils, drainage, topographic, precipitation or runoff characteristics of the region, and that do not comport with the planning and development priorities in Ventura County. For example, if some of the recommended one-size-fits all requirements for hydromodification control are implemented and applied to infill projects and small redevelopment projects, as currently proposed, the results will actually encourage urban sprawl, and discourage urban infill and urban core redevelopment that is the centerpiece of Ventura County's housing future. These requirements as applied are actually antithetical to smart growth concepts, as well as low impact development principles when applied at the more appropriate watershed and subwatershed scale.

The attached memorandum sets forth in detail our concerns regarding five separate, but potentially conflicting, hydromodification control standards set forth in the Draft Permit: mandates for implementation of LID (at an inappropriate, lot-by-lot scale); flow rate and duration matching; hydrograph matching (volume, duration and flow rate); 5% limit on increase in effective impervious surface (defined as connected impervious area prior to entry into the storm drain, rather than as connected impervious area prior to entry into the receiving water), and maintaining an Ep value of 1. Concerns regarding the application of these standards as proposed are compounded because the language of the Draft Permit currently indicates that all of these separate standards must be applied on a project-by-project basis, even a lot-by-lot basis, for all development and redevelopment projects, regardless of project size, condition for the site (already largely impervious and untreated?), location in the watershed (infill? green field?),

condition of the watershed (built-out as for infill, or still natural?), receiving water drainage conditions (unlikely to be subject to destabilization due to concrete or geomorphic characteristics, already degraded?).

Our concerns are also compounded by the low water quality benefit, but high costs associated with implementing these five "one-size-fits all" standards for all development and redevelopment projects, as mandated by the Draft Permit. As summarized in some detail in the attached memorandum, the available scientific evidence, including the SCCWRP study cited prominently in the Draft Permit, indicates that hydromodification is a process that can only be adequately controlled by a careful evaluation, at a subwatershed level, of the many local factors that contribute to channel destabilization, including existing and proposed impervious surface, soils characteristics, runoff characteristics, and other pertinent factors. To some extent, the Draft Permit recognizes this fact by requiring participation in, and development of a long-term hydromodification standard from the SMC's HCS. The HCS is an appropriate way to develop long-term hydromodification control standards.

The major problem with the Draft Permit approach is that the five mandated standards, prematurely and without the benefit of the HCS, pre-determine the outcome of the HCS by prescribing several "one-size-fits all" standards, without consideration or evaluation of the subwatershed factors that will be conducted as part of the HCS. As a result, the Draft Permit mandates an approach that has been specifically rejected by the literature and by the Santa Clara Valley Urban Runoff Pollution Prevention Program Hydromodification Management Program Report (SCVURPPP Report) in that it applies five different, but generic standards or threshold values to all of the very differently situation sites within the County. As the literature suggests, it is unrealistic to conclude that such a generalized approach, despite its high costs in terms of land take particularly for infill sites, will be effective to control hydromodification impacts.

Specific examples of our concerns with each of the prescriptive standards are detailed in the attached memorandum. With respect to the 5% standard, the Draft Permit relies heavily on the premise that limiting effective impervious area to less than 5% is a panacea for creating clean storm water and preventing hydromodification in all development scenarios. The attached memo clearly points out that minimizing effective impervious area to 5% is an arbitrary value that has little basis in the scientific literature and could be increased to as much as 10% to 15% given local conditions. In addition, achieving this standard will require a great deal of land and appropriate groundwater conditions for infiltration, which in turn, based on land values in Ventura County, create tremendous costs and economic feasibility issues, particularly for very small projects, and infill and redevelopment projects. As recommended by the experts and described in detail in the attached memorandum, the co-permittees and larger project proponents clearly need to perform additional data collection and assessment before developing interim, as well as long-term hydromodification control standards.

With respect to the lot-by-lot application of LID requirements, the Draft Permit confuses stormwater mitigation requirements and management strategies with smart growth techniques—a problem that is compounded by the fact that the Draft Permit mandates LID techniques at an inappropriate, project-by-project and lot-by-lot scale, rather than allowing consideration of LID techniques at a broader subregional or regional planning scale. For example, the imposition of standardized lot-by-lot LID requirements all infill development and redevelopment projects, without consideration of project scale or geographic location is particularly contrary to smart

growth concepts. When the proper planning scale is considered, infill and redevelopment constitutes regional application of LID and is beneficial to water quality because it concentrates development in already highly impervious areas where concrete-lined or hardened conveyance systems for handling stormwater are already in place, limiting impacts to still natural channels. However, for infill projects in town centers and compact districts, land is also at a premium, so stormwater mitigation measures that required a great deal of land take to implement will discourage development on such sites. In light of these factors, the current provisions of the Draft Permit, particularly when all five standards are considered cumulatively, encourage sprawl at the expense of urban infill and redevelopment projects which are desperately needed to meet housing needs in Ventura County.

With respect to the Ep standard, the attached memo clearly points out the need for the Regional Board to consider the adverse implications of using an Ep= 1 for a hydromodification standard. Specifying an Ep= 1 mandates an implementation method for hydromodification control without allowing for consideration of local factors affecting channel stability as recommended by scientific literature, and is directly contrary to the conclusion of the SCVURPPP Report. The standard mandates significant hydromodification control with associated land take for hydromodification control BMPs for all projects, including those that, due to size, location, runoff characteristics, drainage characteristics, or other pertinent facts are *not* likely to result in adverse hydromodification impacts.

While the Draft Permit provides for an individual waiver process for these projects, the costs of preparing studies to support the waiver, and the administrative burden of approving the multiplicity of waiver applications that can be expected in a region the size of Ventura County create significant administrative costs, burdens and delays that are unnecessary, particularly in light of the conclusions reached in scientific literature that a one-size fits all Ep standard is unlikely to protect water quality. Instead of the Ep approach, the attached memorandum recommends and CICWQ supports development of both interim and long-term hydromodification standards that follow a protocol allowing consideration of local factors on a subwatershed basis that are likely to affect the stability of given drainages. From this basis, tools can be developed to size hydromodification control BMPs for appropriate projects that are likely to destabilize drainages. At the same time, hydromodification control requirements would only apply to projects likely to cause adverse hydromodification impacts, and would not apply to projects that are unlikely to result in damaging effects, such as very small projects and projects that drain to stable receiving waters (such as concrete channels, the ocean, a lake, or a large drainage subject to reset events).

As detailed more fully in the attached memorandum, there are serious problems with the current interim hydromodification control standard. The currently proposed hydrograph matching standard for the two-year event can actually, in certain projects and depending on local conditions, create more adverse hydromodification impacts than doing nothing. As a result, this approach should be replaced with a process that allows the development of a Hydromodification Analysis Study (HAS) following a protocol of more appropriate hydromodification standards based on existing local conditions by co-permittees and/or larger developments. The Draft Permit should also expedite that available review and approval process for the HAS documents as they are prepared. This process should allow for review and approval by Regional Board staff, without notice or public comment periods, to maximize implementation of needed hydromodification controls during the interim period.

Construction

CICWQ is concerned about the Draft Permit's grading restriction. The Draft Permit begins from the premise that construction projects will not implement SWPPPs pursuant to, and consistently with the requirements of the General Construction Permit. That premise is unreasonable in light of significant progress in training and implementation that has been made by the construction industry in controlling construction site runoff.

Based on this premise, the Draft Permit proposes wet season grading prohibitions for a large number of construction sites, unless a number of hurdles are negotiated, including satisfaction of certain numeric limits that do not take background in-stream water quality into account. There are a number of concerns about this prohibition, not the least of which is the low cost/benefit provided. The "wet season" for southern California is somewhat arbitrarily defined and lasts more than 6 months. This definition is not a common sense approach, and it not based on meteorological analysis. In fact, in southern California, the "wet season" is relatively devoid of precipitation. An analysis of the historical rainfall records within Ventura County showed that on average there are between 23 to 28 days within the 6½ month (approximately 195 day) "wet season" on which rain typically occurs (13% of the time during the "wet season). As a result, the proposed prohibition will cost between $62,500 to $125,000 per acre over the "wet season" to implement because of significant land carrying costs, but will only achieve better water quality control for 28 days, and then only for sites that are not deploying an effective combination of sediment and erosion controls, taking into account site and weather conditions, as already required by the General Construction Permit. Such an approach is unwarranted, and does not comply with the proper implementation of the technology-based MEP standard.

A better, more tailored option to control construction site runoff is discussed in the attached memorandum. This approach would assure proper implementation of a two-tiered approach to BMP implementation, with more stringent BMPs required in the "wet season" for sites with a high erosion potential. Examples of more stringent BMPs would include increasing the inspection frequency and reducing amount of time allowed for corrective action and follow-up inspections, as well as requiring stabilization of graded soils within a certain period of time after active work has closed. These types of BMPs will be effective to control potential pollution, present a workable solution to construction runoff water quality, and eliminate extraordinary costs associated with the grading prohibition and waiver process.

Monitoring

CICWQ's principal concerns with this section are the requirement to use the Bay Area Macroinvertebrate Bioassessment Information (BAMBI), as the CSBP has fallen out of favor because the protocol can only be effectively applied to riffle habitats. Revised guidance for the state is being developed by the Surface Water Ambient Monitoring Program (SWAMP), in cooperation with CA DFG (draft guidance due in early 2007), and will be more similar to EPA's Environmental Monitoring and Assessment Program for bioassessment. The Permit should be updated to require the use of the most recent state-approved methodology for bioassessment. We have other concerns with the monitoring approaches, the mass emission sampling strategy and the requirement to correlate pollutant concentrations with TSS loading and these are detailed further in the attached technical memo.

We are confident that by working together, CICWQ can assist the Regional Board in achieving regulatory balance that will improve water quality while also meeting Ventura County's housing and infrastructure needs. We thank you for your consideration of our comments.

If you have any questions, please feel free to contact me at (909) 396-9993 or mgrey@biasc.org.

Respectfully,

Mark Grey, Ph.D.
Director of Environmental Affairs
Building Industry Association of Southern California

Geosyntec consultants

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Memorandum

Date: March 7, 2007

To: Mark Grey, CICWQ

From: Lisa Austin, Donna Bodine, and Eric Strecker, Geosyntec Consultants

Subject: Comments on Draft Ventura County MS4 Permit, NPDES No. CAS004002

We have reviewed the Draft Ventura County MS4 Permit (NPDES No. CAS004002), dated December 27, 2006, and have identified the following technical issues:

Municipal Action Levels

Page	Comment
23	Finding F.11 establishes Municipal Action Levels (MALs) for selected pollutants (TSS, chemical oxygen demand, and total and dissolved cadmium, chromium, copper, lead, nickel, and zinc). The proposed MALs are based on median concentrations and coefficients of variation from the National Stormwater Quality Database (NSQD), Version 1.1. Per the Tentative Order, two exceedances of this median (central tendency concentrations) would be construed as a failure to implement adequate control measures and would constitute a violation of the MEP provisions of the permit. Issues with this provision include: 1) whether the MALs, as they were developed, are appropriate benchmarks for implementation of MEP for municipal urban runoff in Ventura County, 2) whether using a central tendency (median) of observed urban runoff quality is appropriate for setting MALs, and 3) whether a violation of the permit is the appropriate remedy for two violations of an MAL. The MAL concept was developed by the State Water Resources Control Board's Blue Ribbon Panel to evaluate whether numerical effluent limits were feasible in stormwater NPDES permits. The Panel found that numerical effluent limits were not feasible for existing urban areas in the Municipal NPDES permit program. However, the panel suggested that MALs could be established that would indicate which areas were significantly above observed urban runoff concentrations. The panel listed three methods for setting MALs, including: 1) agreed upon

concentrations "that were not acceptable" and gave a high copper concentration as an example; 2) a percentile approach, where using the 90th percentile "consistently in the outer limit (i.e. uppermost 10th percentile);" or 3) a statistically based population approach - "the idea would be to identify the [statistically derived] point at which managers feel concentrations are significantly beyond the norm" and gave two standard deviations above the norm as an example. Regardless of the method, the recommendation by the Blue Ribbon Panel was that a value be selected that would be an indicator of runoff being well outside (above) the norm. The panel suggested that local data sets be employed, if possible, and listed various programs with significant monitoring data in California. It listed the national database as the last option. The panel recommended that if a watershed exceeded an action level, that it would "trigger an appropriate management response. This approach ... would ensure that the "bad actor" watersheds received needed attention." They did not recommend that exceeding the MAL would be a violation of the permit.

The NSQD evaluates concentrations observed in end of pipe discharges, using data collected by municipal stormwater programs throughout the U.S. The proposed MALs were based on the median concentrations for all U.S. data, although most data in this data set are from the east coast of the U.S. For example, the EPA Rain Zone in which Ventura County is located (Zone 6), represents only 9.5% of the data in the NSQD. Rain Zones represent geographic regions with similar climatic conditions, which the NSQD demonstrates appeared to affect some constituent concentrations. In the establishment of MALs, a more local runoff quality analysis should have been performed using Zone 6 data for all parameters where adequate data exists.

Using the median for each pollutant implies that all monitored sites must be at or above the "central tendency" of the available data. The recommendation from the Blue Ribbon Panel was that action limits should start at a concentration that is out of the norm, for example, the upper 10th or 20th percentile (higher concentrations) such that they are aimed at the "bad actor sites." Using a median multiplied by a coefficient of variation (with a maximum COV of 2) of all of the data implies that one must be better than average wherever monitoring is completed. A comparison the proposed MALs to the 80th, 90th, and 95th percentiles of the Zone 6 data is shown in the table below.

Pollutant	Proposed	Zone 6 Data

	MAL	Count	% Non-Detect	80th Percentile	90th Percentile	95th Percentile
TSS (mg/l)	106.2	268	0.4%	252	513	941
COD (mg/l)	58.3	203	1.0%	306	361	468
Cadmium Total (ug/l)	2.0	223	32.3%	2	3	4
Cadmium Dissolved (ug/l)	0.55	161	61.5%	0.4	0.8	1
Chromium Total (ug/l)	10.5	221	1.4%	22	34	51
Chromium Dissolved (ug/l)	1.5	156	36.5%	2.8	3.8	5
Copper Total (ug/l)	32.0	252	1.6%	87	120	180
Copper Dissolved (ug/l)	12.8	176	9.7%	20	33	44
Lead Total (ug/l)	30.6	272	5.5%	122	225	310
Lead Dissolved (ug/l)	6.0	213	49.3%	7	22	40
Nickel Total (ug/l)	9.6	241	3.3%	32	54	68
Zinc Total (ug/l)	232	259	1.2%	660	1,120	3,800
Zinc Dissolved (ug/l)	104	151	2.6%	200	1,300	3,150

The State Water Board Stormwater Expert Panel in their report (June, 2006) said:

For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an "upset" value, which is clearly above the normal observed variability, may be an interim approach that would allow "bad actor" catchments to receive additional attention. For the purposes of this document, we are calling this "upset" value an ***Action Level*** because the water quality discharged from such locations is enough of a concern that most all could agree that some action should be taken. Action Levels could be developed using at least three different approaches. These approaches include: 1) consensus based approach; 2) ranked percentile distributions; 3) statistically-based population parameters.

The Expert Panel meant that the concentration be set for Action Levels to "above normal observed variability." A median is clearly not above normal variability. Later the Expert Panel comments on the percentile of the "uppermost 10th percentile" as being appropriate.

Another potential issue is the age of the data included in the NSQD. For example, the extent of San Francisco Bay area data ranges from 1988-1995. These runoff data do not reflect the state of the practice in BMP implementation.

Finding F.11 also states "on or after (first October in year 3 after permit adoption), two or more exceedences of a MAL will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order". We believe that this is too stringent of a requirement. For example, other stormwater permits with parameter benchmarks, such as the EPA Multi Sector General Permit and California's Draft Industrial General Permit, require implementation of additional appropriate BMPs, if benchmarks are exceeded. The Expert Panel recommended that the action limits be used to "trigger appropriate management response." There should be a similar provision in the Permit and the Permit should provide solely that a violation occurs if the Copermittee fails to take action to identify sources and strengthen BMPs if exceedences of properly set MALs occurs on a substantial number of occasions.

BMP Maintenance and Dewatering Numeric Discharge Limitations

Page	Comment
Pg. 26	Part 1 B.2.(14), footnote 3, requires that all stormwater BMPs be maintained at a frequency as specified by the manufacturer. Note that non-proprietary, public domain structural treatment BMPs (such as basins, swales, and bioretention areas) are not supplied by manufacturers, but instead are designed and constructed by the project proponent. This requirement may be better stated as: "...stormwater BMPs shall be maintained per an approved Operations and Maintenance Plan." The footnote continues to state that stormwater BMPs may be drained to the MS4 if the discharge is not a "source of pollutants." Note that some structural treatment control BMPS can be physically located within the MS4, such as swirl concentrators. This fact not withstanding, the requirement would be better stated to say that such dewatering discharges should not be a "*significant* source of pollutants," as all treated stormwater contains some pollutants, but not necessarily at levels of concern. The purpose of this requirement is to establish a threshold of what is "significant" (see comment on pgs. 79 – 80 below).
Pgs. 79-80	Part 4 G.6.g.3 mandates numeric discharge limitations for dewatering treatment BMPs for maintenance purposes prior to discharge to the MS4, for 13 constituents including bacteria, metals, nutrients, and conventional parameters such as TDS and TSS. Although the draft Order indicates the limits are from the

Basin Plan (water quality objectives for receiving waters) and EPA Parameter Benchmark Values, limits for some constituents (e.g., TDS, nitrogen, oil and grease) do not appear to be based on these sources.

The basis for the discharge limits proposed (Table 10, Pg 80) for metals (copper, lead, nickel, and zinc) is not clear, and do not appear to be based on a consistent hardness concentration. Assuming the discharge limits are based on the acute CTR criteria (which would be more appropriate than chronic criteria for such a short term discharge) for total recoverable metals, the discharge limits correspond to the following hardness concentrations: 160-170 mg/L for copper; <25 mg/L for lead; <25 mg/L for nickel; and 150 mg/L for zinc. The Permit should explain the basis for the metals discharge limits (e.g., what hardness values were assumed, is the hardness assumed to be representative of the discharge or the receiving water, etc.)

To evaluate whether the discharge limits could be difficult to achieve with typical stormwater treatment BMPs, we screened the discharge limits against effluent data from recent analyses of the International Stormwater BMP Database (Geosyntec Consultants and Wright Water Engineers, Inc., 2006). (Constituents evaluated include TSS, TDS, nitrate and nitrite, and total copper, lead and zinc.). Effluent data from the BMP database indicate standard treatment BMPs can usually meet most of the proposed discharge limits. However, based on the BMP database, it may be difficult to meet the proposed discharge limits for lead and copper.

As an alternative to establishing numeric limitations on BMP dewatering discharges, an appropriate narrative limitation could be established. For example:

> Treated water removed from stormwater ponds, vaults, or oversized catch basins for to facilitate BMP maintenance may be discharged to the MS4. Stormwater ponds, vaults and oversized catch basins contain substantial amounts of liquid, which hampers the collection of solids and pose problems if the removed waste must be hauled away from the site. Water removed from these facilities may be discharged back into the pond, vault, or catch basin provided:
>
> - Visibly clear water removed from a stormwater treatment structure may be discharged directly to a downgradient cell of a treatment pond or into the MS4.

- Turbid water may be discharged back into the structure it was removed from if:
  - the removed water has been stored in a clean container (eductor truck, Baker tank, or other appropriate container used specifically for handling stormwater or clean water);
  - there will be no discharge from the treatment structure for at least 24 hours; and
  - the separated solids are properly disposed.
- The discharge must be approved by the MS4 owner/operator.

Also, an additional disposal option for residual water within a treatment control BMP when being maintained should be infiltration or dispersion across adjacent disconnected vegetated area, provided this is done without causing flooding or other adverse impacts.

New Development and Redevelopment – Low Impact Development and Imperviousness

Page	Comment
Pg. 5	Finding B.10 discusses the relationship between the degree of imperviousness in a watershed and the degradation of the receiving water. Finding B.10 states that significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 3 – 10 percent imperviousness. The finding states that percentage of impervious cover is a "reliable indicator and predictor of potential water quality degradation expected from new development." The following comments are related to these statements. First, the studies that have related imperviousness to stream impacts occurred in watersheds that did not include stormwater mitigation facilities, or may have included flood control facilities or minimal treatment control BMPs that were not designed to current standards. Therefore, the statement in the finding should be modified to state that significant declines in the biological integrity and physical

habitat of streams and other receiving waters have been found to occur with as little as 3 – 10 percent of uncontrolled imperviousness.

There is much discussion about the reliability of imperviousness as a "predictor" of potential impacts from new development. In fact, the effects of imperviousness on hydromodification impacts is much more complicated than a simple correlation with imperviousness. The limited hydromodification impact research to date has focused on empirical evidence of channel failures in relationship to directly connected impervious area (DCIA) or total impervious area. However, more recent research has established the importance of size of watershed, channel slope and materials, vegetation types, and climatic and precipitation patterns (SCCWRP 2005a, Balance Hydrologics, 2005). Impervious area that drains directly to a storm drain system and then to the receiving water is considered "directly connected," whereas impervious area that drains through vegetation prior to surface waters or to infiltration facilities is considered "disconnected."

Booth et al. (1997) reported finding a correlation between loss of channel stability and increases in DCIA. In Washington State, streams were found to display the onset of degradation when the DCIA increases to ten percent or more, and a lower imperviousness of five percent was found to cause significant degradation in sensitive watersheds (Booth 1997). The Center for Watershed Protection (Schuler and Holland, 2000) described the impacts of urbanization on stream channels and established thresholds based on total imperviousness within the tributary drainage area. It states "a threshold for urban stream stability exists at about 10 percent imperviousness." It further states that a "sharp threshold in habitat quality exists at approximately 10 percent to 15 percent imperviousness." These studies, however, addressed changes in very different climatic regions than Southern California.

Although physical degradation of stream channels in semi-arid climates of California may be detectable when watershed imperviousness is between three and five percent, not all streams will respond in the same manner (SCCWRP, 2005b). Management strategies need to account for differences in stream type, stage of channel adjustment, current and expected amount of basin imperviousness, and existing or planned hydromodification control strategies. The absolute measure of watershed imperviousness that could cause stream instability depends on many factors, including watershed area, topography, land cover, and soil type; development impervious area and connectedness;

longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and vegetation characteristics.

In summary, per Schueler's *Cautionary Note* (Schuler and Holland, 2000), while the research on impervious cover and stream quality is compelling, it is doubtful whether is can serve as the sole foundation for legally defensible regulatory actions at this time. Key reasons include: 1) the research has not been standardized, so different investigators have used different methods to define and measure/estimate imperviousness; 2) researchers have employed a wide number of techniques to measure stream quality characteristics that are not always comparable to each other; 3) most of the studies have been confined to a few ecoregions, and few studies have been conducted in Southern California; 4) the absolute measure of watershed imperviousness that could cause stream instability depends on many factors, including watershed area, land cover, vegetative cover, topography, and soil type; development impervious area and connectedness; longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and vegetation characteristics; and 5) none of the studies has yet examined the effect of widespread application of stormwater treatment, LID controls and/or hydromodification control practices on impervious cover/stream quality relationships.

Pg. 21 Finding F.5 states that the Order promotes a land development and redevelopment strategy that considers the water quality and water management benefits associated with "smart growth techniques" and further states that such measures include: "hydromodification mitigation requirements, minimization of impervious surfaces, integrated water resource planning, and low impact development guidelines." These stormwater mitigation requirements and management strategies are not smart growth techniques. On the contrary, the imposition of these inflexible requirements and strategies without consideration of the smart growth planning principles will discourage smart growth. Smart growth is best described as a set of 10 principles (U.S. EPA, 2005):

1. Create a range of housing opportunities and choices.
2. Create walkable neighborhoods.
3. Encourage community and stakeholder collaboration.
4. Foster distinctive, attractive places with a strong sense of place.

5. Make development decisions predictable, fair, and cost effective.
6. Mix land use.
7. Preserve open space, farmland, natural beauty, and critical environmental areas.
8. Provide a variety of transportation choices.
9. Strengthen and direct development toward existing communities.
10. Take advantage of compact building design.

The imposition of standardized limitations on effective impervious area and hydromodification control for all projects, without consideration of project scale or geographic location, is particularly contrary to the smart growth concepts. As illustrated in Table 2 of the EPA document (page 23), the Order should relate requirements for conventional and site design (or "LID") BMPs to the development context. Some approaches will work in most settings (at different levels of implementation), while others pose challenges in existing urban areas and in the development of new town centers or other compact districts that are constructed in greensfield projects. The imposition of a single maximum effective imperviousness without consideration of other watershed factors can lead to more "sprawl" as projects will require more land to meet the requirement.

Pg 50 Part 4 E.1(b) requires Permittees to "minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area to less than 5 percent of total project area" for all new development and redevelopment projects. There are several concerns with this blanket requirement. First, as stated above, this limitation is presumably based on the existing literature that correlates watershed imperviousness with the biological integrity and physical habitat of streams and other receiving waters. Use of this information is premature as it has not been developed locally. The draft Order does not consider the spatial scale on which this requirement is based (e.g., watershed scale), but instead applies it to all projects, great and small, no matter where they are located. Many receiving waters are not affected by changes in runoff volumes, including lakes, bays, estuaries, hardened channels, etc. and therefore such a stringent limit for purposes of protecting stream geomorphology is not needed in all cases. This blanket requirement ignores the need to promote

urban infill, redevelopment, and dense districts in new development projects as identified in the smart growth principles vs. sprawling development outwards. The resulting sprawl then can create more urban impacts on a watershed scale. A more appropriate requirement for redevelopment projects would be to not increase or achieve some reasonable reduction in effective impervious area via employing vegetated systems to the extent practicable.

Footnote 1 on the bottom of page 50 defines "Effective Impervious Area" to mean that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. "Impervious surfaces may be rendered "ineffective" if the stormwater runoff is dispersed through properly designed vegetated swales (native vegetation) using approved dispersion techniques." This definition is problematic for several reasons. The definition of Effective Impervious Area (EIA) (as the concept was originally developed) is "the impervious area with a direct connection to downstream drainage systems" (Booth, 1997). The concept of EIA was originally developed to more accurately predict the effects on stream systems of runoff from developed watersheds, rather than using total impervious area (TIA). As stated above, these studies were conducted at a time when widespread application of stormwater treatment and/or hydromodification control practices had not occurred, so did not consider the effects of flows from impervious surfaces that entered the drainage system then were subsequently conveyed to a vegetated stormwater control facility prior to discharge to the stream channel.

This definition of EIA is most applicable to very low density residential areas where impervious areas could be rendered "truly" ineffective by routing runoff over long lengths of pervious area, with a high ratio of pervious area to impervious area. The value of routing large impervious areas through minimal vegetation is less certain, and would not likely render the impervious area as "ineffective" or "disconnected" to the nearly the same level as less dense development. An evaluation of the hydrologic benefits of infiltration-based urban stormwater management (Holman-Dodds et al, 2003), investigated the potential for reducing the hydrologic impacts of urbanization by using infiltration-based, low impact storm water management techniques. The results of this analysis showed that it was possible, by manipulating the layout of developed landscapes, to reduce impacts on hydrology in comparison to traditional, direct discharge of runoff (i.e., without treatment in a vegetated BMP). However, the amount of reduction in impact was found to be sensitive to both the rainfall amount and soil

texture, with greatest reductions being possible for small, more frequent events and more pervious soil textures (e.g., Type A or B soils versus Type C or D soils). The analysis found that even if a project's impervious areas were routed across an equivalent pervious area to promote infiltration (i.e., 50% of the site used for disconnection), that hydrologic impacts were not fully mitigated. Thus, it is important to realize that development projects are not likely to be able to fully mitigate hydrologic impacts via disconnection of impervious surfaces as defined in footnote 1.

The definition if footnote 1 also limits dispersion of site runoff to vegetated swales with native vegetation, which is an unnecessary limitation on this LID technique. Conveyance of site runoff through any type of vegetation or treatment in all types of vegetated treatment BMPs would assist in reducing hydrologic impacts of impervious surfaces. This would include conveyance and/or treatment in vegetated swales (with any type of vegetation), as well as treatment in bioretention areas, vegetated extended detention basins, and infiltration facilities, for example. These approaches to minimizing flow increase impacts should also be allowed. Perhaps requiring that vegetation be climate appropriate (e.g., low water, fertilizer, and pesticide demand) would be more appropriate.

Part 4 E.1(c) requires the minimization of percentage impervious surfaces on development lands to support the percolation and infiltration of stormwater into the ground. This blanket requirement appears to require low density zoning in order to protect receiving waters, which is counter to smart growth principles and instead would promote urban sprawl. Again, on a watershed scale, it is important to promote areas of local high density (high imperviousness) in order to minimize overall imperviousness at the watershed scale. This condition may be better stated as: "Reduce impervious surfaces at the watershed scale through the promotion of better site design techniques such as clustering development and promoting infill on a watershed scale to preserve open space, and at a project scale allowing for narrower streets and sidewalks, minimizing cul-de-sacs, reducing parking requirements, and providing treatment and volume reduction opportunities where appropriate.

Pg. 51

Part 4 E.I.1. requires Permittees to integrate LID into all new development and redevelopment projects. Unless the use of storage and reuse is considered LID, this provision would not be appropriate for projects desiring to reuse stormwater

for irrigation (integrated water resource management). In the case of reuse, LID techniques would reduce the volume of runoff that could be stored and reused. In addition, in the case of urban infill, redevelopment, and dense districts in new development projects as identified in the smart growth principles, the use of LID techniques may be difficult at the individual project or lot level because sufficient space on a particular lot may not be available for devotion to open space. However, these types of projects could be considered a LID practice (clustering development and/or locating it per smart growth principles) if examined at the watershed scale. Another consideration is that when a new project can also treat existing development runoff in a larger regional treatment system along with runoff from the new project (i.e., proved retrofit of existing development), so requiring that LID must be employed instead of regional treatment could reduce the opportunities and resources for retrofit treatment.

The guidance LID Technical Guidance Document should identify smart growth principles, such as the promotion of infill and redevelopment projects, and incorporate guidance on the types of LID techniques that are feasible for urban infill, redevelopment, and dense districts in new development projects as identified in the smart growth principles. The guidance document should incorporate the concept of spatial scales in land development, and discuss all scales (lot, land use, subdivision, subwatershed, watershed) in the application of LID techniques. In addition to flexibility to develop an appropriate manual to encourage infill, Copermittees should be able to exempt certain types of projects from lot-based LID techniques, as discussed in our next comment.

New Development and Redevelopment – Hydromodification Control

Page	Comment
Pg. 52	Part 4 E.II.1(a) requires that *all* new development and redevelopment projects implement hydrologic control measures to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. This requirement should not apply to new development and redevelopment projects where the project discharges stormwater runoff into creeks or storm drains where the potential for erosion, or other impacts to beneficial uses, is minimal or nonexistent. Such situations may include discharges into creeks that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.), storm drains

discharging directly to the ocean, lake, or other waterbody that is not susceptible to erosion, and construction of infill projects in highly developed watersheds where the potential for single-project and/or cumulative impacts is minimal. This condition should also not apply to redevelopment projects that do not increase impervious surfaces, or that reduce impervious surfaces, as these projects would not cause hydrologic impacts. There are a number of stream systems where degradation is already occurring and where having the last few projects being developed employ significant hydromodification controls would not solve the existing hydromodification problem. There should be an allowance for the use of naturalized stream stabilization techniques in these cases.

The second and third sentences in Part 4 E.II.1(a) suggest that the purpose of the hydrologic controls is to minimize impacts by maintaining each project's pre-development stormwater runoff flow rates and durations. Actually, the purpose of the hydrologic controls is stated in the first sentence, which is to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. Maintaining project stormwater runoff flow rates and durations would be one type of hydrologic control to achieve that purpose, but contradicts other implementation standards and methods allowed by the Permit and may not be feasibly achieved or necessary for a variety of projects, depending on local factors related to channel stability, including watershed area, topography, land cover, soil type, development of impervious area and connectedness of impervious area, channel slope and materials, etc. The implementation methods for this purpose should be developed through the Hydromodification Control Plans required in Part 4 E.II.1(g). The purposes as currently stated would not allow for watershed-based solutions that balance project-based controls with off-site controls, and so not allow sufficient flexibility to develop local hydromodification control plans and programs.

Part 4 E.II.1(c) stipulates "Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (E_P) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat."

Again specifying an Ep of 1 mandates an implementation method for hydromodification control without allowing for consideration of local factors affecting channel stability as recommended by scientific literature. Requiring an

Ep equal to 1 is not necessary for all projects. For example, the Santa Clara Valley Urban Runoff Pollution Prevention Program HMP Report (SCVURPPP, 2005) Chapter 3 states "it is unrealistic to believe that stream channels will behave such that a single Ep threshold value can be specified that, if exceeded, would always result in unstable channel conditions; or conversely, if less than would always be stable. Because of natural variability in stream attributes and also considering uncertainties in the methodology, the threshold of adjustment was represented as a logistic regression, which was developed using data from three test subwatersheds within the Santa Clara Basin." The SCVURPPP HMP incorporated an Ep of 1.2 , as this Ep would be protect the vast majority of stream conditions. Although, the revised SCVURPPP Permit condition adopted by the San Francisco Regional Board included a management standard based on maintaining an Ep of 1 for stream segments downstream of a project's discharge point, it also incorporated several performance criteria that are to be used to implement the management standard. These details are important in that they allow for flexibility in implementation methods chosen to achieve hydromodification control.

A hydromodification control requirement should only be in place for projects that drain to potentially sensitive receiving waters. If the project drains to the ocean, a lake, a large river that would not be affected, or a hardened channel or pipe system that does not, within the potential area of effect for a given discharge, drain to a sensitive system, then meeting an Ep standard is not necessary. If a project drains to a system that is already largely impervious or otherwise degraded, then requiring an Ep standard for that project will not solve the problem. In this case, there should be provision for watershed planning that could include regional projects such as stream restoration (using environmentally sound approaches), and allow for the development project to contribute financially to the regional projects, which would likely be much more effective in protecting habitat. For some larger rivers, an Ep standard may not be necessary, as some increased runoff would not cause hydrologic impacts, as larger, infrequent floods that "re-set" channels dominate the geomorphic processes (Balance Hydrologics, 2005). In summary, it is important to not prejudge in the permit the appropriate hydromodification control standard and implementation methods for Ventura County without proper consideration of local watershed and channel stability factors. Instead, the Permit should allow the SMC study and HMP planning process to occur, so as to develop appropriate hydromodification control standards based on best available science and localized watershed conditions.

Part 4 E.II.1(d) references the SMC hydromodification study. Note that SCCWRP has been awarded a 2005-2006 Consolidated Grant to complete this study, called Development of Tools for Hydromodification Assessment and Management (PIN #9426). The draft Permit language should be modified to reflect the following revised description of the SMC hydromodification study. The goal of the project is to develop a series of tools for implementation of hydromodification management measures that could be used to better protect the physical, chemical, and biological integrity of streams and associated beneficial uses. The project will provide tools to answer the following questions: 1) Which streams are at the greatest risk of effects of hydromodification? 2) What are the anticipated effects in terms of increased erosion, sedimentation, or habitat loss, associated with increases in impervious cover? 3) What are some potential management measures that could be implemented to offset hydromodification effects and how effective are they likely to be?

The SCCWRP project will consist of four technical tasks. The first task will involve developing a mapping and classification system for streams based on their susceptibility to the effects of hydromodification. Susceptibility will be evaluated based on both current properties and conditions of the stream and future increases in impervious cover. The relatively susceptibility of different stream types will classified based on the erodibility of different channel boundary materials, channel evolution stage, floodplain connectivity, geologic controls, and other factors. Such a system will help managers prioritize streams for protection and management. The second task will establish protocols for ongoing monitoring that are carefully designed to assess the effects of hydromodification. Development of standard monitoring protocols for hydromodification effects will facilitate regional information sharing on project performance. The third task will involve development and calibration of dynamic models to assess the effects of hydromodification on stream condition. These models will likely couple hydrologic simulations, physical process models, and risk-based modeling. The result will be a "cost-effective tool" that could be used to assess the likelihood of stream channel response to expected changes in hydrology associated with changes in land use patterns. The fourth task will involve development of a series of tools that managers can easily apply to make recommendations or set requirements relative to hydromodification for new development and redevelopment. These tools will utilize the results of the classification system, monitoring, modeling, and assessment completed under the first three tasks to develop a series of plots, nomographs, checklists, or similar management tools.

It is envisioned that tools for three different levels of analysis would be developed: *Screening tools* to allow planners and managers to evaluate whether or not a project is likely to be of concern for hydromodification; *Effects tools* to evaluate the expected magnitude or intensity of effect associated with a particular project; and *Mitigation tools* to guide recommended mitigation and management measures. This grant funded project will provide a sound foundation for the development and implementation of the Hydromodification Control Plans required in Part 4 E.II.1(g).

Pg. 53

Part 4 E.II.1(e) requires Permittees to continue to implement specific Interim Hydromodification Criteria (which requires a Hydromodification Analysis Study (HAS) for land disturbance of fifty acres or greater), until completion of the Southern California Storm Water Monitoring Coalition (SMC) Hydromodification Control Study. This essentially requires individual projects greater than 50 acres to implement the same types of studies that SMC will implement on a regional basis, but a regional scale (not a 50-acre project scale) is more appropriate for a hydromodification control study. Also, if Copermittees rely solely on the HAS process, any Copermittee may establish different interim hydromodification control criteria than a neighboring municipality, which could lead to confusion for project proponents as to which criteria to apply to proposed projects, and inconsistent hydromodification control on a project by project basis. Therefore, an appropriate interim hydromodification standard should be developed as a guideline for projects greater than 50-acres, unless an HAS is done that supports a different standard and approach to hydromodification control.

The interim standard requirement for projects less than 50 acres to match the 2-year hydrograph (flow, volume, and duration) is insufficient to protect natural stream channels from the effects of hydromodification. Palhegyi et al (2005) compared the following flow control methods in terms of erosion potential (Ep): peak flow controls, hydrograph matching, and flow duration matching. While hydrograph matching was found to be far more effective than peak flow control, Ep values were still significantly greater than one, indicating a still unacceptably high level of risk of future instability. Study results showed that hydrograph matching based on the 2-year discrete event resulted in Ep values ranging from 3.3 – 4.1. This would correspond to a 100% probability of channel instability, based on field observations at over 45 study sites across 3 sub-watersheds in Santa Clara Valley (SCVURPPP, 2005). Even using the 50-year discrete event, Ep values were still 1.9 or greater for hydrograph matching, corresponding to an

approximately 70% probability of instability. Flow duration control, which maintains the continuous distribution of pre-development sediment transporting flows, was the only control method sufficiently protective, with Ep values ranging from 0.8 - 1.1 for post-development conditions. Moreover, the flow duration control basin was smaller than the 50-year discrete event basin, revealing that the flow duration concept is a long-term optimized design approach, minimizing the volume and land area requirements necessary to achieve the stated objectives.

An appropriate guideline for large and small projects, and an alternative to the interim 2-year hydrograph matching requirement would be to develop, within a 6 month to one year timeframe, a local implementation tool based on flow duration control in the form of nomographs relating percent impervious area and soil type (infiltration rates) to BMP volume and land area requirements. The nomographs would be derived from continuous simulation modeling, using Ventura County-specific rain gauge records and local soil types. Ideally, the model would be calibrated using a local, undeveloped and gauged watershed data. Each large development project in an HAS, and/or the Copermittee, would be required to assess appropriate hydromodification standards and controls via the following protocol, as recommended by available literature: first conduct an assessment of the physical sensitivity of the downstream system. Then, if needed based on downstream sensitivity and ability to effect change in the watershed, size hydromodification controls using the nomograph tool based on the percent imperviousness of the proposed project. Finally, require the project proponent to provide the indicated storage and infiltration volume and area, either in the form of a single basin or in smaller units distributed throughout the project.

New Development and Redevelopment – Selection and Sizing of BMPs

Page	Comment
Pg. 50	Part 4 E.1(e) requires that treatment control BMPs be properly designed and maintained in order to avoid the breeding of vectors. In addition to the concern about breeding vectors, treatment control BMPs should be selected, designed, and maintained to address the pollutants of concern. Part 4 E.1(f) requires that projects select an integrated approach to mitigate stormwater pollution by using a suite of controls, in order of preference, to

remove stormwater pollutants, reduce stormwater runoff volume, and beneficially reuse stormwater: 1) LID strategies, 2) integrated water resource management strategies, 3) multi-benefit Natural Feature BMPs, and 4) prefabricated/proprietary treatment control BMPS. First, it should be clearly stated that all projects are not required to utilize all four of these techniques. Second, some of these terms need to be clearly defined, such as items 2) and 3). Third, it is unclear as to why LID strategies are superior to integrated water resource management, which could potentially include storage and reuse of sufficient quantities of project runoff to completely mitigate the hydrologic impacts of a project. Finally, it is assumed that the 3rd option is referencing vegetated BMPs that provide habitat, recreational, or other benefits as well as water quality or hydromodification control. Again, it is unclear as to why multi-purpose vegetated BMPs (which could be implemented at any scale of development, from the lot scale up to a regional, watershed scale) are inferior to the first two options, when these types of facilities could also be designed to fully mitigate a project's potential water quality and/or hydromodification impacts.

Pg. 55

Part 4 E.III.1(b) requires all development projects equal to 1 acre or greater of disturbed area to implement post-construction treatment controls and BMPs. Although this provision is more stringent than the current Permit, it is not infeasible. However, given the small properties affected, this more stringent requirement should be coupled with preparation by the RWQCB of BMP templates for example small projects. Without these templates, little water quality benefit should be expected.

Part 4 E.III.1(c) requires implementation of post-construction BMPs for industrial parks and commercial strip malls with 5,000 square feet or more of surface area. Is this meant to be impervious area or total project area? Why are commercial strip malls identified as opposed to other types of commercial development? Does this include redevelopment projects? If so, is this trigger on new or replaced effective? impervious surfaces or total project area? It would provide more consistency to have one threshold, perhaps 5,000 square feet new impervious surface, for all types of industrial and commercial projects.

Pgs. 55-56

Part 4 E.III.2 provides a tiered numeric water quality design criteria based on project size using a 50-acre threshold. It is unclear how this threshold was derived. If there is a tiered system, it would more appropriately be based on the size and complexity of each BMP's tributary area. What if a project will disturb

98 acres, but it is made up of two 48-acre subwatersheds that are hydrologically independent? Should it be treated differently that one 48-acre project?

Projects are required to mitigate (infiltrate, filter, or treat) stormwater. Note that infiltration and filtration are types of treatment unit processes, so this statement is redundant. Projects should be required to provide treatment of stormwater runoff.

Following are comments on the sizing requirements in this section (note that suggested additional text is included in underline format):

Proposed Permit: "(1)(A) The volume of runoff produced by 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"

Comment: It would be better to specify the use of the volume capture ratio (below) over the event capture ratio. Also, a minimum drain time should be specified as this directly impacts the basin sizing as well as BMP performance.

Proposed Permit (1)(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 the Ventura County Technical Manual (200X); or

Comment: Incorporate additional text and include the date and full citation for the Ventura Manual.

Proposed Permit " (1)(C) The volume of runoff produced from a 0.75 inch storm event, *prior to its discharge to a storm water conveyance system*; and/or"

Comment: This statement should be changed to require treatment prior to discharge to a receiving water body. This statement could be construed to disallow the conveyance of runoff to a treatment BMP.

Proposed Permit " (2) Hydrodynamic (Flow Based) Treatment Control BMP"

Comment: This is a misuse of the term "hydrodynamic". Flow-based in a better term.

Proposed Permit (2)(B) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity as determined from the local rainfall record; or

Comment: There is not one 85th percentile hourly rainfall intensity for all of Ventura County. Also, a project should use the closest rain gage, even if it is located in a neighboring county. A better methodology would be to perform an assessment of the long-term hourly rainfall amounts to ascertain at what flow rate would 80 percent of the average annual runoff volume be treated.

Proposed Permit: (2)(C) Ten percent of the 50-year storm design flow rate as determined from the methodology presented in xxxxx.

Comment: Insert additional text and provide a reference for the technical support for this calculation to achieve consistency in its determination.

Part 4 E.III.2(b) requires the use of continuous simulation modeling for projects that disturb a land area of 50 acres or greater. There are many issues with the requirement as drafted. Of primary concern is that no sizing criteria is included (e.g., 80 % of the average annual runoff volume shall be captured and treated). Other comments include:

- In general, it's easier to "abuse" the results from models than it is simpler, more-transparent methods. Guidance on the proposed BMP design standard (draw down rates, stage where bypass occurs, etc) and modeling methodology (input parameters, hydraulic formulas, etc) would be required in order to ensure semi-uniformity.
- The use of 15 minute interval data should be allowable, where available.
- The use of an adjustment factor for within hour rainfall variability is applicable to flow-based BMPs only, and only for those that do not have a storage within or upstream of the rainfall design rate. For flow-based BMPs, what kind of adjustment factor is required? Would this be a factor of safety in the final design, or some adjustment to model input data?

- For volumetric BMPs, the peak flow variability that may occur during an hour is expected to be absorbed in the BMP volume and is not significant in BMP performance (so there's probably no need for an adjustment factor with volume-based BMPs).

- There are no numeric BMP sizing objectives stated in Part 4 E.1. This condition should be deleted.

Construction

Page	Comment
Pg. 63	Part 4 F.1 prohibits any grading to occur between October 1 and April 15 in areas of high erosivity, receiving water impairment (i.e., if project discharges to a 303(d) listed water body), or sensitive habitat (i.e., if project is within or adjacent to an environmentally sensitive area [ESA]) (projects adjacent to but downstream of ESAs would not impact an ESA). F.1.b.1 allows for a Grading Prohibition Variance if the project can demonstrate that certain water quality requirements can be met. This is a significant change from the current Permit, which requires limited grading scheduled during the wet season to protect slopes and channels. It is not reasonable to prohibit wet season grading entirely. An analysis of the rainfall records within Ventura County showed that on average there are between 23 to 28 days within the 6½ month (approximately 195 day) wet season on which rain occurs. Since rain occurs only about 13% of the time during the wet season, a better more tailored option to control runoff would be to require a two-tiered approach to BMP implementation, with more stringent BMPs required in the wet season for sites with a high erosion potential. Examples include increasing the inspection frequency and reducing the amount of time allowed for corrective action and follow-up inspections; as well as requiring stabilization of graded soils within a certain period of time after active work has closed.
Pg. 68	Part 4 F.6.1. restricts paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions. The language is vague, but should be interpreted as allowing the permittees to define in their implementation plans (e.g., the Storm Water Quality Management Program) what

the wet weather limitations on paving activities should be, taking into account probability of precipitation. For example, the SWMP could prohibit paving activities if more than 0.25 inches of rain is predicted within a 48 hour period, and the storm has a more than 40% probability of occurring.

This provision should also apply to sealer application because the activity could result in similar wet weather impacts.

Monitoring

Page	Comment
Pgs. 4/F-15	Finding B.8 states that "the California Stream Bioassessment Procedure (CSBP) is a cost-effective tool and standard protocol for assessing the biological and physical/ habitat conditions of stream segments for evaluation of the overall health of the watershed", and "this Order includes requirements to conduct bioassessments of natural streams and waterways." Attachment F (pg. F-15) states that samples shall be collected according to CSBP, or other method(s) approved by the Regional Board. As discussed at the Bay Area Macroinvertebrate Bioassessment Information (BAMBI) Network Meeting in Oakland on January 30, 2007, the CSBP has fallen out of favor because the protocol can only be effectively applied to riffle habitats. Revised guidance for the state is being developed by the Surface Water Ambient Monitoring Program (SWAMP), in cooperation with CA DFG (draft guidance due in early 2007), and will be more similar to EPA's Environmental Monitoring and Assessment Program for bioassessment. The Permit should be updated to require the use of the most recent state-approved methodology for bioassessment. Also discussed at the BAMBI meeting was the caveat that bioassessment objectives are still being developed at the state level. Bay Area permittees identified significant implementation issues and other challenges associated with the revised bioassessment protocols. These include lack of direction for volunteer monitoring programs, the amount of resources required to collect recommended data and the resulting effect on the number of sites that can be sampled, lack of direction on how the data should be used, and comparability of data collected by CSBP protocols to data collected using revised protocols. In light of these issues, the draft Permit should be revised to require the use of the most recent state-approved methodology for bioassessment after the SWAMP guidance is issued.

F-3 Attachment F A.11., relating to monitoring of mass emission stations, states that constituents not detected in more than 75% of the first 48 sampling events at a station need not be further analyzed unless the observed occurrences show concentrations greater then state water quality objectives. Mass emission stations are monitored 5 times per year, so it would take almost ten years to eliminate constituents from the monitoring program based on their non-detect status. We would suggest that perhaps that the dischargers be allowed to evaluate the data available to date and submit a report to the board that recommends a reduced monitoring suite with the option that some parameters be monitoring during all storms, once a year, or dropped. We also recommend that there should be some provision to eliminate parameters that are consistently below water quality standards but are detected.

In addition, Attachment F A.11 still requires the Principal Permittee to conduct annual confirmation sampling for non-detects during the first storm of the wet season at each station. Therefore, the monitoring requirement is not significantly reduced, even with supporting data from 48 sampling events. Therefore, elimination based on a smaller sample number is recommended to conserve fiscal resources.

F-3 Attachment F A.16 requires the Principal Permittee to correlate pollutants of concern to TSS loading, for the sampling events that are analyzed for the complete list of constituents in Attachment G. In our experience, one can find for some pollutants a correlation with TSS. For example total metals, etc. For other pollutants such as TDS and dissolved metals there is little or no correlation. Finally, we have found that once a correlation is established at one station, it is often not transferable to other stations, including those of similar land uses. So we recommend that this requirement be removed from the draft Permit.

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Ladies and Gentlemen:

The Building Industry Legal Defense Foundation ("BILD") and the Building Industry Association of Southern California/Great Los Angeles Ventura Chapter ("GLAV") hereby respectfully submit their comments on the proposed MS4 Permit for Ventura County permittees dated December 27, 2006 (hereinafter, the "Proposed Permit").

The Building Industry Legal Defense Foundation (BILD) is a non-profit mutual benefit corporation and wholly-controlled affiliate of the Building Industry Association of Southern California (BIA/SC). BIA/SC is a nonprofit trade association representing more than 2,050 member companies with more than 200,000 employees. The mission of BIA/SC is to promote and protect the building industry to ensure its members' success in providing homes for all Southern Californians. BILD's purposes are to monitor legal developments and to improve the business climate for the construction industry in Southern California. BILD's mission is to defend the legal rights of current and prospective home and property owners, and to accomplish this mission BILD participates in and supports litigation necessary for the protection of such rights. BILD promotes and supports important legal cases to secure favorable court decisions for private property owners and developers. BILD focuses on litigation and regulatory matters with a regional or statewide significance to its mission.

The Building Industry Association of Southern California/Great Los Angeles Ventura Chapter (GLAV) is comprised of approximately 500 companies involved in every aspect of building and providing homes in Ventura County and most of Los Angeles County. GLAV exists to provide leadership on public policy issues that promote building quality communities for the region's growing population, to increase the public appreciation of the importance of housing and those who provide it, and to facilitate improved business opportunities for its members. BIA/GLAV is committed to increasing homeownership opportunities for the current and future residents of our region. To reach this goal, GLAV works alongside elected officials, regulators, community leaders and organizations to come up with credible solutions to the housing crisis.

BILD and GLAV are extremely concerned about the terms and conditions set forth in the Proposed Permit. Admittedly, the Proposed Permit reflects the Regional Board staffs' earnest attempt to make progress in the area of water quality from existing and future development. Viewed in light of the Regional Board's

staffs' motives, BILD and GLAV do not contest many of the water quality "ends" that the Proposed Permit seeks to achieve.

That said, the Proposed Permit seeks to achieve certain water quality "ends" by employing various "means" (permit conditions and terms) that are plainly indefensible. We therefore object to the Proposed Permit on a number of legal grounds.

The chart attached to this letter, and the materials and documents referenced therein, set forth for the Board and its staff our many, detailed comments about specific provisions of the Proposed Permit. Through the chart, we have tried to set forth our concerns succinctly and in a form that will allow the Board and its staff to consider our specific concerns individually. Where possible, we have also tried to identify and recommend more appropriate "means" for achieving the laudable water quality "ends" intended.

There are, however, many constants in our concerns regarding the Proposed Permit. First and foremost, the Proposed Permit reflects a pervasive failure on the part of the Regional Board's staff to properly exercise its discretion in developing waste discharge requirements (WDRs) and permit requirements to control urban runoff to the maximum extent practicable (MEP) as required by federal law. Pursuant to state and federal law and policy, the Regional Board has broad discretion to determine WDRs and permit requirements necessary to control runoff water quality to the MEP. As we are informed by the California Supreme Court's opinion in *City of Burbank v. State Water Resources Control Board*, 35 Cal.4th 613 (2005), the Board is "free to enforce [California] water quality laws [including application of the Porter-Cologne balancing factors] so long as its effluent limitations are not 'less stringent' than those set out in the Clean Water Act." *Id.* at 620. Here, the Regional Board enjoys broad discretion under section 402(p)(3) of the Clean Water Act, which allows the permitting to impose whatever controls that it (i.e., the permitting agency) deems practicable. *See, e.g., Defenders of Wildlife v. Browner*, 191 F.3d 1159, 1165-67 (9th Cir. 1999). Therefore, even if one were to assume that the Regional Board's issuance of the instant MS4 permit is entitled to the utmost judicial deference, the Regional Board's broad discretion is constrained and must assure that the Regional Board's action is not arbitrary, capricious, lacking in evidentiary support, or unlawful or procedurally unfair. *See Western States Petroleum Association v. Superior Court (Air Resources Board)*, 9 Cal.4th 559, 574 (1995). Accordingly, despite the deference that the Board enjoys, it must (1) exercise its discretion in the manner dictated by state and federal law and policy, in order to (2) fashion pollution control requirements in the instant Permit that are appropriately supported by substantial evidence, and they must (3) describe the relationship between the permit requirements and available evidence and information, providing the regulated community with a reasonable "analytical roadmap" explaining the requirements chosen.

The Proposed Permit fails to accomplish any of the three requirements. Most importantly, the requirements of the Proposed Permit clearly indicate that the Regional Board has failed to exercise its discretion in developing those requirements as required by state and federal law and policy. As described in the attached chart, applicable case law, Porter-Cologne and the federal Clean Water Act (including EPA's delegation of permitting and enforcement authority to the State of California), require that in exercising discretion to determine permit requirements necessary to achieve MEP, Regional Boards must evaluate, consider and reconcile proposed permit requirements in light several factors. The factors that most prominently must be addressed are set forth in California Water Code Section 13241. Those factors (the "Section 13241 Factors"), which the Board's staff expressly stated in the Proposed Permit were not taken into account in developing Proposed Permit requirements, are:

(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.

(f) The need to develop and use recycled water.

In addition to these requirements, as described more fully in the attached chart, State Board guidance mandates consideration of a number of additional factors in determining whether permit requirements achieve the MEP standard. These additional requirements (the "State Board Factors") include:

1. Effectiveness: will [permit requirements] address a pollutant of concern?
2. Public Acceptance: [Do permit requirements] have public support?
3. Cost: Will the cost of implementing the [permit requirements] have a reasonable relationship to the pollution control benefits to be achieved?
4. Technical Feasibility: [Are permit requirements] technically feasible considering soils, geography, water resources, etc.

If the State Board Factors and the Section 13241 Factors (collectively, the "Balancing Factors") are properly considered when the Regional Board exercises its discretion to adopt municipal storm drain permits, the resulting permit requirements will be properly designed to implement MEP and comply with federal water quality mandates. When discretion is not properly exercised, and the Balancing Factors are ignored, improper permit conditions result.

Where possible, we have attempted to reflect within the chart and referenced materials the specific Balancing Factors that the Regional Board failed to evaluate in preparing provisions in the Proposed Permit. We have also tried to otherwise indicate where the Proposed Permit reflects requirements that are arbitrary, capricious, lacking in evidentiary support, are in derogation of legislative objectives, and the like. However, given the wholesale failure to evaluate Proposed Permit requirements in the context of the Balancing Factors as required by law and as a matter of good policymaking, the Board should consider these issues to be virtually global in scope – applicable to every permit condition imposed. An application of appropriate science considered in light of the Balancing Factors will lead the Board to make substantial revisions to the Proposed Permit.

In addition to the various legal considerations reflected in the attached chart, BILD and GLAV are very concerned about the Proposed Permit as a ***policy vehicle*** as well. For example, we see the Proposed Permit as untenable on a number of policy and scientific grounds:

1. The proposed permit incentivizes sprawl and discourages infill development, redevelopment and smart growth, which constitute the development preferences embraced by Ventura voters, elected officials, and policy makers. The terms of the Proposed Permit would:

- Apply 'one-size-fits all' hydromodification control standards (which are not derived from and in some cases are contrary to approaches recommended in the scientific literature) to all Development and Redevelopment projects, regardless of project size, location within a watershed, impervious nature of a watershed, in-stream conditions, and susceptibility of receiving waters to destabilization;
- Regulate super-small infill development (< 1 acre) which will be unregulated outside the urbanized areas, pushing such developments out of the city core;
- Focus low impact development (LID) principles and other hydromodification controls on an undue "lot-by-lot" scale, rather than on a regional, sub-regional or community level. Such requirements, applied to infill and redevelopment projects and are infeasible to implement, as these projects tend to be smaller in scale and constrained in available land;
- Mandate hydromodification controls on infill properties where heroic and expensive efforts will be wasted in relation to larger urban watersheds;
- Exhibit a bias against implementation of regional volume reduction and treatment BMPs; and
- As a result of the foregoing, greatly compound the regulation of infill, creating economically and technically infeasible requirements, particularly for land constrained project areas. These constraints will create incentives for cities and developers to utilize greenfield lands to meet their housing and development needs, where stormwater treatment and hydromodification controls can be more easily constructed.

2. The Proposed Permit won't actually improve water quality in Ventura County because it relies on ineffective strategies and bad science.

- The Proposed Permit reflects a "one size fits all' mentality – prescribing requirements where they don't make sense. For example, in derogation of the Water Code Section 13241(b) admonition to consider and reconcile "environmental characteristics of the hydrographic unit under consideration," the Proposed Permit reflects numerous mandates made county-wide, without regard to differences in hydrographic units within the County. Similarly, the Proposed Permit is substantially based on science developed in different climatic regions where, for example, infiltration makes sense, but not for Southern California climatic conditions.
- There is no showing that lot-by-lot application of the five recommended hydromodification standards are necessary to assure water quality benefits.
- The data used to establish Municipal Action Limits (MAL) are neither current nor representative of Ventura County. Furthermore, it is scientifically inappropriate to use 50% median value for a MAL rather than utilize an upset value. The Proposed Permit provisions regarding measurement of MALs also fail to comport with science and good sense (receiving water monitoring data is determined to be appropriate for determining discharge water quality conditions, *and* vice versa). Finally, contrary to scientific recommendations and State Board policy, the Proposed Permit provisions require implementation of the MALs as numeric effluent limits, rather than as action levels designed to identify discharge issues and trigger source investigation and iterative BMP improvements.
- There is no rational climatic reason to restrict grading 6-1/2 months/year, and the restriction is overly broad in light of the incremental water quality that can be achieved, given the requirements of the State General Construction NPDES Permit.

- The Proposed Permit inappropriately combines a variety of stormwater control techniques which are duplicative and are likely conflict with each other, and does not appropriately reflect the different roles and purposes of MALs, RWLs, and WLAs. In fact, the permit reflects confusion between these terms and how to monitor for such standards.

3. The Proposed Permit will unnecessarily harm Ventura County economically and will further exacerbate the housing crisis in the County. Again, because the "section 13241 balancing factors" have not been considered, the Proposed Permit imposes irrational requirements.

- There is no logical rationale for precluding grading for 6-1/2 months of a year. According to the Proposed Permit, the supposed "wet" season in Ventura County is longer than the "dry" season, which is clearly not the climatic pattern anywhere in Southern California including Ventura County. In fact, during the supposed "wet" season, it typically rains on fewer that 25 actual days, but grading would be precluded for 6-1/2 months, imposing significant land carry costs, to achieve the incremental water quality improvements (above those already achieved by proper compliance with the General Construction Permit) for those 25 days.
- These grading restrictions will unnecessarily eliminate construction sector employment for 6-1/2 months of each year, resulting in significant economic effects in Ventura County, and greatly constraining the production of necessary housing. Workers and equipment will be unnecessarily idled, and the supply of housing will be further constrained.
- Industrial and commercial properties will also need to meet stringent construction requirements, which will limit their ability to grow and expand their businesses. Such businesses will likely consider expansion outside of Ventura County simply due to costs associated with construction.
- There appears to be no grandfathering for existing and entitled projects, which would be in derogation of other state land use and planning laws.

4. The permit conditions are not federally mandated and therefore constitute unfunded mandates:

- Again, the Regional Board failed to properly exercise its discretion by evaluating the Proposed Permit conditions in light of the Balancing Factors, which leads to permit requirements that are not consistent with a proper interpretation of MEP, and result in uncritical and excessive mandates on permittees;
- Contrary to federal and state water quality laws and regulations, and in derogation of separation of powers principles, the proposed conditions are overly prescriptive – telling the cities how to do their jobs, rather than allowing them to employ discretion afforded them in the Clean Water Act and Porter-Cologne to determine which Best Management Practices should be implemented to reduce pollution to the Maximum Extent Practicable.
- Contrary to State Water Board policy, EPA Phase II regulations, EPA guidance, and expert scientific recommendations, the Proposed Permit establishes new numeric thresholds for violations (e.g., two exceedances of Municipal Action Limits).
- Contrary to State Water Board policy, EPA Phase II regulations, EPA guidance, and expert scientific recommendations, the Proposed Permit establishes "zero" limits, even where natural baseline conditions cannot possibly meet such limits.

The attached chart, and the documents attached to and referenced therein, set forth in detail the many ways in which the Proposed Permit reflects proposed terms, conditions and requirements that are inappropriate legally, scientifically, and/or as a matter of good policy. The enclosed materials also indicate support for alternative terms, conditions and requirements that will achieve the Regional Board's laudable water quality goals in an appropriate and effective way. BILD and GLAV therefore respectfully request the Board to consider this information carefully, as well as the input from learned scientists and others, and revise the Permit substantially before finalizing it.

Respectfully,

Andrew R. Henderson
General Counsel
Building Industry Legal Defense Foundation

Holly Schroeder
Chief Executive Officer
Building Industry Association of Southern California –
Greater Los Angeles Ventura Chapter

Attachment (chart)

Building Industry Legal Defense Foundation
Building Industry Association of Greater Los Angeles and Ventura Counties
Major Issues and Comments on the
12/27/06 Draft NPDES MS4 Permit for
Ventura County, Ventura Watershed Protection District, and Incorporated Cities

The following are the preliminary comments of the above-referenced parties on the 12/27/06 Draft NPDES MS4 Permit for Ventura County, Ventura Watershed Protection District, and Incorporated Cities (the "Draft Permit"). Given the process for comment, and status of the Draft Permit reviewed, please consider these comments preliminary. The submitting parties intend to participate fully in the public process for adoption of a renewed MS4 Permit, and therefore must reserve the right to submit additional comments and information for inclusion in the administrative record, and for consideration by Los Angeles Regional Board staff and board members as the process for preparation and adoption of the subject MS4 Permit proceeds. All documents, attachments, comments memoranda and other materials referenced or cited in this document are hereby incorporated by reference into these comments. Capitalized terms and acronyms used herein and not otherwise defined have the meaning ascribed to them in the Draft Permit.

General Issues	Specific Requirements/Concerns	Comments
1. Improper Regulation of Discharges "Into" Storm Drain Systems	The Draft Permit provides that "Discharges *into* and from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance…are prohibited." *Draft Permit,* I.A.1., p. 25. "Discharges *to* the MS4 not covered by an NPDES individual or general permit are prohibited." • This provision as written shifts to co-permittees liability for pollution that may enter their MS4s as a result of unauthorized, or unknowing and even *intentional* discharges (such as	• **Comment:** The federal Clean Water Act (CWA) and the regulations adopted thereunder require that MS4 operators must adopt means, measures and methods to control discharges into storm drains that may cause pollution (illicit discharges, non-stormwater discharges and other discharges that may be significant contributors of pollutants); but the CWA and federal regulations do *not* contemplate that co-permittees would be liable for discharges into storm drains that could cause pollution if the methods, means and measures adopted by MS4 operators are ineffective in any particular instance to control such a discharge. *See* 33 U.S.C. § 1342; 40 CFR 122.26; 40 CFR 122.34. As a result, the appropriate approach for the *Draft Permit* to take would be to mandate that co-permittees adopt means, methods and measures to control

General Issues	Specific Requirements/Concerns	Comments
	industrial discharges, sewage discharges, residential hazardous materials spills, nursery and farming discharges, and discharges of pollutants from upstream MS4 systems), even if the MS4 operator has properly adopted control measures, ordinances and programs to control and prevent these types of illicit discharges in accordance with the federal Clean Water Act and regulations thereunder. While the Clean Water Act mandates that MS4 operators shall adopt means, methods and measures to identify and control illicit discharges that would introduce pollutants into an MS4 system, it does not contemplate that, as set forth in the proposed provision, if such discharges occur they would constitute the basis for co-permittees liability for failure to comply with the Permit. • A requirement to prohibit all discharges into the MS4 that could cause or contribute to pollution or nuisance precludes the development and implementation of any subregional	improper discharges into the MS4 system, and require investigation and follow up to control improper discharges if they occur. The *Draft Permit* should not, however, create a prohibition against discharges into the MS4, and in turn, a violation by the co-permittees if those discharges occur, because the discharges are not in the immediate control of the MS4 operator. • **Comment:** State Water Resources Control Board ("State Board" or "SWRCB") Order 2001-15 found the exact language used in *Draft Permit* § I.A.1. invalid and overly broad because it regulates discharges "into" MS4s, when the federal Clean Water Act and Porter Cologne regulate discharges of waste and pollutants *from* MS4s to receiving waters. SWRCB Order 2001-15 at p. 10. Regional Water Quality Control Boards ("Regional Board") can emphasize control of discharges into the MS4 to improve the quality of discharges from MS4s, and can emphasize that dischargers into MS4s continue to be required to implement a full range of BMPs. However, MS4 permit prohibitions may not broadly restrict all discharges *into* an MS4, in part because that approach does not allow flexibility to use regional solutions where they could be applied in a manner that fully protects receiving waters. *Id.*

General Issues	Specific Requirements/Concerns	Comments
	treatment and/or volume reduction BMPs that would be deployed downstream of the first catch basin, but prior to discharge into a receiving water.	
2. Cal. Water Code § 13241 Balancing	The Regional Board's position is that, under *City of Burbank,* they may not consider the substantial costs of compliance with the *Draft Permit*, and may not otherwise balance the factors listed under Water Code § 13241 in adopting the *Draft Permit* because, although the requirements of the *Draft Permit* are more "explicit or may be more specific than those enumerated in federal regulations," per the Regional Board they are tailored and "prescribed to be consistent with the [federal Clean Water Act]" and are simply the measures "necessary to reduce the discharges of pollutant to the maximum extent practicable *and* to meet water quality standards." *Draft Permit*, Finding F.6, p. 22.	• **Comment: 13241 Balancing is the Method for Exercising Discretion to Determine MEP.** In May 1973, the United States Environmental Protection Agency ("EPA") delegated responsibility for enforcing the CWA, including issuing NPDES permits, to the State and Regional Boards. California's Porter-Cologne Act (Calif. Water Code sections 13000 *et seq.*) is the statutory framework that sets forth the obligations of the Board when setting permit conditions for the protection of water quality. In delegating responsibility for CWA enforcement and permitting, EPA expressly embraced the Porter-Cologne legislative scheme and statutory framework as adequate to protect the waters of the United States under the federal Clean Water Act. 54 Fed.Reg. 40664 (Oct. 3, 1989); *Waterkeepers Northern California v. State Water Resources Control Board*, 102 Cal. App. 4th 1448, 1452; Cal. Water Code § 13370 et *seq.* • When the federal government delegated enforcement and permitting powers under the CWA to the State and Regional Boards, EPA consented to and embraced the *entire* statutory scheme under the Porter-Cologne Water Quality

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Building Industry Legal Defense Foundation
Building Industry Association of Greater Los Angeles and Ventura Counties
Major Issues and Comments on the
12/27/06 Draft NPDES MS4 Permit for
Ventura County, Ventura Watershed Protection District, and Incorporated Cities

General Issues	Specific Requirements/Concerns	Comments
		Control Act ("Porter-Cologne"), including Cal. Water Code Sections **13241**[1] **and 13263**.[2] The plain language of Sections 13241 and 13263 require that when a Regional Board considers waste discharge requirements (WDRs) and permit conditions, it must consider all of the factors described in Section 13241, including costs of compliance with those WDRs and permit conditions. *City of Burbank v. State Water Resources Control Board*, 26 Cal. Rptr. 3d 304, 35 Cal. 4th 613, 625 (2005). These statutes were adopted and in place at the time that EPA approved State delegation of the federal water quality program. *Id.* Thus, EPA accepted and approved such balancing by Regional Boards in the exercise of their permitting authority when EPA approved the delegation of the federal water quality program to the State of California. • Within the Porter-Cologne Act, Cal. Water Code sections 13241 and 13263 combine to obligate the Board to critically consider a number of carefully prescribed, individual

[1] "Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following: (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; and (f) The need to develop and use recycled water." Cal. Water Code § 13241.

[2] "The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge, except discharges into a community sewer system, 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(a).

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		balancing factors whenever fashioning WDRs and permit conditions for discharges into waters of the State. In addition, Regional Boards must assure that all permits and WDRs are in compliance with the Clean Water Act, as amended. Cal. Water Code § 13377. *City of Burbank,* 35 Cal. 4th at 626. These two obligations are not in conflict. *See id.* ("[S]ection 13377 forbids a regional board's consideration of any economic hardship … if doing so would result in the *dilution* of the requirements set … in the Clean Water Act.") (emphasis added); *see also id.* at 627 ("The federal Clean Water Act reserves to the states significant aspects of water policy (33 U.S.C. § 1251(b)), and it specifically grants the states authority to 'enforce any effluent limitation' that is not '*less stringent*' than the federal standard (*id.* § 1370, italics added [by the Court])." • With respect to stormwater, the Clean Water Act requires that permits for discharges from MS4s must be issued, and that the permits must require controls to reduce the discharge of pollutants to the maximum extent practicable ("MEP"), including management practices, control techniques and system design and engineering methods, and such other provisions as the Administrator State determines appropriate to control pollutants. 33 U.S.C. § 1342(p)(3)(B)(iii). In adopting Section 1342(p) of the Clean Water Act, Congress intended to provide the EPA, or the regulatory agency of an approved state (in California, the Regional Boards), with broad discretion in determining the permit requirements necessary to meet MEP, particularly in light of federal provisions emphasizing that

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		compliance with water quality standards is to be achieved through an iterative process. *Building Industry Assn. of San Diego Count v. State Water Resources Control Board,* 124 Cal. App. 4th 866, 883 (4th Dist. 2004); *City of Abilene v. United States Environmental Protection Agency*, 325 F.3d 657, 660-61 (5th Cir. 2003); *Defenders of Wildlife v. Browner,* 191 F.3d 1159, 1166-67 (9th Cir. 1999). • In light of the water quality statutory framework created by Porter-Cologne, in exercising discretion associated with the issuance of permits pursuant to EPA's delegation of the federal water quality program, the Regional Boards must consider the factors expressly set forth in Sections 13241 and 13263 in exercising their broad discretion to determine appropriate permit conditions and WDRs necessary to control water quality to the MEP, as required by Clean Water Act § 1342(p) and Cal. Water Code §13377. Cal. Water Code sections 13241 and 13263 provide instructions to Regional Boards for exercising their discretion. • The Regional Board may not hide behind the MEP requirement to deny its obligation to undertake section 13241 balancing. Instead, conducting a proper and thorough balancing of pertinent factors under Section 13241 is an integral part of, and in fact, is *the* method that a Regional Board must use to exercise its discretion to determine appropriate permit requirements to meet the broadly worded and discretion-intensive MEP standard. Therefore, the Regional Board can not simply avoid complying with the

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		balancing mandate of Porter-Cologne by holding out everything they do in their municipal storm water permits as within the MEP standard. Instead, in exercising that broad discretion to determine what constitutes MEP under the federal Clean Water Act, the Regional Board must comply with Porter-Cologne, including the consideration of the factors in section 13241, as determined to be appropriate by EPA when it approved delegation of permitting and enforcement authority to the State of California. Further, in the case of stormwater permits, there is nothing in state or applicable federal law that prevents the Regional Boards from considering costs or other section 13241 factors in determining those permit requirements and pollutant restrictions that are necessary to *meet* the MEP standard, particularly because federal and state law provide broad discretion to the Regional Boards to undertake this task along with guidance in Cal. Water Code Section 13241 and 13263 with respect to accomplishing it. See, *City of Burbank v. State Water Resources Control Board,* 35 Cal. 4th at 629, *Id.* at 628 ("The states are free to manage their own water quality programs so long as they do not compromise the federal clean water standards"). *Cf.* 33 U.S.C. § 1311(a) v. 33 U.S.C. § 1342(p). • In issuing the *Draft Permit,* the Regional Board has stated that it is not required to, and has not fully considered the requirements proposed pursuant to Section 13241. But this position is not tenable in light of the broad discretion the Board has to determine what constitutes MEP under federal law, and the direction that state law gives the Regional Boards

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		for exercising that discretion. Given the breadth of the Board's delegated discretion, the Board cannot fairly argue that it lacks the discretion to apply and reconcile the six specific balancing factors which the California Legislature carefully prescribed in Water Code section 13241 when determining what controls are necessary to comply with MEP. Accordingly, BILD and BIA-GLA/V individually call out in the comments below many specific aspects of the Draft Permit which reflect the Board's failure follow Porter-Cologne in determining permit requirements that constitute MEP. • **Comment: The Balancing Requirements of Section 13241 Are Not Preempted by the Federal Clean Water Act.** Recent California case law reflects judicial confusion about whether the MEP standard is itself "preemptive" so as to nullify a Regional Board's state-law obligation to undertake the Section 13241 balancing. The confusion is reflected particularly in two recent cases, *City of Burbank* and *City of Rancho Cucamonga*. In *City of Burbank v. State Water Resources Control Board*, 35 Cal.4th 613 (2005), the California Supreme Court ruled that the state and regional agencies responsible for regulating state water quality (e.g., the Board) must comply with Porter-Cologne – including the need to balance the Section 13241 factors – to the extent the agencies impose terms or restrictions that "exceed the requirements of the federal Clean Water Act." *Id.* at 627. In doing so, the Court concluded that the record before it was insufficiently developed for it to determine whether the permit conditions at issue there exceeded the requirements of the

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		federal Clean Water Act. *Id.* at 628. • In addressing the confusion regarding preemption of balancing by the exercise of discretion, two preliminary notes are important. First, while confusion exists in recent cases, it has long been settled that the question of whether federal preemption exists is a question of law - not of fact. *See, e.g., Industrial Trucking Association v. Henry*, 125 F.3d 1305, 1309 (9th Cir. 1997), citing *Inland Empire Chapter of Associated Gen. Contractors v. Dear,* 77 F.3d 296, 299 (9th Cir. 1996) and *Aloha Airlines, Inc. v. Ahue,* 12 F.3d 1498, 1500 (9th Cir. 1993). *Bammerlin v. Navistar International Transportation Corp.*, 30 F.3d 898, 901 (7th Cir. 1994). Second, the burden of demonstrating to a court that federal preemption exists rests with the agency asserting the preemption. Preemption is an affirmative defense. *See Bronco Wine Co. v. Jolly*, 33 Cal.4th 943, 956-57 (2004); *United States v. Skinna,* 931 F.2d 530, 533 (9th Cir. 1990). • Therefore, a regional water quality control board asserting that federal law preempts the application of the Porter-Cologne Act's balancing requirements would itself bear the burden of demonstrating, as a matter of law, that actions required of it under state law are preempted by federal law. Accordingly, under a proper interpretation of preemption rules, the Regional Board faces an uphill battle procedurally to establish federal preemption. Substantive rules regarding finding preemption also must be considered. • The Supreme Court of the United States has opined

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		that courts should always attempt to reconcile the clash of laws to *avoid preemption. See Merrill Lynch, Pierce, Fenner & Smith v. Ware*, 414 U.S. 117, 127 (1973); *see also Rice v. Norman Williams Co.*, 458 U.S. 654, 659 (1982) ("[T]he inquiry is whether there exists an *irreconcilable conflict* between the federal and state regulatory schemes.") (emphasis added). Both state and federal courts generally recognize a presumption against preemption, even when there is express preemptive language, and there is a strong presumption against preemption or displacement of state laws. *See Washington Mutual Bank, FA v. Superior Court*, 75 Cal.App.4th 773, (1999) *citing Cipollone v. Liggett Group, Inc.*, 505 U.S. 504, 523 (1992) and *Medtronic, Inc. v. Lohr*, 518 U.S. 470, 485 (1996). In the absence of express federal preemptive language, the presumption against preemption is even stronger: if preemption is not express, the federal statute must clearly indicate that Congress 'left no room' for supplementary state regulation. *Hillsborough County v. Automated Medical Labs*, 471 U.S. 707, 713 (1985). • In light of these well-settled principles, despite the confusion of recent cases, the Regional Board cannot reasonably argue that the federal regulatory scheme at issue here preempts adherence to Water Code section 13241 balancing factors. First, there is no express federal preemption here that would negate Section 13241 balancing. Accordingly, if preemption exists, it must be implied – and overcome the strong presumption against it.

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		• Second, it cannot be fairly argued that the federal regulatory scheme at issue here "left no room" for supplementary state regulation. To the contrary, the federal regulatory scheme here elevates the state agencies acting under Porter-Cologne to the level of the primary governmental actor, and EPA via its delegation has authorized the State to carry out its federal water quality duties *by following* Porter-Cologne, including Section 13241. • Finally, as discussed in the Comment above, the Regional Board enjoys broad discretion under federal law to apply the Cal. Water Code section 13241 balancing factors (as mandated by the California Legislature) consistent with the requirement to issue stormwater permits controlling pollution to the MEP and pursuant to the broad delegation of authority from EPA that the Regional Board enjoys. Because determination of permit requirements that comply with MEP does not preempt Section 13241 balancing, the Regional Board should, but has not, considered the factors under Section 13241 in determining appropriate permit standards and requirements for inclusion in the *Draft Permit.*
3. There is no substantial evidence supporting the Regional Board's conclusion that a variety of *Draft Permit* Conditions and Requirements are	For example, the *Draft Permit* purports to establish Municipal Action Levels (MALs), but the MALs actually function as numeric effluent limitations. The *Draft Permit* specifically provides that two or more exceedances of the MALs constitute a violation of the *Draft Permit. Draft*	• **Comment:** Because the Regional Board has failed, to date, to conduct or document the proper analysis of proposed WDRs and permit requirements set forth in the *Draft Permit,* as required to properly implement the federal MEP standard in issuing the permit, numerous provisions in the *Draft Permit* are not reasonably designed to control pollutants in discharges to the MEP as circumspectly defined. As discussed above, the

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appropriate to implement MEP	*Permit,* F. 11., p. 23. In addition, project level rather than sub-watershed or watershed scale implementation of LID requirements (*Draft Permit*, Part 4 §E.1.I.)), and implementation of wet season grading and paving restrictions regardless of probability of precipitation (*Draft Permit*, Part 4 §f.1.), and hydromodification control standards, including EP=1 (*Draft Permit*, Part 4 §E.1.II.) and interim standards (*Draft Permit*, Part 4 §E.1.II.). See also, Attachment A hereto; Comments submitted by the Construction Industry Coalition for Water Quality, and the technical memorandum prepared by Geosyntec Consultants submitted therewith.	Regional Board must consider the WDRs and permits requirements of the *Draft Permit* in light of all of the factors set forth in Cal. Water Code Sections 13263 and 13241, including but not limited to costs and natural baseline conditions, to determine WDRs and permit requirements that constitute regulation of discharges to the MEP. The Regional Board has failed to consider the *Draft Permit* provisions in light of Cal. Water Code section 13241 factors, as discussed above, and further, has failed to consider the *Draft Permit* provisions in light of the definition of MEP, as established by case law, and in light of other factors determined by the State Board to be appropriate to evaluating achievement of MEP. As a result, many of the current provisions of the *Draft Permit* do not comport with appropriate legal parameters that circumscribe MEP. • Pursuant to case law and administrative determinations, MEP is a technology-based standard established by CWA § 1342(p)(3)(B)(iii). *Building Industry Assn. of San Diego County v. State Water Resources Control* Board, 124 Cal. App. 4th 866, 889 (4th Dist. 2004). MEP generally emphasizes pollution prevention and source control BMPs (as a first line of defense), in combination with treatment BMPs (as a second line of defense). *Id.* MEP considers economics, and is generally less stringent than BAT, which is an acronym for "best *available* technology economically achievable." *Id.* MEP does not require that all *possible* water quality controls are implemented. *Id.*

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		• The State Board has also issued a guidance memorandum addressing the factors that should be considered in determining whether permit standards and/or compliance actions achieve the MEP standard. This guidance provides: "To achieve the MEP standard, municipalities must employ" [and therefore MS4 Permits should be designed to require,] "whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or BMPs would not be technically feasible, or the cost would be prohibitive." *State Water Resources Control Board Memorandum, entitled "Definition of Maximum Extent Practicable,"* prepared by Elizabeth Jennings, Senior Staff Counsel, February 11, 1993; parenthetical added. • To ascertain requirements necessary to achieve the MEP standard, the State Board recommends consideration of several factors, including, *inter alia*: • Effectiveness: Will BMPs address a pollutant of concern? • Public Acceptance: Does the BMP have public support?

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		• Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved? • Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc.? *Id.* • Accordingly, issuance by the Regional Board of WDRs and permit conditions that are reasonably designed to achieve MEP as required by Cal. Water Code §§ 13263, 13377 and Clean Water Act §1342(p)(3) requires that the Regional Board identify and incorporate standards and conditions into municipal permits that will result in co-permittee implementation of source and treatment control BMPs, that are, among other things: (i) available, (ii) effective to control pollutants of concern, (iii) technologically feasible, (iv) not cost-prohibitive, and (v) the cost of which is reasonably related to pollution control achieved. • Many of the *Draft Permit* provisions described in more detail in (i) Attachment A to this Chart, and (ii) in the memorandum prepared by Geosyntec Consultants and submitted to the Regional Board by the Construction Industry Coalition for Water Quality are not reasonably tailored to comport with MEP, particularly to the extent that the provisions either: • require implementation of technologies that are not currently available (*e.g.*, MALs , 2 exceedances of

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		which constitute permit violations, discharge limits for dewatering BMPs during maintenance, numeric limits for construction discharges); • are not designed to consistently result in effective water quality benefits (*e.g.*, interim hydromod standard for sites under 50 acres, 'one size fits all' requirements to prioritize LID strategy over integrated water reuse management and other hydrologic and treatment controls regardless of local conditions); • are technically infeasible, unrealistic, or too stringent to implement using BMPs (*e.g.*, MALs, 2 exceedances of which constitute permit violations), discharge limits for dewatering BMPs during maintenance, 'one size fits all' limitations for impervious surface, pre- and post-development duration matching, and pre- v. post- Ep matching, regardless site location, tributary area condition, local soils, channel stability and similar factors); and/or • the cost would exceed the water quality benefit of implementation (*e.g.*, project level rather than sub-watershed or watershed scale implementation of LID requirements, implementation of construction site numeric limitations, and implementation of wet season grading and paving restrictions, regardless of probability of precipitation). • Because the Regional Board has not properly exercised

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		its discretion, critically considering appropriate available evidence regarding factors set forth in Cal. Water Code § 13241 and State Board guidance in establishing the WDRs and permit requirements of the *Draft Permit*, the provision outlined in Attachment A and the Geosyntec memorandum, and addressed herein do not currently comport with a proper interpretation of MEP. In many cases, the current provisions of the *Draft Permit* are *not* (i) available, (ii) effective to control pollutants of concern, (iii) technologically feasible, (iv) economically feasible, (v) rationally related to baseline environmental conditions generally or locally and/or (vi) reasonably cost effective in light of anticipated pollution control. • **Comment:** The Regional Board says they considered costs, although in their view they did not have to do so. The Regional Board has failed, however, to provide any kind of "analytical roadmap" sufficient to explain how the Porter-Cologne balancing factors have been reconciled, how cost estimates where considered and if they are in fact accurate in terms of the costs of compliance with the *Draft Permit* provisions. *Draft Permit,* Finding F.16., p. 24. For example, the *Draft Permit* contains seasonal grading restrictions for specific types of sites (*Draft Permit* Part 4 §F.1.) which prohibit grading from October 1-April 15. The cost of such a prohibition will depend on several factors including the cost of land/acre, which includes the direct cost of the land and all costs related to acquisition, entitlement, etc. and the project internal rate of return, which can vary between 20 and 30%.

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		Calculations show that for even a small 10-acre development, prohibiting grading for 6 months during the "rainy season" would result in a cost of between $500,000 and $1,000,000. *See* Attachment B. Yet the water quality benefits that would be achieved by this restriction are dubious and unsubstantiated, particularly in light of the fact that, on average, only 23 to 28 of approximately 195 days during the wet season does rainfall occur. As a result, the proposed restrictions are not cost effective or designed to comport with a proper determination of requirements necessary to achieve MEP, as discussed in the preceding comment, and they are therefore arbitrary and capricious. The *Draft Permit* also sets forth numeric effluent limitations for construction site runoff that must be met to obtain a wet season grading prohibition variance. *Draft Permit,* Part 4 § F(b)(1), p. 64. To achieve the numeric effluent limits specified, advanced treatment methods must be employed. Research conducted by CICWQ determined that implementation of an advanced treatment system using chemical polymer addition would result in direct costs between $2400 and $9000 per acre for an example site handling anywhere from 1-inch to 20-inches, respectively, of total runoff per season. *See* Attachment C. Key variables include the size of the construction site, total gallons of stormwater treated (direct correlation to amount of polymer required), and the amount of detention needed and associated mixing, piping and pumping systems to treat stormwater. All advanced treatment vendors interviewed by CICWQ stated that advanced treatment systems achieve 10 NTU effluent *when*

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		combined with existing erosion control BMPs that reduce the concentration of influent sediment. Therefore, the cost of advanced treatment is *in addition to* existing erosion and sediment control stormwater BMPs that are required in Ventura County; CICWQ polled Ventura County major builders and the range of cost for existing construction phase erosion and sediment control is between $5,000 and $8,000 per dwelling unit. Using an average of 3.5 dwelling units per acre and the mid-point cost per dwelling unit for existing BMPs plus the cost of treating 10 inches of total runoff per acre per season, the combined cost of construction phase erosion and sediment control BMPs plus Advanced Treatment on a per acre basis is approximately $28,000. • Moreover, CICWQ research determined that currently there are an insufficient number of vendors providing advanced treatment capability (2 vendors currently operating in ALL of southern California), so that treatment for all hillside construction sites, sites within or discharging into ecologically sensitive areas, or sites discharging into 303(d) listed waterbodies for sediment within the permit area is technically infeasible. In light of CICWQ's research, the proposed restrictions are clearly not cost effective or designed to comport with a proper determination of requirements necessary to achieve MEP, as discussed in the preceding comment, and they are therefore arbitrary and capricious. • The Regional Board's failure to analyze the cost of applying numeric effluent limits is all the more glaring in light

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		of the fact that the available science indicates that numeric effluent limits are only feasible where Advance Treatment with polymers in employed without consideration of natural baseline loads of, for example, sedimentation and turbidity. *See* General Issue No. 20, below. Reconciliation of the Porter-Cologne balancing factors in accordance with the Regional Board's enabling statute would serve to illuminate the unreasonableness of the requirements set forth in the *Draft Permit.* • The chart attached hereto as Attachment A, and the technical memorandum prepared by Geosyntec Consultants and submitted to the Regional Board by the Construction Industry Coalition for Water Quality are hereby incorporated into these comments by reference.
4. State Unfunded Mandates	As further detailed in Attachment A, the CICWQ letter, the Geosyntec memorandum, comment 3 above, and the sections below, abundant new *Draft Permit* requirements for co-permittees to review and approve SWPPP and BMP plans, inspect, monitor and enforce compliance with a variety of Regional Board permits, incorporate certain specified structural BMPs throughout their jurisdictions (such as catch basin screens) and requirements to maintain post-construction BMPs, all create huge unbudgeted municipal costs. The Regional	• **Comment:** The Regional Board has the legal authority under State law to impose mandates which "exceed" or are "more explicit" than the mandates or specific requirements of federal law. *Building Industry Association of San Diego County v. State Water Resources Control Board*, 124 Cal.App.4th 866 (2004); *City of Burbank v. State Water Resources Control Board*, 35 Cal.4th 613 (2005). However, when the Regional Board elects to use its discretion to impose mandates that do not comport with the federal Clean Water Act, including MEP, it is electing to impose a state mandate within the meaning of California Constitution, Art. XIII B, Section 6. The Regional Board may impose such state mandates under Porter-Cologne; however, once imposed, the

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	Board's position is that the co-permittees are responsible for funding the implementation of all provisions of the *Draft Permit*, no matter the cost, from general funds, district assessments, plan review fees, permit fees, industrial/commercial user fees, revenue bonds, grants or other local funding mechanisms.	California Constitution requires that they must be funded by the State. Since portions of the *Draft Permit* "are more explicit" than and "exceed" a proper determination of standards required to implement the federal CWA, including MEP, as described in comment 3 above, implementation of these provisions must be funded by the State. • See Attachment A, the CICWQ letter and the Geosyntec memorandum for further detailing of the provisions of the *Draft Permit* which do not comport with the legal parameters that circumscribe MEP. Examples of such provisions include the expanded inspection and enforcement requirements imposed on the co-permittees under the *Draft Permit*.
5. CEQA	The Regional Board's position is that they do not have to comply with CEQA in light of the recent *County of Los Angeles* case. *Draft Permit*, Findings § G.1., p. 24.	• **Comment.** Unless an appropriate determination of *Draft Permit* requirements necessary to achieve MEP is made, the requirements of the *Draft Permit* do not comport with proper implementation of MEP and the Clean Water Act, and by default must be adopted pursuant to State law. CEQA analysis (using functional equivalent) must be conducted for provisions of the *Draft Permit* adopted pursuant to State law. *County of Los Angeles v. State Water Resources Control Board,* 143 Cal.App.4th 985, modified by 2006 Cal.App.LEXIS 1744 (2006). • **Comment:** Water Code § 13389 was part of Porter-Cologne adopted to accomplish the delegation of administration of the federal Clean Water Act, including the issuance of NPDES permits, to California. It does not exempt

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		from CEQA other permits and/or requirements imposed by the Regional Board under Porter-Cologne. Cal. Water Code § 13372. Cal. Water Code § 13372 provides that the provisions of Chapter 5.5 of Porter-Cologne "apply only to actions required under the Federal Water Pollution Control Act and acts amendatory thereof or supplementary thereto." Section 13389 is part of Chapter 5.5 of Porter-Cologne. • **Comment:** The court in *Committee for a Progressive Gilroy v. State Water Resources Control Board*, 192 Cal.App.3d 847 (1987) held that orders restoring water waste discharge levels to originally approved levels for a wastewater treatment plant were not exempt from compliance with CEQA by section 13389 because that section applies only to actions required under the Clean Water Act. Orders of the Regional and State Boards regarding wastewater discharge issued under the authority of the Porter-Cologne Water Quality Control Act were not required by the Clean Water Act and thus not exempt from CEQA review. In its discussion of Cal. Water Code Section 13389 a California appellate court stated, "Chapter 5.5 of the Porter-Cologne Act was enacted to allow the State of California to administer the National Pollutant Discharge Elimination System (NPDES) permits program. This chapter was patterned after the Federal Water Pollution Control Act which created the NPDES permit system. Section 1371 of that act excludes the issuance of NPDES permits from the requirements of the National Environmental Policy Act after which CEQA was patterned. It is fairly apparent that the exemption for the promulgation of waste discharge

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		requirements from CEQA contained in Water Code section 13389 was meant to parallel the exemption for the issuance of NPDES permits from the requirements of NEPA found in section 1371 of the federal act." *Pacific Water Conditioning Assn., Inc. v. City Council,* 73 Cal.App.3d 546, 557 (1977). Thus, the purpose of section 13389 was to exempt from CEQA permits issued by the State under the federal Clean Water Act – not WDRs that are adopted under Porter-Cologne. Because the Regional Board is adopting WDRs under Porter-Cologne rather than simply implementing the NPDES program mandated by the federal Clean Water Act, section 13389 does not apply to exempt such an action from CEQA review.
6. End-of-Pipe pollutant concentrations are equated to receiving water violations	The *Draft Permit* specifies "the 'end of pipe' compliance points for MALs are at 36 inches in diameter or greater discharge pipes with outfalls to receiving waters." The *Draft Permit* further indicates that two or more exceedances of MALs at these 'end-of-pipe' locations will be a violation of the permit, and will trigger the requirement to make an RWL, which is a report of violation of *receiving water* limitations. *See, e.g., Draft Permit,* Findings § F.11. p. 23; Part 2, pp 29-30.	• **Comment:** The effect of these provisions is to improperly make 'end-of-pipe' exceedances a violation of the MS4 permit and presumptive evidence of receiving water limit violations, even if receiving water data itself shows no violations. As such, the MALs are serving as numeric effluent limitations. This approach constitutes inappropriate science and policy, because end-of-pipe loads and concentrations cannot properly be determinative of receiving water violations without using procedures that take into account existing controls on point and nonpoint sources of pollution, the seasonal or flow variability of the pollutant or pollutant parameter, receiving water quality monitoring data, assimilative capacity, mixing zones and, where appropriate, dilution factors. *See for purposes of reference only,* 40 CFR. §122.44(d).

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Building Industry Association of Greater Los Angeles and Ventura Counties
Major Issues and Comments on the
12/27/06 Draft NPDES MS4 Permit for
Ventura County, Ventura Watershed Protection District, and Incorporated Cities

General Issues	Specific Requirements/Concerns	Comments
		• **Comment:** Specifying end-of-pipe effluent limitations that are presumptive evidence of receiving water violations is also legally inappropriate. Neither the federal Clean Water Act or Porter-Cologne mandate that an "end of pipe" detection based approach be applied to storm water regulation. Further, a detection based approach does not comport with the purpose and policies of the Clean Water Act and Porter Cologne. With respect to the federal Clean Water Act's regulation of storm water the focus is on controlling discharges of pollutants to the maximum extent practicable or MEP, and the implementation of management measures which are appropriate. EPA Guidance on Municipal Storm Water Permitting entitled "*National Pollutant Discharge Elimination System (NPDES) Storm Water Program Questions and Answers*" (January 21, 2004), provides, "Under the NPDES storm water program, there is a progression of approaches used to ensure that water quality standards are achieved: 1) setting technology-based standards; 2) defining maximum extent practicable abatement measures and technology (giving the permitting authority flexibility in how to achieve it); 3) establishing performance standards to address problem parameters; and 4) establishing numerical effluent limits. The storm water program utilizes a BMP framework, which is a combination of approaches 1, 2 and 3, because EPA feels that the vast majority of storm water discharges can be adequately controlled to meet water quality standards by managing activities that have the potential to contribute pollutants."

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		• Further, EPA's Phase II stormwater regulations generally defining MEP and appropriate approaches to implement MEP provide that "narrative effluent limitations requiring implementation of best management practices (BMPs) are generally the most appropriate form of effluent limitations when designed to satisfy technology related requirements (including reductions of pollutant to the maximum extent practicable) and to protect water quality." 40 C.F.R. §122.34(a). Therefore, these general regulations go on to specify that "implementation of BMPs . . . constitutes compliance with the standard of reducing pollutant to the MEP." *Id. See also, Defenders of Wildlife v. Browner,* 191 F.3d 1159 (9th Cir. 1999). In addition, as discussed more fully in comment 3 above, implementation of the MEP technology-based standard under the CWA requires consideration of available technologies to achieve the permit standard, and technical feasibility of implementation. The State Water Resources Control Board Blue Ribbon Panel Report found that it was not technically feasible for urban areas to meet numerical effluent limitations. p. 8; *See also,* Geosyntec memorandum. • Moreover, the State Board has ruled that the iterative approach to BMP implementation and adjustment, focusing on timely improvement of BMPs, is appropriate for stormwater quality control, and the State Board has determined that it is generally not appropriate to require compliance with numeric effluent limitations. *State Water Resources Control Board,*

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		Order WQ 2001-15, p. 8. • Thus, the focus of both the federal Clean Water Act and Porter-Cologne is on the protection of the beneficial uses that apply to receiving waters – not on meeting an arbitrary numeric limit at the point of discharge to a municipal storm water system. • As a result, these provisions do not comport with a proper determination of MEP, lack scientific basis, constitute poor policy, are arbitrary and capricious, and violate Water Code section 13262(a), which requires adoption of conditions r*easonably* required to protect beneficial uses and implement water quality objectives. The permit should be revised to incorporate the concept of action levels developed and implemented consistently with the Blue Ribbon Panel Report, and as described in more detail in the Geosyntec memorandum.
7. In-stream receiving water quality violations are presumptive evidence of MS4 Permit violations	This issue is the flipside of the issue addressed in Comment 6 above. The *Draft Permit* also contains provisions that two receiving water exceedences of MALs as determined by in-stream mass emissions data will be presumptive evidence that MS4 discharges violate MEP and therefore constitute a permit violation. *Draft Permit,* Part 2, pp. 29-30.	• **Comment:** The effect of these provisions is to improperly make receiving water exceedances a violation of the MS4 permit, regardless of whether the MS4 discharge is actually a significant contributor of pollutants to the receiving water. As such, the MALs are again serving as numeric effluent limitations, but in this case are being applied in receiving waters as evidence of discharge characteristics. This approach constitutes inappropriate science and policy, because receiving water monitoring data cannot properly be determinative of end-of-pipe loads and concentrations for MS4 systems, without using procedures that take into account

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		existing controls on point and nonpoint sources of pollution, and the actual probable source of a particular pollutant or pollutant parameter within the receiving water. • **Comment:** Specifying effluent limitations that are applied in the receiving water and that constitute presumptive evidence of end-of-pipe discharge violations is also legally inappropriate, for the same reasons discussed under Comment 6 above. • **Comment:** As a result, these provisions do not comport with a proper determination of MEP, lack scientific basis, constitute poor policy, are arbitrary and capricious, and violate Water Code Section 13262(a), which requires adoption of conditions r*easonably* required to protect beneficial uses and implement water quality objectives. The permit should be revised to incorporate the concept of action levels developed and implemented properly and consistently with the Blue Ribbon Panel Report, and as described in more detail in the Geosyntec memorandum.
8. Elimination of Vested Rights/ Retrofit of Approved Projects Ready for, and Under Construction.	The *Draft Permit* contains no grandfathering provisions for approved projects, or even projects with vested rights, but applies a plethora of new requirements and conditions to all new Development and Redevelopment sites. As a result, the new requirements imposed by the *Draft Permit* must be fulfilled for all new development and redevelopment	• **Comment:** The *Draft Permit* as written will eviscerate project approvals and vested rights, creating the obligation to retrofit projects to address new requirements at a stage in development that does not lend itself to practical re-design. A grandfathering provision exempting projects with approved tentative maps and/or vested rights should be incorporated into the *Draft Permit*. Tentative maps, final maps and development agreements are intended to provide protections to allow the developer to proceed with development in substantial

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	projects, regardless of construction status or vested rights. This will force co-permittees to require retrofitting of approved and/or vested projects, even if they are under construction. See *Draft Permit,* Findings § F.1., p. 20.	compliance with the rules and policies in effect on the date in which the subdivider's application was deemed complete, or in the case of a development agreement, on the effective date of that agreement. *See*, e.g. Cal. Gov. Code § 66498.1. However, the applicable statutes related to vested rights provide an exception when failure to condition or deny a further project approval or entitlement would pose a danger to the health and safety of residents of the community or when the condition or denial is required by federal or state law. *See, e.g.*, Cal. Gov. Code § 66498.1(c). Because the *Draft Permit* does not contain a grandfathering provision, it is likely that vested protections will be eliminated as necessary to avoid a conflict with the *Draft Permit*. Thus, projects with vested maps that are already financed, and even those projects where work has already begun, may have to implement the new requirements mandated by the *Draft Permit*, including those standards dealing with LID, hydromodification and treatment BMPs regardless of technical feasibility and cost, which to date are factors that have not been considered for new projects, much less projects already approved and/or under construction. • **Comment:** Failure to properly consider effects of the *Draft Permit* provisions on projects that are vested, approved, and/or under construction is arbitrary and capricious, constitutes a misapplication of the MEP standard, and violates Water Code section 13262(a), which requires adoption of conditions *reasonably* required to protect beneficial uses and implement water quality objectives.

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		• **Comment**: The San Diego Regional Board recognized these flaws in their recently adopted MS4 Permit, and revised their proposed permit prior to adoption to incorporate a grandfathering provision for vested, approved and/or project under construction. We similarly recommend that the following grandfathering provision should be incorporated into the *Draft Permit* to address the issues outlined in this comment: "Updated Development and Redevelopment requirements shall apply to all projects or phases of project, unless, at the time any updated SUSMP or hydromodification requirement commences, the projects or project phases meet any one of the following conditions: (i) the project or phase has received final tentative tract map approvals; (ii) the project or phase has begun grading or construction activities; or (iii) a Copermittee determines that lawful prior approval rights for a project or project phase exist, whereby application of an updated SUSMP or hydromodification requirement to the project is practically or legally infeasible. Where feasible, the Copermittees shall utilize the SUSMP and hydromodification update periods to ensure that projects undergoing approval processes include application of the updated SUSMP and hydromodification requirements in their

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		plans."
9. Requirements to Condition all Development to provide Water Quality Mitigation consistent with New Permit, Regardless of Legal Authority of Local Agencies to do so	The *Draft Permit* requires that the Co-permittees develop authority to condition projects to provide storm water mitigation consistent with new Permit requirements, regardless of whether any further discretionary permits for the project are necessary. *Draft Permit,* Findings § F.1.	• **Comment:** Local agencies have limited land use authority to condition projects that have already completed CEQA review and received all discretionary permits and approvals. By definition, issuance of ministerial permits do not involve discretionary action, and, while local agencies can enforce all conditions or approval and mitigation measures specified for a project prior to issuance of ministerial permits, they cannot impose new conditions to ministerial permits. 14 CCR § 15041; Cal. Pub. Res. Code § 21166. Further, common law and statutory vested rights can impact the ability of any local agency to impose additional requirements on certain projects. *See* Cal. Gov. Code § 65864 *et seq.* (development agreements); Cal. Gov. Code § 66498.1 *et* seq. (subdivision map act); *Avco Community Developers, Inc. v. South Coast Reg'l Comm'n*, 17 Cal.3d 785, 791 (1976) (common law vesting rights). As a result, this mandate that projects be conditioned, regardless of whether any discretionary approvals are still necessary for development of the project, by the Regional Board forces municipalities to violate State law and therefore constitutes an *ultra vires* act on the part of the Regional Board.
10. Incorporation of Numeric Limits -- MALs	The *Draft Permit* purports to establish Municipal Action Levels (MALs), but the MALs actually function as numeric effluent limitations. The *Draft Permit* specifically provides that two or more exceedances of	• **See Comments 6 and 7 above.** • **Comment:** Because the Draft Permit specifies that 2 or more exceedances of the MALs constitute a permit violation, from a practical standpoint the MALs are not action levels. They are numeric *effluent* limitations. Incorporation of

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	the MALs constitute a violation of the *Draft Permit. See, e.g., Draft Permit,* F. 11., p. 23. Further, exceedences of MALs improperly constitute presumptive evidence of receiving water standards, as well as MEP and discharge standards. *Draft Permit,* Part 2, pp 29-30.	numeric effluent limits is contrary to the Blue Ribbon Panel Report recommendations that requiring MS4 Permit discharges to comply with numeric limits is not technically feasible at this time. *Storm Water Panel Recommendations to the California State Water Resources Control Board – The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 19, 2006) ("Blue Ribbon Panel Report") p. 8. The Blue Ribbon Panel report concluded that action levels should only be used to "trigger appropriate management response," rather than triggering regulatory response and penalties as in the *Draft Permit.* p. 8. • Further, the State Board "*Policy for Implementation and Enforcement of the Non-Point Source Pollution Control Program*" (May 2004) provides that a "Key Element" of a NPS program is inclusion of "a description of the MPs and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purposes(s)." p. 12. Thus, the focus of the State Board NPS program is on development and implementation of BMPs as opposed to incorporation of specific numeric limits into regulatory programs established to deal with NPS pollution. In addition, the State Board "*Non-Point Source Program Strategy and Implementation Plan, 1998-2013*" (January 2000) provides, "RWQCBs will generally refrain from imposing effluent requirements on dischargers who are implementing BMPs in accordance with a waiver of WDRs, an approved MAA, or other SWRCB or RWQCB formal action. Once the

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		SWRCB or RWQCB has formally approved BMPs, they will become the primary mechanism for meeting water quality standards. While compliance with BMP requirements cannot excuse a violation of water quality standards, the RWQCBs may rely on their implementation of BMPs to demonstrate compliance with standards." p. 56. Thus, the incorporation of MALs in this fashion in the *Draft Permit* is inconsistent with the State Board NPS program. • Moreover, the State Board has ruled that the iterative approach to BMP implementation and adjustment, focusing on timely improvement of BMPs, is appropriate for stormwater quality control, and the State Board has determined that it is generally not appropriate to require compliance with numeric effluent limitations. *State Water Resources Control Board,* Order WQ 2001-15, p. 8. • The Phase II Regulations similarly emphasize focused attention to requiring implementation of BMPs, rather than imposition of numeric effluent limits in stormwater permits. See cases and regulations cited in Comment 6 above.[3]

• [3]In addition to the authority discussed in comment 6, the Phase II Municipal Storm Water Regulations provide that if an MS4 operator "implements the six minimum control measures in § 122.34(b) and the discharges are determined to cause or contribute to non-attainment of an applicable water quality standard, the operator needs to expand or better tailor its BMPs within the scope of the six minimum control measures. EPA envisions that this process will occur during the first two to three permit terms." Federal Register, Vol. 64, No. 235. (Wednesday, December 8, 1999). This suggests an iterative approach where if exceedances are determined to exist that additional BMPs are to be implemented as opposed to finding that exceedances are violations of the *Draft Permit*. Incorporating MALs as set forth in the *Draft Permit* goes beyond the mandate of the federal Clean Water Act and its

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		• Incorporating the MALs in the manner set forth in the *Draft Permit* is inconsistent with the Blue Ribbon report, a proper interpretation of the MEP Standard, EPA's Phase II regulations, and State Board policy for storm water permits. The current MAL provisions also improperly preempt the State Board's policy making function regarding incorporation of numeric effluent limits into storm water permits based upon the Blue Ribbon report. Therefore, MALs, if they are retained, should be reconstituted as true action levels. As recommended by the Geosyntec memo, the action levels should solely trigger review and implementation of more effective BMPs, to the extent that more effective BMPs are available. This type of an approach would be consistent with the approach recommended in the Blue Ribbon Panel Report and would be consistent with law and policy guidance. To the creation of *action levels,* rather than numeric limits, provisions of the *Draft Permit* stating that exceedances of the MALs constitute a violation of the permit and/or receiving water standards must be deleted, and the Regional Board should expressly limit the consequences of MAL exceedances to triggering new BMPs, to the extent that such BMPs are available. • **Comment:** The currently proposed MAL values are inappropriately derived and fail to comply with the recommendations of the Blue Ribbon Report. The currently

implementing regulations to the extent that the *Draft Permit* applies to small MS4s. Since the permit provisions are not severable, the *Draft Permit* should be revised to implement the Phase II regulations with respect to all MS4s regulated.

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		proposed MALs are based upon the median end-of-pipe discharge concentrations observed for the various pollutants derived from the National Stormwater Quality Database (NSQD). There are three problems with this approach to setting action levels. First, the Blue Ribbon Panel Report specifically concludes that action levels should be "upset values" for pollutant concentrations that are "above normal variability." p. 8. The MAL values in the *Draft Permit* are median values that do not represent pollutant concentrations that are "upset values" or "above normal variability," and they are therefore inappropriately low for purposes of establishing an action level. Second, the Blue Ribbon Panel Report recommends that action levels should start in the upper 10th percentile for each pollutant concentration. p. 9. The median value is therefore also inappropriately low, as it represents the 50th percentile. Third, the MALs are improperly derived from a national database, populated by data that do not correlate with or represent conditions in Ventura County. Therefore, the action limits chosen are not consistent with the Blue Ribbon Report recommended methodology for determining action levels, and should be recalculated to represent the upper 10th percentile pollutant concentration based on a database that is representative of local conditions. Options are the Zone 6 data, which is a subset of the NSQD database. Alternatively, data collected pursuant to local storm water monitoring programs should be used. That is the very purpose underlying the storm water program monitoring requirements. Absent the use of local data, the MAL values in the *Draft Permit* are not

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		appropriately tailored to runoff conditions in Ventura County and are too low to be useful. *See* analysis of MAL values in the Geosyntec memorandum. • **Comment:** As set forth above, the Blue Ribbon Panel Report concluded that incorporation of numeric effluent limits into municipal storm water permits is not technically feasible for a number of reasons. p. 8. The Regional Board has not provided any information or documentation that would support a determination that compliance with such limits is feasible and evidence presented and analyzed by experts convened by the State Board to look specifically at this issue concluded that in fact such an action was infeasible at this time and that a number of facts must be considered prior to the incorporation of such limits into storm water permits. • **Comment:** The approach of the *Draft Permit* with respect to MALs constitutes the imposition of flawed numeric effluent limitations on stormwater discharges. As a result, the *Draft Permit* does not comply with the recommendations of the Blue Ribbon Report, is technically flawed, and is technically infeasible to implement. Accordingly, as written, the *Draft Permit* provisions regarding MALs are an improper application of the MEP standard, are arbitrary and capricious, and violate Cal. Water Code Section 13263(a). To address these flaws, the *Draft Permit* provisions must be revised as recommended in the Geosyntec memorandum.

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11. Incorporation of numeric limit -- Waste Load Allocations (WLAs)	Contrary to *Draft Permit* Finding § F.3, p. 21, the *Draft Permit* merely incorporates numeric receiving water limits as WLAs for particular pollutants/waterbodies, instead of, and without specifying implementation measures. *See, e.g., Draft Permit,* Part 3, § A, Part 6 §§ 3, 4, pp 91-94.	• **Comment**: 33 U.S.C. § 1342(1)(1) and (p)(3)(B)(iii) and EPA Phase II Municipal Stormwater Regulations require implementation of treatment technologies to meet the MEP standard. Pursuant to these regulations and the federal Clean Water Act, the Regional Board is to provide tools to meet water quality standards and those tools should appear in the *Draft Permit.* • The Phase II Municipal Storm Water Regulations provide that if an MS4 operator "implements the six minimum control measures in § 122.34(b) and the discharges are determined to cause or contribute to non-attainment of an applicable water quality standard, the operator needs to expand or better tailor its BMPs within the scope of the six minimum control measures. EPA envisions that this process will occur during the first two to three permit terms." Federal Register, Vol. 64, No. 235. • The State Board "Policy *for Implementation and Enforcement of the Non-Point Source Pollution Control Program*" (May 2004) provides that a "Key Element" of a NPS program is inclusion of "a description of the MPs and other program elements that are expected to be implemented to ensure attainment of the implementation program's stated purposes(s)." p. 12. Thus, the focus of the State Board NPS program is on development and implementation of BMPs as part of an iterative process, as opposed to incorporation of specific numeric limits into regulatory programs established to deal with NPS pollution.

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		• In addition, the State Board "*Non-Point Source Program Strategy and Implementation Plan, 1998-2013*" (January 2000) provides, "RWQCBs will generally refrain from imposing effluent requirements on dischargers who are implementing BMPs in accordance with a waiver of WDRs, an approved MAA, or other SWRCB or RWQCB formal action. Once the SWRCB or RWQCB has formally approved BMPs, they will become the primary mechanism for meeting water quality standards. While compliance with BMP requirements cannot excuse a violation of water quality standards, the RWQCBs may rely on their implementation of BMPs to demonstrate compliance with standards." p. 56. Thus, the incorporation of numeric limits in this fashion in the *Draft Permit* is inconsistent with the State Board NPS program. • Contrary to *Draft Permit* Findings, §F.3, there are no BMPs specified for several of the TMDL WLAs incorporated into the order that "translate" the WLA numeric targets into MS4 requirements that are consistent with assumptions and requirements of the TMDLs. • As a result, these WLA implementation provisions are insufficient under federal law and State Board NPS policy because no mechanisms are provided in the *Draft Permit* so as to allow the regulated communities to meet the WLAs. Identification of appropriate implementation actions for MS4 operators to meet numeric WLAs is particularly important because (i) all of the WLAs incorporated into the permit are *receiving water* targets, rather than *discharge* targets as

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		envisioned by section 303(d) of the Clean Water Act and the federal regulations, 33 U.S.C. § 1313(d), and (ii) neither the *Draft Permit* nor the TMDL provisions as incorporated into the *Draft Permit* currently contain implementation measures applicable to MS4s. The *Draft Permit* must be amended to incorporate BMPs, management measures and other implementation tools to achieve WLAs to comply with state and federal law, particularly where those tools are not provided in the TMDL implementation plans or the *Draft Permit.* • **Comment:** The specification of numeric WLAs without identification of BMPs or management measures that will "translate" those WLAs into MS4 Permit requirements are inconsistent with the proper implementation of the MEP standard because there are no *available,* technologically feasible or cost effective measures specified to implement the WLAs. Therefore adoption of these provisions of the *Draft Permit* is inconsistent with a proper application of MEP.
12. Incorporation of numeric limits -- Dewatering	The *Draft Permit* specifies numeric discharge limitations for dewatering treatment BMPs prior to discharge "into" MS4 systems. Numeric discharge limits are specified for discharges from BMP maintenance addressing 13 pollutants,	• **Comment.** See comment above regarding the invalidity of regulating pollutants discharged "into" storm drains. • **Comment:** The *Draft Permit* states that the limits are based upon Basin Plan water quality objectives and EPA Parameter Benchmark Values, but in fact the limits do not appear to be based on these sources. Therefore, the discharge

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	including bacteria, metals, nutrients, and conventional parameters such as TDS and TSS. *See, e.g., Draft Permit* Part 4 § G.6.g.3., pp 79-80.	limits chosen are not supported by substantial evidence, and are arbitrary and capricious. • **Comment:** The limits are too stringent a requirement for dewatering treatment BMPs, and therefore this provision of the *Draft Permit* is an improper application of the MEP standard. See Geosyntec technical memorandum. • **Comment:** To cure the deficiencies in the *Draft Permit,* these provisions need to be revised as recommended in the Geosyntec memorandum to specify a feasible BMP that can be used to control discharges from BMPs during maintenance activities.
13. Incorporation of Infeasible "Zero" Pollutant Limits	The *Draft Permit* prohibits certain categories of runoff unless *all* pollutants are eliminated from such runoff. *Draft Permit*, Part 1 § B.2 and 3 and Footnote 2.	• **Comment.** It is not technically feasible or realistic to mandate removal of all pollutants from runoff, as required to comply with the prohibition as drafted. While BMPs and combinations of BMPs can be designed to eliminate appreciable concentrations and loads, they cannot eliminate all pollutants, nor is it necessary to eliminate all concentrations and loads to meet receiving water standards. As a result, these provisions, as written, constitute an improper application of MEP, and violate Water Code section 13262(a), which requires adoption of conditions *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment.** The *Draft Permit* should be revised to preclude discharges that are significant contributors of pollutants to receiving waters, as contemplated by federal regulations implementing the Clean Water Act. 40 CFR 122.26(a)(v).

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14. Hydromodification Controls –Mandatory Low Impact Development	• Imposition of LID requirements on *all* New Development (any land disturbing activities; structural development, including construction or installation of a building or structure, creation or replacement of impervious surfaces; and land subdivision) and Redevelopment Projects (creation, addition or replacement of 5,000 square feet or more of impervious surface on an already developed site). *Draft Permit,* Part 4, §§ E.1. f. and E.I.1., pp. 50-51. • The *Draft Permit* provides that LID is primarily a source control strategy and *minimizes the need* for large sub-regional and regional treatment control BMPs. *Draft Permit,* Part 4, §§ I.1., p. 51.	• **Comment.** There is not substantial evidence in the SCCRWP study, other documents cited in the *Draft Permit (See,* Finding 18, p. 18), or in the scientific literature (*See* Geosyntec memorandum), supporting the assertion that small scale (rather than sub-watershed or watershed scale) infiltration or application of LID practices is necessary to avoid degradation and prevent water quality impacts. Further, there is no evidence that LID techniques applied on a project-by-project basis to even the smallest projects are more effective for controlling hydromodification impacts than the implementation of IWRM strategies or vegetated regional BMPs. There is evidence that LID alone cannot fully mitigate hydromodification impacts, particularly when applied to very small, infill and redevelopment projects that discharge to hardened or substantially degraded channels, and/or which are located in largely impervious sub-watersheds. • **Comment:** There is no evidence or discussion of the water quality benefits that will result from project-by-project, very small scale application of LID requirements. In fact, these requirements may actually preclude certain storm water conservation and reuse BMPs, and would prevent regional BMP solutions that benefit existing untreated development storm water. In circumstances where sites discharge to waterbodies that are not subject to destabilization (concrete channels, large lakes, bays estuaries), these measures will provide only a very small incremental water quality benefit, and will therefore not be cost effective. At the same time,

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		there are extraordinary costs associated with these requirements. According to work done in San Diego, the additional costs associated with imposition of stringent LID requirements on a lot-by-lot basis for infill and redevelopment projects with land constraints, particularly when combined with application of the other hydromodification standards set forth in the *Draft Permit,* results in significant land-take, and can result in costs averaging $30,000 to $50,000 per lot, for those projects where implementation of the standards is even technically feasible. For many types of projects, the application of standardized LID and other hydromodification control requirements will be technically infeasible based on local soils conditions, infiltration restrictions, groundwater conditions and similar physical parameters. • **Comment:** The bias in the *Draft Permit* provisions against regional application of volume reduction BMPs eliminates tools that should be available to co-permittees and project applicants to address hydromodification control, and creates internal inconsistency in the *Draft Permit* as it is inconsistent with *Draft Permit,* Finding 15, p. 17. • **Comment:** Stringent application of LID principles on a lot-by-lot scale are technically infeasible for a variety of sites, including small new development infill sites, most redevelopment sites, and sites with high groundwater, or contaminated groundwater that should not be impacted. • **Comment**: The *Draft Permit* LID requirements are technically infeasible, are not cost effective, and/or are

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		ineffective in controlling water quality and hydromodification impacts, as outlined by the Geosyntec memorandum. Therefore, these requirements constitute an improper application of MEP, are arbitrary and capricious, and violate Water Code § 13262(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment**: The balancing of these provisions in light of the Cal. Water Code section 13241 and State Board recommended factors in properly determining the MEP standard is especially critical with respect to standardized LID and hydromodification requirements, which would apply on a 'one-size fits all' basis throughout the County. See Cal. Water Code § 13241(b) ("Environmental characteristics of the hydrographic unit under consideration…"). Failure to engage in such balancing, which takes into account local conditions, including the need for housing and economic considerations and the degree to which a particular development constitutes infill and therefore is consistent with LID at a watershed scale, violates the state and federal provisions applicable to the Regional Boards exercise of permitting authority under its federally delegated powers. *See* Comments 2 and 3 above. • **Comment:** Application of LID to redevelopment projects is poor policy because (1) it will discourage infill because in many situations the requirements will not be capable of being met without reserving a great deal of project site area in newly created open space, (2) the costs of

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		implementation will not provide significant water quality benefit since most redevelopment and infill sites will discharge to already concrete flood control channels and/or are located in substantially built-out and impervious watersheds, and (3) lot-by-lot application of the requirements prevents adoption of IWRM and other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction BMPs for existing development that isn't served by BMPs. There are some types of LID techniques that can be implemented on small sites, such as planter boxes; however, for many redevelopment projects meeting a broad mandate to incorporate significant site design and LID practices will be technically and/or economically infeasible. Further, improving water quality of runoff from one lot that is being redeveloped will not substantially improve overall water quality unless the adjacent lots are also redeveloped. And so in this case, lot-by-lot imposition of these requirements do not make policy sense and do not result in substantial water quality improvements, but will result in substantial compliance costs. • **Comment**: The *Draft Permit* provides that the LID requirements are based on the State and Federal Antidegradation Policies (see C.19). However, the State and Federal Antidegradation Policies do not clearly support the imposition of the LID and hydromodification control requirements imposed in the *Draft Permit*. This finding does not clearly describe the connection between antidegradation requirements and the proposed LID requirements. *See*

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		Geosyntec memorandum. As a result, this finding is legally insufficient and is not supported by substantial evidence • **Comment:** The *Draft Permit* should be revised to limit application of LID requirements to projects of sufficient size, and with acceptable site and groundwater conditions to allow for feasible and beneficial implementation of site design BMPs and LID technologies. Further, LID requirements should be implemented at the planning and sub-watershed planning scale, and not on a lot-by-lot basis, and the bias against regional volume and treatment control BMPs should be eliminated from the *Draft Permit*. In addition to these revisions, we recommend replacing the LID and other hydromodification control standards proposed in the *Draft Permit* with the approach recommended in the Geosyntec memorandum. *See* summary description of potentially appropriate hydromodification control approach as recommended by Geosyntec in comment 15 below.
15. Numeric Hydromodification Criteria Pre- and Post-development volume, flow and duration matching and hydrograph matching	• The *Draft Permit* provides *all* New Development and Redevelopment (see above for definitions) must implement that hydrologic controls shall *minimize* changes in post-development flow rates, velocities and duration by *maintaining* the project's pre-development storm water runoff flow rate and durations. *Draft Permit,* Part 4, § E.II.1(a), p. 52. • The *Draft Permit* further	• **Comment:** The provision requiring flow rate and duration matching for all events is inconsistent with other provisions of the *Draft Permit* that allow some limited increases in post-development volume and flow duration, so long as, for example, an Ep=1 is maintained or Effective Impervious Area is limited to less than 5% of project area. Therefore, the *Draft Permit* is internally inconsistent, and the inconsistent provisions would be invalid. • **Comment:** Unlike other provisions of the *Draft Permit* which allow some limited post-development increases

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	recommends an "interim hydrologic control "for projects less than 50 acres requiring pre- v. post- development hydrograph (flow, volume and duration) matching for the 2-years, 24 hour storm event. *Draft Permit,* Part 4, § E.II.1.(e)(1), p. 53.	in volume, the flow rate and duration matching provision precludes any increase in volume for any storm event, or requires 100% infiltration or capture and re-use of all increased runoff volume, since that is the only way to *maintain* pre-development runoff flow rates and duration in the post-development conditions. A variety of sites will be unable to infiltrate or capture and reuse 100% of post-development increases in runoff volume due to soils conditions, groundwater conditions and/or land constraints. Therefore, in a variety of situations, compliance with this standard will be technically infeasible. . • **Comment:** In the limited situations in which flow rate and duration matching might be technically feasible, the costs associated with the land requirements necessary to provide sufficient infiltration and/or water storage to meet the requirements will be substantial. Therefore, economic infeasibility is a significant issue, particularly for infill and redevelopment project with significant land area constraints. • **Comment:** The *Draft Permit* appears to proposed the duration and flow matching standard as both a long-term and an interim 'one-size-fits all' hydromodification standard. As such, the standard is inconsistent with the recommendations of the scientific community for hydromodification control, which generally advocate an approach to hydromodification control that involves appropriate assessment and evaluation of local factors pertinent to channel destabilization at a sub-watershed level, including amount of impervious surface in a tributary

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		area, soils characteristics, runoff characteristics, channel characteristics, and project size. • **Comment:** Available scientific literature, such as the SCCRWP Study and Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) Hydromodification Management Report, indicate that flow and duration matching is not appropriate because some level of duration and flow increase is tolerated even by channels subject to destabilization, so pre- and post- development matching is not reasonably tailored to protect water quality as indicated by the best available science. • **Comment:** There is no evidence in the record that such a stringent standard is necessary to protect water quality and receiving water beneficial uses, particularly for sites that are (i) located in largely built-out and impervious watersheds, or (ii) that discharge into already degraded channels, pipes, concrete channels or other receiving waters that are not susceptible to material further destabilization, erosion and sedimentation due to their size, configuration, or geomorphological regime (including "reset" systems). • **Comment:** The *Draft Permit* sets forth an interim hydromodification standard for small projects (less that 50 acres) that requires hydrograph (flow, volume and duration) matching for the 2-year, 24-hour event. The Geosyntec memo raises serious concerns about the inadequacy of the interim standard for purposes of hydromodification control As a result, implementing this hydromodification control standard

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		could do more harm than good to natural drainage, • **Comment:** Application of flow, duration and hydrograph matching requirements to infill and redevelopment projects is poor policy because (1) it will discourage infill because in many situations the requirements will not be capable of being met without a great deal of land take , (2) the costs of implementation will not provide significant water quality benefit since most redevelopment and infill sites will discharge to already concrete flood control channels and/or are located in substantially built-out and impervious watersheds, and (3) lot-by-lot application of the requirements prevents adoption of IWRM and other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction BMPs for existing development that isn't served by BMPs. • **Comment.** As a result, these provisions are not based on the recommendations of scientific literature, and fail to consider technical feasibility, economic feasibility and effectiveness in light of substantial costs. As such, they are poor policy, an improper application of the MEP standard, are arbitrary and capricious, and violate Water Code 13262(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. These standards should be therefore be eliminated from the *Draft Permit* as both interim and long-term requirements.

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		• **Comment:** The *Draft Permit* provision should be revised to eliminate the requirements for pre- v. post-development flow rate, duration and hydrograph matching for purposes of interim and long-term hydromodification control. Instead, as discussed in the Geosyntec memorandum, the *Draft Permit* should rely on development by co-permittees and/or larger project applicants of (i) an appropriate and geomorphically referenced local interim hydromodification control tool for application on a sub-watershed basis, and (ii) the development of a long-term hydromodification control standard based upon completion of the SMC study process (as currently recommended in the *Draft Permit*). Consistent with the approach recommended by Geosyntec, the Regional Board should cure the current deficiencies in the *Draft* Permit by providing for the co-permittees and/or larger project applicants to develop appropriate, local interim hydromodification control tools, applicable on a sub-watershed basis to all Development and Redevelopment projects within the sub-watershed to have the potential for substantial hydromodification impacts. These tools should be developed by preparing an HAS. As recommended by Geosyntec, the HAS should include an appropriate evaluation of pertinent local conditions on a sub-watershed basis, including total area of impervious surface, soils conditions, runoff characteristics, in-stream conditions and erosive flow potential and should apply the following protocol: First, an assessment of the physical sensitivity of the downstream system in light of tributary area characteristics should be conducted. If the

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		downstream areas are not sensitive to destabilization due to their configuration, the existing condition of impervious surface within the tributary watershed, the size of potential projects in the tributary watershed, in-stream conditions, erosive flow potential, or other pertinent factors, hydromodification control requirements should not be applicable to development within the related watershed. Second, for those sub-watersheds susceptible to destabilization as determined in step one, a tool should be developed for sizing hydromodification control BMPs pending completion of the SMC study process. This tool should be based on the relationship between percent impervious area soils type (infiltration rates) and runoff characteristics. The tool will then be applied to appropriate development and redevelopment projects in identified sensitive sub-watersheds to guide sizing of hydromodification control BMPs Appropriate projects would then implement the tool to determine appropriate sizing for hydromodification control BMPs necessary to protect sensitive down-stream systems from destabilization as a result of changes in flows. In addition to co-permittee HAS programs to develop such interim hydromodification control tools and standards, larger projects (sub-watershed or watershed scale) should be allowed to prepare their own HAS documents meeting similar requirements and using a similar protocol to that described above, allowing preparation by projects of sufficient scale of appropriate interim hydromodification control requirements. HAS studies prepared by co-permittees and other applicants should be

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		provided streamlined review by the Regional Board staff, without public review and comment, to maximize implementation of hydromodification controls during the interim period. See Comment 18 below regarding review and approval issues.
16. Numeric Hydromodification Criteria -- 5% limit on effective impervious surface area.	All New Development and Redevelopment (see above for definitions) – must reduce the % of effective impervious area to 5% of total project area. *Draft Permit,* Part 4 § E.1(b).	• **Comment:** There is no evidence in the record that this 5% maximum effective impervious area prescriptive standard is required to protect receiving waters susceptible to de-stabilization. The SCCRWP study and other cited documents do not recommend this prescriptive standard. *See* discussion in Geosyntec memorandum. The Regional Board has not provided substantial evidence to support that the 5% limit is necessary or reasonably tailored to avoid impacts to beneficial uses – why 5% as opposed to 10 or 15%? Therefore, the standard is arbitrary and capricious and violates Water Code § 13262(a) which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** There is no evidence or discussion offered by the Regional Board that the 5% standard is necessary to protect water quality where sites discharge to waterbodies that are not subject to de-stabilization (concrete channels, large lakes, bays, estuaries, and large waterbodies subject to a "reset" geomorphological regime). In these situations, these measures will provide only a very small incremental water quality benefit. At the same time, there are extraordinary costs associated with the land necessary to these requirements,

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		particularly for constrained infill and redevelopment projects, creates major economic feasibility issues. Therefore, the standard as proposed is not cost-effective. • **Comment:** Application of this standard to infill and redevelopment projects is poor policy because (1) it will discourage infill because the requirements can't be met without a significant land take to accommodate infiltration and/or storage, (2) the costs of implementation will not provide significant water quality benefit since most redevelopment and infill sites will discharge to already concrete flood control channels, and (3) lot-by-lot application of the requirements prevents adoption of other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction BMPs for existing development that isn't served by BMPs. • **Comment:** The standard is duplicative, and potentially inconsistent with other numeric an narrative standards for hydromodification control set forth in the *Draft Permit*, such as maintaining a certain erosion potential (Ep). This creates internal inconsistency in the *Draft Permit*, which invalidates the inconsistent provisions. The inconsistency further assures that regulated parties will be unable to clearly establish compliance with the *Draft Permit*. • **Comment:** In light of the foregoing deficiencies, including technical and economic infeasibility, these provisions are an improper application of the MEP standard, constitute poor policy, are arbitrary and capricious, and violate

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		Water Code 13262(a), which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** The *Draft Permit* provision should be revised to eliminate the 5% limitation on impervious surface, and should rely instead on the approach to hydromodification control outlined in the Geosyntec memorandum and summarized in comment 15 above.
17. Numeric Hydromodification Criteria—Ep = 1	The *Draft Permit* specifies that "hydrologic control in natural drainage systems shall be achieved by maintaining the Erosion Potential (Ep) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat." *Draft Permit*, Part 4 §1.II.	• **Comment:** The approach for this criteria is more appropriately targeted than the other standards, in that it applies to sites discharging to natural drainage systems, but it should be further limited by specifying that it applies to natural drainage systems that are susceptible to destabilization, erosion or sedimentation, since not all natural systems as subject to those influences (*e.g.*, certain lakes, bays, estuaries, large rivers with a "reset" geomorphological regime). • **Comment:** There is no evidence in the record that maintaining an Ep=1 is required to protect receiving waters susceptible to de-stabilization. The SCCRWP study and other documents cited by the *Draft Permit* do not recommend this prescriptive standard. The Regional Board has not provided substantial evidence to support that Ep=1 is necessary to avoid impacts to beneficial uses – why Ep=1 instead of Ep = 1.5? The Regional Board has provided no documentation or information allowing evaluation of technical feasibility of implementing, or costs of complying with such a standard. • **Comment:** Requiring a single EP=1 standard to be met

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		by all Development and Redevelopment projects is unrealistic. *See* Geosyntec memorandum. In developing the SCVURPPP hydromodification control program, the report, Chapter 3 found "it is unrealistic to believe that stream channels will behave such that a single Ep threshold value can be specified that, if exceeded, would always result in unstable channel conditions, or, conversely if less than would always be stable." As a result, the current standard is technically infeasible and is not effective or reasonably tailored. • **Comment:** Application of the Ep standard to infill and redevelopment projects is poor policy because (1) it will discourage infill because in many situations the requirements will not be capable of being met without a great deal of land take , (2) the costs of implementation will not provide significant water quality benefit since most redevelopment and infill sites will discharge to already concrete flood control channels and/or are located in substantially built-out and impervious watersheds, and (3) lot-by-lot application of the requirements prevents adoption of IWRM and other more regional solutions that would better benefit water quality, particularly in the context of redevelopment, by providing some volume reduction BMPs for existing development that isn't served by BMPs. • **Comment:** In light of the foregoing issues, the "one-size-fits all" application of a single prescriptive, uncritically determined Ep standard constitutes is technically and economically infeasible, and therefore an improper application

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		of MEP, is contrary to scientific recommendations, is arbitrary and capricious and violates Water Code 13262(a) which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** The *Draft Permit* provision should be revised to eliminate the requirement for Ep=1, and to implement the approach to hydromodification control outlined in the Geosyntec memorandum and summarized in comment 15 above.
18. Requirements for Best Management Practice Substitutions	The *Draft Permit* sets up several hurdles to approval of site-specific BMP programs or regional storm water mitigation programs in two different provisions: • BMP substitution Programs can be approved if (a) they will meet or exceed the objectives of the original BMP program in reduction of storm water pollutants, (b) there is evidence that the original program would be substantially more costly, and (c) the proposed alternative BMP program will be implemented within a similar period of time. The programs cannot be approved until public notice has been issued. *Draft Permit,* Part 4 § A.2.	• **Comment:** The distinction between BMP substitution programs and storm water mitigation programs is unclear, but appears to be immaterial. Both types of programs should be subject to the same approval process and standards. Like the BMP substitution program, storm water mitigation programs are programs to substitute in part or wholly for on-site post-construction BMP requirements. To avoid complexity and confusion, and to streamline implementation and encourage development of regional storm water mitigation plans, which can better benefit water quality, the procedures should be the same for approval of both types of programs, they should be simplified, and they should also be applicable to approval of HAS studies designed to develop interim hydromodification control measures and standards. Specifically, for all three of these programs, the *Draft Permit* should be revised as follows: o Approval of the alternative programs by the Executive Officer should be sufficient. The

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	• Regional and Redevelopment Area Storm Water Mitigation programs must be approved by the Regional Water Board (rather than the Executive Officer), if the program will (a) result in equivalent or improved storm water quality; (b) protect stream habitat, (c) promote cooperative problem solving, (d) be fiscally sustainable and have secure funding, and (e) be complete in four years, including construction. *Draft Permit*, Part 4 §E.7. In addition to these hurdles, the *Draft Permit* as written fails to include provisions allowing for the preparation and approval of HAS studies by co-permittees and project applicants for purposes of determining appropriate interim hydromodification control measures that should be applicable to particular subwatersheds within jurisdictions.	Executive Officer and Regional Board staff have the experience and are competent to approve programs and determine their sufficiency in light of MS4 permit requirements, and are vested with responsibility for implementing all other provisions of the permit. o Public notice and review of substitute programs is unnecessary, and is costly. The *Draft Permit* requires consideration of BMP programs, hydromodification impacts, and water quality mitigation during the CEQA process, (p. 62), and, as a practical matter, these programs will primarily be developed in the context of CEQA review. CEQA already provides ample opportunity for public review and comment on storm water mitigation, hydromodification control, and BMP programs. o Since large landowners and developers of sites greater than 50 acres must prepare special HAS studies, they should be able to independently propose and apply for Regional Board approval of alternative BMP and hydromodification control programs independently of the co-permittee. o The only measuring stick for approving alternative BMP programs should be whether the programs meet or exceed the requirements set forth in the MS4 permit. Comparison to the original BMP program is irrelevant. As long as a particular

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		program meets or exceeds all requirements of the MS4 permit, it will have the same water quality benefit as site-by-site compliance and should be approved by the Regional Board. o The maximum time limit for implementation of a regional program (4 years) should be eliminated, and instead, the time limit for implementation should be tied to construction phasing. The projects that will most benefit from regional storm water mitigation programs are large projects with long-term development horizons (typically far greater than 4 years). The key requirement for timing of implementation is to assure that treatment BMPs and hydromodification controls are in place before storm drains are connected to outfalls. Therefore, the *Draft Permit* should provide that alternative BMP and hydromodification control programs must be implemented in a manner so as to assure construction and operation of BMPs and treatment of runoff prior to connection of storm drains.
19. Seasonal grading prohibitions	No grading allowed between October 1 – April 15 for construction projects in areas of high erosivity or receiving water impairment or sensitive habitat (hillsides with slopes 20% or steeper prior to land disturbance, projects directly discharging to waterbody listed on 303(d) list for siltation or sediment	• **Comment:** Under State law and guidance, the State Board sets policy and regulation for discharges from construction sites in the General Construction Permit, for purposes of establishing a consistent approach to water quality on a statewide basis. It is inappropriate for the Regional Board to adopt additional regulations for such sites that create different standards that are more expensive to comply with,

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	and projects within or adjacent to ESA). *Draft Permit*, Part 4., F.1.	and thereby create competitive disadvantages for construction within a particular jurisdiction. • **Comment:** If these additional requirements for construction site runoff are imposed, they must be imposed via a proper exercise of discretion and consideration of all factors relevant to achievement of MEP. Therefore, the Regional Board must evaluate economic and technical feasibility of the proposed measures, and cost-effectiveness of the measures before they are imposed in the MS4 permit. *See* Comments 2 and 3 above. • **Comment:**. The Regional Board also must analyze adverse environmental impacts of these measures. *See* next Comment and the Comment regarding CEQA above. • **Comment:** There is no evidence provided that a seasonal grading restriction is required to protect water quality from construction site runoff during the wet season. The Regional Board seems to be making the unsupported assumption that projects will not implement adequate SWPPPs. This is an unreasonable assumption that is not supported by available documentation and evidence upon which to base this requirement. There is no reference to an unusual number of NOVs issued as a result of wet season grading, and no indication that wet season grading contributes in a material way to sediment loads in receiving waters in wet weather, particularly in the very alluvial systems of Ventura County, which are naturally subject to heavy sediment loads during the rainy seasons in a baseline condition, regardless of

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		construction activity. Conversely, in light of high background sediment loads in Ventura County, there is no evidence that the proposed restriction will be effective in improving receiving water quality substantially or in a cost-effective manner. • **Comment:** It is unreasonable and extremely expensive to prohibit wet season grading entirely. For example, using current land values in Ventura County of $500,000 to $1,000,000/acre the carrying-cost alone for a project proponent ranges from $62,500 and $125,000/acre over a six month period. *See* Attachment B for calculations. Despite these relatively high costs associated with implementation of the grading restriction, the restriction will only address from runoff water quality from construction sites employing inadequate SWPPPs and affected by precipitation and average of 23 to 28 days during the approximately 195-day rainy season period. In light of the regulated community targeted, the restriction is not cost-effective. • **Comment:** The prohibition will also result in adverse air quality impacts because wet season grading is often preferred for dust control reasons. • **Comment:** In addition, some areas of Ventura County have specific avian breeding and nesting habitat avoidance criteria. Such a ban on grading for the time period of October through mid-April would effectively prevent any development from occurring, as a winter or "rainy season" grading ban forces grading to occur during known nesting and breeding

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		seasons. As a result of these deficiencies, the proposed grading restrictions are an improper application of the MEP standard, are arbitrary and capricious in and violate Water Code § 13262(a) which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** The General Construction Permit already requires an effective combination of sediment and erosion control measures, and other BMPs must be deployed taking into account site specific conditions, project activities *and weather conditions.* As a result, under the General Construction Permit, more stringent BMPs should be deployed during the wet season to protect receiving water quality. As recommended in the Geosyntec memorandum, the *Draft Permit* should be revised to expressly reinforce the importance during the wet season of (i) deploying more stringed pollutant controls, (ii) increasing wet weather inspection frequency, (iii) reducing the amount of time allowed for corrective action and follow up inspections to assure prompt corrective action in the wet season, and (v) limiting the amount of area left exposed and un-stabilized for an extended period of time during periods of predicted rain.
20. Numeric Limits -- Construction Sediment limits	The *Draft Permit* provides that a "Grading Variance" allowing wet season grading on certain sites can be obtained only if the Permittee can demonstrate that runoff will not contain TSS greater than 100 mg/L, or turbidity greater than 50 NTU. *Draft*	• **Comment:** To obtain a grading variance, the applicant must show that a particular construction site is unlikely to contribute sediment to receiving water in excess of stated numeric restrictions. Contrary to the Blue Ribbon Report, this approach amounts to banning grading unless certain numeric

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	Permit, Part 4 § F.1(b)(1), p. 64. To the extent that these MALs can only be met by using polymers, as the Blue Ribbon Panel Report suggests, and polymers result in alteration of natural loads, then the MALs are in derogation of the federal Clean Water Act, which defines "pollution" as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of the water. 33 U.S.C. § 1362(19). The introduction of polymers and resulting "pollution" of the waters also runs contrary to the section 13241 balancing factors in that it actively corrupts the physical integrity of the waters.	limitations can be met, fails to perform recommended studies regarding baseline sediment production and discharge under natural conditions. Depriving highly alluvial systems of all sediment in runoff can create "hungry" water that results in greater erosion impacts in natural stream channels, and therefore numeric limits should not be mandated without reference to existing sediment discharge conditions. • **Comment**: To the extent that these MALs can only be met by using Advanced Treatment (polymers), as the Blue Ribbon Panel Report suggests, these chemical substances result in alteration of natural loads in derogation of the federal Clean Water Act, which defines "pollution" as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of the water. 33 U.S.C. § 1362(19). The introduction of polymers and resulting "pollution" of the waters also is an improper application of MEP in that it runs contrary to the section 13241 balancing factors in that it actively corrupts the physical integrity of the waters. • **Comment:** The imposition of numeric TSS and turbidity limits seeking a wet season prohibition variance are contrary to the findings and recommendations of the Blue Ribbon Panel Report, which set forth at least 5 pre-requisite studies and conditions that need to precede imposition of numeric limits on construction site runoff, including consideration of issues associated with toxicity associated with active treatment systems, issues associated with long-term use of chemicals and consideration of runoff flow and peak

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		volume. See *Blue Ribbon Report,* p. 16-17. None of these prerequisite studies or conditions have been performed by the Regional Board, and therefore the imposition of numeric limits is inappropriate and contrary to State Board policy and the findings and recommendations of the Blue Ribbon Panel. • **Comment**: An effective set of erosion and sediment control BMPs could accomplish this goal without requiring advanced treatment; however, based on the way that the *Draft Permit* is written, that option, even if it would be adequately protective of water quality, taking into account background levels, would not be permitted. Therefore, we recommend the Regional Board cure this arbitrary and capricious provision by implementing the recommendations of the Geosyntec memorandum for construction site runoff water quality controls.
21. Seasonal Paving Restrictions	Paving and repaving activities are prohibited during periods of rainfall or *predicted rainfall.*	• **Comment**: This language is too vague to be complied with, and therefore violates substantive due process requirements. Because paving and repaving are restricted even when the smallest chance of rain is predicted (*e.g.,* 1%), the restriction is not reasonably tailored as necessary to protect water quality in violation of Cal. Water Code section 13263(a). Recommended BMPs for incorporation into construction site SWPPPs already require consideration of precipitation conditions before conducting this activity, so this requirement in the *Draft Permit* should be eliminated. The *Draft Permit* deprives the regulated community of due process when the conditions and requirements are so vaguely stated that its

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		provisions do not provide the regulated community with adequate notice of what is required to comply with the *Draft Permit*, and, conversely, fails to provide adequate notice as to what may constitute a violation of the *Draft Permit* once it is adopted. • It is a basic concept of law that "Notice is fundamental to due process." 7 Witkin § 638 (10th ed. 2006). The lack of an adequate definition constitutes improper notice to the regulated community in violation of due process. Cal. Const. Art. I, §§ 7, 15; Cal. Gov. Code § 11340 *et seq.* A "standard that has no content is no standard at all and is unreasonable." *Wheeler* v. *State Bd. of Forestry* 144 Cal.App.3d 522, 527-528 (1983). Thus, in order to provide the regulated community with sufficient notice of what is required to comply with the *Draft Permit* and what will constitute a violation of the *Draft Permit* so as to satisfy basic due process standards, the Revised *Draft Permit* should be revised to provide further clarification regarding a number of terms and conditions. • *See* also comments above regarding seasonal grading restrictions and potential impacts on air quality and the nesting/breeding season of certain avian species. As a result of these deficiencies, the provisions constitute and improper application of the MEP standard, are arbitrary and capricious and are not reasonably tailored to protect water quality in violation of Cal. Water Code §13263(a). To cure these deficiencies, we recommend revising these provisions as recommended in the Geosyntec memorandum.

General Issues	Specific Requirements/Concerns	Comments
22. BMP requirements for very small lots and/or projects	• All development or redevelopment projects equal to 1 acre or greater of disturbed areas must implement post-construction treatment controls. *Draft Permit,* Part 4, E.III.1.(b). • All industrial parks and commercial strip malls with 5,000 (rather than 100,000) ft^2 of surface area must implement post-construction BMPs. *Draft Permit,* Part 4 §e.III. I.(c). • During construction of single-family hillside homes (property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 20% or greater and where grading contemplates cut or fill slopes), homeowners must take measures to conserve natural areas, protect slopes and channels, provide storm drain stenciling and signage, divert roof runoff and surface flow to vegetated areas before discharge unless such diversion would promote slope instability. *Draft Permit,* Part 4, § E. III. 1 (a).	• **Comment:** EPA stormwater regulations determined that regulation of small grading projects less than one acre is typically not necessary for adequate protection of water quality. 40 CFR 122.26. There is no evidence in the documents provided that control of such small construction sites, is necessary to protect water quality. As a result, the requirements are arbitrary and capricious and violate Water Code § 13263(a) which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. Further, it is unclear why certain sites, like strip malls, are subject to these requirements while other sites that have similar characteristics are not subject to these requirements. The Regional Board has failed to adequately provide why certain sites are subject to these requirements while other are not. As a result, the requirements are arbitrary and capricious in and violate Water Code § 13262(a) which requires WDR requirements shall be those *reasonably* required to protect beneficial uses and implement water quality objectives. • **Comment:** The imposition of such requirements is not an effective approach to storm water regulation of these types of sites because important site-specific considerations are not taken into account, and these conditions will impose significant costs as compared to the water quality benefits. A better approach to regulation of these types of sites is through ordinances that require preparation of an erosion control plan.

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Building Industry Legal Defense Foundation
Building Industry Association of Greater Los Angeles and Ventura Counties
Major Issues and Comments on the
12/27/06 Draft NPDES MS4 Permit for
Ventura County, Ventura Watershed Protection District, and Incorporated Cities

Attachment "A"

Attachment A

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Permit Requirement	**Complies with Clean Water Act and Applicable Legal Standard (Appropriate Balancing Consistent with Prescribed Factors and Legislative Goals)**	**Inconsistent with Clean Water Act and Applicable Legal Standard (Failure to Balance Consistent with Prescribed Factors and Legislative Goals)**
Part 1 – Discharge Prohibitions		
Part 1.A: Prohibitions – Discharges		
1.A.1. - Discharges into and from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance (as defined In Cal. Water Code § 13050), in waters of the State are prohibited.		X
1.A.2. - Discharges from the MS4, which cause or contribute to exceedances of receiving water quality objectives for surface waters are prohibited.	X[1]	
1.A.3. - Discharges to the MS4 not covered by an NPDES individual or general permit are prohibited.	X[2]	
Part 1.B: Prohibitions – Non-Storm Water Discharges		
1.B.1. - The Permittees shall effectively prohibit non-storm discharges into the MS4 and watercourses, except where such discharges originate from a State, federal, or other source which they are pre-empted by State or Federal law from regulating.	X[3]	

[1] 40 CFR 122.44(d).
[2] 40 CFR 122.26(b)(1); 122.26(d)(2)(iv)(b).
[3] 40 CFR 122.26(b)(1); 122.26(d)(2)(iv)(b).

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1.B.2 - The Permittees shall effectively prohibit non-storm discharges into the MS4 and watercourses, except where such discharges fall within specific categories, are not a source of pollutants, and meet all conditions where specified by the Regional Water Board Executive Officer.	X[4]	
1.B.3. - If the Regional Water Board Executive Officer determines that any of the preceding categories of non-storm water discharges are a source of pollutants, the Permittee shall either: (a) Prohibit the discharge from entering the MS4; or (b) Authorize the discharge category and require implementation of appropriate or additional BMPs to ensure that the discharge will not be a source of pollutants; or (c) Require or obtain coverage under a separate NPDES permit for discharge into the MS4.	X[5]	
1.B.4. - The Regional Water Board Executive Officer, after providing the opportunity for public comment, may authorize or prohibit the discharge of other categories of non-storm water, after consideration of antidegradation policies and upon presentation of evidence.		X
Part 2 – Receiving Water Limitations		
2.1 - Discharges from the MS4 that cause or contribute to a violation of water quality standards are prohibited.	X[6]	
2.2 - 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.	X[7]	

[4] 40 CFR 122.26(b)(1); 122.26(d)(2)(iv)(b).
[5] 40 CFR 122.26(b)(1); 122.26(d)(2)(iv)(b).
[6] 40 CFR 122.44(d).
[7] 33 USC 1342(p)(3)(B).

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2.3 - The Permittee shall comply with the Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with this Order. This Order shall be implemented to achieve compliance with receiving water limitations. If exceedance(s) of water quality objectives or water quality standards persist, notwithstanding implementation of the Order and its components and other requirements of this Order, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with a specific procedure as follows: (a) Upon a determination by either the Permittee(s) or Regional Water Board that discharges are causing or contributing to a violation of applicable water quality standards, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report to the Regional Water Board Executive Officer for approval. The RWL Compliance Report shall be included with the Annual Report, unless the Regional Water Board directs an earlier submittal. (b) The RWL Compliance Report shall describe BMPs currently being implemented and the additional BMPs that will be implemented, to prevent or reduce any pollutants that are causing or contributing to the exceedences of water quality standards. (c) The RWL Compliance Report shall include a BMP implementation schedule. (d) Within 30 days following approval of the RWL Compliance Report the approved, modified suite of BMPs, implementation schedule, and any additional monitoring required shall be implemented. (e) Modifications to the RWL Compliance Report, required by the Regional Water Board shall be submitted to the Regional Water Board Executive Officer within 30 days of notification.		X

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(f) Implement the revised monitoring program according to the approved schedule.		
2.4 - If a member of the public has documentary evidence of RWL violations, the member of the public may petition the Regional Water Board Executive Officer in writing to review the alleged violation within 60 days to determine if Part 2 of this Order was violated.		X
2.5 - As long as the Permittee complies with the procedures set forth above to comply with the receiving water limitations, is in compliance with the MALs, and is implementing this Order, the Permittee does not have to repeat the procedure for continuing or recurring exceedences of the same water quality standard(s) unless directed to by the Regional Water Board to develop and implement additional BMPs.		X
Part 3 – Stormwater Quality Management Program Implementation		
Part 3.A: General Requirements		
3.A.1. - Each Permittee shall, at a minimum, adopt and implement applicable terms of this Order within its jurisdictional boundaries. The Principal Permittee shall be responsible for program coordination as described in this Order as well as compliance with applicable portions of the permit within its jurisdiction. This Order shall be implemented no later than (60 days from Order adoption), unless a later date has been specified for a particular provision in this Order and provided the Regional Administrator of the U.S.		X

EPA has no objections.		
3.A.2. - Each Permittee shall comply with the requirements of 40 CFR 122.26(d)(2) and implement programs and control measures so as to reduce the discharges of pollutants in storm water to the MEP and achieve water quality objectives.	X[8]	
3.A.3. - Each Permittee shall implement programs and measures to comply with the TMDLs' WLAs for the MS4 as follows: (1) Dry Weather Discharges- achieve the concentration or load based numerical limitation for dry weather discharge identified in this Order (Part 6. Total Maximum Daily Load Provisions) through effective prohibition of dry weather discharges. (2) Wet Weather Discharges- achieve the concentration or load based numerical limitation or its BMPs expression for wet weather discharge identified in the Order (Part 6. Total Maximum Daily Load Provisions), or implement the BMPs specifically identified in the Order which have a reasonable expectation, when fully implemented, to achieve the WLAs in the Order (Part 6. Total Maximum Daily Load Provisions).		X
Part 3.B: Legal Authority		
3.B.1.(a) - Permittees shall possess the necessary legal authority to prohibit, including, but not limited to illicit connections and illicit discharges, and to remove illicit connections.	X[9]	
3.B.1.(b) - Permittees shall possess the necessary legal authority to prohibit, including, but not limited to the discharge of non-storm water to the MS4 from: (1) Washing or cleaning of gas stations, auto repair garages, or other types of		X

[8] 40 CFR 122.26(d).
[9] 40 CFR 122.26(d)(2)(i)(B).

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automotive service facilities. (2) Mobile auto washing, carpet cleaning, steam cleaning, sandblasting and other such mobile commercial and industrial operations. (3) Areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken. (4) Storage areas for materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials. (5) Swimming pool(s) that have a concentration greater than a specific amount of certain chemicals: (6) Swimming pool filter backwash. (7) Decorative fountains and ponds. (8) Industrial/ Commercial areas, including restaurant mats. (9) Concrete truck cement, pumps, tools, and equipment washout. (10) Spills, dumping, etc. (11) Stationary and mobile pet grooming facilities. (12) Trash container leachate.		
3.B.2.(a) - The Permittees shall possess adequate legal authority to control through interagency agreement, the contribution of pollutants from one portion of the MS4 to another portion of the MS4.	X[10]	
3.B.2.(b) - The Permittees shall possess adequate legal authority to require persons within their jurisdiction to comply with conditions in the Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows).	X[11]	
3.B.2.(c) - The Permittees shall possess adequate legal authority to utilize		X[12]

[10] 40 CFR 122.26(d)(2)(i)(D).
[11] 40 CFR 122.26(d)(2)(i)(E).

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enforcement measures (e.g., stop work orders, notice of violations, fines, referral to City, County, and/ or District Attorneys, referral to strikeforces, etc.) by ordinances, permits, contracts, orders, administrative authority, and civil and criminal prosecution.		
3.B.2.(d) - The Permittees shall possess adequate legal authority to 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.	X[13]	
3.B.2.(e) - The Permittees shall possess adequate legal authority to carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the MS4.	X[14]	
3.B.2.(f) - The Permittees shall possess adequate legal authority to require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality objectives.	X[15]	
3.B.2.(g) - The Permittees shall possess adequate legal authority to require that Treatment Control BMPs be properly operated and maintained.	X[16]	
3.B.3. - Each Permittee has adopted a Storm Water Quality Ordinance based upon a countywide model. Each Permittee will update its Storm Water Quality Ordinance to be able to enforce all requirements of this Order, no later than (6 months from adoption date).		X
3.B.4 - Each Permittee shall submit no later than (180 days after adoption		X

[12] Not specifically required by 40 CFR 122.26(d)(2)(i)(A)-(F).
[13] 40 CFR 122.26(d)(2)(i)(A).
[14] 40 CFR 122.26(d)(2)(i)(F).
[15] 40 CFR 122.44(d).
[16] 40 CFR 122.41(e).

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date), a statement by its legal counsel that the Permittee has obtained and possesses all necessary legal authority to comply with this Order through adoption of ordinances and/ or municipal code modifications.		
Part 3.C – Fiscal Resources		
3.C.1. - The Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this Order.	X[17]	
Part 3.D: Modifications/Revisions		
3.D.1. - No later than (90 days after Regional Water Board adoption of this Order) each Permittee shall modify storm water management programs, protocols, practices, and municipal codes to make them consistent with the requirements herein.	X	
Part 3.E: Designation and Responsibilities of the Principal Permittee		
3.E.1. - The Ventura County Watershed Protection District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall: (a) Participate in the County Environmental Crimes Task Force. (b) Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee. (c) Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Water Board on permitting issues. (d) Provide technical and administrative support for committees that will be organized to implement this Order and its requirements. (e) Evaluate, assess, and synthesize the results of the monitoring program and the effectiveness of the implementation of BMPs.		X

[17] 40 CFR 122.26(d)(2)(vi). However, as noted throughout this document a number of the provisions of the Order go beyond the federal MS4 requirements.

(f) Convene the Management Committees (MCs) and subcommittees constituted pursuant to Part F, below, upon designation of representatives. (g) Implement the Countywide Monitoring Program required under the Order and evaluate, assess and synthesize the results of the monitoring program. (h) Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Water Board of monitoring and annual reports, and summaries of other reports required under this Order. (i) Comply with the "Responsibilities of the Permittees" in Part 3.F., below.		
Part 3.F: Responsibilities of the Permittees		
3.F.1. - Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings- Permit Coverage D.1 and D.2) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall: (a) Comply with the requirements of this Order and any modifications thereto. (b) Coordinate among its internal departments and agencies, as necessary, to facilitate the implementation of the requirements of this Order applicable to such Permittees in an efficient and cost-effective manner. (c) Participate in intra-agency coordination (e.g., Planning Department, Fire Department, Building and Safety, Code Enforcement, Public Health, Parks and Recreation, and others) necessary to successfully implement the provisions of this Order. (d) Report, in addition to the Budget Summary, any supplemental dedicated budgets for the same categories. (e) Be represented at all Management Committee Meetings, which will meet at least once a month. (f) Be represented at all subcommittee meetings. Currently there are 5		X

subcommittees which were functional during the second permit term:		
Part 4 – Special Provisions (Baseline)		
Part 4.A: General Requirements		
4.A.1. - This Order 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 and achieve water quality objectives for the permitted areas in the County of Ventura.	X[18]	
4.A.2. – (BMP Substitution) The Regional Water Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s) and after public notice, 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. (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. (c) The proposed alternative BMP or program will be implemented within a similar period of time.		X
Part 4.B: Watershed Initiative Participation		
4.B.1. - The Principal Permittee consents to participate in appropriate water quality meetings for watershed management planning, including but not limited to the following: (a) Southern California Stormwater Monitoring Coalition (SMC). (b) SMC Regional Monitoring Programs. (c) Southern California Regional Bioassessment Program.		X

[18] 40 CFR 122.44(d).

(d) Calleguas Creek Watershed Management Plan. (e) Santa Clara River Enhancement and Management Plan. (f) Steelhead Restoration and Recovery Plan. (g) Wetlands Recovery Project. (h) Ventura County Task Force of the Wetlands Recovery Project. (i) Southern California Bight Project. (j) Other appropriate watershed planning groups.		
4.C: Public Information and Participation Program		
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 PIPP, and shall coordinate with Permittees to implement specific requirements. The objectives of the PIPP are as follows: • To measurably increase the knowledge of the target audience about the MS4, the adverse impacts of storm water pollution on receiving waters and potential solutions to mitigate the impacts. • To measurably change the waste disposal and storm water pollution generation behavior of target audiences by encouraging implementation of appropriate solutions. • To involve and engage communities in Ventura County to participate in mitigating the impacts of storm water pollution.	X[19]	
4.C.1. – Residential Program		
4.C.1.(a) - Each Permittee shall label all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping shall be posted at designated public access		X

[19] 40 CFR 122.26(d)(2)(iv)(B)(6); 122.26(d)(2)(iv)(D)(4).

points to creeks, other relevant water bodies, and channels. Signage and storm drain messages shall be legible and maintained.		
4.C.1.(b) - Each Permittee will identify staff who will serve as the contact(s) person for reporting clogged catch basin inlets and illicit discharges/ dumping, faded or missing catch basin labels, and general storm water management information. Permittees shall include this information, updated by July 1 of each year, in public information media such as the government pages of the telephone book, and internet web sites. The Principal Permittee shall compile a list of the general public reporting contacts submitted by all Permittees and make this information available on the web site (http://www.vcstormwater.org/contact.htm) and upon request. Each Permittee is responsible for providing current, updated information to the Principal Permittee.		X
4.C.1.(c) – Public Outreach/Education (1) The Principal Permittee shall implement the following activities: (A) Conduct a Storm Water pollution prevention advertising campaign. (B) Conduct Storm Water pollution prevention public service announcements. (C) Distribute storm water pollution prevention public education materials to: (i) Automotive parts stores; (ii) Home improvement centers/ lumber yards/ hardware stores; and (iii) Pet shops/ feed stores. (D) Public education materials shall include, but are not limited to information on the proper disposal, storage, and use of: (i) Vehicle waste fluids; (ii) Household waste materials; (iii) Construction waste materials; (iv) Pesticides, herbicides, and fertilizers (including integrated pest management practices-IPM); (v) Green waste (including lawn clippings and leaves); and		X[20]

[20] Federal MS4 permit requirements do not place specific curricular requirements on the education/outreach programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).

(vi) Animal wastes. (E) Organize watershed Citizen Advisory Groups/ Committees to develop effective methods to educate the public about storm water pollution no later than (365 days after the adoption of this Order). (F) Organize events targeted to residents and population subgroups; and (G) Maintain the Countywide storm water website (www.vcstormwater.org), which shall include educational material listed in the preceding section C.1(c)(1)(C). (2) The Principal Permittee shall develop a strategy to educate ethnic communities through culturally effective methods. Details of this strategy should be incorporated into the PIPP, and implemented, no later than (180 days after the adoption of this order). (3) Each Permittee shall continue the existing outreach program to residents on the proper disposal of litter, green waste, pet waste, proper vehicle maintenance, lawn care and water conservation practices. (4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events. (5) The Permittees shall make a minimum of 10 million impressions per year to the general public related to storm water quality, with a minimum of 5 million impressions via newspaper, local TV access, local radio and/ or internet access. (6) 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. Pursuant to AB 1721 (2005), beginning January 1, 2007, the Permittees, in lieu of providing educational materials/ funding to School Districts in the County, may opt to provide an equivalent		

amount of funds or fraction thereof to the Environmental Education Account established within the State Treasury. This option requires the written approval of the Regional Water Board Executive Officer. (7) Each Permittee shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee and contact information changes no later than 30 days after a change occurs. (8) The Permittees shall develop and implement a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of the adverse impacts of storm water pollution and solutions before and after educational programs are conducted. The strategy shall be implemented no later than (180 days after the adoption of this Order). (9) The Permittees shall develop and implement a behavioral change assessment strategy no later than (180 days after the adoption of this Permit), in order to ensure that the PIPP is demonstrably effective in changing the behavior of the public. The strategy shall be developed based on current sociological data and studies.		
4.C.1.(d) – Pollution Specific Outreach The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants identified in Attachment "B" (Pollutants of Concern) no later than (180 days after the adoption of this Order). Metals may be appropriately addressed through the Industrial/ Commercial Facilities Program (e.g. the distribution of educational materials on appropriate BMPs for metal fabrication and recycling facilities that have been identified as a potential source). Region-		X[21]

[21] Federal MS4 permit requirements do not place specific curricular requirements on the education/outreach programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).

wide pollutants may be included in the Principal Permittee's mass media outreach program.		
4.C.2.(a) – Corporate Outreach The Permittees shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations and BMPs. The program shall target a minimum of four RGO franchisers and cover a minimum of 80% of RGO franchisees in the county, four retail automotive parts franchisers, two home improvement center franchisers and six restaurant franchisers. Corporate Outreach for all target facilities shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order). At a minimum, this program shall include: (A) Conferring with corporate management to explain storm water regulations. (B) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with recommendations to facilitate employee and facility compliance with storm water regulations. (2) Corporate Outreach for all RGOs, automotive parts stores, home improvement centers and restaurant chains corporations shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order).		X[22]
4.C.2.(b) – Business Assistance Program The Permittees shall 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. The		X[23]

[22] Federal MS4 permit requirements do not place specific curricular requirements on the education/outreach programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).
[23] Federal MS4 permit requirements do not place specific curricular requirements on the education/outreach programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).

Program shall include: (1) On-site technical assistance or consultation via telephone or e-mail to identify and implement storm water pollution prevention methods and best management practices. (2) Distribution of storm water pollution prevention education materials to operators of auto repair shops, car wash facilities (including mobile car detailing), mobile carpet cleaning services, commercial pesticide applicator services and restaurants.		
Part 4.D: Industrial/Commercial Facilities Program		
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. Except where specified otherwise in this Order, pollutant reduction and control measures may be used alone or in combination, and may include Structural Treatment Control, Source Control BMPs, and operation and maintenance procedures, which may be applied before, during, and/ or after pollution generating activities. At a minimum, the Industrial/ Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance with municipal ordinances at industrial and commercial facilities that are critical sources of pollutants in storm water.		X
4.D.1.(a) – Inventory of 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 specified in Attachment "D":	X[24]	

[24] 40 CFR 122.26(d)(2)(ii).

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(1) Commercial Facilities. (A) Restaurants. (B) Automotive service facilities. (C) RGOs and automotive dealerships. (D) Nurseries and nursery centers. (2) U.S. EPA Phase I, II Facilities. (3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]. (A) Municipal landfills. (B) Hazardous waste treatment, disposal, and recovery facilities. (C) Facilities subject to SARA Title III (also known as the Emergency Planning and Community Right-to-Know Act (EPCRA).		
4.D.1.(b) - Each Permittee shall include the following minimum fields of information for each critical sources industrial and commercial facility: (A) Name of facility and name of owner/ operator. (B) Address of facility. (C) Coverage under the IASGP or other individual or general NPDES permits or any applicable waiver issued by the Regional or State Board pertaining to runoff discharges. (D) A narrative description including Standard Industrial Classification (SIC) System/ North American Industry Classification System (NAICS) Codes that best describe the industrial activities performed and principal products used at each facility and status of exposure to storm water.		X[25]
4.D.1.(c) - The Regional Water Board recommends that Permittees include additional fields of information, such as material usage and/ or industrial		X[26]

[25] This specific information is not mandated by the federal MS4 Permit requirements. *See* 40 CFR 122.26(d)(2)(ii).
[26] This specific information is not mandated by the federal MS4 Permit requirements. *See* 40 CFR 122.26(d)(2)(ii).

output, and discrepancies between SIC System/ NAICS Code designations (as reported by facility operators) and identify the actual type of industrial activity that has the potential to pollute storm water. In addition, the Regional Water Board recommends the use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system.		
4.D.1.(d) - 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 inter and intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, and similar information).		X
4.D.2.(a) – Inspection of Critical Sources Each Permittee shall inspect all facilities identified in Part 4 D.2. twice during the 5-year term of the Order, provided that the first inspection occurs no later than (2 years from the adoption of this Order). A minimum interval of six months between the first and the second mandatory compliance inspection is required. In addition, each Permittee shall implement the activities outlined in the following subsections. At each facility, inspectors shall verify that the operator is implementing the mandatory source control BMPs. The Permittees shall require implementation of additional treatment control BMPs where storm water flows from the MS4 discharge to an ESA or a CWA § 303(d) listed waterbody (see section 3(b) below). Likewise, for those BMPs that are not adequate to achieve MALs and/ or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.		X
4.D.2.(a)(1) - 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 being effectively		X

implemented in compliance with State law, County and municipal ordinances. Certain BMPs shall be implemented, unless the pollutant generating activity does not occur.		
4.D.2.(a)(2) - Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that certain BMPs are being implemented, unless the pollutant generating activity does not occur.	X[27]	
4.D.2.(a)(4) - Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that certain BMPs are being implemented, unless the pollutant generating activity does not occur. For nursery operations (Agricultural Facilities) in the NAICS Code 11142x - Nursery and Floriculture Production, which are subject to the Conditional Waiver, each Permittee shall: (i) Verify enrollment under the Conditional Waiver by recording a valid identification number. (ii) Notify all non-filers of their lawful obligation to apply for coverage under the Regional Water Board's Conditional Waiver. (B) Permittees shall submit a list of facility names in the NAICS Code 11142x that have been notified to apply for the Conditional Waiver (non-filers). The list of non-filers shall be electronically sent to the Regional Water Board's Regional Programs.		X[28]
4.D.2.(b) – Industrial Facilities		

[27] EPA Guidance Manual for Preparation of the Part 2 of the NPDES Application for Discharges from Municipal Separate Storm Water Systems 6-11.
[28] These requirements go beyond the federal inspection requirements in the MS4 Regulations noted above.

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4.D.2.(b)(1) - Each Permittee shall conduct compliance inspections at Phase I, II facilities as specified below. (A) Each Permittee shall perform an initial inspection at all industrial facilities identified by the U.S. EPA in 40 CFR 122.26(c) no later than (2 years after the adoption of the Order). After the initial inspection, all facilities determined as having exposure of industrial activities to storm water are subject to a second mandatory compliance inspection. A minimum interval of 6 months between the first and the second compliance inspection is required. (B) Following the first mandatory compliance inspection, a Permittee shall perform a second mandatory compliance inspection yearly at a minimum of 20% of the facilities determined not to have exposure of industrial activities to storm water. The purpose of this inspection is to verify the continuity of the no exposure status. Facilities determined as having exposure will be notified that they must obtain coverage under the IASGP. A facility need not be inspected more than twice during the term of the Order unless subject to an enforcement action. A minimum interval of 6 months in between the first and the second compliance inspection is required. (C) Applicable to all facilities: A Permittee need not inspect facilities that have been inspected by the Regional Water Board within the previous 24 month interval. However, if the Regional Water Board performed only one inspection, the Permittee shall conduct the second required mandatory compliance inspection.		X
4.D.2.(b)(2) - Each Permittee shall confirm that each operator: (A) 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 (SWPPP) is available on-site; and, (B) Is effectively implementing BMPs in compliance with County and		X

municipal ordinances. Facilities must implement the source control BMPs identified in Part 4. D. 3. and Appendix D, *California Stormwater Industrial and Commercial BMP Handbook (2003)*. The Permittees shall require implementation of additional treatment control BMPs where the storm water from the MS4 discharges to a CWA § 303(d) listed waterbody; or (C) Has applied and has a current No Exposure Certification (and WDID number) for facilities subject to this requirement.		
4.D.2.(b)(3)(a) – Ensuring Compliance at "Critical" Sites In the event that a Permittee determines that a BMP is infeasible at any site, including those specified in the California Stormwater Industrial and Commercial BMP Handbook (2003), the Permittee shall require implementation of similar BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve MALs and/ or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.		X
4.D.2.(b)(3)(b) – Ensuring Compliance at "Critical" Sites (b) For critical sources that discharge to ESAs or that are tributary to CWA § 303(d) listed impaired waterbodies, the Permittees shall require operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to exceedences of MALs and/ or water quality objectives.	X[29]	
4.D.2.(b)(3)(c) – Ensuring Compliance at "Critical" Sites Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements		X[30]

[29] 40 CFR 122.44(d).
[30] These requirements go beyond the federal MS4 regulations; *See* 40 CFR 122.26(d)(2)(iv)(B)(3).

within a reasonable time period as specified below. (1) In the event that a Permittee determines, based on an inspection conducted, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement actions 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 and make them available on request to the Regional Water Board, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.		
4.D.2.(b)(3)(d)(1) – Ensuring Compliance at "Critical" Sites A Permittee may refer a violation(s) to the Regional Water Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must be documented with two follow-up inspections, and two warning letters or notices of violation.		X
4.D.2.(b)(3)(d)(2) - For those facilities in violation of the IASGP, Permittees may escalate referral of such violations to the Regional Water Board after one inspection and one written notice (copied to the Regional Water Board) to the operator regarding the violation.		X
4.D.2.(b)(3)(d)(3) - 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		X

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municipal storm water urban runoff ordinances, and to oversee corrective action.		
4.D.(b)(3)(d)(4) - As directed by the Regional Water Board Executive Officer, Permittees shall support Regional Water Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Water Board inspectors; appearing as witnesses in Regional Water Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.		X
4.D.(b)(3)(d)(5) - The Permittees consent to participate with the Regional Water Board, and other public agencies on an enforcement task force such as the Storm Water Task Force, to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.		X
Part 4.E: Planning and Development Program		
4.E.1.(a) - The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to minimize impacts from storm water runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA, Cal. Water Code §13369, CWA § 319, CWA § 402(p), CWA § 404, ESA § 7, and local government ordinances.		X
4.E.1.(b) - The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area to less than 5 percent of total project area.		X
4.E.1.(c) - The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to		X

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minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.		
4.E.1.(d) - The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to minimize pollution emanating from impervious surfaces on developed land such as roof-tops, parking lots, and roadways through the use of appropriate Source Controls (good housekeeping practices), Low Impact Development Strategies, and Treatment Control BMPs.		X
4.E.1.(e) - The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to Properly design and maintain Treatment Control BMPs (in order to avoid the breeding of vectors).		X
4.E.1.(f) - The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to select an integrated approach to mitigate storm water pollution by utilizing a suite of controls in the following order of preference to remove storm water pollutants, reduce storm water runoff volume, and beneficially reuse storm water: (1) Low Impact Development Strategies; (2) Integrated Water Resources Management Strategies; (3) Multi-benefit Natural Feature BMPs; and 4) Prefabricated/ Proprietary Treatment Control BMPs.		X
4.E.1.I.1. - All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.		X

4.E.1.I.2. - The Permittees shall develop a LID Technical Guidance Document no later than (18 months from the Order's adoption date) for use by Land Planners and Developers.		X
4.E.1.I.3. - The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with LID objectives and specifications developed in the LID Technical Guidance Document through a training program with certain specified components.		X
4.E.1.II.1.(a) - Each Permittees shall require all new development and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration. This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations.		X
4.E.1.II.1.(c) - Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (Ep) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat.		X
4.E.1.II.1.(e) - Until the completion of the SMC's HCS, Permittees shall continue to implement the following Interim hydromodification Criteria to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are: (1) **Projects disturbing land area of less than fifty acres** Hydrologic control for projects in this size category shall involve		X

matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24 hour storm event (not exceeding the pre-development flows). (2) **Projects disturbing land areas of fifty acres or greater** 1 Hydrologic control for projects in this size category shall involve the completion of a Hydromodification Analysis Study (HAS) by the project proponent to demonstrate that post development conditions are not expected to alter the duration of sediment transporting flows in receiving streams and tributaries. The HAS must demonstrate that the selected hydrologic controls will maintain an Erosion Potential value of 1 unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.		
4.E.1.II.1.(f) - The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to identify effective mitigation strategies. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than (18 months from the Order's adoption).		X
4.E.1.II.1.(g)(1), (2) - On completion of the HCS (SMC HCS or Permittee HCS), the Permittees shall develop and implement Watershed Hydromodification Control Plans (HCPs) with a number of required elements, no later than 6 months after the completion of the HCS. The HCP shall identify tributary classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will maintain the stream and tributary Erosion Potential at 1 unless an		X

alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.		
4.E.1.III.1.(a) - Each Permittee shall require that during the construction of a single-family hillside home, measures be taken to: (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.		X
4.E.1.III.1.(b) - Each Permittee shall require that all development projects equal to 1 acre or greater of disturbed area be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution.		X
4.E.1.III.1.(c) - Each Permittee shall require, in addition, that additional development projects be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution, including: (1) Industrial park 5,000 square feet or more of surface area; (2) Commercial strip mall 5,000 square feet or more of surface area; (3) Retail gasoline outlet 5,000 square feet or more of surface area; (4) Restaurant (SIC 5812) 5,000 square feet or more of surface area; (5) Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces; (6) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area; (7) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or		X

more of surface area]; and (8) Redevelopment projects in subject categories that meet Redevelopment thresholds (identified below in section III.4).		
4.E.1.III.1.(d) - Each Permittee shall require, in addition, that post-construction BMPs be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution at development projects located in or directly adjacent to, or discharging directly to an environmentally Sensitive Area (ESA), where the development will: (1) discharge storm water runoff that is likely to impact a sensitive biological species or habitat, or(2) create 2,500 square feet or more of impervious surface area.		X
4.E.1.III.2.(a) - Tiered Numeric Water Quality Design Criteria (Projects disturbing land areas less than 50 acres) Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a volumetric and/ or hydrodynamic (flow based) treatment control design standard, consistent with the objectives stated in Part 4. E.1. and as identified below to mitigate (infiltrate, filter or treat) storm water: (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 (Ventura County Technical Manual); or (C) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system; and/ or		X

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(2) Hydrodynamic (Flow Based) Treatment Control BMP (A) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or (B) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity for Ventura County; or (C) Ten percent of the 50-year storm design flow rate.		
4.E.1.III.2.(b) - Tiered Numeric Water Quality Design Criteria (Projects disturbing land areas 50 acres or greater) Each Permittee shall require that post-construction treatment control BMPs be: (1) Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate the following: (A) Rainfall intensity based on hourly rainfall records; (B) An adjustment factor for within hour rainfall variability; and (C) Hydraulics of BMP Performance. (2) Satisfy the objectives identified for storm water quality management identified in Part 4. E.1.		X
4.E.1.III.3.(a) – Site Specific Mitigation Each Permittee shall require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment projects not identified in Parts 4. E. III.1(b), III.1(c), and III.1(d), but which may potentially have adverse impacts on post-development storm water quality, where 1 or more of the following project characteristics exist: (1) Vehicle or equipment fueling areas;		X

(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.		
4.E.1.III.4.(a) – Redevelopment Projects Each Permittee shall apply the post-construction BMP requirements, or site specific requirements including post-construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories.		X
4.E.1.III.5.(a) – Maintenance Agreement and Transfer Each Permittee shall require that all development projects subject to post-construction BMP requirements 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.	X[31]	
4.E.1.III.6.(a) - Each Permittee shall implement a program to inspect and enforce on new development and redevelopment projects for post-construction control BMPs.		X
4.E.1.III.6.(a)(1) - Prior to approving and signing off for occupancy and issuing the Certificate of Occupancy for all new development and redevelopment projects subject to post-construction control BMPs, each Permittee shall inspect the constructed site design, Structural control and		X

[31] 40 CFR 122.26(d)(2)(iv)(A)(i).

Treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.		
4.E.1.III.7.(a) - A Permittee or a coalition of Permittees may apply to the Regional Water Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will: (1) Result in equivalent or improved storm water quality. (2) Protect stream habitat. (3) Promote cooperative problem solving by diverse interests. (4) Be fiscally sustainable and has secure funding. (5) Be completed in four years or less including the construction and startup of treatment facilities.		X
4.E.1.III.7.(b) - A Permittee may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will result in equivalent or improved storm water quality.		X
4.E.1.III.8.(a) - The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to support regional		X

or subregional solutions to storm water pollution, where any of the following situations occur: (1) A waiver for impracticability is granted; (2) Funds become available; (3) Off-site mitigation is required because of loss of environmental habitat; or (4) An approved watershed management plan, or an integrated water resources management plan, or a regional storm water mitigation plan, or a wetlands recovery plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.		
4.E.1.III.9.(a)(1) - Each Permittee shall develop and implement no later than (6 months from this Order's adoption) the following a GIS or other electronic system for tracking projects that have been conditioned for post-construction treatment control BMPs.		X
4.E.1.III.9.(a)(2) - A post-construction treatment control BMP inspection program to verify proper maintenance and operation of post-construction treatment control BMPs previously approved.	X[32]	
4.E.1.III.10.(a) - The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include a number of additional requirements, including Hydromod control criteria, expected BMP pollutant removal performance, appropriate BMPs for Stormwater POCs, LID specifications and BMP cost information, etc.		X
4.E.1.III.11.(a) - Each Permittee shall facilitate a process for effective approval of post-construction control measures.	X[33]	
4.E.1.III.12.(a) - 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.	X[34]	

[32] 40 CFR 122.26(d)(2)(iv)(A)(1).
[33] 40 CFR 122.26(d)(2)(iv)(A)(1).

4.E.1.III.13.(a) - Each Permittee shall amend, revise or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when certain General Plan elements are updated or amended (i.e., land use, etc.).	X[35]	
Part 4.F: Development Construction Program		
4.F.1.(a) – Grading Prohibitions Each Permittee shall implement a program to control storm water discharges from construction activity at all construction sites within its jurisdiction. During the wet season, the program shall ensure that the following requirements are effectively implemented at all of the construction site categories listed below: (1) No grading shall occur between October 1 – April 15 (wet season) for construction projects in the following areas of high erosivity or receiving water impairment or sensitive habitat: (A) On hillsides with slopes 20% or steeper prior to land disturbance; (B) Directly discharging to a waterbody listed on the CWA § 303 d) list for siltation or sediment; or (C) Within or adjacent to an environmentally sensitive area (ESAs).		X
4.F.1.(b) - If grading operations in these areas are not completed before the onset of the wet season beginning October 1st, grading shall be halted and effective erosion control measures shall be put in place to minimize erosion. Grading shall not resume until after April 15th. Depending on the project area, the developer shall implement the Erosion and Sediment control BMPs listed in Tables 5, 6, and 7.		X
4.F.1.(b)(1) - A Grading Prohibition Variance may be granted by the		X

[34] 40 CFR 122.26(d)(2)(iv)(A)(2).
[35] 40 CFR 122.26(d)(2)(iv)(A)(2).

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Regional Water Board Executive Officer, where the Permittee can demonstrate that BMP measures proposed by the project proponent and approved by the Permittee can be reasonably expected to: (A) not cause or contribute to the degradation of water quality; (B) ensure that Total Suspended Solids discharged is 100mg/L or less; (C) ensure that Turbidity of the discharge is 50 NTU or less; (D) not impair beneficial uses; and (E) includes a monitoring program to ensure effectiveness.		
4.F.2. – Sites less than one acre Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites to prevent erosion and sediment loss, and the discharge of construction wastes. Where the Erosivity Factor (R) for the construction project is 50 or greater, erosion controls (erosion avoidance) will be the preferred BMPs.		X
4.F.3. - Sites 1 acre or greater but Less than 5 acres Each Permittee shall require the implementation of the following BMPs in addition to the ones identified for sites less than one acre to prevent erosion and sediment loss, and the discharge of construction wastes.		X
4.F.4. - Construction Sites 5 acres and Greater Each Permittee shall require the implementation of the following BMPs, in addition to the ones identified for smaller sites, to prevent erosion and sediment loss, and the discharge of construction wastes.		X
4.F.5.(a) - Each Permittee shall require for all construction sites 1 acre or greater, compliance with all conditions identified in the Order and additional requirements including compliance with the SWPPP.		X
4.F.6.(a) - Each Permittee shall require that for any project that includes roadbed or street paving, repaving, patching, digouts, or resurfacing roadbed surfaces, that certain BMPs be implemented for each project.		X
4.F.7.(a) - Each Permittee shall use an electronic system to track grading		X

permits, encroachment permits, demolition permits, building permits, or construction permits (and any other municipal authorization to move soil and/ or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.		
4.F.8.(a) - Each Permittee shall inspect all construction sites for the implementation of storm water quality controls a minimum of once during the wet season.		X[36]
4.F.8.(a)(1) – Each Permittee shall ensure that the Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits.		X
4.F.8.(a)(2) – Each Permittee shall ensure that for inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.		X
4.F.8.(a)(3) – Each Permittee shall ensure that if compliance with municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance as specified in municipal codes.		X[37]
4.F.8.(a)(4) – Each Permittee shall ensure that if compliance has not been achieved, and the site is also covered under a Construction Activities Storm Water General Permit (CASGP) or Small Linear Underground/ Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the procedures listed in section D.3.(d)- Interagency Coordination of this Order.		X

[36] The construction site inspection requirements go beyond those required by the federal MS4 regulations. See EPA Guidance for the Preparation of Part 2 of the NPDES Permit Application for Municipal Separate Storm Sewer Systems 6-15.
[37] The construction site inspection requirements go beyond those required by the federal MS4 regulations. See 40 CFR 122.26(d)(2)(iv)B)(3).

4.F.8.(b) – Prior to approving and/ or signing off for occupancy and issuing the Certificate of Occupancy for all construction projects subject to post-construction controls, each Permittee shall inspect the constructed site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.		X
4.F.9.(a) – Each Permittee shall ensure that no grading permit, encroachment permit, demolition permit, building permit, electrical permit, or construction permit (or any other municipal authorization to move soil and/ or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the CASGP or Small LUP General Permit unless: (1) Proof of coverage under a State NPDES permit is demonstrated (a copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site); (2) Demonstration or 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; and (3) Proof of an updated NOI(s) and a copy of the modified SWPPP(s) at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities		X

are still on-going.		
4.F.10.(a)(1) – A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with: (1) a minimum of 2 follow-up inspection reports (inspections completed within 3 months); and (2) a minimum of 2 warning letters or NOVs.		X[38]
4.F.10.(a)(b) – Referral of Non-filer under the CASGP or the Small LUP General Permit: Each Permittee shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) under the CASGP or Small LUP General Permit, to the Regional Water Board, no later than 15 days after making a determination of failure to file.		X
4.F.10.(a)(c) - Each Permittee shall initiate, within 1 business day of receiving notification from the Regional Board of a complaint, an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.		X[39]
4.F.10.(a)(d) - Each Permittee shall support Regional Water Board enforcement actions by: (A) assisting in identification of current owners, operators, and lessees of properties and sites; (B) providing staff, when available, for joint inspections with Regional Water Board inspectors; (C) appearing to testify as witnesses in Regional Water Board enforcement hearings; and (D) providing copies of inspection reports and other progressive enforcement documentation.		X
Part 4.G: Public Agency Activities Program		

[38] The construction site enforcement requirements go beyond those required by the federal MS4 regulations. See 40 CFR 122.42(c)(6).
[39] The construction site enforcement requirements go beyond those required by the federal MS4 regulations. See EPA Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewers 6-15.

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4.G. - Each Permittee shall implement a Public Agency Activities Program to minimize storm water pollution impacts from public agency activities, which includes a number of requirements.		X
4.G.1.(a) - Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction.		X
4.G.1.(b) - Each Permittee which owns and/ or operates a sanitary sewer system, shall in addition to the preceding section 1(a), also implement the following requirements: (1) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4; and (2) Implement procedures and maintenance on schedules to prevent sewage spills or leaks from sewage facilities from entering the MS4.	X[40]	
4.G.1.(c) - Each Permittee with septic systems in their jurisdiction shall implement a response plan for overflows of septic system leachate to surface waters within their respective jurisdiction.		X
4.G.1.(d) - In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement the MS4 NPDES permit, other individual NPDES permits that may contain spill prevention, sewer maintenance, pretreatment programs and the SSO WDR will coordinate their compliance activities for consistency and efficiency.		X
4.G.2.(c) - Each Permittee shall obtain coverage under the CASGP for construction activities and projects that are: (1) Covered under 1 (or more) Capital Improvement Projects (including but not limited to street repaving, new streets, channel clearing) or contract, and that individually or cumulatively disturb 1 acre or more of land; or (2) Less than 1 acre, but are part of a larger common plan of development		X

[40] 40 CFR 122.26(d)(2)(iv)(B)(7).

that in total disturbs 1 or more acres of land; and (3) Linear construction project(s) that disturb 5 or more acres of land.		
4.G.2.(d) - Each Permittee shall obtain coverage under the Small LUP General Permit when disturbing at least 1 acre, but less than 5 acres of land during linear construction (land area includes trenching and staging areas).		X
4.G.3.(a) - Each Permittee shall implement certain BMPs at all Permittee owned, leased facilities and job sites including but not limited to vehicle/ equipment maintenance facilities, material storage facilities, and corporation yards, and at any area that includes the activities as described in the order.		X
4.G.4.(a) - Each Permittee shall eliminate discharges of wash waters from vehicle and equipment washing no later than (365 days after permit adoption) by implementing any of certain measures at existing facilities with vehicle or equipment wash areas.		X
4.G.5.(a) - Each Permittee shall implement a jurisdiction-wide IPM program (an ecosystem based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties).		X
4.G.6.(a)(1) - 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. Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/ or debris. Priority C: Catch basins that are designated as generating low volumes of trash and/ or debris.		X
4.G.6.(a)(2) - Each Permittee shall clean catch basins according to the following schedule:		X

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Priority A: A minimum of 3 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.		
4.G.6.(a)(3) - In addition to the preceding schedule, Permittees shall ensure that any catch basin that is at least 25% full of trash and/ or debris shall be cleaned out.		X
4.G.6.(b) - Each Permittee shall require for any event in the public right of way or wherever it is foreseeable that substantial quantities of trash and litter may be generated, that certain measures be implemented.		X
4.G.6.(c) (1) - Each Permittee shall install trash receptacles at all transit stops in commercial areas and near schools within its jurisdiction no later than (6 months from the Order's adoption).		X
4.G.6.(c) (2) - Each Permittee shall ensure that all trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.		X
4.G.6.(d)(1) - Each Permittee shall inspect the legibility of the catch basin stencil or label nearest each catch basin and inlet before the rainy season begins.		X
4.G.6.(d)(2) - Each Permittee shall record and re-stencil or re-label within 15 days of inspection, catch basins with illegible stencils.		X
4.G.6.(e)(1) - Each Permittee shall install trash excluders, or similar devices on catch basins to prevent the discharge of trash to the storm drain system on all catch basin inlets no later than (180 from permit adoption).		X
4.G.6.(f) - Each Permittee shall implement a program for Storm Drain Maintenance no later than (180 days after permit adoption) that includes certain specific requirements.		X
4.G.6.(g)(1) - Permittee Owned Treatment Control BMPs		X

Each Permittee shall implement an inspection and maintenance program for all Permittee owned treatment control BMPs, including post-construction treatment control BMPs.		
4.G.6.(g)(2) - Permittee Owned Treatment Control BMPs Each Permittee shall ensure proper operation of all treatment control BMPs and maintain them as necessary for proper operation, including post-construction treatment control BMPs.		X
4.G.6.(g)(3) - Permittee Owned Treatment Control BMPs Any residual water within a treatment control BMP when being maintained shall be: (A) Hauled away and legally disposed of; (B) Discharged to the sanitary sewer system (with permits or authorization); or (C) Treated to remove bacteria, sediments, nutrients, and meet the limitations set in Table 10 prior to discharge to the MS4.		X
4.G.7.(a)(1) - Each Permittee shall perform street sweeping of curbed streets in commercial areas to control trash and debris at least 2 times per month.		X[41]
4.G.7.(b)(1) - Each Permittee shall implement certain BMPs for road reconstruction.		X
4.G.8.(a) - Each Permittee shall obtain coverage under the CASGP for all long-term maintenance programs including but not limited to any project under the Capital Improvement Program (CIP) including but not limited to: pavement replacement; sidewalk replacement; channel maintenance; roadside maintenance (such as vegetation removal); or grading, clearing or excavation activities that disturb 1 or more acres of land either for an individual project or as part of a long-term city/county plan that may be less.		X

[41] Street sweeping is not specifically required by the federal permitting scheme. 40 CFR 122.26(d)(2)(iv)(A)(3).

4.G.9.(a) - Each Permittee shall obtain separate coverage under the IASGP for any municipal activity subject to U.S. EPA regulations at CFR 122.26 for the discharge of storm water associated with industrial activity.		X
4.G.12.(a) - Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors in targeted positions (whose interactions, jobs, and activities affect storm water quality) on the requirements of the overall storm water management program to: (1) Promote a clear understanding of the potential for activities to pollute storm water; and (2) Identify opportunities to require, implement, and maintain appropriate BMPs in their line of work.		X[42]
4.G.12.(b) - Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors who use or have the potential to use pesticides, herbicides or fertilizers (whether or not they normally apply these as part of their work).		X[43]
4.G.12.(c) - Each Permittee shall, no later than (6 months from the permit adoption) and annually thereafter before June 30, train all of their employees and contractors who are responsible for illicit connections and illicit/ illegal discharges.		X[44]
Part 4.H: Illicit Discharges		
4.H. - Each Permittee shall eliminate all Illicit Connections and Illicit Discharges (IC/ ID) to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance	X[45]	

[42] Federal permit requirements do not place specific curricular requirements on the education programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).
[43] Federal permit requirements do not place specific curricular requirements on the education programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).
[44] Federal permit requirements do not place specific curricular requirements on the education programs. *See* 40 CFR 122.26(d)(2)(iv)(D)(4).

measures specified in the following subsections.		
4.H.1.(a) - Each Permittee shall implement an IC/ ID Program. The IC/ ID procedures shall be documented and made available for review.	X[46]	
4.H.1.(b) - All Permittees shall, no later than (2 years after the adoption of this Order), map at a scale and in a format specified by the Principal Permittee all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee incidents of illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee no later than (2 years after the adoption of this Order). Permittees shall use this information to identify priority areas for further investigation and elimination of IC/ ID.		X[47]
4.H.2.(a) - Permittees shall establish and maintain a phone hotline and internet site to receive all reports of IC/ ID complaints.	X[48]	
4.H.2.(b) - Permittees shall document the location of the reported IC/ ID and the actions undertaken in response to all IC/ ID complaints.	X[49]	
4.H.3.(a)(1) - The Permittees shall submit to the Principal Permittee: (A) A GIS layer showing the location and length of underground pipes 18 inches and greater in diameter, and channels within their jurisdiction in accordance with the following schedule: (i) All channeled portions of the storm drain system no later than (365 days after the adoption of this Order). (ii) All portions of the storm drain system consisting of storm drain pipes 36		X

[45] 40 CFR 122.26(d)(2)(vi)(B).
[46] 40 CFR 122.26(d)(2)(vi)(B).
[47] The federal MS4 Permit requirements do not mandate these specifics for mapping purposes. *See* 40 CFR 122.26(d)(2)(iv)(B); 40 CFR 122.42(c).
[48] A hotline is recommended by EPA but not required by the applicable regulations.
[49] 40 CFR 122.26(d)(2)(iv)(B)(5).

inches in diameter or greater, (no later than 3 years after the adoption of this Order). (iii) All portions of the storm drain system consisting of storm drain pipes 18 inches in diameter or greater, (no later than 5 years after the adoption of this Order).; and (B) The status of suspected, confirmed, and terminated illicit connections.		
4.H.3.(a)(2) - Permittees shall conduct field screening of their storm drain systems in accordance with screening procedures described in the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments (2004). Permittees shall conduct field screening for illicit connections in accordance with the following schedule: (A) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater no later than (5 years after the adoption of this Order). (B) High priority areas identified during the mapping of illicit connections and discharges no later than (5 years after the adoption of this Order). (C) All portions of storm drain systems 50 years or older in age no later than (5 years after the adoption of this Order).		X
4.H.3.(a)(3) - Each Permittee shall maintain a list containing all connections under investigation for possible illicit connection and their status.	X[50]	
4.H.3.(b)(1) - Upon discovery or upon receiving a report of a suspected illicit connection, a Permittee shall complete an investigation within 21 days to determine source, etc.		X
4.H.3.(b)(2) - Upon confirmation of an illicit storm drain connection, a Permittee shall ensure the following: Termination of the connection within		X

[50] Ibid.

180 days of completion of the investigation, using formal enforcement authority to eliminate the illicit connection.		
4.H.3.(b)(3) - Permittees shall keep records of all illicit connection investigations and the formal enforcement taken to eliminate all illicit connections.	X[51]	
4.H.4.(a) - The Permittees shall investigate an illicit/ illegal discharge during or immediately following containment and cleanup activities, and shall take formal enforcement action to eliminate the illegal discharge.		X[52]
4.H.4.(b) - Each Permittee shall respond, within 1 business day of discovery or a report of a suspected illicit/ illegal discharge, with actions to abate, contain, and clean up all illegal discharges, including hazardous substances.		X[53]
4.H.4.(c) - Permittees shall maintain records of all illicit/ illegal discharge discoveries, reports of suspected illicit/ illegal discharges, their response to the illicit/ illegal discharges and suspected illicit/ illegal discharges, and the formal enforcement taken to eliminate all illicit/ illegal discharges.	X[54]	
Part 4.I: Reporting Program		
4.H.1. - The Principal Permittee in consultation with the Permittees and Regional Water Board staff shall convene an ad hoc working group to develop an Electronic Reporting Program, the basis of which shall be the questions in the attached Monitoring Report and Program Report (Reporting Program- Attachment "H") for approval by the Regional Water Board Executive Officer. The Committee shall no later than (6 months of permit adoption): (a) develop an electronic reporting format and (b) Include		X

[51] Ibid.
[52] Federal MS4 Permit requirements do not require "immediate" action to eliminate all detected illicit discharges. *See* 40 CFR 122.26(d)(2)(iv)(B)(3).
[53] Ibid.
[54] 40 CFR 122.26(d)(2)(iv)(B)(5).

requirements as basis for reporting.		
4.H.3. - The Principal Permittee shall submit by December 15th of each year beginning the year of 2007, an Annual Report to the Regional Water Board Executive Officer in the form of one hard copy and three compact disk (CD) copies (or an electronic equivalent).	X[55]	
4.H.4. - The Annual Report shall document the status of the General Storm Water Program, an integrated summary of the results of analyses from: (a) The monitoring program described under Part 1- Monitoring Report; and (b) The requirements described under Part 2-Program Report.		X[56]
Part 5 – Watershed Ecological Restoration Planning		
5.1. - The Permittees shall develop and implement Watershed Ecological Restoration Plans (ERP) and submit Annual Watershed Ecological Restoration Status Reports (ERSR) in accordance with the requirements in Part 5 of this Order.		X
5.2. – The Permittees shall develop ERPs for all Watershed Management Areas' (WMA) stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring (Attachment "F", section E).		X
5.4. - Permittees within WMA, shall develop ERP for the degraded stream segments of the Ventura River, Santa Clara River and Calleguas Creek.		X
5.5 - The Permittees shall submit Annual ERSR on the WMA ERP.		X
Part 6 – TMDLs		
6.1.(a)(1) - Permittees (Ventura County Watershed Protection District, and the Cities of Santa Paula and Fillmore) in the Santa Clara River and its Tributaries' (Reach 3) shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit*		X

[55] 40 CFR 122.42(c) contains the annual reporting requirements for the MS4 Program.
[56] The reporting and monitoring requirements contained in the Proposed Order go beyond the federal MS4 Permit requirements.

Discharge Detection and Elimination for nitrogen compounds.		
6.1.(a)(2) - The WLAs are expressed as numerical limits in-stream for Ammonia and Nitrate within the Santa Clara River and its Tributaries' Watershed (Reach 3), established for its MS4 Permittees are following: (A) MS4 Permittees shall not exceed water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria for Ammonia and Nitrate plus Nitrite.	X[57]	
6.2(a)(1) - MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Simi Valley and Thousand Oaks) discharging to Malibu Creek and Lagoon shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination* for Bacteria.		X
6.3.(a)(1) - The WLAs are expressed as numerical limits in-stream for Toxicity, Chlorpyrifos and Diazinon within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (see Table 12 of Proposed Permit).	X[58]	
6.4.(a)(1) - The WLAs expressed as numerical limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation within Calleguas Creek, its Tributaries and Mugu Lagoon established for the MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are set forth in Table 13 of Proposed Permit).	X[59]	
Part 8 – Standard Provisions		

[57] 40 CFR 122.44(d)(1).
[58] 40 CFR 122.44(d)(1).
[59] Ibid.

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8.E. - 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.	X[60]	
8.K.1. - 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.	X[61]	
8.K.2 - The Permittees shall also furnish to the Regional Water Board, upon request, copies of records required to be kept by this Order.	X[62]	
8.L. - The Permittees shall report to the Regional Water 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 5 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.	X[63]	
8.T. – Compliance with annual MS4 Reporting program.	X[64]	
Exhibit H.A. - The Principal Permittee shall monitor mass emissions to accomplish the following objectives:		X

[60] 40 CFR 122.41(d).
[61] 40 CFR 122.41(h)
[62] 40 CFR 122.41(h)
[63] 40 CFR 122.41(l)(6).
[64] 40 CFR 122.42(c) – the specific reporting requirements noted below go beyond the monitoring requirements required by federal MS4 regulations.

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Estimate the mass emissions from the MS4. • Assess trends in the mass emissions over time. • Determine if the MS4 is contributing to exceedences of water quality objectives by comparing results to applicable water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria.		
Exhibit H.A.1. - The Santa Clara River mass emission station (ME-SCR) shall be relocated so that mass emissions measurements include urban storm water discharges from the cities of San Buenaventura and Oxnard. Until the ME-SCR station is relocated, the Principal Permittee in coordination with the cities of San Buenaventura (ME-SB) and Oxnard (ME-OX) shall separately monitor mass emissions from the two urbanized areas.		X
Exhibit H.A.2. - The Principal Permittee shall monitor mass emissions from the following 5 mass emission stations: (a) ME-VR for Ventura River. (b) ME-SCR for Santa Clara River. (c) ME-SB for Santa Clara River (until ME-SCR is relocated). (d) ME-OX for the Santa Clara River (until ME-SCR is relocated). (e) ME-CC for Calleguas Creek.		X
Exhibit H.A.8. - The Principal Permittee shall monitor: (a) The first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events. (b) Also, 2 dry weather flow events shall be monitored. (A) Monitor 1 prior to the onset of wet weather- October 1st (during the months of May - June). (B) Monitor 1 post wet weather- April 15th (during the months of August - September).		X

(c) A total of 5 monitoring events (3 storm and 2 dry weather) shall be sampled per mass emission station.		
Exhibit H.A.9. - 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 total suspended solids (TSS). Results shall be used to assess the variability of storm water constituents and provide an accurate estimate of mass emissions (pollutant correlation with TSS).		X
Exhibit H.A.16. - The Principal Permittee shall perform an annual analysis, to be included in the Annual Storm Water Report, of the correlation between POC (including, but not limited to metals and PAHs) and TSS loading for the sampling events that are analyzed for the complete list of constituents in Attachment "G" of the Order.		X
Exhibit H.B. – Aquatic Toxicity Monitoring The Principal Permittee shall analyze mass emission samples and tributary samples for aquatic toxicity to evaluate the extent and causes of toxicity in receiving waters. Permittees shall utilize documents such as: Ventura County's Technical Guidance Manual for Storm Water Quality Control Measures and U.S. EPA's National Management Measures to Control Nonpoint Source Pollution from Urban Areas to implement measures to eliminate or reduce sources of toxicity in storm water.		X
Exhibit H.C. - The Principal Permittee shall monitor tributary emissions to accomplish the following objectives: • Identify sub-watersheds where storm water discharges are causing or contributing to exceedences of water quality objectives. • Prioritize drainage and sub-drainage areas where control measures need to be implemented. • Determine if the MS4 is contributing to exceedences of water quality objectives by comparing results to applicable water quality objectives in the		X

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Basin Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria.		
Exhibit H.D. - This Monitoring section incorporates the TMDL MS4 Waste Load Allocations (WLAs) that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA.		X
Exhibit H.D.1.(a)(1) - Upon adoption of the Order, the discharge of dry weather flows from the MS4 to Santa Clara River that exceed the WLA is prohibited. Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Ammonia and Nitrate plus Nitrite to the MS4, and shall monitor a minimum of 2 dry weather flow events at the Santa Clara River mass emission station (ME-SCR). The MS4 Permittees shall monitor 1 dry weather flow event prior to the onset of wet weather- October 1st (during the months of May - June); and monitor 1 dry weather flow event post wet weather- April 15th (during the months of August - September).		X
Exhibit H.D.2.(a)(1) - Upon adoption of the Order, the discharge of summer dry weather flows from the MS4 to Malibu Creek and Lagoon is prohibited. Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Bacteria to the MS4, and shall monitor weekly from April 1 - October 31, weeks that contain days with less than 0.1 inch of rainfall (events separated by 3 days of dry weather) for exceedences to the WLAs in-stream at point zero of all publicly owned storm drain pipes and open channels/ drains discharging to Portrero Valley Creek to the Ventura County Line and Las Virgenes Creek to the Ventura County Line.		X
Exhibit H.D.2.(a)(2) - Upon adoption of the Order, the discharge of winter dry weather flows from the MS4 to Malibu Creek and Lagoon is prohibited.		X

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Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Bacteria to the MS4, and shall monitor weekly from November 1 to March 31, weeks that contain days with less than 0.1 inch of rainfall (events separated by 3 days of dry weather) for exceedences to the WLAs in-stream at point zero of all publicly owned storm drain pipes and open channels/ drains discharging to Portrero Valley Creek to the Ventura County Line and Las Virgenes Creek to the Ventura County Line.		
Exhibit H.D.3.(a)(1) - Upon adoption of the Order, the MS4 Permittees shall develop wet weather toxicity testing and compliance protocol and procedures. This may be accomplished by participating in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Toxicity Testing Protocol study. After the completion of the SMC study, the Permittees shall submit a report to the Regional Water Board Executive Officer identifying the testing protocol and compliance criteria, for consideration and approval. The Regional Water Board Executive Officer will approve a toxicity testing protocol and compliance criteria after providing the opportunity for public comment.		X
Exhibit H.D.3.(a)(2) - The MS4 Permittees, thereafter shall conduct toxicity testing for WLA compliance with both acute and chronic criteria for Chlorpyrifos and Diazinon on the first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events per wet season (events separated by 7 days of dry weather), at the Calleguas Creek mass emission station (ME-CC).		X
Exhibit H.D.4.(a)(1) - Upon adoption of the Order, the MS4 Permittees shall participate in the 2008 Southern California Bight Project (SCBP) to evaluate the distribution and fate of contaminated sediments. Also, the MS4 Permittees shall monitor a minimum of 2 dry weather flow events, 1 dry		X

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weather flow event prior to the onset of wet weather- October 1st (during the months of May - June); and monitor 1 dry weather flow event post wet weather- April 15th (during the months of August - September), for OC Pesticides and PCBs exceedences to the TMDL interim WLAs in-sediment at the base of certain Hydrologic Units.		
Exhibit H.E. - The Principal Permittee shall perform Bioassessment monitoring to accomplish the following objectives: • Detect biological responses to pollution. • Detect biological trends in receiving waters. • Assess the biological integrity of receiving waters. • Assess river segments impaired to restore. • Identify probable causes of impairment not detected by physical and chemical water quality measurements.		X
Exhibit H.E.3. - Bioassessment monitoring shall begin the first spring/ fall following adoption of the Order.		X
Exhibit H.F. - The Principal Permittee shall perform the trash and debris study to accomplish the following objectives: • Quantitatively assess the types and amount of trash and debris on the coastal areas and beaches within the County of Ventura. • Identify areas impaired for trash and debris, and to develop control strategies.		X
Exhibit H.G. - The Principal Permittee shall perform a Pyrethroid Insecticides study to accomplish the following objectives: • Evaluate whether creek/ river sediments are toxic to aquatic organisms. • Evaluate whether pyrethroid insecticide concentrations are at or approaching levels known to be toxic to sediment-dwelling aquatic		X

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organisms. • Prioritize drainage and sub-drainage areas where control measures need to be implemented if necessary.		
Exhibit H.H. - The Principal Permittee shall conduct or participate in special studies to develop tools to predict and mitigate the adverse impacts of Hydromodification, and to comply with hydromodification control criteria.		X
Exhibit H.I. - The Principal Permittee shall conduct or participate in a special study to assess the effectiveness of low impact development techniques in semi-arid climate regimes such as in Southern California.		X
Exhibit H.J. - The Principal Permittee and Permittees shall participate with other government organizations regulating discharges in southern California in the collaboration to conduct a regional monitoring survey (Southern California Bight Project (SCBP)) anticipated to be held in 2008. The survey's primary objective is to assess the spatial extent and magnitude of ecological disturbances on the mainland continental shelf of the SCB and to describe relative conditions among different regions of the SCBP. The Principal Permittee shall participate on the Steering Committee for the bightwide monitoring project, and complete the estuary and nearshore sampling effort requirement of the proposed monitoring project for Ventura County as defined in the SCBP plan. The Principal Permittee shall be responsible up to a dollar amount of $250,000 for monitoring in the SCBP.		X
Exhibit H.K. - The Principal Permittee and Permittees shall participate in the development and implementation of volunteer monitoring programs in the Ventura watersheds.		X

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Attachment "B"

Selected Costs Associated with Wet Season Grading Prohibitions

Attachment B

The cost of prohibiting grading for six months per year involves assumptions about the cost of land per acre and the projected internal rate of return. For purposes of this calculation, the cost of land per acre includes the direct cost of the land plus all costs related to pre-acquisition, acquisition, entitlement, financing and pre-construction preparation. Internal rate of return varies between 20 and 30 percent and for the example below a rate of 25 percent is used. The formula is:

(Land Value per Acre) x (Internal Rate of Return/Year) x (0.5 Years)

The cost of prohibiting land development for 6 months of the year is shown below:

Land Value	Rate of Carry	Length of Carry	$/acre/6 months
$500,000	25%	0.5 Years	$62,500
$1,000,000	25%	0.5 Years	$125,000

Therefore, the cost of allowing each acre of land to sit idle for six months is extremely expensive on a per acre basis, even if the land valuation was lower than presented here. Using the valuations presented above, avoiding grading a small 10-acre parcel for six months could cost the project proponent between $0.5 million and more than $1 million dollars.

Building Industry Legal Defense Foundation
Building Industry Association of Greater Los Angeles and Ventura Counties
Major Issues and Comments on the
12/27/06 Draft NPDES MS4 Permit for
Ventura County, Ventura Watershed Protection District, and Incorporated Cities

Attachment "C"

Selected Costs Associated with Advanced Treatment Necessary to Attain
Construction Site Numeric Limits Required for Waiver of Wet Season Grading Prohibition

Attachment . Advanced Stormwater Treatment--CICWQ Cost Estimate

Coversions/Costs		Runoff vol. (in)	Runoff vol. (in)	Runoff vol. (in)	
27154	Gal/ac-in	1	10	20	
$8,000	Chitosan/M gal	Acres	Gallons	Gallons	Gallons	
$1,250	Labor/M gal-Sm site	1	27,154	271,540	543,080	
$5,000	Labor/M gal-Lg site	10	271,540	2,715,400	5,430,800	
M=	Million gallons	20	543,080	5,430,800	10,861,600	
		100	2,715,400	27,154,000	54,308,000	
		250	6,788,500	67,885,000	135,770,000	
		1	$217	$2,172	$4,345	Chitosan cost
		10	$2,172	$21,723	$43,446	$8000/Mgal
		20	$4,345	$43,446	$86,893	
		100	$21,723	$217,232	$434,464	
		250	$54,308	$543,080	$1,086,160	
		1	$34	$339	$679	Small Site Labor
		10	$339	$3,394	$6,789	
		20	$679	$6,789	$13,577	
		100	$13,577	$135,770	$271,540	Large Site Labor
		250	$33,943	$339,425	$678,850	

Cost Data Sources

Polymer	Clear Creek Systems, 12/2006
Basin	CASQA, 2003
Liner	NRCS, 2006
Inlets	NRCS, 2006
Spillway	NRCS, 2006
Labor	Clear Creek Systems, 12/2006

Water Collection Basin Construction Cost

cubic feet	$0.73	$0.50
3630	$2,650	$1,815
36302	$26,501	$18,151
72604	$53,001	$36,302
363021	$265,006	$181,511
907553	$662,514	$453,777

Project Examples:

10 and 100-acre sites
Capture 1" effective runoff across site
Use advanced treatment system for sediment control
Size basin to contain and treat 1" effective rainfall
Scale up to treat 10-inch and 20-inches of total season rainfall

Basin Construction and Treatment Example (100 Acre Site)

	1-inch	10-inch	20-inch
Basin Construction	$181,511		
Basin Liner	$10,000		
Lined Inlet	$4,400		
Lined Spillway	$4,400		
Polymer Addition (Chitosan)	$21,723	$217,232	$434,464
Labor (handle 1")	$13,577	$135,770	$271,540
Per 100 Acre Site	$235,611	$553,313	$906,315
Per Acre	$2,356	$5,533	$9,063

Basin Construction and Treatment Example (10 Acre Site)

	1-inch	10-inch	20-inch
Basin Construction	$18,151		
Basin Liner	$10,000		
Lined Inlet	$4,400		
Lined Spillway	$4,400		
Polymer Addition (Chitosan)	$2,172	$21,723	$43,446
Labor (handle 1")	$339	$3,394	$6,789
Per 10 Acre Site	$39,463	$62,069	$87,186
Per Acre	$3,946	$6,207	$8,719

Dr. Xavier Swamikannu
California Regional Water
Quality Control Board, Los Angeles Region
320 West 4th Street
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90013

RE: The Draft National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4)for Ventura County (NPDES No. CAS004002

Dr. Swamikannu:

The Local Government Commission (LGC) is pleased to have the opportunity to provide comments on the draft National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System (MS4) for Ventura County (hereafter referred to as the draft permit). The Local Government Commission is a non-profit organization dedicated to building livable communities. Certainly, the stewardship of clean sustainable water supply and water usage is at the core of our mission to support livable cities.

I. The Local Government Commission's Comments in Perspective

The Local Government Commission's mission is to assist local governments in establishing and nurturing a healthier human and natural environment, a more sustainable economy, an actively engaged populace, and an equitable society. Historically, achieving these ends has focused on strategies for building compact, land-efficient communities. While early efforts were built around walkable communities and transportation choice, LGC recognized its efforts to develop alternative land use regulations, better models of community and street design and regional dialogue delivered water benefits as well.

Thus, in 2005, LGC developed the Ahwahnee Water Principles for Resource-Efficient Land Use (Attachment A), and in 2006 the well received handbook "Ahwahnee Water Principles: A Blueprint for Regional Sustainability." The goal of this effort was to provide an integrated approach to aligning local land use planning decisions with sustainable water management practices, including but not limited to stormwater. Note that Ventura County and the cities of Port Hueneme, Santa Paula, and Ventura, have all adopted the Ahwahnee Water Principles.

The handbook, "Ahwahnee Water Principles: A Blueprint for Regional Sustainability," serves to provide an implementation summary for merging land use and water strategies. In summary, LGC's approach to the subject is as follows:

1) Growing in a water-wise manner – Ignoring growth is not an option for sustaining water resources. Thus planning for development is among the most important and first management practices to put into place. Thus, LGC's approach to managing water resources looks at the following:

    a. How to Grow – For watersheds infill and redevelopment on already developed land are powerful strategies. Communities that seek to direct development to these footprints and coordinate with transportation, community and economic development further enhance watershed protection.

    b. Where to Grow – LGC recognizes that all future growth cannot occur by way of redevelopment and infill. Thus, general plans that identify areas for both

conservation and new growth serve a basis for watershed protection. Land efficient policies for new growth are at the core for delivering successful joint water and land programs.

2) Water-Friendly Site Design – Once decisions on where to grow and what to save have been made, communities should look at how to use each and every site in the watershed to improve and protect water resources, improve infiltration and manage runoff.

   a. Maximize permeability in developed areas

   b. Water-wise landscaping

   c. Minimize impervious surface cover

3) Stretching Our Water Supplies
   a. Graywater reuse
   b. Water recycling
   c. Water conservation
   d. Cleaning up groundwater supplies
4) Implementing the Ahwahnee Water Principles
   a. Regional Coordination is Key
   b. Integrated solutions achieve multiple benefits
   c. Public involvement and stakeholder collaboration
   d. Evaluate and adapt

II. The Opportunities and Challenges

In reading the draft permit, LGC analyzed the draft NPDES requirements and Ahwahnee implementation strategy in parallel.

The strengths of the permit include:

1) The emphasis on redevelopment as an environmental benefit. Moreover, the Water Board's recognition of the redevelopment district as an environmental operating system cannot be understated.

2) The emphasis on flexibility, including the mitigation bank and redevelopment strategies.

3) The emphasis on program integration

4) The attention to low impact designs for the entire landscape.

5) The inclusion of housing as an issue for watershed protection.

The challenges for LGC members include:

1) By design, compact development is highly impervious at the site scale, but delivers watershed benefits. However, the main tool for implementing NPDES involves land development regulations, which are site- or project specific. Thus, a project in a compact district will rate poorly under a site-based review of impervious cover, even as it absorbs growth demand vertically within the watershed.

2) As regulated communities begin to address permit requirements, the application of low impact strategies will rise to the top, because they fit within the existing site level regulatory scheme. While the application of LID is welcome to development and redevelopment projects, there is the very real prospect that the disruptive pattern of development – especially new development - will be left unaddressed. As such, the benefits of low impact strategies will not be realized, and in fact the watershed could be worse off even as we feel good about the low impact approach.

3) Addressing connected (effective) impervious surface is a focus of NPDES permitting, however, this poses a challenge since compact, transportation-efficient communities are essentially intense, highly-connected, built landscapes.

4) Moreover, much of what delivers land efficient development has not traditionally been associated with watershed protection. The role of mixed use, for example, has been studied as an economic development and transportation issue. While the watershed harm of highly dispersed, single use development is widely acknowledged, accounting for the benefits of the converse situation - mixed use - is completely unexplored.

5) There is the development reality that redevelopment and infill are almost universally more difficult to undertake than new development on undeveloped land, even when water regulations are applied to both. Thus, application of the requirements for infill and redevelopment may tip the balance for developers making the business decision of embarking on redevelopment versus new development. The unintended result of permit requirements may see development pressures forced to areas not subject to NPDES protections. Where development leapfrogs into a separate watershed, there is rather a blind eye to the effects, at least within individual permits. *The real challenge of this permit will be to introduce requirements that push the envelope on water protection, but not so hard as to force decisions that unexpectedly undermine overall water quality and flooding.*

6) The technology, modeling and mapping needed to assess the watershed benefits of compact, mixed-use communities, infill and redevelopment are largely unavailable, especially for compliance. Although LGC is working on many aspects of tailoring joint water and land use strategies, meeting this challenge will require a much larger scope of stakeholders, technicians, regulatory agencies and input. In fact, this may be, at the national level, one of the highest priorities.

Even with these challenges, LGC believes that this permit represents an opportunity to deliver community, economic and environmental goals. Part of any successful effort will be to partner with groups like LGC to demonstrate that compact, watershed-friendly design is not only doable, but economically advantageous for the entire community.

LGC also appreciates the demands of drafting permits that respond to regulatory and legal decisions, as well as the integration of a growing number of planning efforts across disciplines. Our comments are directed towards improving the permit and its ultimate administration to deliver on those multi-disciplinary goals.

III. Comments

LGC's comments are tailored to the intersection of land use and water resource planning. LGC recognizes that the Water Board will receive many other comments, and that there are challenges other than the land use/water intersection that its members will face in permit compliance. Our comments are based on the December 27, 2006 draft posted at http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/venturaMs4.html

There are three major areas of comment:

Public Information and Outreach (page 40)

The small business outreach program is tailored to small commercial operations. LGC suggests small developers as a separate category of small business owners. Because infill and redevelopment sites are typically small, the developers tends to be niche construction firms. However, they often do not have the in-house regulatory and design departments able to respond to the new permit requirements. LGC suggests a target program to assist small-scale developers, in particular for infill and redevelopment.

Planning and Land Development Program (page 50)

Effective Impervious Area (EIA) - LGC recognizes the requirement to reduce the percentage of effective impervious surface to 5 percent or less of the total project area will be among the most contentious of requirements. As noted above, since most smart growth projects, both new development and redevelopment, tend to be highly impervious at the project scale, this will pose considerable challenges. One alternative may be to establish an EIA by district, by proximity to sensitive receiving waters, or have something other than a blanket requirement. Not matter the coverage limit, LGC also recognizes that there is considerable flexibility as the reader continues through the draft permit. LGC's main comments on this section are:

Support for Flexibility - A target threshold is appropriate as a starting point as long as the flexibility program is a strong, viable alternative. As written, the flexibility will depend on a partnership with the Water Board, which will review and approve the alternatives. This could pose a heavy workload for the Water Board over time as permittees begin to draw up Redevelopment Project Area Master Plans (RPAMPs). In fact, each permittee may find they need to develop several depending on the proximity to a receiving water, restoration goals for the redevelopment district, the condition of natural features and the like.

Infill and New Development projects - More importantly, the flexibility seems to be limited to redevelopment areas. However in Ventura County, there will be considerable growth in undeveloped areas. As such, compact new development falls through the cracks in the permit unless a sizable portion of land is set aside to meet the formula. Thus, LGC suggests that a program similar to the Redevelopment Project Area Master Plan (page 59) be developed for compact **new** development projects, such as town centers, new urbanist designs and master planned areas. LGC recognizes that the label of "mixed use" or "traditional neighborhood" does not guarantee environmental success. These plans should take into account the integration of street connectivity, mix of uses, landscaping, density (i.e. accommodating growth vertically), transportation choice, and the requirements for hydromodification mitigation (page 53). Just because a developer labels a project as "mixed use" or "smart growth" does not guarantee delivery of an environmentally sound product.

Integrated Approach – section (f) of "E. Planning and Land Development Program" presents the integrated approach to controls, in an order of preference. As noted above, LGC believes that any integrated approach consider the question of where to preserve and where to grow first. Thus, the list should reflect, the following order:

(1) Integrated Watershed and General Plans that direct growth and preservation

(2) Subwatershed or district plans and designs to manage resources

(3) Low Impact Development Resources

(4) Multi-benefit Natural Features BMPs

(5) Prefabricated/Proprietary Treatment Control BMPs.

Low Impact Development (page 51) – Given the comments above on "Redevelopment Project Area Master Plans" and an similar effort for new compact districts, the Water Board may want to ensure that there is not only a LID Technical manual, but that LID techniques appropriate to district design are woven into redevelopment plans, manuals for new compact development and other sub-planning efforts. The draft permit limits discussion of LID to individual sites, however, LID's value in replicating the natural hydrology extends beyond individual sites. This is particularly true in highly disturbed subwatersheds.

Regional and Redevelopment Area Stormwater Mitigation (page 59) – This section is among the most innovative of any permit, and is welcome. To strengthen this section, LGC recommends:

According to the permit, the RPAMP "may substitute in part or wholly for on-site post-construction requirements." The situation for "in part" or "wholly" will likely be a case by case determination, however, there may be ways to streamline how the determination is made. For example, ambitious planning that directs a high degree of intensity for the purpose of transit has the watershed benefit of stacking development demand underneath one roof. While the intensity is often judged for transit ridership, it should also be evaluated for watershed outcomes.

One of the more complicated tasks will be to judge when a redevelopment district serves "wholly" as a substitution. In a watershed with growth pressures as high as Ventura County's, the intensity and development footprint questions are already on the table for a variety of reasons. LGC may be able to assist the water Board and other stakeholders in developing criteria, on a sliding scale, to assess what level of additional BMPs are needed for redevelopment districts.

Under the list of redevelopment projects in paragraph (b)(1) on page 60, it would be helpful to add corridor design, since much of California's redevelopment is along older transportation corridors.

General Comments

Planning Efforts - Throughout the permit, there are references to plans and efforts that regulated cities and counties must develop. The following list includes efforts with a land use and watershed link:

1) A Mitigation Bank and a Management Framework (page 60)
2) An evaluation of effective "Best Management Practices" (page 20)
3) An evaluation (or proactive or reactive) for substituting Best Management Practices should they prove to be ineffective (pages 22, 36)
4) Consideration of potential stormwater impacts when making planning decisions (page 22)
5) A Stormwater Quality Management Program (page 31)
6) Accounting of costs related to stormwater management for development planning (page 34)
7) A Public Information and Participation Program (page 37)
8) Business Assistance Program (page 40)
9) A Hydromodification Control Study (HCS)– Phase II (page 52)
10) A Low Impact Development Technical Manual and Guidance Document (page 51)
11) Redevelopment Project Area Master Plans (page 59)
12) Update to Ventura County Technical Guidance Manual for Stormwater Quality Control Measures (page 61).
13) Update to CEQA review documents (page 62)
14) A Development Approval Coordination Plan (page 62)
15) General Plan Updates to include the new provisions of the final permit (page 63)

16) Public Agency Activity Program (page 71)

17) Response plans for Sanitary Sewer Overflows and Septic Tank Failures (page 72)

18) Ecological Restoration Plans for certain stream segments (page 86)

This list is not exhaustive, but demonstrates the magnitude of work to be completed. LGC wants to emphasize the inclusion and consideration of efforts underway by its members and others. These efforts, which have a great deal of environmental benefit, include: redevelopment, transit oriented development, mix of uses, corridor redevelopment, the SOAR program, "new urban" and traditional neighborhood planning, alternative street design and "road diets," parks and planning, and ties to the LEED program sponsored by the U.S. Green Building Program.

Modeling – LGC is well aware that once "smart growth" and redevelopment programs are integrated into permitting programs, there will be tremendous pressure to measure and account for the environmental benefits. The Water Board, Watershed Protection District, permittees and LGC are entering new territory, since the benefits accounting, to date, are conceptual or anecdotal.

As such, LGC emphasizes the need for a large-scale modeling and monitoring effort. This effort will transcend the permit area and needs to be called to the attention of a wider audience. There is no doubt that other States are encountering the same question, since the issue of watershed harm and dispersed development is not isolated to California. As such, LGC poses the following list for discussion:

1) What are the watershed benefits of redevelopment and redevelopment districts?

2) When a redevelopment district is not built out to the permitted density – where does that development go and what is its "footprint" and stormwater outcomes?

3) What would a district-level model need to include?

4) What level of rigor is expected within the NPDES permitting system when demonstrating performance of a development or redevelopment system?

5) What effect does a mix of uses have related to development footprint?

These questions are intended to stimulate discussion, though it is hardly exhaustive. The Local Government Commission appreciates the opportunity to comment. Please contact me if you have further questions.

Sincerely,

Judy Corbett

Executive Director

Attachment: Ahwahnee Water Principals

The Ahwahnee Water Principles for Resource-Efficient Land Use

Preamble

Cities and counties are facing major challenges with water contamination, storm water runoff, flood damage liability, and concerns about whether there will be enough reliable water for current residents as well as for new development. These issues impact city and county budgets and taxpayers. Fortunately there are a number of stewardship actions that cities and counties can take that reduce costs and improve the reliability and quality of our water resources.

The Water Principles below complement the Ahwahnee Principles for Resource-Efficient Communities that were developed in 1991. Many cities and counties are already using them to improve the vitality and prosperity of their communities.

Community Principles

1. Community design should be compact, mixed use, walkable and transit-oriented so that automobile-generated urban runoff pollutants are minimized and the open lands that absorb water are preserved to the maximum extent possible. (See the Ahwahnee Principles for Resource-Efficient Communities)

2. Natural resources such as wetlands, flood plains, recharge zones, riparian areas, open space, and native habitats should be identified, preserved and restored as valued assets for flood protection, water quality improvement, groundwater recharge, habitat, and overall long-term water resource sustainability.

3. Water holding areas such as creek beds, recessed athletic fields, ponds, cisterns, and other features that serve to recharge groundwater, reduce runoff, improve water quality and decrease flooding should be incorporated into the urban landscape.

4. All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.

5. Permeable surfaces should be used for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized so that land is available to absorb storm water, reduce polluted urban runoff, recharge groundwater and reduce flooding.

6. Dual plumbing that allows graywater from showers, sinks and washers to be reused for landscape irrigation should be included in the infrastructure of new development.

7. Community design should maximize the use of recycled water for appropriate applications including outdoor irrigation, toilet flushing, and commercial and industrial processes. Purple pipe should be installed in all new construction and remodeled buildings in anticipation of the future availability of recycled water.

8. Urban water conservation technologies such as low-flow toilets, efficient clothes washers, and more efficient water-using industrial equipment should be incorporated in all new construction and retrofitted in remodeled buildings.

9. Ground water treatment and brackish water desalination should be pursued when necessary to maximize locally available, drought-proof water supplies.

Implementation Principles

1. Water supply agencies should be consulted early in the land use decision-making process regarding technology, demographics and growth projections.

2. City and county officials, the watershed council, LAFCO, special districts and other stakeholders sharing watersheds should collaborate to take advantage of the benefits and synergies of water resource planning at a watershed level.

3. The best, multi-benefit and integrated strategies and projects should be identified and implemented before less integrated proposals, unless urgency demands otherwise.

4. From start to finish, projects and programs should involve the public, build relationships, and increase the sharing of and access to information.

5. Plans, programs, projects and policies should be monitored and evaluated to determine if the expected results are achieved and to improve future practices.

Authors: Celeste Cantu, Martha Davis, Jennifer Hosterman, Susan Lien Longville, Jeff Loux, John Lowrie, Jake Mackenzie, Jonas Minton, Mary Nichols, Virginia Porter, Al Wanger, Robert Wilkinson, Kevin Wolf

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March 7, 2007

Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th St., Suite 200
Los Angeles, CA 90013

Re: Draft Ventura County Municipal Separate Storm Sewer System Permit (NPDES Permit No. CAS004002)

Dear Mr. Bishop and Members of the Board:

On behalf of Heal the Bay, we submit the following additions to our extensive joint comment letter with NRDC dated March 6, 2007. Specifically, the additional comments are in regards to the receiving water monitoring, receiving water standards, and TMDL sections of the Draft Ventura County Municipal Separate Storm Sewer System Permit ("Draft Permit" or "Permit"). We appreciate your consideration of these comments.

I. Monitoring/ Compliance-Assurance

A. The Draft Permit's monitoring program must be adequate to determine compliance with the Permit's requirements.

As discussed in our March 6, 2007 comment letter, the Clean Water Act requires that a permittee undertake a self-monitoring program sufficient to determine compliance with its NPDES permit. (See 40 C.F.R. § 122.44(i)(1)). A goal specified for monitoring requirements in the Draft Permit is to assess "...compliance with effluent limitations and water quality objectives." Permit at F-1. However as written, the Permit does not require sufficient monitoring to determine whether a specific municipality is in fact causing or contributing to violations of water quality standards.

Specifically, the monitoring program requires several monitoring events per year at a total of 5 mass emissions stations on the main stems and 2 or 3 tributary monitoring stations. Permit at F-2. Further, the Regional Board proposes to reduce the number of mass emissions stations to 3 stations for the majority of the permit cycle. This is an extremely small number of monitoring locations given that Ventura County covers an area of 1,873 square miles and multiple permittees preside over each of the three main watershed management areas ("WMA"). How will the Regional Board distinguish among permittees that are in compliance and those that are not with so few monitoring stations?

Further, the monitoring program relies on a rotating monitoring system for its tributary monitoring and bioassessment monitoring. Specifically, designated tributaries in a specific WMA are monitored for two years and then another WMA is monitored. A similar approach is taken for bioassessment monitoring. In this case, a WMA is monitored for one year and then the

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next year a new watershed is monitored. In the "off" years, how will compliance assurance in these watersheds be determined? As we know, there is significant variability in water quality and in the Index of biological Integrity from year to year and from location to location. In a sense, this approach gives the permittees a "free pass" to discharge pollutants and impair macroinvertebrate communities during certain years.

As outlined above, compliance assurance is impossible under the current monitoring scheme. Thus, we recommend that the Regional Board create a more robust monitoring program.[1] First, there should be an increased number of required monitoring locations. At a minimum, the permittees should monitor 10% of all outlets that are 36 inches or greater in diameter in each WMA. Also, additional monitoring sites should be selected that represent each individual permittee's discharge, so that any water quality standard exceedence can be linked to a MS4. In addition, each monitoring location should have monitoring required each year; the proposed rotating system should be removed from the Permit.

B. The detailed nature of the Draft Permit may hinder compliance-assurance.

In general, the Permit is extremely thorough and gives the permittees very detailed requirements. For instance under the Public Information and Participation Program, the Permittees are required to perform many subtasks such as developing a strategy to educate ethnic communities and distributing education materials to pet shops. While these are potentially important tasks, how will the Regional Board determine if these actions were completed satisfactorily? This is an example of one of numerous compliance-assurance issues that will be extremely difficult for the Regional Board to address with their current compliance report review program.

C. Miscellaneous Monitoring Comments:

- The toxicity monitoring program requirements are very arbitrary and will not provide a proper determination if stormwater discharges are impacting aquatic life. For instance, TIEs are only conducted if 90% or more toxicity is found in the first year. Also a TRE is not triggered if less than 50% of the toxic response is linked to a specific pollutant category in at least two samples or if two TREs have already been done that year. Permit at F-5 and F-6. These triggers are arbitrary and unsubstantiated, and will not provide adequate information for aquatic species impacts. Thus, the monitoring should be modified to have a more protective toxicity threshold and to require TIEs and TREs when there are significant toxicity problems in receiving waters. These requirements should be modeled from the standard language in POTW NPDES permits. Also, each TRE action should include an implementation plan with milestones for constructing specific BMPs that target the pollutant of concern.

- The aquatic toxicity monitoring requirements specify both the freshwater and marine species to be used in the toxicity testing. As the Regional Board has acknowledged in other NPDES permit programs, a species screening for the most sensitive species is a

[1] Of note, throughout the State Board's Blue Ribbon Panel Report on the feasibility of numerics in stormwater permits, the experts note the inadequacy of current stormwater monitoring efforts.

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more protective approach. Thus, the Draft Permit should require an initial species screening of three taxa of both freshwater and marine species. Specially, the freshwater species screening should include a fish. One appropriate choice would be the rainbow trout, as this species is similar to steelhead trout. Over the past year, the steelhead trout population in Malibu Creek has mysteriously disappeared over a few months span. Thus, it would be useful to assess the sensitivity of a similar species. Also, sea urchins should be included in the marine species screening.

- Bioassessment monitoring is included in the monitoring program as a special study. Instead, bioassessment monitoring should be included as "Core Monitoring." Bioassessment monitoring is critical to assess the full impacts of the discharge and should be performed on a regular basis. In addition, bioassessment requirements have been a part of NPDES monitoring programs for ocean dischargers including POTWs, refineries and power plants for years, so requiring bioassessment as part of core monitoring requirements would not be precedent setting.

- As written, the tributary monitoring events are only conducted in wet weather. The Regional Board should also include a dry weather sampling event, as water quality may vary drastically between the seasons and this information may prove valuable. For example irrigation runoff from residential and agricultural sites may contain high concentrations of nutrients, fecal bacteria, herbicides, fungicides or pesticides.

- Appendix B outlines pollutants of concern that have been identified in past Water Quality Monitoring Reports. In other words, there have been known exceedences of these pollutants. However, there does not appear to be specific implementation actions required in the Permit to target these pollutants. The Regional Board should require pollutant of concern-targeted implementation plans that outline specific BMPs designed to ensure compliance with water quality standards, as required in the Permit.

II. TMDLs

A. The Draft Permit must include numeric effluent limits based on WLAs for all TMDLs in effect in Ventura County.

Federal law clearly commands that the Regional Board integrate adopted TMDLs into the effluent limitations of appropriate NPDES permits. Specifically, Federal regulations require that:

> Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7. (40 CFR § 122.44(d)(4)(vii)(B).)

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Thus, the effluent limits set by the Draft Permit must be consistent with the wasteload allocations for those TMDLs in effect for Ventura County. Appropriately, the Ventura MS4 Permit outlines WLAs for four TMDLs: Santa Clara River Nutrient TMDL, Malibu Creek Bacteria TMDL, Calleguas Creek Toxicity TMDL and Calleguas Creek OC Pesticides TMDL. However, the Permit fails to include WLAs for five additional TMDLs in effect in Ventura County: Calleguas Creek Nitrogen TMDL, Calleguas Creek Chloride TMDL, Santa Clara River Chloride TMDL, Malibu Creek Nutrients TMDL, and Calleguas Creek Metals and Selenium TMDL[2]. Thus, the Regional Board must modify the Draft Permit to include these numeric WLAs.

B. The Draft Permit must include <u>all</u> required actions outlined in TMDL implementation schedules.

As you know, implementation schedules included in TMDL Basin Plan Amendments adopted by the Regional Board require the discharger to complete various actions before the final compliance deadline. For instance, schedules may require monitoring plan submittals or the demonstration of a waste load reduction after a certain period of time. These actions are important steps in ensuring that dischargers are on-track for ultimate compliance with the waste load allocations. The implementation schedule actions that have completion dates within the term of the Ventura Permit should also be included in the Permit, as they must be enforceable requirements. A summary of the actions that should be specified in the Permit are outlined below:

Calleguas Creek Nitrogen Compounds and Related Effects

- July 2008: Complete Special Studies for algae impairments of Calleguas Creek, its tributaries and Mugu Lagoon.
- July 2010: Final achievement of ammonia and oxidized nitrogen standards.

Calleguas Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation

- March 2007: Submit a workplan for approval by the EO to identify urban, industrial and domestic sources of OC pesticides and PCBs and control methods and to implement a collection and disposal program for organochlorine pesticides and polychlorinated biphenyls.
- March 2007: Special Study #1 – Submit a workplan
- March 2007: Special Study #2 – Conduct a study to identify land areas with high OC and PCB concentrations, and submit a workplan including milestones and an implementation period that is as short as possible, but not to exceed 6 years, for removal to mitigate the effects of flood control practices…
- March 2010: Based on the results of the Task 5 workplan approved by EO, implement a collection and disposal program for OC pesticides and PCBs.

Calleguas Toxicity, Chlorpyrifos, and Diazinon

[2] Of note, the Calleguas Creek Metals and Selenium TMDL was adopted by the Regional Board on October 25, 2006 and has not been approved by OAL. However, the Consent Decree deadline is March 24, 2007, so it is likely that this TMDL will be in effect before this Permit is brought before the Regional Board.

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- March 2008: Special Study #1 – Investigate the pesticides that will replace diazinon and chlorpyrifos in the urban environment, their potential impact on receiving waters, and potential control measures.
- TBD: Special Study #2 – Consider results of monitoring of sediment concentrations by source/land use type thorough special study required in the OC Pesticide, PCB and siltation TMDL Implementation Plan.
- March 2009: Develop and implement collection program for diazinon and chlorpyrifos and an education program. Collection and education could occur thorough existing programs such as household hazardous waste collection events.
- TBD: Special Study #3 – Calculation of sediment transport rates in CCW. Consider findings of transport rates developed through the OC Pesticide, PCB and siltation TDML Implementation Plan.
- March 2008: Achievement of Final WLAs.

Santa Clara River - Nitrogen Compounds

- Current: Apply WLAs to MS4 permittees
- Annually: Annual progress reports on the Implementation Plan shall be provided to the Regional Board by the responsible parties or their representatives.

Calleguas Creek Metals and Selenium TMDL

- Effective Date of amendment: Interim WLAs
- 3 months after effective date: Submit Calleguas Creek Watershed Metals and Selenium Monitoring Program.
- 3 months after EO approval: Implement Monitoring Program.
- 1 year after submittal of first annual monitoring report: Re-calibrate HSPF water quality model based on first year monitoring data.
- 2 years after effective data: Conduct a source control study, develop and submit an Urban Water Quality Management Program for copper, mercury, nickel, and selenium.
- 1 year after approval of UWQMP: Implement UWQMP.
- Within 6 months of completion of study: Evaluate results of the OCs TMDL Special Study- Calculation of sediment transport rates.
- Within 2 years after the effective date of the amendment: Include monitoring for copper, mercury, nickel, and selenium in the OC pesticides TMDL, Special Study-Monitoring of sediment by source and land use type.
- Within 6 months of completion of the study: Evaluate the results of the OC Pesticides TMDL, Special Study – Effects of BMPs on Sediment and Siltation.
- Within 1 year after the effective date of the amendment: Submit workplan for Special Study #2 – Identification of selenium contaminated groundwater sources.
- Within 1 year of approval of workplan by EO: Submit results of Special Study #2.
- Within 1 year after the effective date of the amendment: Submit work plan for Special Study #3 – Investigation of Metals' "Hot Spot" and Natural Soil.

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- Within 2 years of approval of workplan by EO: Submit results of Special Study #3.
- 6 years after the effective date: Evaluate effectiveness of BMPs
- Within 1 year after the completion of the studies: Evaluate the results of implementation actions for Special Studies #2 and #3.

III. Municipal Action Levels and Receiving Water Limitations

A. The Regional Board should include MALs for additional stormwater pollutants of concern.

As stated in the previous March 6th letter, municipal action levels ("MALs") are useful as interpretations of the MEP standard but referencing them in the receiving waters section of the Permit impermissibly "mixes apples and oranges." In addition, we are concerned that the MALs are extremely limited in that they only include TSS, COD, total coliforms, E. coli, Cd, Cr, Cu, Pb, Ni and Zn. Clearly this list of contaminants is extremely limited and does not include mercury, or any organics including OP or halogenated pesticides or PAHs: all major concerns in stormwater. Why weren't MALs included for these critical constituents? MALs should be added for these constituents in order to better protect aquatic life and public health.

The inclusion of MALs in the receiving water limitations section is both confusing and inappropriate as stated in the previous letter. Also, the section does not provide clear enforceable deadlines for reporting exceedences of receiving water limits ("RWLs"), submission of an implementation plan to meet RWLs with milestones and dates, and an enforceable RWL compliance deadline. Please clarify the language in the section to make it clear that the BMP implementation process is not complete until RWLs are continually met. Part 2-5 is inconsistent with the requirements to meet RWLs as the section appears to delegate discretion to the Regional Board on requirements for municipalities to continue adding additional BMPs if the city can demonstrate that they are meeting MALs in some unspecified manner.

B. The Permit should include BMP Performance Criteria.

One of the most significant shortcomings in previous stormwater permits and municipal stormwater management programs is the lack of performance based criteria for BMPs. We have yet to see a program that requires BMPs to include performance based design criteria. As a result, BMPs are added as part of SUSMP requirements or for pollution abatement without any focus on the water quality exiting the BMPs. Even the SUSMP requirements from the previous permit had a design criteria for flow (capture, treat or infiltrate the 85th percentile storm), with no performance based design criteria. The Draft Permit includes numeric design criteria for hydrologic control with no inclusion of water quality based performance criteria.

Discharges from the MS4 must not cause or contribute to exceedences of RWLs. One of the most effective ways to ensure stormwater program success and RWL attainment is to require performance based criteria for all BMPs that are constructed in response to RWL exceedences. Also, all BMPs that are constructed as part of new and redevelopment in the county must be required to meet water quality based performance criteria. Flow based design criteria are simply not enough to ensure that RWLs are consistently met.

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Since the Regional Board has gone to considerable effort to include MALs to ensure compliance with the MEP provisions in the Permit, we strongly suggest applying the MALs as a water quality based performance design criteria for BMPs in new and redevelopment, and those constructed in response to exceeding RWLs. As you know, MALs were not developed as water quality based design criteria, but they were based using a statistical population approach based on monitoring data for pollutants in stormwater. As such, requiring MALs as a BMP performance design criteria is feasible based on stormwater monitoring results.

Another approach that would take more time to complete would be to develop water quality performance design criteria based on analysis of the ASCE/EPA stormwater BMP database. The database includes extensive BMP performance data that could be used for development of performance based criteria. Such a project would take the Regional Board about a year to complete, but language could be added to the Permit stating that the Regional Board will develop these criteria for inclusion in the Ventura County Permit by July, 2008. Regardless of approach the Regional Board takes, it is critical to include scientifically supported performance based design criteria in the Permit in order to move the county more quickly towards receiving water quality standards attainment.

We thank the Board Members and Board Staff for this opportunity to comment on the Draft Permit. If you have any questions, feel free to contact us.

Sincerely,

Mark Gold, D. Env.
Executive Director

Kirsten James, MESM
Staff Scientist

NRDC
THE EARTH'S BEST DEFENSE

NATURAL RESOURCES DEFENSE COUNCIL

March 6, 2007

Via FedEx and electronic mail

Executive Officer and Members of the Board
California Regional Water Quality Control Board, Los Angeles Region
320 W. 4th St., Suite 200
Los Angeles, CA 90013

Re: Draft Ventura County Municipal Separate Storm Sewer System Permit (NPDES Permit No. CAS004002)

Dear Mr. Bishop and Members of the Board:

The Natural Resources Defense Council ("NRDC") is a national environmental organization with over 600,000 members, more than 100,000 of whom are California residents and approximately 2,700 of whom live in Ventura County. NRDC, along with Heal the Bay and Environment California, have reviewed the Draft Ventura County Municipal Separate Storm Sewer System Permit ("Draft Permit" or "Proposed Permit"), the third iteration of the co-permittees' Phase I municipal stormwater permit under the Clean Water Act's National Pollution Discharge Elimination System. NRDC, Heal the Bay, and Environment California submit the following comments to the Draft Permit.

We strongly support many aspects of the Draft Permit, and submit the following comments to underscore in particular the importance of specific provisions included in the Planning and Land Development Program that substantially improve the previous permit's program.[1] This letter further urges the Board to make certain targeted amendments to the Draft Permit's language to ensure that it meets the Clean Water Act's maximum extent practicable standard ("MEP") for municipal dischargers and most effectively addresses Ventura County's water quality problems. Finally, this letter also addresses and supports the importance of making modifications to the Permit's water quality standards provisions, TMDL implementation provisions, and monitoring program, all of which are currently deficient.

In particular, our comments focus on the Draft Permit's low impact development ("LID") requirements in the development planning program (Section 4.E). Low impact development uses a collection of site design and treatment controls to maintain the natural hydrologic character of developed sites, and has been demonstrated to be the most effective and cost-efficient method for managing storm water and protecting the environment.[2] The LID framework for new and redevelopment in the Draft Permit is a solid foundation for the Permit's Planning and Land Development Program.

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But if the Permit is to meet the goal of "implement[ing] a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP and achieve water quality objectives for . . . the County of Ventura," stronger provisions are necessary.[3] Therefore, we urge the Board to adopt language reflecting effective standards and a rapid phase-in of low impact development requirements for new and redevelopment projects, as well as lowering the threshold for applicability of LID and other post-construction best management practices to new and redevelopment projects. As discussed in this submittal, such an approach not only has numerous benefits with respect to a variety of water quality and supply objectives, but is necessary to meet MEP standard for municipal storm water runoff treatment and control. Moreover, NRDC has included in this comment package a special study focused on Ventura County by Dr. Richard Horner, one of the nation's leading storm water experts. This Study proves the technical feasibility of the Permit's LID provisions, as strengthened by our comments, and shows that they can be implemented feasibly in the full-range of development types, ranging from single family housing through large commercial establishments.

1. Water quality problems persist in Ventura County receiving waters.

Notwithstanding the past permit's programs, runoff volume, and erosion control,[4] significant water quality problems persist in Ventura County. Indeed, in 2006,

> [e]levated pollutant concentrations were observed at all monitoring sites during one or more monitored wet weather storm events, and at [specific sites] during one or more dry weather events.[5]

Not only has research showed that storm water runoff is a significant source of pollutants found in Southern California, but the State Water Resources Control Board has determined that "[m]unicipal point source discharges from urbanized areas remain a *leading cause* of impairment of surface waters in California."[6] And impairments to the beneficial uses of water bodies in the Ventura watersheds include many of the pollutants of concern identified by the Ventura Countywide Storm Water Monitoring Program.[7]

In light of the persistent water quality problems in Ventura County, the Board should use the opportunity presented by reissuance to modify the permit's structure and requirements to better achieve the underlying goals of meeting water quality objectives and protecting the beneficial uses receiving waters in Ventura County in a "timely, comprehensive, and cost-effective manner"[8] It appears that staff's proposal makes positive strides in this direction and that, with targeted but essential modifications, the Permit can meet the MEP standard and begin to measurably reduce water pollution.

2. Specific aspects of the 2000 permit likely contributed to the failure to see adequate water quality improvements over the past permit cycle.

The provisions of the previous permit included the designation of certain categories of development as requiring storm water quality mitigation conditioning under a SQUIMP.[9] Evidence indicating that water quality problems persist makes it clear that the steps taken in the previous permit[10] are failing to keep up with the increasing impacts of development in Ventura County. The following discussion highlights two specific aspects of the previous permit that likely contributed to the failure of the previous permit's SQUIMP program to achieve broad improvements in stormwater runoff: the thresholds at which stormwater control is triggered for various types of new development; and the insufficient emphasis on low impact development-based ("LID") best management practices ("BMPs").[11]

A. The existing thresholds for storm water mitigation appear to be arbitrary in light of persistent water quality problems.

It is apparent that the existing permit's thresholds for storm water mitigation conditioning in development projects were inadequate to meet water quality objectives.[12] As described above, water quality data for Ventura County indicates that the previous permit's BMP requirements for development projects have not affected the urban landscape at an acceptable pace. This reality, and the current performance of municipalities throughout the nation, supports the Draft Permits lowering of the thresholds for specific development project categories to 5,000 square feet.[13]

Indeed, the seemingly arbitrary nature of at least some of the existing threshold levels is further underscored by the observation that thresholds for some of the development categories used in the SQUIMP prepared under the previous permit are objectively large.[14] For instance, the threshold for commercial developments in the previous permit was 100,000 square feet.[15] To put this figure in perspective, 100,000 square feet is equivalent to 2.3 acres—larger than two football fields together—which is a very large development in any setting but represents an enormous development in the urban context. So-called big-box retail stores such as Home Depot, Target, and large grocery stores are typically 50,000 sq ft or more; these massive developments often would fall below the commercial priority project threshold under the existing permit, while it would take a "supercenter" type development to trigger the 100,000 square feet threshold in the commercial category.[16] Given the documented water quality challenges that remain and the centrality of the planning and development program's storm water mitigation requirements to achieving beneficial improvement, it is clear that substantially lower and more comprehensive thresholds are necessary. Thus the Draft Permit's language setting thresholds for post-construction BMP requirements at 5,000 square feet for Commercial, Restaurant, Retail Gasoline Outlets, etc. development categories is soundly supported.

B. Language in the previous permit was inadequate to ensure sufficient implementation of low impact development BMPs ("LID").

Although the previous permit contained no specific requirement for the use of LID-based BMPs in new development and redevelopment projects, the Stormwater Quality Urban Impact Mitigation Plan directed that certain site layout concepts reflecting LID principles be implemented in all categories of development. But even though the SQUIMP recognized these methods as a critical tool in reducing pollutant loading and runoff volume from developed areas, its provisions lacked clear, enforceable standards. For instance, the SQUIMP directed copermittees to require project proponents to conserve natural areas "if applicable" and to design development sites "to minimize, to the maximum extent practicable, the introduction of pollutants of concern" to the MS4. Though it is generally consistent with LID principles, such language does not provide project proponents and copermittees with clear standards—necessary both to promote implementation and to enable enforcement. For instance, this open-ended language fails to give guidance on how the copermittees should determine whether site design concepts that would conserve natural areas are applicable, and does not establish clear guidelines for what level of site-design BMP implementation constitutes the maximum extent practicable minimization of pollutant generation.[17]

Ultimately, while the previous permit allowed the copermittees' SQUIMP to make strides toward laying the foundation for LID practices including site design and other source control methods in Ventura County, its language left too much latitude to project proponents and permitting authorities to actually achieve widespread use of low impact site design strategies in new development. By contrast, the Draft Permit includes specific numeric requirements to limit effective impervious area, maintain natural hydrology, and treat site runoff. These provisions are critical to the success of the new permit in reducing pollutant loading and storm water runoff rate and volume, and we fully support their inclusion, with certain modifications, proposed below. In addition, as discussed below, we urge the Board to strengthen the Draft Permit's LID requirements to ensure the timely and robust implementation of these methods, which are widely recognized as the most effective tool to decrease storm water runoff volume and pollutant loading.

3. To meet the Clean Water Act's MEP requirement, the Permit must include up-to-date, comprehensive LID requirements for new development and redevelopment.

The Clean Water Act requires municipal discharges to reduce storm water pollution to the maximum extent practicable ("MEP"), a standard that continually evolves and improves as better and better technologies become available and are demonstrated to be effective.[18] As noted in the Draft Permit, the MEP standard requires municipalities to "evaluate what is effective and make improvements" to best management practices in their MS4 permits in each successive permit iteration in order to meet water quality objectives."[19] It is widely recognized[20]—and the Regional Board and staff have repeatedly emphasized[21]—that urban development increases impervious land cover and exacerbates problems of storm water volume, rate, and pollutant loading. Development and redevelopment activities that occur without effective post-

construction BMPs contribute to these problems. We strongly support the Draft Permit's inclusion of a catch-all provision to the development planning program, the effect of which is to condition development projects disturbing one acre or more of land upon inclusion of storm water controls. The inclusion of catch-all categories for storm water quality mitigation conditioning in other MS4 permits demonstrates that this aspect of the permit is feasible and practicable, and therefore necessary to meet MEP. (See examples below). But in addition to Ventura County's persistent water quality problems, more-inclusive programs in comparable communities and the Phase II MS4 requirements indicate that the proposed catch-all provision for development projects is under-inclusive and must be amended in the reissued Permit.

For instance, states, counties, and cities across the nation have adopted requirements to address runoff from development projects that are more inclusive and stringent than the Proposed Permit would mandate:

- City of Santa Monica, California - defines "new development," to which specific storm water runoff control requirements apply, as "any construction project that (a) results in improvements to fifty percent or greater of the square footage of a building, (b) creates or adds at least five thousand square feet of impervious surfaces, or (c) creates or adds fifty percent or more of impervious surfaces." (Santa Monica Municipal Code, Chapter 7.10.030(d)(3));

- Contra Costa County, California – applies storm water runoff control requirements to "new and redevelopment projects that create 10,000 square feet or more of impervious area." (RWQCB, San Francisco Bay Region, Contra Costa Countywide NPDES Municipal Stormwater Permit Amendment Order No. R2-2003-0022 (amending Order No. 989-058, NPDES Permit No. CAS0029912) at pp. 9-10 (lowering previous one-acre threshold for the application of performance standards effective August 15, 2006);

- State of New Jersey - defines "major development," to which specific storm water runoff control requirements apply, as "any development that ultimately provides for disturbing one or more acres of land or increasing impervious surface by one-quarter acre or more." (New Jersey Stormwater Rules, N.J.A.C. § 7:8-1.2);

- State of Washington – applies numeric storm water treatment requirements to any project adding 5,000 square feet or more of new impervious surface. (Phase I Municipal Stormwater NPDES General Permit (Draft Feb. 15, 2006) Appendix I (Minimum Technical Requirements for New Development and Redevelopment), at pp. 7, 8, 20);

- State of Maryland – requires storm water management plans for any development that disturbs 5,000 square feet or greater. (Maryland Code, Title 26, Subtitle 17, Chapter 2, §5B; see also Maryland Model Stormwater Management Ordinance (July 2000) at pp. 2, 5, 8);

- City of Portland, Oregon – employs "a citywide pollution reduction requirement for all development projects with over 500 square feet of impervious development footprint area, and all existing sites that propose to create new off-site stormwater discharges." (Stormwater Management Manual (adopted July 1, 1999; updated September 1, 2004) Chapter 1.5.2 (Pollution Reduction Requirements) at p.1-25);

- Stafford County, Virginia – uses an exemption approach under which low impact development practices apply to all development except a) mining/oil & gas operations; b) agriculture; c) *linear development projects that are less than 1-acre, insignificant increases in peak flow, and no flooding or downstream erosion problems*; d) single family not part of a subdivision; e) structure ancillary to single-family homes; and e) "land development projects that disturb less than two thousand five hundred (2,500) square feet of land." (Stafford County Muni. Code § 25.5-1(f).)

These examples illustrate that applying specific storm water mitigation requirements to all development and redevelopment projects that disturb greater than 5,000 square feet is practicable. Indeed, they show that an appropriate new development threshold for SUSMP purposes is 5,000 square feet or less for all development, no matter its characterization as a restaurant, housing development, or other category.

Moreover, the Draft Permit's one-acre threshold for new development projects' storm water control conditioning is only as inclusive as the EPA threshold for *Phase II* MS4s.[22] That the Draft Permit's catch-all threshold is no more progressive than the Phase II requirements is significant because the Phase I Permits and rules have been issued for nearly 15 years now, while Phase II Permits are first generation permits throughout the nation. Indeed, in promulgating Phase II rules EPA gave "maximum flexibility" to smaller cities since they were obtaining permits for the first time.[23] This comparison makes it impossible to justify a one-acre threshold in the Ventura County permit.

Not only does 5,000 square feet represent the appropriate threshold for the catch-all category under the MEP standard; it would further the purpose of low impact development ("LID") practices, i.e. expressly to ensure that when historically-open-space areas in Ventura County undergo urbanization, the opportunity to mitigate the adverse impacts of storm water pollution from urbanization is not lost.[24] (We have included "redline" edits to the Draft Permit that effectuate this and other comments in this letter, attached hereto as Attachment III). The new permit's catch-all provision for new development is of critical importance in ensuring comprehensive storm water control. For as the Draft Permit's findings indicate, "[d]evelopment and urbanization increase pollutant loads, volume, and discharge velocity," and significant adverse impacts to the biological and physical integrity of receiving waters can be observed as a result of the conversion of as little as three percent of natural cover to impervious surfaces.[25]

In light of the rapid pace of development in Ventura County, the persistent storm water pollution problems County's receiving waters, comparison to the Phase II MS4 requirements,

and to reflect consistency with thresholds used in other regions and states, it is apparent that a 5,000 square feet threshold applicable to all types and categories of development is consistent with the MEP standard. Such a standard, therefore, must be included in the Draft Permit.

4. LID practices have significant benefits over conventional BMPs.

LID practices, including site design, source control, and soil-based treatment control techniques are often more effective than many types of conventional structural treatment BMPs for protecting water quality. By preventing site runoff altogether, source control practices can often eliminate the necessity of addressing sources of pollution, rather than attempting to remove a percentage of the pollution after it has entered stormwater runoff.[26] In fact, LID practices offer myriad benefits—including both the primary benefits of pollution reduction and reducing storm water runoff volume and rate, as well as secondary benefits such as greater cost-effectiveness, groundwater recharge, and habitat protection—over conventional BMPs. NRDC's report on storm water management strategies, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (2006), comprehensively addresses both the primary and secondary benefits of LID practices and is included with these comments as Attachment II.

Moreover, NRDC commissioned a formal study and report by a leading, nationally-recognized expert, Dr. Richard Horner, entitled *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County* (2007) (attached hereto as Attachment I and referred to herein as the "Horner Ventura County Study"). Dr. Horner confirms that the benefits of LID would be substantial in Ventura County and that these benefits can, in fact, be obtained given local building patterns. The Report verifies that implementing LID practices would make the Permit more consistent with MEP and is necessary to meet water quality objectives. It also specifically demonstrates that the Permit's LID requirements, as modified as described below to be more protective of water quality, are feasible and practicable in the full-range of development types and approaches typical in Southern California.

A. The primary benefits of low impact development practices are proven and effective.

In the context of the NPDES municipal storm water permit for Ventura County, the primary benefits of LID techniques are reducing runoff volume, rate, and pollution load—results that have been studied and documented in dozens of reports, case studies, and pilot projects in California and across the nation.[27] These primary benefits are described in great detail in the materials that accompany this letter, including reports by state and federal government agencies, building industry organizations, scientists, and non-governmental organizations.[28] Indeed, many of the reference materials suggested in the copermittees' 2000 SQUIMP address low impact development.[29] For instance, the copermittees' SQUIMP recommends *Start at the Source* (Bay Area Stormwater Management Agencies Association, 1999), as a guide for the selection of BMPs for development planning.[30] This document discusses the application of LID strategies in various development contexts, noting that LID practices "are a collection of *proven* methods and

techniques that integrates stormwater management into planning and design, that reduces overall runoff, and manages stormwater as a resource."[31] The overwhelming body of literature shows that LID strategies are effective and can be cost-saving in both the short and long-term.

B. Implementing low impact development practices for storm water runoff control has significant secondary benefits.

In addition to helping reduce pollutant loading in storm water and reducing the volume and rate of storm water runoff, LID practices offer other economic, aesthetic, and practical benefits to developers, municipalities, and homeowners in addition to benefiting natural ecosystems by conserving natural resources such as soil, water, and vegetation and restoring natural hydrologic processes in the watersheds. The following summary of the secondary benefits of LID practices is but an overview of the voluminous information in the resources provided in Attachment V. (See Attachment IV, providing a table of contents to the materials in Attachment V).

Groundwater recharge – Groundwater supplies in Ventura County, which represent most of its non-imported freshwater, are pressured by overdrafting.[32] Maintaining abundant groundwater supplies is important because these aquifers not only provide drinking water but also help maintain base flow essential to the biological and habitat integrity of streams.[33]

As Ventura County becomes more developed, a much larger percentage of rainwater hits impervious surfaces including streets, sidewalks, and parking lots rather than infiltrating into the ground. By using LID techniques that reduce the amount of impervious surfaces and increase vegetation and soil features, the landscape can retain more of its natural hydrological function.[34] Thus, LID practices have the added benefit of recharging groundwater aquifers and preserving baseflow to streams and wetlands.[35]

Improving groundwater supplies in Southern California would also save money now spent on imported water, and "may be the key to continued development in the area."[36] As the Board Members are no doubt well aware, Southern California faces serious water supply challenges.[37] Ventura County already imports most of its water.[38] But continued, rapid growth puts increasing pressure on the local water resources, including water supply. The traditional storm water management regime, with its infrastructure emphasis on collection and conveyance, simply wastes a valuable resource.

For instance, the Metropolitan Water District of Southern California ("MWD"), which supplies the Ventura County, charges $331 to $427 per acre-foot for untreated water, and $478 to $574 per acre-foot for treated water.[39] On average, the wholesale cost of untreated water is $379 per acre-foot and treated water is $526 per acre-foot. Table 1 shows the economic value of water retained by LID practices across six typical development types (which are further described in Attachment I). As the Horner Ventura County Study proved, LID practices have the ability to capture 100% of storm water runoff in many typical development types. Captured water can recharge the water supply or be otherwise reused; in both scenarios, LID's runoff prevention

creates a significant economic benefit that represents substantial cost savings, as further shown in Table 1.

Table 1. Post-Development Water Saving Comparisons[40, a]

	MFR	Sm-SFR	REST	OFF	Lg-SFR	COMM
Annual post-development water recharged from site with basic treatment BMPs	4.39-7.99	1.88-2.62	0.45-0.65	1.76-2.10	82.0-114	0.80-3.03
Annual post-development water recharged and harvested from site with LID	13.4	3.72	0.95	2.60	162.0	6.37
Annual water saved through LID per site	5.41-9.01	1.10-1.84	0.30-0.50	0.50-0.84	48.0-80.0	3.34-5.57
Value of annual LID water savings per site (untreated water)	$2,050-$3,415	$417-$697	$114-$190	$190-$318	$18,192-$30,320	$1,266-$2,111
Value of annual LID water savings per site (treated water)	$2,846-$4,739	$579-$968	$158-$263	$263-$442	$25,248-$42,080	$1,757-$2,930

[a] Figures given in acre-feet
[b] MFR (156-unit multi-family residential complex); Sm-SFR (23-unit single-family residential development); REST (3220-sq ft restaurant); OFF (7500-sq ft office building); Lg-SFR (1000-unit single-family residential development); COMM (2-acre commercial development)

Minimize infrastructure requirements – Low impact development practices can also reduce conventional stormwater drainage infrastructure, such as pipes, gutters, and detention basins, thereby reducing infrastructure costs.[41] Traditional curbs, gutters, storm drain inlets, piping and detention basins can cost two to three times more than engineered grass swales and other low impact development techniques to handle stormwater runoff from roadways.[42] Clustering homes can reduce infrastructure costs to the builder, since fewer feet of pipe, cable, and pavement are needed, and maintenance costs are reduced for homeowners.[43] "Studies in Maryland and Illinois show that new residential developments using green infrastructure stormwater controls saved $3,500 to $4,500 per lot (quarter- to half-acre lots) when compared to new developments with conventional stormwater controls."[44]

Low impact development can also minimize the need for irrigation systems.[45] This can be crucial in a hot, dry climate, where as much as 60 percent of the municipal water demand can be attributed to irrigation.[46] LID techniques can even improve air quality by filtering air pollution and helps to counteract urban heat island effect by lowering surface temperatures.[47]

Increased parkland and wildlife habitat, preserving natural features and natural processes – LID strategies include vegetative and grassy swales, tree-box filters, and preserved vegetation, thereby increasing the amount of green spaces in a community.[48] These strategies can also protect regional trees and flora and fauna.[49] Thus, LID measures result in less disturbance of the development area and conservation of natural features.[50] In fact, harvesting rainwater for use in gardens, rather than allowing stormwater runoff into storm drains, can even result in "bigger, healthier plants" because rainwater is better for plants than chlorinated tap water.[51]

Using LID techniques, development can be reconfigured in a more eco-efficient and community-oriented style.[52] Clustering homes on slightly smaller lot areas can allow more preserved open space to be used for recreation, visual aesthetics, and wildlife habitat.[53] Builders

in many areas have been able to charge a premium price for "view lots" facing undisturbed natural vistas, or pond areas that also function as bioretention cells.[54]

Enhanced property values – In addition to the aesthetic appeal of more parkland and vegetation, "greening" a neighborhood can often increase property values.[55] "Visitors stroll down Seattle's 'SEA [Street Edge Alternatives] Streets' project marveling at the beautiful landscaping while residents in adjacent blocks continually ask the city when their street will be redesigned to be a 'SEA Street.'[56] The NOAA Coastal Services Center reports that the Trust for Public Lands and National Park Service provide many examples of communities whose property values increased due to their proximity to open space. For example, a cluster development in New York that preserved 97 acres of natural wooded environment is benefiting from its open space. One developer commented, "It may not be the woods that bring (buyers) to us initially, but it seems to make all the difference when they see what it's like."[57]

Cheaper development costs – LID not only raises property values for owners, but it can result in more cost savings for developers as well.[58] Using LID can reduce land clearing and grading costs, potentially reduce impact fees and increase lot yield, and increase lot and community marketability.[59] Among other industry organizations, the National Association of Home Builders recognizes LID's economic and environmental desirability:

> Ever wish you could simultaneously lower your site infrastructure costs, protect the environment, and increase your project's marketability? Using Low Impact Development (LID) techniques you can. LID is an ecologically friendly approach to site development and storm water management that aims to mitigate development impacts to land, water, and air. The approach emphasizes the integration of site design and planning techniques that conserve natural systems and hydrologic functions on a site.[60]

For example, the Gap Creek residential subdivision in Sherwood, Arkansas used LID methods instead of conventional methods. The results were 17 additional lots, $3000 more per lot than the competition, $4800 less cost per lot, 23.5 acres of green spaces and parks, and ultimately, over $2.2 million in additional profit.[61]

5. The new Permit should ensure full implementation of the most effective storm water management strategies by setting clear, enforceable low impact development requirements.

The need for better storm water management remains. Indeed, urban runoff continues to be a leading cause of water quality impairment in California and Ventura County.[62] NRDC recognizes and applauds aspects of the Draft Permit that represent significant improvements over the past permit—especially its strong emphasis of LID practices. In particular, we note that the addition of a catch-all category for post-construction BMP-conditioned development projects, the inclusion of a maximum level of effective impervious area for development projects, and

lower thresholds for specific categories of development (e.g. commercial) mark a substantial improvement in the development planning portion of the permit. But more is needed if the Permit is to meet the MEP standard and effectively reduce water pollution and its impacts. As discussed previously, studies show that impacts to receiving waters result when any natural areas are converted to impervious surface. And a voluminous body of literature shows that LID is effective, practicable and available—and therefore represents the MEP standard. In light of this overwhelming evidence, and given the scope of the storm water challenge that still confronts Ventura County, we urge the Board to adopt the Draft Permit with the following specific amendments in order to more timely attain water quality objectives and meet the MEP standard.

As noted throughout the following discussion of our proposed amendments, these changes have precedent in analogous permits, codes and programs currently in effect in other municipalities in California as well as states and municipalities across the country. Moreover, Dr. Horner's report (at Attachment I) demonstrates that the amendments proposed by NRDC are both necessary and practical in Ventura County. This report specifically shows, based on detailed analysis, that the Permit's LID provisions can be implemented feasibly in a full-range of development types, ranging from single family housing through large commercial establishments, consistent with existing sit layouts and designs.

A. Lower the "catch-all" category threshold for post-construction storm water mitigation requirements from one acre to 5000 square feet to achieve broader implementation of low impact site design BMPs and other source control and treatment BMPs. This "catch-all" category would cover all development types, whether already listed in the post-construction storm water BMP program or not, but would not supersede lower thresholds that already apply to some of the development categories such as parking lots. NRDC's edits to the language in the Proposed Permit would require a development to implement post-construction treatment controls and BMPs to mitigate storm pollution if it met (1) the development type and sizing criteria in existing categories in the Draft Permit or, if it did not meet one or both criteria, (2) if it took place on or disturbed more than 5,000 square feet, no matter its type. As discussed above in section 3, this threshold is in place in other jurisdictions around the nation.

B. Lower the maximum allowable Effective Impervious Area in new development and redevelopment projects from five to three percent to more fully control storm water runoff at its source. As the Draft Permit's findings acknowledge, the scientific literature demonstrates that significant adverse impacts to the physical habitat and biological integrity of receiving waters occurs with the conversion of as little as three percent of natural areas to impervious surfaces.[63] Other west coast studies show a direct correlation between the creation of new impervious surface and impacts to receiving waters at *all* levels.[64] In light of the well-documented connection between impervious surface quantity and receiving water quality, the Draft Permit's setting the maximum EIA for new development and redevelopment projects at five percent all but endorses biological and chemical degradation. This simply cannot be justified, and we doubt that the Draft permit intends to create this result. Furthermore, as Dr. Horner discusses in his Ventura County-specific report, a three-percent standard is feasible and practicable in typical developments for a full range of land uses in Ventura County.

C. **Require that pervious areas be engineered (e.g. soil amendment) to handle runoff from impervious areas** so that runoff from impervious areas does not increase over its natural levels as a result of receiving runoff from Not Directly-Connected Impervious Areas (NCIAs). This important requirement may in fact be covered in the Draft Permit's hydromodification section (Part 4.E.II.1(a)),[65] but the current language in the development planning section is unclear. We urge the Board to clarify this requirement with respect to the maximum EIA requirement to avoid the result that runoff from impervious areas exceeds the capacity of a site's available pervious areas to effectively retain, filter, or infiltrate that runoff.

D. **Emphasize a full range of low-impact development source reduction techniques** such as soil amendment, water harvesting, and infiltration trenches in describing available methods of disconnecting Effective Impervious Areas to reduce runoff. As Dr. Horner's report demonstrates, LID-based source reduction techniques are both commonplace and effective, especially when implemented in conjunction with dispersion through vegetated areas.[66] The Draft Permit currently advances a powerful source reduction concept by noting that EIA can be rendered "ineffective" by draining impervious areas to vegetated swales. The omission of other effective and efficient LID source reduction tools that can be used to reduce the amount of EIA in a given development project appears to be an oversight, and we urge the Board to amend the permit to explicitly refer to a broad range of LID methods that complement and provide additional ways to meet the cap on allowable EIA.

E. **Set numeric treatment criteria for post-construction BMPs for development projects greater than 50 acres.** In light of evidence demonstrating the adverse impacts of urbanization—specifically, of the creation of impervious surface—we strongly support the Draft Permit's inclusion of separate, specific provisions for ultra-large development projects.[67] However, it is important that in addition to designing project-specific hydrodynamic models, such projects be required to comply with the same volumetric treatment control and hydrodynamic treatment control standards that apply to all other development.

F. **Shorten the timeline for copermittees to develop guidelines for LID to three months.** The Draft Permit allots 18 months to the development of a LID Technical Guidance Manual that would include specifications for a range of site design strategies. The region's persistent water quality problems demand that full LID implementation be undertaken in development planning as quickly as possible. In light of the copermittees' apparent familiarity with LID concepts[68] and the abundance of available reference materials on LID practices (including technical manuals and guidance documents), an 18-month period for developing LID guidelines cannot be justified. Not only is three months ample time to complete a LID technical manual, it better reflects the maximum practicable effort required by the MEP standard and is more consistent with the Board's stated goal of addressing water quality problems as quickly and efficiently as possible.[69]

6. The Draft Permit's monitoring program must be adequate to determine compliance with the Permit's requirements.

A fundamental aspect of the Clean Water Act is the requirement that a permittee undertake a self-monitoring program sufficient to determine compliance with its NPDES permit. (See 40 C.F.R. § 122.44(i)(1) (stating that every NPDES permit shall require the permit holder to monitor the mass and volume of each limited pollutant "*to assure compliance with permit limitations*") (emphasis added); 40 C.F.R. § 122.41(a) ("The permittee must comply with all conditions of [its] permit."); 40 C.F.R. § 122.41(j) (requiring that a permittee's monitoring records contain both the techniques it employed, and the results of its monitoring analysis).) The Act further requires each permittee to report to the issuing agency on its compliance with the permit as determined from the monitoring program. (See *Sierra Club v. Union Oil Co. of California* (N.D. Cal. 1988) 716 F.Supp. 429, 434-35; 33 U.S.C. § 1318.)[70] "Unless a permit holder monitors as required by the permit, it will be difficult if not impossible for state and federal officials charged with enforcement of the Clean Water Act to know whether or not the permit holder is discharging effluents in excess of the permit's maximum levels." (*Sierra Club v. Simkins Industries, Inc.* (4th Cir. 1988) 847 F.2d 1109, 1115.)

This principle holds true in other, similar contexts as well. For example, section 504(a) of the Clean Air Act requires that each permit "shall include enforceable emission limitations and standards . . . and such other conditions as are necessary to assure compliance with applicable requirements." (*Natural Resources Defense Council, Inc. v. U.S.E.P.A.* (D.C. Cir. 1999), 194 F.3d 130, 133 (quoting 42 U.S.C. § 7661c(a)).) And in *Natural Resources Defense Council, Inc. v. Texaco Refining & Marketing, Inc.* (D. Del. 1998) 20 F.Supp.2d 700, the court required Texaco to undertake an extensive monitoring program in order to adequately assess the nature and impact of any noncomplying pollutant discharges from its facility.

Here, however, the monitoring program in the Draft Permit is inadequate to achieve these objectives because the monitoring program does not require measures that will allow permittees, the Regional Board, or other stakeholders to determine whether the MS4 is in fact causing or contributing to violations of water quality standards.

At the heart of the Draft Permit are the prohibitions in Parts 1 and 2:

- "Discharges into and from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance (as defined in Cal. Water Code § 13050), in waters of the State are prohibited." (Part I.A.1);
- "Discharges from the MS4, which cause or contribute to exceedences of receiving water quality objectives for surface waters are prohibited." (Part I.A.2);
- "Discharges from the MS4 that cause or contribute to a violation of water quality standards are prohibited." (Part 2);

Yet the monitoring program is inadequate to actually make any of these determinations. First, the Mass Emissions monitoring in the Draft Permit is inadequate. The Permit requires the Principal Permittee to monitor mass emissions from 5 stations. (Draft Permit at p. F-2). However, the Ventura County's website states that, "The Mass Emission drainage areas are much larger than the drainage areas associated with Receiving Water sites, and include other sources of discharge, such as wastewater treatment plants, non-point sources, and groundwater discharges."[71] Thus, monitoring mass emissions sites cannot achieve the goals required by the Permit because, as the permittee admits, these sites include other sources of discharge. So it will be unknown whether exceedences are being "contributed" to by the MS4, or whether they are from wastewater treatment plants, non-point sources, or groundwater discharges, for example.

The Draft Permit also requires receiving water monitoring in the form of tributary monitoring. (Draft Permit at p. F-7). Again, Ventura County's website states that, "Receiving water monitoring is designed to characterize the quality of receiving waters rather than discharges to the receiving waters."[72] Exceedences of water quality standards found in receiving waters might be caused from a variety of sources. Thus, this type of monitoring is also inadequate to determine whether discharges from the MS4 are causing or contributing to water quality violations.

Indeed, the Ventura County's 2005-2006 annual monitoring report reflects these inadequacies. Despite recognizing that the Permit requires them to "determine whether discharges from their municipal separate storm sewer system are causing or contributing to an exceedence of water quality standards,"[73] nowhere is such a determination actually made. Instead, the County states that "neither USEPA nor the State has established procedures for making this type of determination."[74] Rather, the County "conducted a preliminary assessment of receiving water and discharge monitoring data to identify potential water quality issues."[75] In fact, the 2005-2006 annual report recognizes water quality exceedences of, among other constituents: e.coli, fecal coliform, mercury, aluminum, nickel, TSS, and pesticides. Yet the report never actually answers this question of whether the MS4 is "causing or contributing" to exceedences of water quality standards as required by the current permit and by federal law.

To make the type of determination required by the Permit, one would need (1) end-of-pipe testing results to determine what pollution is coming from the MS4; and (2) a way to link those end-of-pipe results to a discharge from the MS4. Further, a method would need to be in place to determine which co-permittees are responsible for water quality violations.[76] As currently written, however, the Draft Permit's monitoring program is wholly inadequate to achieve these objectives and therefore is contrary to federal requirements.

7. Municipal action levels are useful as interpretations of the MEP standard but referencing them in the receiving waters section of the Permit impermissibly "mixes apples and oranges."

NRDC supports staff's important effort to quantify in a more transparent manner the federal minimum Maximum Extent Practicable standard ("MEP"). (33 U.S.C. §

1342(p)(3)(B)(iii).) The so-called "MAL" approach, however, should not be referenced in Part II of the Draft Permit, its "Receiving Water Limitations." As staff knows, MEP is a technology-based standard, while receiving water limits express a requirement to maintain an empirical condition measured in the water sufficient to meet adopted water quality standards. They are separate and essential permit terms. While, as discussed below, MEP may be sufficient to meet water quality standards, this is not always the case, and MEP is not expressed in terms of water quality outcome, but rather a level of discharger effort based on available technologies. The current reference to MALs in the Section II may be misinterpreted to mean that MALs are numeric water quality-based effluent limits—and they clearly are not WQBELs.

Technology-based requirements are effluent limitations based on specified levels of technology for the reduction of water pollution. (33 U.S.C. § 1311(b)(1)(A); *Communities for a Better Environment v. State Water Resources Control Bd.* (2005) 132 Cal.App.4th 1313, 1320.) The technology-based standard applicable to municipal stormwater dischargers requires controls for stormwater to the "maximum extent practicable," or "MEP." (33 U.S.C. § 1342(p)(3)(B)(iii).) With respect to dry weather discharges from the storm drain system, referred to as non-stormwater discharges, the statutory requirement is to "effectively prohibit" all such discharges. (*Id.* § 1342(p)(3)(B)(ii).)

The federal maximum extent practicable standard is not defined in the Clean Water Act, and, thus, the Regional Water Board and the State Water Board, as the lead expert agencies, have appropriately described the standard. (See *Building Industry Ass'n of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, 889.) The MEP standard consists of choosing solutions and treatment technologies based on a number of broad factors. MEP focuses "mostly on technical feasibility, but cost is also a relevant factor." (*In the Matter of the Petitions of the Cities of Bellflower et al.* (Oct. 5, 2000) State Water Board Order WQ 2000-11.) Other factors are effectiveness, regulatory compliance, and public acceptance. (*BIA, supra,* 124 Cal.App.4th at p. 876, fn. 7; Elizabeth Jennings, Senior Staff Counsel, State Water Board, *Definition of "Maximum Extent Practicable"* (Feb. 11, 1993).) By setting MALs, the Regional Board is interpreting MEP, a technology-based standard; it is not setting a numeric water quality-based effluent limit.

By contrast, in the Clean Water Act, Congress supplemented technology-based effluent limitations with "water quality-based" limitations "so that numerous point sources, despite individual compliance with effluent limitations, may be further regulated to prevent water quality from falling below acceptable levels." (*City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 620.) In many instances, compliance with technology-based limits will produce sufficient pollution reduction to meet water quality standards, without any more stringent regulation. (See, e.g., 40 C.F.R. § 130.7(b)(1)(i)-(iii) (noting that additional controls are necessary when "technology-based" limitations are not adequate).) But where technology-based standards do not provide, or are not expected to provide, sufficient pollution reduction for local water quality, given its actual or desired use, water quality-based standards are imposed. (See *Burbank, supra,* 35 Cal.4th at p. 620.)

Water quality standards are empirical measures of the "permissible amounts of pollutants allowed in a defined water segment" and are expressed as either numeric effluent limits for specific pollutants in accordance with CWA section 303 (e.g., "x-milligrams of pollutant per y per liter of effluent") or as narrative conditions (e.g., "prohibition of toxic conditions in receiving waters. Hence, water quality standards serve as the basis of effluent limitations intended to assure that a water body remains healthy.

Four recent Court of Appeal cases in California have addressed the relationship between technology-based standards and water quality-based limitations in municipal storm water permits. (*BIA, supra*, 124 Cal.App.4th 866; *City of Arcadia v. State Water Resources Control Board* (2006) 135 Cal.App.4th 1392; *City of Rancho Cucamonga v. Regional Water Quality Control Bd.—Santa Ana Region* (2006) 135 Cal.App.4th 1377.) These decisions came about through a series of challenges to stormwater permits (except in the instance of *Arcadia,* as discussed below) which focused on the interpretation of CWA section 402(p)(3)(B), added as part of the 1987 CWA amendments.

In *Building Industry Ass'n of San Diego County v. State Water Resources Control Board* (2004) 124 Cal.App.4th 866, review denied Mar. 30, 2005, the court held that the "such other provisions" clause of section 402(p)(3)(B)(iii) invests EPA or Regional Water Boards with discretion to impose permit limitations necessary to meet water quality standards—even if the limits require pollution reductions greater than the technology-based MEP standard mandates. (*BIA, supra,* 124 Cal.App.4th at p. 884.) Thus, EPA or Water Boards can issue storm water permits requiring even *strict* compliance with water quality standards regardless of whether that imposes obligations on dischargers in excess of those associated with the federal MEP standard. (*Id.* at p. 871.)

On the heels of *BIA*, the Court of Appeal for the Fourth District issued two more decisions that also deal directly or indirectly with municipal storm water permits in Southern California—*City of Arcadia* and *City of Rancho Cucamonga. Rancho Cucamonga* found that a municipal storm water permit did not exceed the MEP standard, but that under *BIA*, the water boards had the authority "to impose municipal storm sewer control measures more stringent than a federal standard known as 'maximum extent practicable.'" (*Rancho Cucamonga, supra,* 135 Cal.App.4th at pp. 1388-89 (citing *BIA, supra,* 124 Cal.App.4th at p. 871).) The court in *Arcadia* agreed. (*Arcadia, supra,* 135 Cal.App.4th at p. 1429; see also *Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1166-67 ("EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants. . . . [T]he EPA's choice to include either management practices or numeric limitations in the permits was within its discretion.").)

For these reasons, referring to MEP, or MALs, in a section of the Draft Permit that mandates that action be taken sufficient to meet water quality standards is erroneous and conflates separate, distinct requirements, which both must be reflected clearly in the Draft Permit, in light of decisional authority including the State Water Resources Control Board's

decision in the BIA matter. (*In the Matter of the Petition of Building Industry Ass'n et al.*(2001) State Water Board Order WQ 2001-15.)

8. Numeric waste load allocations and consistent numeric effluent limitations must be utilized to assure compliance with adopted TMDLs.

We strongly object to the inclusion of language in the Draft Permit that purports to express a WLA as "a suite of BMPs that have been determined as providing a reasonable expectation that WLAs will be achieved for wet weather flows . . . ." (Draft Permit at pp. 31, 88). We further object to the fact that WLAs that describe daily limits to meet established TMDLs have not been included.

By law, WLAs, or waste load allocations, are numeric components of a TMDL. (33 U.S.C. § 1313(d) (describing TMDLs as a "load").) As an initial matter, the Draft Permit does not contain or refer to any WLA, *per se*; instead it refers to concentration-based effluent limit with no description of how this limit acts as an effective "load" limitation. (Draft Permit at pp. 88-94). As an initial matter, this violates the law. Indeed, EPA has stated that:

> WLAs and LAs are to be expressed in numeric form in the TMDL. (See 40 C.F.R. § 130.2(h) & (i).) EPA expects TMDL authorities to make separate allocations to NPDES- regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs).[77]

Moreover, the Draft Permit does not make the concentration-based WLA that is listed for each applicable TMDL a compliance requirement in wet weather. There is no legal basis in the Clean Water Act that allows effluent limits designed to meet a TMDL to be expressed in narrative terms, i.e., as non-specified BMPs. Indeed, it is elementary that a TMDL is a *number* and that its component parts must, therefore, also be numbers, since totaled, they must by law equal the TMDL. If effluent limits purportedly implementing a TMDL are not numbers less than or equal to the WLA they purport to implement, then they do not in any meaningful way serve as water-quality based effluent limits derived to meet the TMDL. The omission of such limits illegal.[78]

Rather than provide statutory or regulatory support for its approach, the Draft Permit simply refers to the EPA Permitting Guidance document (Draft Permit at p. 20) as the totality of the legal support for not having numeric limits in the Draft Permit so as to meet the WLA. But even this document requires, as prerequisites to the inclusion of non-numeric effluent limits, a set of conditions that the Draft Permit does not come close to meeting.

First, the Draft Permit does not comply with the stipulation that "when a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the

fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL.[79]

Second, the Draft Permit does not comply with the further requirement that "[t]he NPDES permit must also specify the monitoring necessary to determine compliance with effluent limitations. (See 40 C.F.R. § 122.44(i).) Where effluent limits are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data)." (*Id.*)

Third, the Draft Permit does not comply with the requirement to "make separate aggregate allocations to NPDES-regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs)."[80]

In addition, the Draft Permit does not impose or daily limits or translate the TMDL into daily limits in the Draft Permit. This is illegal. (*Friends of the Earth, Inc. v. EPA, et al.* No. 05-5015 (D.C. Cir. 2006)).

For all of these reasons, the Draft Permit must be revised to assure that the permit implements available TMDLs in an adequate and lawful fashion.

We thank the Board Members and Board Staff for this opportunity to comment on the Draft Permit, and for your continued commitment to protecting the water resources in Ventura County.

Sincerely,

David S. Beckman, Senior Attorney
Dorothée A. Alsentzer, Legal Fellow

ENDNOTES

[1] Los Angeles Regional Water Quality Control Board, *Draft Ventura County Municipal Separate Storm Sewer System Permit*, NPDES No. CAS004002 (Dec. 27, 2007), Part 4.E (hereinafter "Draft Permit").

[2] See e.g., California Water & Land Use Partnership, *Low Impact Development: A Sensible Approach to Land Development and Stormwater Management*, available at http://www.oehha.ca.gov/ecotox/pdf/lid071106.pdf, last accessed February 17, 2007; R. Horner, *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County* (February 2007) (attached hereto as Attachment I) (hereinafter "Horner Report"); see also LID reference documents attached hereto as Attachment V and Table of Contents to those materials, attached hereto as Attachment IV.

[3] Draft Permit at p. 36.

[4] See Ventura Countywide Stormwater Quality Management Program, Annual Report for Permit Year 6, Reporting Year 12 (October 2006) at p. 10-4 (hereinafter "2005-06 Annual Report"), available at http://www.vcstormwater.org/publications.html#publications_2006annualreport.

[5] 2005-06 Annual Report at p. 9-3 (emphasis added).

[6] Draft Permit at p. 2 (emphasis added).

[7] See Draft Permit at p.2.

[8] Draft Permit at p. 36; see also Draft Permit at p. 20 (noting that MS4 programs are to "be implemented in an iterative manner and improved with each iteration by using information and experience gained during the previous permit term. . . . with the purpose of attaining water quality objectives and standards") (citing EPA, 61 Fed. Reg. 43,761 (Aug. 26, 1996); 61 Fed. Reg. 41,697); California Regional Water Quality Control Board, Los Angeles Region, Resolution No. 2005-002 (Jan. 27, 2005) ("In addition to the process outlined in this [hydromodification policy] resolution, the Regional Board has and will continue to strongly support restoration efforts in and along the Region's urbanized, highly modified water courses. The Regional Board also strongly supports preservation efforts geared toward ensuring long-term protection for the Region's remaining natural water courses.").

[9] Ventura County Storm Water NPDES Permit, Board Order No. 00-108, NPDES Permit No. CAS004002 (Aug. 3, 2000) at p. 16 (hereinafter "Order No. 00-108").

[10] Ventura County Storm Water NPDES Permit, Board Order No. 00-108, NPDES Permit No. CAS004002 (Aug. 3, 2000) at p. 16 (hereinafter "Order No. 00-108").

[11] Requirements relating to the new development and redevelopment components of the copermittees' development planning programs are addressed in sections 3 and 4.C, and 3 and 4.E, of the previous permit and Draft Permit, respectively.

[12] See 2005-06 Annual Report at p. 9-3 ("Elevated pollutant concentrations were observed at all monitoring sites during one or more monitored wet weather storm events, and at [specific monitoring sites] during one or more dry weather events.")

[13] See Draft Permit at p. 55.

[14] *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1371.

[15] Order No. 00-108 at p. 16.

[16] While the parking lots associated with such large retail stores would likely trigger post-construction BMPs based, a project falling under more than one category would require additional source controls for each category. The added benefit of additional source controls is lost when the commercial threshold is not triggered.

[17] SQUIMP at p. A-5.

[18] See 33 U.S.C. § 1342(p)(3)(B)(iii).

[19] Draft Permit at p. 20 (citing EPA, *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 Fed. Reg. 43,761).

[20] See e.g., Michael Mallin, *Wading in Waste*, SCIENTIFIC AMERICAN, June 2006, at pp. 54-56; NRDC, *Stormwater Strategies: Community Responses to Runoff Pollution* (1999); NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (2006) at pp. 2.2-2.5 (hereinafter "Rooftops to Rivers") (attached hereto as Attachment II); U.S. EPA *Preliminary Data Summary of Urban Storm Water Best Management Strategies* (Aug. 1999) at p. 85.

[21] See e.g., Draft Permit at p. 3 (finding that "[d]evelopment and urbanization increase pollutant loads, volume, and discharge velocity) and pp. 4-5 (finding that "[s]tudies 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 3-10 percent conversion from natural to impervious surfaces.").

[22] 40 C.F.R. § 122.34(b)(5)(i) (Phase II municipalities "must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre").

[23] 64 Fed. Reg at 68,739.

[24] "[D]uring the 2000 permit term, the conversion of agricultural lands and open space to other 'developed' land uses has been ongoing and will continue." ROWD at p. 3-30.

[25] Draft Permit at pp. 3-4.

[26] See Horner Report, Tables 7-10; San Diego Municipal Stormwater Copermittees, Report of Waste Discharge (Aug. 2005) at p. 43.

[27] See e.g., State Water Resources Control Board, "Low Impact Development – Sustainable Storm Water Management," (Jan. 2005) ("LID is a sustainable practice that *benefits water supply and contributes to water quality protection.* . . . LID has been a *proven approach* in other parts of the country") (emphasis added).

[28] See Attachments IV, V (Table of Contents and Collection of LID reference materials).

[29] See Ventura Countywide Stormwater Quality Urban Impact Mitigation Plan for the Ventura County Flood Control District, the County of Ventura, and the Cities of Ventura County (July 27, 2000) (Hereinafter "SQUIMP") (citing *inter alia*, Bay Area Stormwater Management Agencies Association ("BASMAA"), *Start at the Source* (1999)).

[30] See SQUIMP at p. 6, Table 2.

[31] BASMAA, *Start at the Source* (1999) at p. 26 (emphasis added).

[32] California Regional Water Quality Control Board, Los Angeles Region, *Water Quality Control Plan Los Angeles Region (Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (1994) at p. 1-19, 1-21 (hereinafter, "Basin Plan").

[33] Prince George's County, Maryland, Dept. of Environmental Resources, *Low Impact Development Hydrologic Analysis* (July 1999), at p. 4, at http://www.epa.gov/owow /nps/lid_hydr.pdf, last accessed June 20, 2006; Devinny, J. Kamieniecki, S., Stenstrom, M., *Alternative Approaches to Stormwater Quality Control* (June 2004) at p. 42 (University of Southern California and University of California at Los Angeles study prepared for the Los Angeles Regional Water Quality Control Board).

[34] PATH, Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*, at http://www.toolbase.org/techinv/techDetails.aspx?technologyID=223, last accessed June 20, 2006; EPA, *Low Impact Development Hydrologic Analysis* (July 1999), at p. 4.

[35] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*, at 1; State of Massachusetts, *Smart Growth Toolkit*, at

http://www.mass.gov/envir/smart_growth_toolkit /pages/mod-lid.html, last accessed June 20, 2006.

[36] Devinny, J., *et al.*, *Alternative Approaches to Stormwater Quality Control* (June 2004) at p. 42.

[37] See Gary Polakovic, *Water Quest Shifts Course*, L.A. TIMES, June 11, 2006, at B.1.

[38] *Basin Plan* at p. 1-18.

[39] See Metropolitan Water District of Southern California, Water Rates and Charges, at http://www.mwdh2o.com/mwdh2o/pages/finance/finance_03.html, last accessed February 17, 2007.

[40] Table 1 adapted from R. Horner, *Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices ("LID") for Ventura County* (Feb. 2007).

[41] Puget Sound Online: Puget Sound Action Team, *Benefits of Low Impact Development*, at http://www.psat.wa.gov/Programs/LID/LID_benefits.htm, last accessed June 20, 2006; Dept. of Defense, *United Facilities Criteria: Low Impact Development* (Oct. 2004), at p. 3.

[42] Dept. of Defense, *United Facilities Criteria: Low Impact Development* (Oct. 2004), at p. 5.

[43] *See* PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*; U.S. EPA, *Preliminary Data Summary of Urban Storm Water Best Management Practices* (Aug. 1999) at pp. 6-25-27; BASMAA, *Start at the Source* (1999) at p. 80.

[44] NRDC, *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows* (April 2006) at 4.12 (attached hereto as Attachment II); see also Puget Sound Online: Puget Sound Action Team, *Benefits of Low Impact Development* ("A developer in Maryland saved 30 percent in construction costs by using LID practices rather than conventional mitigation methods. AHBL Engineering of Tacoma conducted a study that showed that a conventional residential development could have been designed at significant cost savings if LID techniques had been used rather than conventional ones."), at http://www.psat.wa.gov/Programs/LID/LID_benefits.htm, last accessed June 19, 2006.

[45] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management.*

[46] Texas Water Development Board, *The Texas Manual on Rainwater Harvesting* (3d ed. 2005), at p. 36, at http://www.twdb.state.tx.us/publications/reports/RainwaterHarvestingManual_3rdedition.pdf, last accessed June 19, 2006.

[47] NRDC, *Rooftops to Rivers*, at 3.10.

[48] NEMO California Partnership, *Low Impact Development (LID)*, at http://ca-walup.usc.edu/LID_Factsheet.pdf, last accessed June 20, 2006.

[49] NAHB Research Center, *Builder's Guide to Low Impact Development*, at http://www.toolbase.org/docs/MainNav/GreenBuilding/3832_Builder-final-screen.pdf, last accessed June 20, 2006.

[50] EPA, *Low Impact Development: A Literature Review* (Oct. 2002) at p. 2, at http://www.epa.gov/nps/lid.pdf, last accessed June 20, 2006.

[51] Sam Williams, *Harvesting the Rain*, GOTHAM GAZETTE, May 2006 ("It's a win-win for the environment and for gardeners."), at http://www.gothamgazette.com/article/environment/20060531/7/1871.

[52] EPA, *Low Impact Development: A Literature Review* (Oct. 2002) at p. 3.

[53] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*; NRDC, Rooftops to Rivers, at 3.10 ("Green infrastructure also improves urban aesthetics, has been shown to increase property values, and provides wildlife habitat and recreational space for urban residents.").

[54] PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management.*

[55] See, e.g., PATH Technology Inventory, *Low Impact Development (LID) Practices for Storm Water Management*; Devinny, J., *et al.*, *Alternative Approaches to Stormwater Quality Control* (June 2004) at p. 43; BASMAA, *Start at the Source* (1999) at p. 80.

[56] Puget Sound Online: Puget Sound Action Team, *Benefits of Low Impact Development.*

[57] NOAA Coastal Services Center, at http://www.csc.noaa.gov/alternatives/ openSpace.html, last accessed June 20, 2006.

[58] See e.g., BASMAA, *Start at the Source* (1999) at p. 80; see generally Attachments IV, V.

[59] National Association of Home Builders Research Center, *Builder's Guide to Low Impact Development*, at http://www.toolbase.org/PDF/DesignGuides/Builder_LID.pdf, last accessed February 28, 2007.

[60] National Association of Home Builders Research Center (March 2003) at http://www.toolbase.org/Home-Building-Topics/Land-Use/low-impact-development-guides, last accessed Feb. 28, 2007.

[61] NEMO California Partnership, *Low Impact Development (LID)* at http://www.coastal.ca.gov/nps/lid-factsheet.pdf, last accessed Feb. 28, 2007.

[62] See Draft Permit at p. 2.

[63] See Draft Permit at pp. 4-5.

[64] See Horner Report at Attachment I (describing various studies documenting observable impacts to biological integrity of receiving waters with any conversion from natural to impervious surfaces).

[65] See Draft Permit at pp. 52-53.

[66] See Horner Report at pp. 15-16.

[67] See Draft Permit at p. 56.

[68] See SQUIMP at pp. A5-A6, Tables 1, 2.

[69] See Draft Permit at p. 36 ("This Order 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 and achieve water quality objectives for the permitted areas in the County of Ventura.").*

[70] Also, federal regulations require that large and medium municipal MS4s submit, in their permit application, a "discharge characterization." (40 C.F.R. § 122.26(d)(1)(iv).) Among other things, the discharge characterization must give "[e]xisting quantitative data describing the volume and quality of discharges from the municipal storm sewer...". (*Id.*) In order to obtain this information, a permittee needs an adequate monitoring program in place.

[71] Ventura Countywide Stormwater Quality Management Program, Monitoring Program—NPDES Water Quality, at http://www.vcstormwater.org/programs_monitor_npdes_waterquality.html, last accessed March 6, 2007.

[72] Ventura Countywide Stormwater Quality Management Program, Monitoring Program—NPDES Water Quality, at http://www.vcstormwater.org/programs_monitor_npdes_waterquality.html, last accessed March 6, 2007.

[73] Ventura Countywide Stormwater Quality Management Program, 2005-2006 Annual Report, at p. 93 (Oct. 2006), at http://www.vcstormwater.org/documents/workproducts/2006annualreport/Annual_Report_2005-2006.pdf, last accessed March 6, 2007.

[74] *Id.*

[75] *Id.*

[76] Federal regulations state that, "Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators." (40 C.F.R. § 122.26 (a)(3)(vi).) Thus, unless the monitoring program enables the permittees to determine which storm system is causing or contributing to water quality violations, a situation may arise where no one would be held responsible.

[77] EPA, "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," at 2 (2002) ("EPA Permitting Guidance").

[78] *See* EPA Permitting Guidance at 2 (citing 40 C.F.R. § 122.44(d)(1)(vii)(B)) ("NPDES permit conditions must be consistent with the assumptions and requirements of available WLAs.").

[79] EPA Permitting Guidance at 2 (citing 40 C.F.R. §§ 124.8, 124.9 & 124.18).

[80] EPA Permitting Guidance at 3-4.

INVESTIGATION OF THE FEASIBILITY AND BENEFITS OF LOW-IMPACT SITE DESIGN PRACTICES ("LID") FOR VENTURA COUNTY

Richard R. Horner†

ABSTRACT

The Clean Water Act NPDES permit that regulates municipal separate storm sewer systems (MS4s) in Ventura County, California will be reissued in 2007. The draft permit includes provisions for requiring the use of low impact development practices (LID) for certain kinds of development and redevelopment projects. Using six representative development project case studies, the author investigated the practicability and relative benefits of the permit's LID requirements. The results showed that (1) LID site design and source control techniques are more effective than conventional best management practices (BMPs) in reducing runoff rates; (2) Effective Impervious Area (EIA) can practicably be capped at three percent, a standard more protective than that proposed in the draft permit; and (3) in five out of six case studies, LID methods would reduce site runoff volume and pollutant loading to zero in typical rainfall scenarios.

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INTRODUCTION

The Assessment in Relation to Municipal Permit Conditions

This purpose of this study is to investigate the relative water quality and water reuse benefits of three levels of storm water treatment best management practices (BMPs): (1) basic "treat-and-release" BMPs (e.g., drain inlet filters, CDS units), (2) commonly used BMPs that expose runoff to soils and vegetation (extended-detention basins and biofiltration swales and filter strips), and (3) low-impact development (LID) practices. The factors considered in the investigation are runoff volume, pollutant loading, and the availability of water for infiltration or other reuse. In order to assess the differential impact of storm water reduction approaches on these factors, this study examines six case studies typical of development covered by the Ventura County Municipal Separate Storm Sewer System Permit.

Low-impact development methods reduce storm runoff and its contaminants by decreasing their generation at sources, infiltrating into the soil or evaporating storm flows before they can enter surface receiving waters, and treating flow remaining on the surface through contact with vegetation and soil, or a combination of these strategies. Soil-based LID practices often use soil enhancements such as compost, and thus improve upon the performance of more traditional basins and biofilters. For the study's purposes, verification of the practicability and utility of LID practices was based on a modified version of the Planning and Land Development Program (Part 4, section E) in the Draft Ventura County Municipal Separate Storm Sewer System Permit ("Draft Permit"). The Draft Permit requires that Effective Impervious Area (EIA) of certain types of new development and redevelopment projects be limited to five percent of

total development project area. EIA is defined as hardened surface hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or receiving water body. (Draft Permit p. 50) The study modified this requirement to three percent, as a way to test both the feasibility of meeting the higher, five percent standard in the draft permit and because as the lower, three percent EIA is essential to protect the Ventura County aquatic environment (see Attachment A).

The Draft Permit further requires minimizing the overall percentage of impervious surfaces in new development and redevelopment projects to support storm water infiltration. The Draft Permit also directs an integrated approach to minimizing and mitigating storm water pollution, using a suite of strategies including source control, LID, and treatment control BMPs. (Draft Permit p. 50) It is noted in this section of the document that impervious surfaces can be rendered "ineffective" if runoff is dispersed through properly designed vegetated swales. In testing the practicability of the draft permit's requirements and a three percent EIA standard, this study broadened this approach to encompass not only vegetated swales (channels for conveyance at some depth and velocity) but also vegetated filter strips (surfaces for conveyance in thin sheet flow) and bioretention areas (shallow basins with a range of vegetation types in which runoff infiltrates through soil either to groundwater or a subdrain for eventual surface discharge). The Draft Permit's stipulation of "properly designed" facilities was interpreted to entail, among other requirements, either determination that existing site soils can support runoff reduction through infiltration or that soils will be amended using accepted LID techniques to attain this objective. Finally, the study further broadened implementation options to include water harvesting (collection and storage for use in, for example, irrigation or gray water systems), roof downspout infiltration trenches, and porous pavements.

The Draft permit was interpreted to require management of EIA, other impervious area (what might be termed Not-Connected Impervious Area, NCIA), and pervious areas as follows:

- Runoff from EIA is subject to treatment control and the Draft Permit's Hydromodification Mitigation Control requirements before discharge.

- NCIA must be drained onto a properly designed vegetated surface or its runoff managed by one of the other options discussed in the preceding paragraph. To the extent NCIA runoff is not eliminated prior to discharge from the site in one of these ways, it is subject to treatment control and the Draft Permit's Hydromodification Mitigation Control requirements before discharge.

- Runoff from pervious areas is subject to treatment control and the Draft Permit's Hydromodification Mitigation Control requirements before discharge. This provision applies to pervious areas that both do and do not receive drainage from NCIA.

Where treatment control BMPs are required to manage runoff from the site, the Draft Permit's Volumetric or Hydrodynamic (Flow Based) Treatment Control design bases were assumed to apply. The former basis applies to storage-type BMPs, like ponds, and requires capturing and treating either the runoff volume from the 85th percentile 24-hour rainfall event for the location, the volume of annual runoff to achieve 80 percent or more volume treatment, or the volume of runoff produced from a 0.75 inch storm event. The calculations in this analysis used the 0.75-inch quantity. The Hydrodynamic basis applies to flow-through BMPs, like swales, and requires treating the runoff flow rate produced from a rain event equal to at least 0.2 inches per hour intensity (or one of two other approximately equivalent options).

Scope of the Assessment

With respect to each of the six development case studies, three assessments were undertaken: a baseline scenario incorporating no storm water management controls; a second scenario employing conventional BMPs; and a third development scenario employing LID storm water management strategies.

To establish a baseline for each case study, annual storm water runoff volumes were estimated, as well as concentrations and mass loadings of four pollutants: (1) total suspended solids (TSS), (2) total recoverable copper (TCu), (3) total recoverable zinc (TZn), and (4) total phosphorus (TP). These baseline estimates were based on the anticipated land use and cover with no storm water management efforts.

Two sets of calculations were then conducted using the parameters defined for the six case studies.

The first group of calculations estimated the extent to which basic BMPs reduce runoff volumes and pollutant concentrations and loadings, and what impact, if any, such BMPs have on recharge rates or water retention on-site.

The second group of calculations estimated the extent to which commonly used soil-based BMPs and LID site design strategies ameliorate runoff volumes and pollutant concentrations and loadings, and the effect such techniques have on recharge rates. When evaluating LID strategies, it was presumed that EIA would be limited to three percent and runoff from EIA, NCIA, and pervious areas would be managed as indicated above. The assessment of basins, biofiltration, and low-impact design practices analyzed the expected infiltration capacity of the case study sites. It also considered related LID techniques and practices, such as source reduction strategies, that could work in concert with infiltration to serve the goals of: (1) preventing increase in annual runoff volume from the pre- to the post-developed state, (2) preventing increase in annual pollutant mass loadings between the two development states, and (3) avoiding exceedances of California Toxics Rule (CTR) acute saltwater criteria for copper and zinc.

The results of this analysis show that:

- Developments implementing no post-construction BMPs result in storm water runoff volume and pollutant loading that are substantially increased, and recharge rates that are substantially decreased, compared to pre-development conditions.

- Developments implementing basic post-construction treatment BMPs achieve reduced pollutant loading compared to developments with no BMPs, but storm water runoff volume and recharge rates are similar to developments with no BMPs.

- Developments implementing traditional basins and biofilters, and even more so low-impact post-construction BMPs, achieve significant reduction of pollutant loading and runoff volume as well as greatly enhanced recharge rates compared to both developments with no BMPs and developments with basic treatment BMPs.

- Typical development categories, ranging from single family residential to large commercial, can feasibly implement low-impact post-construction BMPs designed in compliance with the draft permit's requirements, as modified to include a lower, three percent EIA requirement.

This report covers the methods employed in the investigation, data sources, and references for both. It then presents the results, discusses their consequences, draws conclusions, and makes recommendations relative to the feasibility of utilizing low-impact development practices in Ventura County developments.

CASE STUDIES

Six case studies were selected to represent a range of urban development types considered to be representative of coastal Southern California, including Ventura County. These case studies involved: a multi-family residential complex (MFR), a relatively small-scale (23 homes) single-family residential development (Sm-SFR), a restaurant (REST), an office building (OFF), a relatively large (1000 homes) single-family residential development (Lg-SFR) and a sizeable commercial retail installation (COMM).[1]

Parking spaces were estimated to be 176 sq ft in area, which corresponds to 8 ft width by 22 ft length dimensions. Code requirements vary by jurisdiction, with the tendency now to drop below the traditional 200 sq ft average. About 180 sq ft is common, but various standards for full- and compact-car spaces, and for the mix of the two, can raise or lower the average.[2] The 176 sq ft size is considered to be a reasonable value for conventional practice.

Roadways and walkways assume a wide variety of patterns. Exclusive of the two SFR cases, simple, square parking lots with roadways around the four sides and square buildings with walkways also around the four sides were assumed. Roadways and walkways were taken to be 20 ft and 6 ft wide, respectively.

Single-family residences were assumed each to have a driveway 20 ft wide and 30 ft long. It was further assumed that each would have a sidewalk along the front of the lot, which was calculated to be 5749 sq ft in area. Assuming a square lot, the front dimension would be 76 ft. A 40-ft walkway was included within the property. Sidewalks and walkways were taken to be 4 ft wide.

Exclusive of the COMM case, the total area for all of these impervious features was subtracted from the total site area to estimate the pervious area, which was assumed to have conventional landscaping cover (grass, small herbaceous decorative plants, bushes, and a few trees). For the COMM scenario, the hypothetical total impervious cover was enlarged by 10 percent to represent the landscaping, on the belief that a typical retail commercial establishment would typically be mostly impervious.

Table 1 (page 5) summarizes the characteristics of the six case studies. The table also provides the recorded or estimated areas in each land use and cover type.

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[1] Building permit records from the City of San Marcos in San Diego County provided data on total site areas for the first four case studies, including numbers of buildings, building footprint areas (including porch and garage for Sm-SFR), and numbers of parking spaces associated with the development projects. While the building permit records made no reference to features such as roadways, walkways, and landscaping normally associated with development projects, these features were taken into account in the case studies using assumptions described herein. Larger developments were not represented in the sampling of building permits from the San Marcos database. To take larger development projects into account in the subsequent analysis, the two larger scale case studies were hypothesized. The Lg-SFR scenario scaled up all land use estimates from the Sm-SFR case in the ratio of 1000:23. The hypothetical COMM scenario consisted of a building with a 2-acre footprint and 500 parking spaces. As with the smaller-scale cases, these hypothetical developments were assumed to have roadways, walkways, and landscaping, as described herein.

[2] J. Gibbons, *Parking Lots*, NONPOINT EDUCATION FOR MUNICIPAL OFFICERS, Technical Paper No. 5 (1999) (http://nemo.uconn.edu/tools/publications/tech_papers/tech_paper_5.pdf).

Table 1. Case Study Characteristics and Land Use and Land Cover Areas

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
No. buildings	11	23	1	1	1000	1
Total area (ft^2)	476,982	132,227	33,669	92,612	5,749,000	226,529
Roof area (ft^2)	184,338	34,949	3,220	7,500	1,519,522	87,120
No. parking spaces	438	-	33	37	-	500
Parking area (ft^2)	77,088	-	5808	6512	-	88,000
Access road area (ft^2)	22,212	-	6097	6456	-	23,732
Walkway area (ft^2)	33,960	10,656	1362	2078	463,289	7,084
Driveway area (ft^2)	-	13,800	-	-	600,000	-
Landscape area (ft^2)	159,384	72,822	17,182	70,066	3,166,190	20,594

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial

METHODS OF ANALYSIS

Annual Storm Water Runoff Volumes

Annual surface runoff volumes produced were estimated for both pre- and post-development conditions for each case study site. Runoff volume was computed as the product of annual precipitation, contributing drainage area, and a runoff coefficient (ratio of runoff produced to rainfall received). For impervious areas the following equation was used:

$$C = (0.009)\, I + 0.05$$

where I is the impervious percentage. This equation was derived by Schueler (1987) from Nationwide Urban Runoff Program data (U.S. Environmental Protection Agency 1983). With I = 100 percent for fully impervious surfaces, C is 0.95.

The basis for pervious area runoff coefficients was the Natural Resource Conservation Service's (NRCS) Urban Hydrology for Small Watersheds (NRCS 1986, as revised from the original 1975 edition). This model estimates storm event runoff as a function of precipitation and a variable representing land cover and soil, termed the curve number (CN). Larger events are forecast to produce a greater amount of runoff in relation to amount of rainfall because they more fully saturate the soil. Therefore, use of the model to estimate annual runoff requires selecting some event or group of events to represent the year. A 0.75-inch rainfall event was used in the analysis here for the relative comparison between pre- and post-development and applied to deriving a runoff coefficient for annual estimates, recognizing that smaller storms would produce less and larger storms more runoff.

To select CN for the pre-development case, an analysis performed in the area of the Cedar Fire in San Diego County was used in which CN was determined before and after the 2003 fire.[3] In the San Diego analysis, CN = 83 was estimated for the pre-existing land cover, which was generally chaparral, a vegetative cover also typical of Ventura County. As indicated below, soils are also similar in Ventura and San Diego Counties, making the parameter selection reasonable for use in both locations. For post-development landscaping, CN = 86 was selected based on tabulated data in NRCS (1986) and professional judgment.

Pre- and post-development runoff quantities were computed with these CN values and the 0.75-inch rainfall, and then divided by the rainfall to obtain runoff coefficients. The results were 0.07

[3] American Forests, *San Diego Urban Ecosystem Analysis After the Cedar Fire* (Feb. 3, 2006) (http://www.ufei.org/files/pubs/SanDiegoUrbanEcosystemAnalysis-PostCedarFire.pdf).

and 0.12, respectively. Finally, total annual runoff volumes were estimated based on an average annual precipitation in the City of Ventura of 14.71 inches.[4]

Storm Water Runoff Pollutant Discharges

Annual pollutant mass discharges were estimated as the product of annual runoff volumes produced by the various land use and cover types and pollutant concentrations typical of those areas. Again, the 0.75-inch precipitation event was used as a basis for volumes. Storm water pollutant data have typically been measured and reported for general land use types (e.g., single-family residential, commercial). However, an investigation of low-impact development practices of the type this study sought to conduct demands data on specific land coverages. The literature offers few data on this basis. Those available and used herein were assembled by a consultant to the City of Seattle for a project in which the author participated. They appear in Attachment B (Herrera Environmental Consultants, Inc. undated).

Pollutant concentrations expected to occur typically in the mixed runoff from the several land use and cover types making up a development were estimated by mass balance; i.e., the concentrations from the different areas of the sites were combined in proportion to their contribution to the total runoff.

The Effect of Conventional Treatment BMPs on Runoff Volume, Pollutant Discharges, and Recharge Rates

The first question in analyzing how BMPs reduce runoff volumes and pollutant discharges was, What BMPs are being employed in Ventura County developments under the permit now in force? This permit is open-ended and provides regulated entities with a large number of choices and few fixed requirements. These options presumably include manufactured BMPs, such as drain inlet inserts (DIIs) and continuous deflective separation (CDS) units. Developments may also select such non-proprietary devices as extended-detention basins (EDBs) and biofiltration swales and filter strips. EDBs hold water for two to three days for solids settlement before releasing whatever does not infiltrate or evaporate. Biofiltration treats runoff through various processes mediated by vegetation and soil. In a swale, runoff flows at some depth in a channel, whereas a filter strip is a broad surface over which water sheet flows. Each of these BMP types was applied to each case study, although it is not clear that these BMPs, in actuality, have been implemented consistently within Ventura County to date.

The principal basis for the analysis of BMP performance was the California Department of Transportation's (CalTrans, 2004) BMP Retrofit Pilot Program, performed in San Diego and Los Angeles Counties. One important result of the program was that BMPs with a natural surface infiltrate and evaporate (probably, mostly infiltrate) a substantial amount of runoff, even if conditions do not appear to be favorable for an infiltration basin. On average, the EDBs, swales, and filter strips lost 40, 50 and 30 percent, respectively, of the entering flow before the discharge point. DIIs and CDS units do not contact runoff with a natural surface, and therefore do not reduce runoff volume.

The CalTrans program further determined that BMP effluent concentrations were usually a function of the influent concentrations, and equations were developed for the functional

[4] Ventura County Watershed Protection District (http://www.vcwatershed.org/fws/specialmedia.htm). The City of Ventura is considered to be representative of most of the developed and developing areas in Ventura County. However, there is some variation around the county, with the maximum precipitation registered at Ojai (annual average 21.32 inches). Ojai is about 15 miles inland and lies at elevation 745 ft at the foot of the Topatopa Mountains, the orographic effect of which influences its meteorology. Ojai's higher rainfall was taken into account in the calculations, and the report notes the few instances where it affected the conclusions.

relationships in these cases. BMPs generally reduced influent concentrations proportionately more when they were high. In relatively few situations influent concentrations were constant at an "irreducible minimum" level regardless of inflow concentrations.

In analyzing the effects of BMPs on the case study runoff, the first step was to reduce the runoff volumes estimated with no BMPs by the fractions observed to be lost in the pilot study. The next task was estimating the effluent concentrations from the relationships in the CalTrans report. The final step was calculating discharge pollutant loadings as the product of the reduced volumes and predicted effluent concentrations. As before, typical pollutant concentrations in the mixed runoff were established by mass balance.

Estimating Infiltration Capacity of the Case Study Sites

Infiltrating sufficient runoff to maintain pre-development hydrologic characteristics and prevent pollutant transport is the most effective way to protect surface receiving waters. Successfully applying infiltration requires soils and hydrogeological conditions that will pass water sufficiently rapidly to avoid overly-lengthy ponding, while not allowing percolating water to reach ground-water before the soil column captures pollutants.

The study assumed that infiltration would occur in surface facilities and not in below-ground trenches. The use of trenches is certainly possible, and was judged to be an approved BMP by CalTrans after the pilot study. However, the intent of this investigation was to determine the ability of pervious areas to manage the site runoff. This was accomplished by determining the infiltration capability of the pervious areas in their original condition for each development case study, and further assessing the pervious areas' infiltration capabilities if soils were modified according to low impact development practices.

The chief basis for this aspect of the work was an assessment of infiltration capacity and benefits for Los Angeles' San Fernando Valley (Chralowicz et al. 2001). The Chralowicz study posited providing 0.1-0.5 acre for infiltration basins to serve each 5 acres of contributing drainage area. At 2-3 ft deep, it was estimated that such basins could infiltrate 0.90-1.87 acre-ft/year of runoff in San Fernando Valley conditions. Soils there are generally various loam textures with infiltration rates of approximately 0.5-2.0 inches/hour. The most prominent soils in Ventura County, at least relatively near the coast, are loams, sandy loams, loamy sands, and silty clay loams, thus making the conclusions of the San Fernando Valley study applicable for these purposes.[5] This information was used to estimate how much of each case study site's annual runoff would be infiltratable, and if the pervious portion would provide sufficient area for infiltration. For instance, if sufficient area were available, the infiltration configuration would not have to be in basin form but could be shallower and larger in surface area. This study's analyses assumed the use of bioretention areas rather than traditional infiltration basins.

Volume and Pollutant Source Reduction Strategies

As mentioned above, the essence of low-impact development is reducing runoff problems before they can develop, at their sources, or exploiting the infiltration and treatment abilities of soils and vegetation. If a site's existing infiltration and treatment capabilities are inadequate to preserve pre-development hydrology and prevent runoff from causing or contributing to violations of water quality standards, then LID-based source reduction strategies can be implemented, infiltration and treatment capabilities can be upgraded, or both.

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[5] Cabrillo Port Liquefied Natural Gas Deepwater Port Draft EIS/EIR (Oct. 2004) (http://www.cabrilloport.ene.com/files/eiseir/4.05%20%20-Agriculture%20and%20Soils.pdf).

Source reduction can be accomplished through various LID techniques. Soil can be upgraded to store runoff until it can infiltrate, evaporate, or transpire from plants through compost addition. Soil amendment, as this practice is known, is a standard LID technique.

Upgraded soils are used in bioretention cells that hold runoff and effect its transfer to the subsurface zone. This standard LID tool can be used where sufficient space is available. This study analyzed whether the six development case study sites would have sufficient space to effectively reduce runoff using bioretention cells, assuming the soils and vegetation could be amended and enhanced where necessary.

Conventional pavements can be converted to porous asphalt or concrete or replaced with concrete or plastic unit pavers or grid systems. For such approaches to be most effective, the soils must be capable of infiltrating the runoff passing through, and may require renovation.

Source reduction can be enhanced by the LID practice of water harvesting, in which water from impervious surfaces is captured and stored for reuse in irrigation or gray water systems. For example, runoff from roofs and parking lots can be harvested, with the former being somewhat easier because of the possibility of avoiding pumping to use the water and fewer pollutants. Harvesting is a standard technique for Leadership in Energy and Environmental Design (LEED) buildings.[6] Many successful systems of this type are in operation, such as the Natural Resources Defense Council offices (Santa Monica, CA), the King County Administration Building (Seattle, WA), and two buildings on the Portland State University campus (Portland, OR). This investigation examined how water harvesting could contribute to storm water management for case study sites where infiltration capacity, available space, or both appeared to be limited.

RESULTS OF THE ANALYSIS

1. "Base Case" Analysis: Development without Storm Water Controls

Comparison of Pre- and Post-Development Runoff Volumes

Table 2 (page 9) presents a comparison between the estimated runoff volumes generated by the respective case study sites in the pre- and post-development conditions, assuming implementation of no storm water controls on the developed sites. On sites dominated by impervious land cover, most of the infiltration that would recharge groundwater in the undeveloped state is expected to be lost to surface runoff after development. This greatly increased surface flow would raise peak flow rates and volumes in receiving water courses, raise flooding risk, and transport pollutants. Only the office building, the plan for which retained substantial pervious area, would lose less than half of the site's pre-development recharge.

[6] New Buildings Institute, Inc., *Advanced Buildings* (2005) (http://www.poweryourdesign.com/LEEDGuide.pdf).

Table 2. Pre- and Post-Development without BMPs: Distribution of Surface Runoff Versus Recharge to Groundwater

Annual Volume (acre-ft)	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
Precipitation[b]	13.4	3.72	0.95	2.60	162	6.37
Pre-development runoff[c]	0.94	0.26	0.07	0.18	11	0.45
Pre-development recharge[d]	12.5	3.46	0.88	2.42	150	5.92
Post-development impervious runoff[c]	8.48	1.59	0.44	0.60	69	5.50
Post-development pervious runoff[c]	0.54	0.25	0.06	0.24	11	0.07
Post-development total runoff[c]	9.02	1.83	0.50	0.84	80	5.57
Post-development recharge[d]	4.39	1.88	0.45	1.76	82	0.80
Post-development recharge loss (% of pre-development recharge)	8.08 (65%)	1.57 (46%)	0.43 (49%)	0.66 (27%)	68 (45%)	5.12 (86%)

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential;
COMM—retail commercial
[b] Volume of precipitation on total project area
[c] Quantity of water discharged from the site on the surface
[d] Quantity of water infiltrating the soil; the difference between precipitation and runoff

Pollutant Concentrations and Loadings

Table 3 presents the pollutant concentrations from the literature and loadings calculated as described for the various land use and cover types represented by the case studies. Landscaped areas are expected to release the highest TSS concentration, although relatively low TSS mass loading because of the low runoff coefficient. The highest copper concentrations and loadings are expected from parking lots. Roofs, especially commercial roofs, top the list for both zinc concentrations and loadings. Landscaping would issue by far the highest phosphorus, although access roads and driveways would contribute the highest mass loadings.

Table 3. Pollutant Concentrations and Loadings for Case Study Land Use and Cover Types

Land Use	Concentrations				Loadings			
	TSS (mg/L)	TCu (mg/L)	TZn (mg/L)	TP (mg/L)	Lbs. TSS/ acre-year	Lbs. TCu/ acre-year	Lbs. TZn/ acre-year	Lbs. TP/ acre-year
Residential roof	25	0.013	0.159	0.11	79	0.041	0.503	0.348
Commercial roof	18	0.014	0.281	0.14	57	0.044	0.889	0.443
Access road/driveway	120	0.022	0.118	0.66	380	0.070	0.373	2.088
Parking	75	0.036	0.097	0.14	237	0.114	0.307	0.443
Walkway	25	0.013	0.059	0.11	79	0.041	0.187	0.348
Landscaping	213	0.013	0.059	2.04	85	0.005	0.024	0.815

The CTR acute criteria for copper and zinc are 0.0048 mg/L and 0.090 mg/L, respectively. Table 3 shows that all developed land uses are expected to discharge copper above the criterion, based on the mass balance calculations using concentrations from Table 3. Any surface release from the case study sites would violate the criterion at the point of discharge, although dilution by the receiving water would lower the concentration below the criterion at some point. Even if copper mass loadings are reduced by BMPs, any surface discharge would exceed the criterion initially, but it would be easier to dilute below that level. In contrast, runoff from some land covers would not violate the acute zinc criterion. Because of this difference, the evaluation considered whether or not the zinc criterion would be exceeded in each analysis, whereas there was no point in this analysis for copper. There are no equivalent water quality

criteria for TSS and TP; hence, their concentrations were not further analyzed in the different scenarios.

Table 4 shows the overall loadings, as well as zinc concentrations, expected to be delivered from the case study developments should they not be fitted with any BMPs. As Table 4 shows, all cases are forecast to exceed the 0.090 mg/L acute zinc criterion, and the retail commercial development does so by a wide margin. Because of its size, the large residential development dominates the mass loading emissions.

Table 4. Case Study Pollutant Concentration and Loading Estimates without BMPs

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
TZn (mg/L)	0.127	0.123	0.128	0.133	0.123	0.175
Lbs. TSS/year	1321	345	125	242	15016	853
Lbs. TCu/year	0.46	0.074	0.032	0.045	3.21	0.37
Lbs. TZn/year	3.09	0.607	0.174	0.301	26.4	2.64
Lbs. TP/year	6.58	2.39	0.72	1.78	104	3.36

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial

2. *"Conventional BMP" Analysis: Effect of Basic Treatment BMPs*

Effect of Basic Treatment BMPs on Post-Development Runoff Volumes

The current permit allows regulated parties to select from a range of BMPs in order to treat or infiltrate a given quantity of annual rainfall. The range includes drain inlet inserts, CDS units, and other manufactured BMPs, detention vaults, and sand filters, all of which isolate runoff from the soil; as well as basins and biofiltration BMPs built in soil and generally having vegetation. Treatment BMPs that do not permit any runoff contact with soils discharge as much storm water runoff as equivalent sites with no BMPs, and hence yield zero savings in recharge. As mentioned above, the CalTrans (2004) study found that BMPs with a natural surface can reduce runoff by substantial margins (30-50 percent for extended-detention basins and biofiltration).

With such a wide range of BMPs in use, runoff reduction ranging from 0 to 50 percent, and a lack of clearly ascertainable requirements, it is not possible to make a single estimate of how much recharge savings are afforded by maximal implementation of the current permit. We made the following assumptions regarding implementation of BMPs. Assuming natural-surface BMPs perform at the average of the three types tested by CalTrans (2004), i.e., 40 percent runoff reduction, the estimate can be bounded as shown in Table 5 (page 11). The table demonstrates that allowing free choice of BMPs without regard to their ability to direct water into the ground forfeits substantial groundwater recharge benefits when hardened-surface BMPs are selected. Use of soil-based conventional BMPs could cut recharge losses from half or e more of the full potential to about one-quarter to one-third or less, except with the highly impervious commercial development. This analysis shows the wisdom of draining impervious to pervious surfaces, even if those surfaces are not prepared in any special way. But as subsequent analyses showed, soil amendment can gain considerably greater benefits.

Table 5. Pre- and Post-Development with Conventional BMPs: Distribution of Surface Runoff Versus Recharge to Groundwater

Annual Volume (acre-ft)	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
Precipitation[b]	13.4	3.72	0.95	2.60	162	6.37
Pre-development runoff[c]	0.94	0.26	0.07	0.18	11	0.45
Pre-development recharge	12.5	3.46	0.88	2.42	150	5.92
Post-development impervious runoff[c, d]	5.09-8.48	0.95-1.59	0.26-0.44	0.36-0.60	41-69	3.30-5.50
Post-development pervious runoff[c, d]	0.32-0.54	0.15-0.25	0.04-0.06	0.14-0.24	6.6-11	0.04-0.07
Post-development total runoff[c, d]	5.41-9.02	1.10-1.83	0.30-0.50	0.50-0.84	48-80	3.34-5.57
Post-development recharge[d, e]	4.39-7.99	1.88-2.62	0.45-0.65	1.76-2.10	82-114	0.80-3.03
Post-development recharge loss (% of pre-development recharge)[d, e]	4.51-8.08 (36-65%)	0.84-1.57 (24-46%)	0.23-0.43 (26-49%)	0.32-0.66 (13-27%)	36-68 (24-45%)	2.89-5.12 (49-86%)

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial. Ranges represent 40 percent runoff volume reduction, with full site coverage by BMPs having a natural surface, to no reduction, with BMPs isolating runoff from soil.
[b] Volume of precipitation on total project area
[c] Quantity of water discharged from the site on the surface
[d] Ranging from the quantity with hardened bed BMPs to the quantity with soil-based BMPs
[e] Quantity of water infiltrating the soil; the difference between precipitation and runoff

Effect of Basic Treatment BMPs on Pollutant Discharges

Table 6 (page 12) presents estimates of zinc effluent concentrations and mass loadings of the various pollutants discharged from four types of conventional treatment BMPs. The manufactured CDS BMPs in this table, which do not expose runoff to soil or vegetation, are not expected to drop any of the concentrations sufficiently to meet the acute zinc criterion at the discharge point. The loading reduction results show the CDS units always performing below 50 percent reduction for all pollutants analyzed, and most often in the vicinity of 20 percent, with zero copper reduction.

When treated with swales or filter strips, effluents from each development case study site are expected to fall below the CTR acute zinc criterion. All but the large commercial site would meet the criterion with EDB treatment. These natural-surface BMPs, if fully implemented and well maintained, are predicted to prevent the majority of the pollutant masses generated on most of the development sites from reaching a receiving water. Only total phosphorus reduction falls below 50 percent for two case studies. Otherwise, mass loading reductions range from about 60 to above 80 percent for the EDB, swale, and filter strip. This data indicates that draining impervious to pervious surfaces, even if those surfaces are not prepared in any special way, pays water quality as well as hydrologic dividends.

Table 6. Pollutant Concentration and Loading Reduction Estimates with Conventional BMPs

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
Effluent Concentrations:						
CDS TZn (mg/L)[a]	0.095	0.095	0.098	0.102	0.095	0.131
EDB TZn (mg/L)[a]	0.085	0.086	0.084	0.084	0.086	0.098
Swale TZn (mg/L)	0.055	0.054	0.055	0.056	0.054	0.068
Filter strip TZn (mg/L)	0.039	0.039	0.039	0.041	0.039	0.048
Loading Reductions:						
CDS TSS loading reduction	15.7%	19.9%	22.0%	24.0%	19.9%	16.9%
CDS TCu loading reduction	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
CDS TZn loading reduction	22.7%	22.4%	22.9%	23.1%	22.4%	25.1%
CDS TP loading reduction	30.6%	41.5%	40.7%	45.9%	41.5%	20.3%
EDB TSS loading reduction	68.1%	73.7%	79.0%	81.1%	73.7%	71.7%
EDB TCu loading reduction	61.9%	55.7%	66.2%	63.0%	55.7%	66.8%
EDB TZn loading reduction	59.7%	59.6%	60.4%	61.9%	59.6%	66.6%
EDB TP loading reduction	61.9%	69.7%	69.1%	72.9%	69.7%	54.5%
Swale TSS loading reduction	68.8%	71.1%	73.1%	73.9%	71.1%	69.4%
Swale TCu loading reduction	72.5%	68.5%	78.2%	73.3%	68.5%	75.8%
Swale TZn loading reduction	78.4%	78.1%	84.3%	78.8%	78.1%	80.7%
Swale TP loading reduction	66.3%	70.7%	67.2%	76.2%	70.7%	55.0%
Filter strip TSS loading reduction	69.9%	75.4%	80.6%	82.6%	75.4%	72.3%
Filter strip TCu loading reduction	74.4%	69.1%	78.2%	75.4%	69.1%	78.7%
Filter strip TZn loading reduction	78.3%	77.9%	78.4%	78.7%	77.9%	80.9%
Filter strip TP loading reduction	48.4%	53.1%	63.7%	59.8%	53.1%	34.6%

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial; CDS— continuous deflective separation unit; EDB—extended-detention basin

3. *LID Analysis: Development According to Modified Draft Permit Provisions*

(a) Hydrologic Analysis

The LID analysis was first performed according to the Draft Permit provisions under the Planning and Land Development Program (Part 4, section E). In this analysis, however, EIA was limited to three instead of five percent, under the reasoning presented in Attachment A. All runoff from NCIA was assumed to drain to vegetated surfaces, as provided in the Draft Permit.

One goal of this exercise was to identify methods that reduce runoff production in the first place. It was hypothesized that implementation of source reduction techniques could allow all of the case study sites to infiltrate substantial proportions of the developed site runoff, advancing the hydromodification mitigation objective of the Draft Permit. When runoff is dispersed into the soil instead of being rapidly collected and conveyed away, it recharges groundwater, supplementing a resource that maintains dry season stream flow and wetlands. An increased water balance can be tapped by humans for potable, irrigation, and process water supply. Additionally, runoff volume reduction would commensurately decrease pollutant mass loadings.

Accordingly, the analysis considered the practicability of more than one scenario by which the draft permit's terms could be met, as modified to reflect three percent EIA. In one option, all roof runoff is harvested and stored for some beneficial use. A second option disperses runoff into the soil via roof downspout infiltration trenches. The former option is probably best suited to cases like the large commercial and office buildings, while distribution in the soil would fit best with residences and relatively small commercial developments. The analysis was repeated with the assumptions of harvesting OFF and COMM roof runoff for some beneficial use and dispersing roof runoff from the remaining four cases in roof downspout infiltration systems.

Expected Infiltration Capacities of the Case Study Sites

The first inquiry on this subject sought to determine how much of the total annual runoff each property is expected to infiltrate. This assessment tested the feasibility of draining all but three percent of impervious area to pervious land on the sites. Based on the findings of Chralowicz et al. (2001), it was assumed that an infiltration zone of 0.1-0.5 acres in area and 2-3 ft deep would serve a drainage catchment area in the size range 0-5 acres and infiltrate 0.9-1.9 acre-ft/year. The conclusions of Chralowicz et al. (2001) were extrapolated to conservatively assume that 0.5 acre would be required to serve each additional five acres of catchment, and would infiltrate an incremental 1.4 acre-ft/year (the midpoint of the 0.9-1.9 acre-ft/year range). According to these assumptions, the following schedule of estimates applies:

Pervious Area Available for Infiltration	Catchment Served acres	Infiltration Capacity
0.5 acres	0-5 acres	1.4 acre-ft/year
1.0 acres	5-10 acres	2.8 acre-ft/year
1.5 acres	10-15 acres	4.2 acre-ft/year
(Etc.)	...	...

As a formula, infiltration capacity ≈ 2.8 x available pervious area. To apply the formula conservatively, the available area was reduced to the next lower 0.5-acre increment before multiplying by 2.8.

As shown in Table 7, five of the six sites have adequate or greater capacity to infiltrate the full annual runoff volume from NCIA and pervious areas where EIA is limited to three percent of the total site area (four at the higher Ojai rainfall). Indeed, five of the six development types have sufficient pervious area to infiltrate *all* runoff, including runoff from EIA areas. With the most representative rainfall, only the large commercial development, with little available pervious area, falls short of the needed capacity to infiltrate all rainfall, but it still has the capacity to meet the terms of the draft permit, as modified for this analysis. These results are based on infiltrating in the native soils with no soil amendment. For any development project at which infiltration-oriented BMPs are considered, it is important that infiltration potential be carefully assessed using site-specific soils and hydrogeologic data. In the event such an investigation reveals a marginal condition (e.g., hydraulic conductivity, spacing to groundwater) for infiltration basins, soils could be enhanced to produce bioretention zones to assist infiltration. Notably, the four case studies with far greater than necessary infiltration capacity would offer substantial flexibility in designing infiltration, allowing ponding at less than 2-3 ft depth.

Table 7. Infiltration and Runoff Volume With 3 Percent EIA and All NCIA Draining to Pervious Areas

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
EIA runoff (acre-ft/year)	0.38	0.11	0.03	0.07	4.6	0.18
NCIA + pervious area runoff (acre-ft/year)	**8.63**	**1.73**	**0.47**	**0.76**	**75.0**	**5.39**
Total runoff (acre-ft/year)	9.01	1.84	0.50	0.83	79.6	5.57
Pervious area available for infiltration (acres)	3.66	1.67	0.39	1.61	72.7	0.47
Estimated infiltration capacity (acre-ft/year)[b]	**9.8**	**4.2**	**1.4**	**4.2**	**203**	**1.4**
Infiltration capacity [c]	> 100%[d]	> 100%	> 100%	> 100%	> 100%	~26% [d]

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial;
[b] Based on Chralowicz et al. (2001) according to the schedule described above
[c] Compare runoff production from NCIA + pervious area (**row 3**) with estimated infiltration capacity (**row 6**)
[d] At Ojai rainfall levels, capacity would be ~78 percent at the MFR site and ~18 percent at the COMM site.

As Table 7 shows, five of the six case study sites have the capacity to infiltrate *all* runoff produced onsite by draining impervious surfaces to pervious areas. Even runoff from the area assumed to be EIA could be infiltrated in most cases based on the amount of pervious area available in typical development projects. By showing that it is possible under normal site conditions and using native soils to retain *all* runoff in typical developments, these results demonstrate that a three percent EIA requirement, which would not demand that all runoff be retained, is feasible and practicable.

Additional Source Reduction Capabilities of the Case Study Sites: Water Harvesting Example

Infiltration is one of a wide variety of LID-based source reduction techniques. Where site conditions such as soil quality or available area limit a site's infiltration capacity, other source LID measures can enhance a site's runoff retention capability. For example, soil amendment, which improves infiltration, is a standard LID technique. Water harvesting is another. Such practices can also be used where infiltration capacity is adequate, but the developer desires greater flexibility for land use on-site. Table 8 shows the added implementation flexibility created by subtracting roof runoff by harvesting it or efficiently directing it into the soil through downspout dispersion systems, further demonstrating the feasibility of meeting the draft permit's proposed requirements, as modified to include a three percent EIA standard.

Table 8. Infiltration and Runoff Volume Reduction Analysis Including Roof Runoff Harvesting or Disposal in Infiltration Trenches (Assuming 3 Percent EIA and All NCIA Draining to Pervious Areas)

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
EIA runoff (acre-ft/year)	0.38	0.11	0.03	0.07	4.6	0.18
Roof runoff (acre-ft/year)	4.92	0.93	0.09	0.20	41	2.33
Other NCIA + pervious area runoff (acre-ft/year)	**3.71**	**0.79**	**0.39**	**0.56**	**35**	**3.06**
Total runoff (acre-ft/year)	9.01	1.84	0.50	0.83	79.6	5.57
Pervious area available for infiltration (acres)	3.66	1.67	0.39	1.61	72.7	0.47
Estimated infiltration capacity (acre-ft/year)[b]	**9.8**	**4.2**	**1.4**	**4.2**	**203**	**1.4**
Infiltration capacity [c]	> 100%	> 100%	> 100%	> 100%	> 100%	~45% [d]

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial;
[b] Based on Chralowicz et al. (2001) according to the schedule described above
[c] Comparison of runoff production from NCIA + pervious area (**row 3**) with estimated infiltration capacity (**row 6**)
[d] If the higher rainfall at Ojai is assumed, capacity would be ~32 percent of the amount needed for the COMM case.

Effect of Full LID Approach on Recharge

Table 9 (page 15) shows the recharge benefits of preventing roofs from generating runoff and infiltrating as much as possible of the runoff from the remainder of the case study sites. The data show that LID methods offer significant benefits relative to the baseline (no storm water controls) in all cases. These benefits are particularly impressive in developments with relatively high site imperviousness, such as in the MFR and COMM cases. In the latter case the full LID approach (excluding the common and effective practice of soil amendment) would cut loss of the potential water resource represented by recharge and harvesting from 86 to 37 percent.

Table 9. Comparison of Water Captured Annually (in acre-ft) from Development Sites for Beneficial Use With a Full LID Approach Compared to Development With No BMPs

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
Pre-development recharge[b] (acre-ft)	12.5	3.46	0.88	2.42	150	5.92
No BMPs:						
post-development recharge [b] (acre-ft)	4.39	1.88	0.45	1.76	82	0.80
post-development runoff (acre-ft)	8.08	1.57	0.43	0.66	68	5.12
post-development % recharge lost	65%	46%	49%	27%	45%	86%
Full LID approach:						
post-development runoff capture (acre-ft)[c]	12.5	3.46	0.88	2.42	150	3.73
post-development runoff (acre-ft)	0	0	0	0	0	2.19
post-development % recharge lost	0%	0%	0%	0%	0%	37%

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial
[b] Quantity of water infiltrating the soil; the difference between precipitation and runoff
[c] Water either entirely infiltrated in BMPs and recharged to groundwater or partially harvested from roofs and partially infiltrated in BMPs. For the first five case studies, EIA was not distinguished from the remainder of the development, because these sites have the potential to capture all runoff.

(b) Water Quality Analysis

As outlined above, it was assumed that EIA discharges, as well as runoff from all pervious surfaces, are subject to treatment control. For purposes of the analysis, treatment control was assumed to be provided by conventional sand filtration. This choice is appropriate for study purposes for two reasons. First, sand filters can be installed below grade, and land above can be put to other uses. Under the Draft Permit's approach, pervious area should be reserved for receiving NCIA drainage, and using sand filters would not draw land away from that service or other site uses. A second reason for the choice is that sand filter performance data equivalent to the data used in analyzing other conventional BMPs are available from the CalTrans (2004) work. Sand filters may or may not expose water to soil, depending on whether or not they have a hard bed. This analysis assumed a hard bed, meaning that no infiltration would occur and thus there would be no additional recharge in sand filters. Performance would be even better than shown in the analytical results if sand filters were built in earth.

Pollutant Discharge Reduction Through LID Techniques

The preceding analyses demonstrated that each of the six case studies could feasibly comply with the draft permit's requirements, as modified to include a more protective three percent EIA standard. Moreover, for five of the six case studies, *all* storm water discharges could be eliminated at least under most meteorological conditions by dispersing runoff from impervious surfaces to pervious areas. Therefore, pollutant additions to receiving waters would also be eliminated. This demonstrates not only that a lower EIA (three percent) is a feasible and practicable approach to maintaining the natural hydrology of land being developed, as discussed above, but that a lower EIA is a feasible and practicable way to eliminate the discharge of pollutants that could cause or contribute to violations of water quality standards.

While the high proportion of impervious area present on the large commercial site relative to pervious area would not allow eliminating all discharge, harvesting roof water and draining NCIA to properly-prepared pervious area would substantially decrease the volume discharged. Deployment of treatment control BMPs (e.g. sand filter treatment) could cut contaminant discharges from pollutants in the remaining volume of runoff to low levels.

Table 10 presents the pollutant reductions from the untreated case achievable through the complete LID approach described above in comparison to conventional treatments (from Table 6). Assuming EIA still discharges through sand filters, pollutant loadings from the untreated condition are expected to decrease by more than 96 percent for all but the COMM case. In that challenging case loadings would still fall by at least 89 percent for TSS and the metals and by 83 percent for total phosphorus, assuming City of Ventura rainfall levels, and slightly less assuming the higher Ojai rainfall levels. Thus, the Draft Permit's basic premise of disconnecting most impervious area, supplemented by specially managing roof water, is shown by both water quality and hydrologic results to be feasible and to afford broad and significant environmental benefits.

Table 10. Pollutant Loading Reduction Estimates With a Full LID Approach Relative to Conventional BMPs

	MFR[a]	Sm-SFR[a]	REST[a]	OFF[a]	Lg-SFR[a]	COMM[a]
Conventional TSS loading reduction[b]	15.7-69.9%	19.9-75.4%	22.0-80.6%	24.0-82.6%	19.9-75.4%	16.9-72.3%
Conventional TCu loading reduction[b]	0.0-74.4%	0.0-69.1%	0.0-78.2%	0.0-75.4%	0.0-69.1%	0.0-78.7%
Conventional TZn loading reduction[b]	22.7-78.4%	22.4-78.1%	22.9-84.3%	23.1-78.8%	22.4-78.1%	25.1-80.9%
Conventional TP loading reduction[b]	30.6-66.3%	41.5-70.7%	40.7-69.1%	45.9-76.2%	41.5-70.7%	20.3-55.0%
LID TSS loading reduction[c]	99.4%	99.3%	99.5%	99.4%	99.3%	89.0%[d]
LID TCu loading reduction[c]	98.1%	96.7%	98.0%	96.2%	96.7%	90.6%[d]
LID TZn loading reduction[c]	99.1%	98.8%	98.9%	98.3%	98.8%	94.8%[d]
LID TP loading reduction[c]	98.1%	98.6%	98.8%	98.7%	98.6%	83.1%[d]

[a] MFR—multi-family residential; Sm-SFR—small-scale single-family residential; REST—restaurant; OFF—office building; Lg-SFR—large-scale single-family residential; COMM—retail commercial; CDS— continuous deflective separation unit; EDB—extended-detention basin; NCIA—not connected impervious area; EIA—effective (connected) impervious area

[b] Range from Table 6 represented by treatment by CDS unit, EDB, biofiltration swale, or biofiltration strip

[c] Based on directing roof runoff to downspout infiltration trenches (MFR, Sm-SFR, REST, and Lg-SFR) or harvesting it (OFF and COMM), draining other NCIA to pervious areas, and treating EIA with sand filters

[d] If the higher rainfall at Ojai is assumed, reduction estimates for TSS, TCu, TZn, and TP would be 84.0, 86.3, 92.5, and 75.5 percent, respectively.

SUMMARY AND CONCLUSIONS

This paper demonstrated that common Ventura County area residential and commercial development types subject to the Municipal NPDES Permit are likely, without storm water management, to reduce groundwater recharge from the predevelopment state by approximately half in most cases to a much higher fraction with a large ratio of impervious to pervious area. With no treatment, runoff from these developments is expected to exceed CTR acute copper and zinc criteria at the point of discharge and to deliver large pollutant mass loadings to receiving waters.

Conventional soil-based BMP solutions that promote and are component parts of low-impact development approaches, by contrast, regain about 30-50 percent of the recharge lost in development without storm water management, although commercially-manufactured filtration and hydrodynamic BMPs for storm water management give no benefits in this area. It is expected the soil-based BMPs generally would release effluent that meets the acute zinc criterion at the point of discharge, although it would still exceed the copper limit. Excepting phosphorus, it was found that these BMPs would capture and prevent the movement to receiving waters of the majority of the pollutant loadings considered in the analysis.

It was found that a three percent Effective Impervious Area standard can be met in typical developments, and that by draining all site runoff to pervious areas, runoff can be eliminated entirely in most development types. This result was reached assuming the use of native soils. Soil enhancement (typically, with compost) can further advance infiltration. Draining impervious surfaces onto the loam soils typical of Ventura County, in connection with limiting directly connected impervious area to three percent of the site total area, should eliminate storm runoff from some development types and greatly reduce it from more highly impervious types. Adding roof runoff elimination to the LID approach (by harvesting or directing it to downspout infiltration trenches) should eliminate runoff from all but mostly impervious developments. Even in the development scenario involving the highest relative proportion of impervious surface, losses of rainfall capture for beneficial uses could be reduced from more than 85 to less than 40 percent, and pollutant mass loadings would fall by 83-95 percent from the untreated scenario when draining to pervious areas was supplemented with water harvesting. These results demonstrate the basic soundness of the Draft Permit's concept to limit directly connected impervious area and drain the remainder over pervious surfaces.

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ATTACHMENT A

JUSTIFICATION OF PROPOSED EFFECTIVE IMPERVIOUS AREA LIMITATION

Summary

The literature shows that adverse impacts to the physical habitat and biological integrity of receiving waters occur as a result of the conversion of natural areas to impervious cover. These effects are observed at the lowest levels of impervious cover in associated catchments (two to three percent) and are pronounced by the point that impervious cover reaches five percent. To protect biological productivity, physical habitat, and other beneficial uses, effective impervious area should be capped at no more than three percent.

I. Impacts to physical habitat of California receiving waters observed at three percent impervious cover

Stein *et al.*[7] note that while studies from parts of the country with climates more humid than California's indicate that physical degradation of stream channels can initially be detected when watershed impervious cover approaches 10%, biological effects, which may be more difficult to detect, may occur at lower levels (CWP 2003).[8] Recent studies from both northern and southern California indicate that intermittent and ephemeral streams in California are more susceptible to the effects of hydromodification than streams from other regions of the US, with stream degradation being recognized when the associated catchment's impervious cover is as little as 3-5% (Coleman *et al.* 2005).[9] Furthermore, supplemental landscape irrigation in semi-arid regions, like California, can substantially increase the frequency of erosive flows (AQUA TERRA Consultants 2004).[10]

Coleman, *et al.*[3] report that the ephemeral/intermittent streams in southern California (northwestern Los Angeles County through southern Ventura County to central Orange County) appear to be more sensitive to changes in percent impervious cover than streams in other areas. Stream channel response can be represented using an *enlargement curve*, which relates the percent of impervious cover to a change in cross-sectional area. The data for southern California streams forms a relationship very similar in shape to the enlargement curves developed for other North American streams. However, the curve for southern California streams is above the general curve for streams in other climates. This suggests that a specific enlargement ratio is produced at a lower value of impervious surface area in southern California than in other parts of North America. Specifically, the estimated threshold of response is approximately 2-3% impervious cover, as compared to 7-10% for other portions of the U.S. It is important to note that this conclusion applies specifically to streams with a catchment drainage area less than 5 square miles.

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[7] Stein, E.D., S. Zaleski, (2005) *Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California.* (Proceedings of a Special Technical Workshop Co-sponsored by California Stormwater Quality Association (CASQA), Stormwater Monitoring Coalition (SMC), University of Southern California Sea Grant (USC Sea Grant), Technical Report #475).

[8] Center for Watershed Protection (CWP), (2003) *Impacts of Impervious Cover on Aquatic Systems.* Ellicott City, MD.

[9] Coleman, D., C. MacRae, and E.D. Stein, (2005) *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams.* Southern California Coastal Water Research Project Technical Report #450, Westminster, CA.

[10] AQUA TERRA Consultants, (2004) *Urbanization and Channel Stability Assessment in the Arroyo Simi Watershed of Ventura County CA.* FINAL REPORT. Prepared for Ventura County Watershed Protection Division, Ventura CA.

This study concludes that disconnecting impervious areas from the drainage network and adjacent impervious areas is a key approach to protecting channel stability. Utilizing this strategy can make it practical to keep the effective impervious cover (*i.e.* the amount hydrologically connected to the stream) equal to or less than the identified threshold of 2-3%.

II. Impacts to biological integrity of receiving waters observed with any conversion from natural to impervious surface

Two separate studies conducted by Horner *et al.*[11,12] in the Puget Sound region (Washington State), Montgomery County, Maryland, and Austin, Texas built a database totaling more than 650 reaches on low-order streams in watersheds ranging from no urbanization and relatively little human influence (the reference state, representing "best attainable" conditions) to highly urban (>60 percent total impervious area, "TIA"). Biological health was assessed according to the benthic index of biotic integrity (B-IBI) and, in Puget Sound, the ratio of young-of-the-year coho salmon (*Oncorhynchus kisutch*), a relatively stress-intolerant fish, to cutthroat trout (*Oncorhynchus clarki*), a more stress-tolerant species. The following discussion summarizes the results and conclusions of these two studies.

There is no single cause for the decline of water resource conditions in urbanizing watersheds. Instead, it is the cumulative effects of multiple stressors that are responsible for degraded aquatic habitat and water quality. Imperviousness, while not a perfect yardstick, appears to be a useful predictor of ecological condition. However, a range of stream conditions can be associated with any given level of imperviousness. In general, only streams that retain a significant proportion of their natural vegetative land-cover and have very low levels of watershed imperviousness appear to retain their natural ecological integrity. It is this change in watershed land-cover that is largely responsible for the shift in hydrologic regime from a sub-surface flow dominated system to one dominated by surface runoff.

While the decline in ecological integrity is relatively continuous and is consistent for all parameters, the impact on physical conditions appears to be more pronounced earlier in the urbanization process than chemical degradation. It is generally acknowledged, based on field research and hydrologic modeling, that it is the shift in hydrologic conditions that is the driving force behind physical changes in urban stream-wetland ecosystems.

Multiple scales of impact operate within urbanizing watersheds: landscape-level impacts, including the loss of natural forest cover and the increase in impervious surface area throughout the watershed; riparian corridor-specific impacts such as encroachment, fragmentation, and loss of native vegetation; and local impacts such as water diversions, exotic vegetation, stream channelization, streambank hardening, culvert installation, and pollution from the widespread use of pesticides and herbicides. All of these stressors contribute to the overall cumulative impact.

The researchers found that there is no clear threshold of urbanization below which there exists a "no-effect" condition. Instead, there appears to be a relatively continuous decline in almost all measures of water quality or ecological integrity. Losses of integrity occur from the lowest levels of TIA and are already pronounced by the point that TIA reaches 5 percent.

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[11] Horner, R. R., C. W. May, (2002) *The Limitations of Mitigation-Based Stormwater Management in the Pacific Northwest and the Potential of a Conservation Strategy based on Low-Impact Development Principles.* (Proceedings of the American Society of Engineers Stormwater Conference, Portland, OR).

[12] Horner, R.R., E. H. Livingston, C. W. May, J. Maxted, (2006) *BMPs, Impervious Cover, and Biological Integrity of Small Streams.* (Proceedings of the Eighth Biennial Stormwater Research and Watershed Management Conference, Tampa, FL).

Similarly, the Alliance for the Chesapeake Bay[13] reports that small-watershed studies by the Maryland Department of Natural Resources Biological Stream Survey have shown that some sensitive species are affected by even low amounts of impervious cover. In one study, no brook trout were observed in any stream whose watershed had more than 2 percent impervious cover, and brook trout were rare in any watershed with more than 0.5 percent impervious cover.

III. Ventura County's watersheds include biologically-significant water bodies

The literature discussed above is relevant to the watersheds of Ventura County, which contain rivers and streams that currently or historically support a variety of beneficial uses that may be impaired by water quality degradation and stream hydromodification as a result of storm water runoff from impervious land cover. Unlike some Southern California watersheds, Ventura County still has many natural stream systems with a high degree of natural functionality.

For instance, the Ventura River watershed in northwestern Ventura County "supports a large number of sensitive aquatic species,"[14] including steelhead trout, a federally-listed endangered species. Although "local populations of steelhead and rainbow trout have nearly been eliminated along the Ventura River" itself, the California Department of Fish and Game has "recognized the potential for the restoration of the estuary and enhancement of steelhead populations in the Ventura River."[15] Steelhead may also be present in tributaries such as San Antonio Creek.[16] Thriving rainbow trout populations exist in tributaries of the Ventura River including Matilija Creek and Coyote Creek.[17] The Ventura River either does or is projected to support the following beneficial uses: warm freshwater habitat; cold freshwater habitat; wildlife habitat; rare, threatened, or endangered species; migration of aquatic organisms; and spawning and reproduction.[18] Furthermore, the Ventura River Estuary also supports commercial fishing, shellfish harvesting, and wetland habitat.[19] The Ventura River receives municipal storm drain discharges from Ojai, San Buenaventura, and unincorporated areas of Ventura County.[20]

The Santa Clara River watershed in northern Ventura County "is the largest river system in southern California that remains in a relatively natural state."[21] Sespe Creek is one of the Santa Clara's largest tributaries, and "supports significant steelhead spawning and rearing habitat."[22] Other creeks in the Santa Clara River watershed that support steelhead are Piru Creek and Santa Paula Creek. Sespe Creek and the Santa Clara River also provide spawning habitat for the Pacific lamprey. Rainbow trout populations exist in tributaries of the Santa Clara River including Sespe Creek.[23] The creeks and the Santa Clara river do or are projected to support the following beneficial uses: warm freshwater habitat; cold freshwater habitat; wildlife habitat; preservation of biological habitats rare, threatened, or endangered species; migration of aquatic organisms; and spawning and reproduction.[24] Los Padres National Forest covers much of the Santa Clara River watershed, but increasing development in floodplain areas has been

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[13] Karl Blankenship, BAY JOURNAL,"It's a hard road ahead for meeting new sprawl goal: States will try to control growth of impervious" (July/August 2004), at http://www.bayjournal.com/article.cfm?article=66.
[14] Los Angeles Region Water Quality Control Plan (1994) p. 1-18 ("Basin Plan").
[15] Basin Plan, p. 1-16; Ventura County Environmental & Energy Resources Division, "Endangered Steelhead Trout in Ventura County: Past, Present, and Future," available at http://www.wasteless.org/Eye_articles/steelhead.htm.
[16] Ventura County Environmental & Energy Resources Division, "Steelhead Spawning in Ventura County," (2005), available at http://www.wasteless.org/Eye_articles/steehead2005.html.
[17] Ventura County Environmental & Energy Resources Division, "Endangered Steelhead Trout in Ventura County: Past, Present, and Future," available at http://www.wasteless.org/Eye_articles/steelhead.htm.
[18] Basin Plan, Table 2-1.
[19] Basin Plan, Table 2-4.
[20] Ventura County Watershed Protection District, *Report of Waste Discharge* (January 2005) at p. 3.
[21] Basin Plan, p. 1-16.
[22] Basin Plan, p. 1-16.
[23] Ventura County Environmental & Energy Resources Division, "Endangered Steelhead Trout in Ventura County: Past, Present, and Future," available at http://www.wasteless.org/Eye_articles/steelhead.htm.
[24] Basin Plan, Table 2-1.

identified as a threat to the river system's water quality.[25] Furthermore, the Santa Clara estuary supports the additional beneficial uses of shellfish harvesting and wetlands habitat.[26] The Santa Clara River receives municipal storm drain discharges from Fillmore, Oxnard, San Buenaventura, Santa Paula, and unincorporated areas of Ventura County.[27]

The Calleguas Creek watershed "empties into Mugu Lagoon, one of southern California's few remaining large wetlands."[28] It supports or is projected to support the following beneficial uses: estuarine habitat; marine habitat; wildlife habitat; preservation of biological habitats; rare, threatened, or endangered species; migration of aquatic organisms; spawning and reproduction; shellfish harvesting; and wetlands habitat.[29] Historically, Calleguas Creek drained largely agricultural areas. But this watershed has been under increasing pressure from sedimentation due to increased surface flow from municipal discharges and urban wastewaters, among other sources.[30] Increasing residential developments on steep slopes has been identified as a substantial contributing factor to the problem of accelerated erosion in the watershed (and sedimentation in the Lagoon). Calleguas Creek receives municipal storm drain discharges from Camarillo, Moorpark, Simi Valley, Thousand Oaks, and unincorporated areas of Ventura County.[31]

Ventura County's coastal streams also support a variety of beneficial uses:[32]

- Little Sycamore Canyon Creek in southern Ventura County (warm freshwater habitat; wildlife habitat; rare, threatened or endangered species; and spawning and reproduction);
- Lake Casitas tributaries (warm freshwater habitat; cold freshwater habitat; wildlife habitat; rare, threatened or endangered species; spawning and reproduction; and wetland habitat);
- Javon Canyon and Padre Juan Canyon (warm freshwater habitat; cold freshwater habitat; wildlife habitat; and spawning and reproduction); and
- Los Sauces Creek in northern Ventura County (warm freshwater habitat; cold freshwater habitat; wildlife habitat; migration of aquatic species; and spawning and reproduction).

IV. Conclusion

In order to protect the biological habitat, physical integrity, and other beneficial uses of the water bodies in Ventura County, effective impervious area should be capped at no more than three percent.

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[25] Basin Plan, pp. 1-16, 1-18.
[26] Basin Plan, Table 2-4.
[27] Ventura County Watershed Protection District, *Report of Waste Discharge* (January 2005) at p. 3.
[28] Basin Plan, p. 1-18.
[29] Basin Plan, Table 2-1.
[30] Basin Plan, pp. 1-16, 1-18.
[31] Ventura County Watershed Protection District, *Report of Waste Discharge* (January 2005) at p. 3.
[32] Basin Plan, Table 2-1.

ATTACHMENT B

POLLUTANT CONCENTRATIONS FOR URBAN SOURCE AREAS (HERRERA ENVIRONMENTAL CONSULTANTS, INC. UNDATED)

Source Area	Study	Location	Sample Size (n)	TSS (mg/L)	TCu (ug/L)	TPb (ug/L)	TZn (ug/L)	TP (mg/L)	Notes
Roofs									
Residential	Steuer, et al. 1997	MI	12	36	7	25	201	0.06	2
Residential	Bannerman, et al. 1993	WI	~48	27	15	21	149	0.15	3
Residential	Waschbusch, et al. 2000	WI	25	15	n.a.	n.a.	n.a.	0.07	3
Residential	FAR 2003	NY		*19*	*20*	*21*	*312*	*0.11*	4
Residential	Gromaire, et al. 2001	France		*29*	*37*	*493*	*3422*	*n.a.*	5
Representative Residential Roof Values				**25**	**13**	**22**	**159**	**0.11**	
Commercial	Steuer, et al. 1997	MI	12	24	20	48	215	0.09	2
Commercial	Bannerman, et al. 1993	WI	~16	15	9	9	330	0.20	3
Commercial	Waschbusch, et al. 2000	WI	25	18	n.a.	n.a.	n.a.	0.13	3
Representative Commercial Roof Values				**18**	**14**	**26**	**281**	**0.14**	
Parking Areas									
Res. Driveways	Steuer, et al. 1997	MI	12	157	34	52	148	0.35	2
Res. Driveways	Bannerman, et al. 1993	WI	~32	173	17	17	107	1.16	3
Res. Driveways	Waschbusch, et al. 2000	WI	25	34	n.a.	n.a.	n.a.	0.18	3
Driveway	FAR 2003	NY		*173*	*17*		*107*	*0.56*	4
Representative Residential Driveway Values				**120**	**22**	**27**	**118**	**0.66**	
Comm./ Inst. Park. Areas	Pitt, et al. 1995	AL	16	110	116	46	110	n.a.	1
Comm. Park. Areas	Steuer, et al. 1997	MI	12	110	22	40	178	0.2	2
Com. Park. Lot	Bannerman, et al. 1993	WI	5	58	15	22	178	0.19	3
Parking Lot	Waschbusch, et al. 2000	WI	25	51	n.a.	n.a.	n.a.	0.1	3
Parking Lot	Tiefenthaler, et al. 2001	CA	5	36	28	45	293	n.a.	6
Loading Docks	Pitt, et al. 1995	AL	3	40	22	55	55	n.a.	1
Highway Rest Areas	CalTrans 2003	CA	53	*63*	*16*	*8*	*142*	*0.47*	7
Park and Ride Facilities	CalTrans 2003	CA	179	*69*	*17*	*10*	*154*	*0.33*	7
Comm./ Res. Parking	FAR 2003	NY		*27*	*51*	*28*	*139*	*0.15*	4
Representative Parking Area/Lot Values				**75**	**36**	**26**	**97**	**0.14**	

Landscaping/Lawns									
Landscaped Areas	Pitt, et al. 1995	AL	6	33	81	24	230	n.a.	1
Landscaping	FAR 2003	NY		*37*	*94*	*29*	*263*	n.a.	4
Representative Landscaping Values				**33**	**81**	**24**	**230**	**n.a.**	
Lawns - Residential	Steuer, et al. 1997	MI	12	262	n.a.	n.a.	n.a.	2.33	2
Lawns - Residential	Bannerman, et al. 1993	WI	~30	397	13	n.a.	59	2.67	3
Lawns	Waschbusch, et al. 2000	WI	25	59	n.a.	n.a.	n.a.	0.79	3
Lawns	Waschbusch, et al. 2000	WI	25	122	n.a.	n.a.	n.a.	1.61	3
Lawns - Fertilized	USGS 2002	WI	58	n.a.	n.a.	n.a.	n.a.	2.57	3
Lawns - Non-P Fertilized	USGS 2002	WI	38	n.a.	n.a.	n.a.	n.a.	1.89	3
Lawns - Unfertilized	USGS 2002	WI	19	n.a.	n.a.	n.a.	n.a.	1.73	3
Lawns	FAR 2003	NY	3	*602*	*17*	*17*	*50*	*2.1*	4
Representative Lawn Values				**213**	**13**	**n.a.**	**59**	**2.04**	

Notes:

Representative values are weighted means of collected data. Italicized values were omitted from these calculations.

1 - Grab samples from residential, commercial/institutional, and industrial rooftops. Values represent mean of DETECTED concentrations

2 - Flow-weighted composite samples, geometric mean concentrations

3 - Geometric mean concentrations

4 - Citation appears to be erroneous - original source of data is unknown. Not used to calculate representative value

5 - Median concentrations. Not used to calculate representative values due to site location and variation from other values.

6 - Mean concentrations from simulated rainfall study

7 - Mean concentrations. Not used to calculate representative values due to transportation nature of land use.

NRDC REQUESTED CHANGES TO LOW IMPACT DEVELOPMENT SECTION OF DRAFT PERMIT

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 07-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

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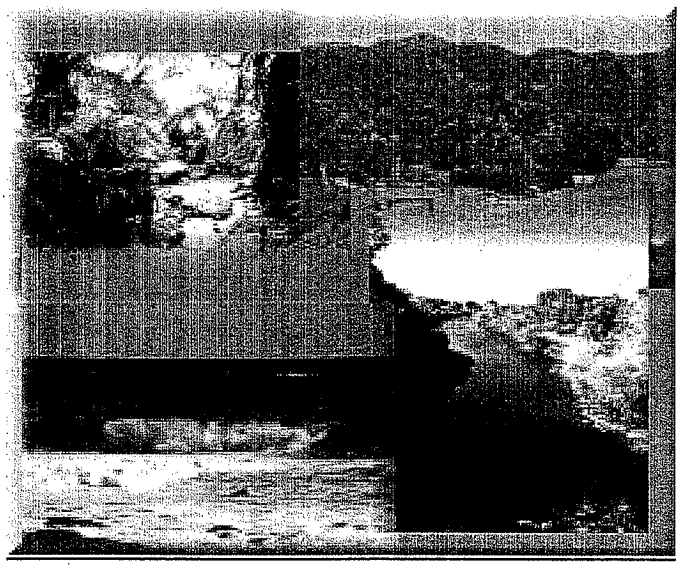

December 27, 2006

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Waste Discharge Requirements

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 06-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter called Regional Water Board), finds that:

A. Permit Parties and History

1. Ventura County Watershed Protection District (Principal Permittee), County of Ventura, Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventrura, Santa Paula, Simi Valley and Thousand Oaks (hereinafter referred to separately as Permittees) have joined together to form the Ventura Countywide Storm Water Quality Management Program to discharge wastes. The Permittees discharge or contribute to discharges of storm water from municipal separate storm sewer systems (MS4s), also called storm drain systems, into the Watershed Management Areas of Ventura River, Santa Clara River, Calleguas Creek, Malibu Creek and Miscellaneous Ventura Coastal all within Ventura County and Los Angeles County (see Attachment "A").

2. Storm water discharges from the Ventura County MS4 are covered under countywide waste discharge requirements contained in Order No. 00-108, adopted by the California Water Quality Control Board, Los Angeles Region (Regional Water Board) on July 27, 2000, which replaced Order No. 94-082, adopted by the Regional Water Board on August 22, 1994. Order No. 00-108 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

3. The Regional Water Board may require a separate NPDES permit for any entity that discharges storm water into the watersheds of Ventura County. Such an entity can be any State or Federal facility, special district or other public or private party.

B. Nature of Discharge

1. Storm water discharges consist of surface water runoff generated from various land uses in all the hydrologic drainage basins, which discharge into Waters of the State. The quality of these discharges varies and is affected by geology, land use, season, hydrology, and sequence and duration of hydrologic events. Based on the Ventura Countywide Storm Water Monitoring Program's Water Quality Monitoring Reports which were required under Order No. 00-108, the wet weather Pollutants of Concern (POC) include bacteria, conventional pollutants, metals, nutrients, organic compounds, and pesticides. The POC are identified in Attachment "B" of this Order.

2. Common pollutants in storm water and their respective sources are: bacteria from animal droppings; Polycyclic Aromatic Hydrocarbons (PAHs) from the products of internal combustion engine operation and parking lot sealants wash off; nitrates from fertilizer application; pesticides from pest mitigating applications; herbicides from plant mitigating applications; bis (2-ethylhexyl) phthalate from the break down of plastic products; mercury from atmospheric fallout and improper disposal of mercury switches; lead from fuels, paints, automotive parts; copper from brake pad wear and roofing materials, zinc from tire wear and galvanized sheeting and fencing; sediment from land disturbance and erosion; and dioxins as products of combustion.

3. The implementation of the measures set forth in this Order are reasonably expected to reduce the discharge of pollutants via storm water runoff into receiving waters, and to meet the Waste Load Allocations (WLAs) for municipal storm water adopted by the Regional Water Board.

4. In general, the substances that are found in municipal storm water runoff can harm human health and aquatic ecosystems. In addition, the high volumes and high velocities of storm water discharged from MS4s into natural watercourses can adversely impact aquatic ecosystems and stream habitat and cause stream bank erosion and physical modifications collectively termed hydromodification. Municipal point source discharges from urbanized areas remain a leading cause of impairment of surface waters in California (2002 National Assessment Database, http://www.epa.gov/waters/305b/index.html and State Water Resources Control Board (State Board) 2002 CWA § 305(b) Report http://www.waterboards.ca.gov/tmdl/305b.html).

5. Water quality assessments conducted by the Regional Water Board identified impairments, or threatened impairments, of beneficial uses of water bodies in the Ventura Watersheds. These impairments include many of the POC identified by the Ventura Countywide Storm Water Monitoring Program. These impairments are

identified on the Federal Clean Water Act (CWA) § 303(d) list of impaired water bodies.

6. Studies and research conducted by other Regional agencies, and academic institutions have also identified storm water 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 and 2004*, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999, 2004); *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. Novle et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001); Receiving Water Impacts Associated with Urban Runoff, Pitt, R.(2002).]

7. Development and urbanization increase pollutant loads, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces (paved) such as highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, impervious surfaces (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 (ESAs) designated by the State include:

   (a) Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use; and

(b) California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

8. Ventura County has several stream segments listed on the CWA § 303(d) list of impaired water bodies for various pollutants/stressors. The California Stream Bioassessment Procedure (CSBP) is a cost-effective tool and standard protocol for assessing the biological and physical/habitat conditions of stream segments for evaluation of the overall health of the watershed. [References: Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling, 1999. *Rapid Bioassessment Protocols for use in Streams and Rivers: Periphyton, Benthic, Macroinvertebrates, and Fish*. 2nd Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C., California State Water Resources Control Board - Division of Water Quality, (2003). *The Status and Future of Biological Assessment for California Streams*. Southern CA Coastal Water Research Project, CA Department of Fish and Game, (2005). *Bioassessment In Low Gradient Streams Quality Assurance Project Plan.* California Department of Fish and Game, (2005). *California Stream Bioassessment Procedure (CSBP) for Measuring Basic Characterization of Stream Habitat and Sampling Benthic Macroinvertebrates.* Ode, P. et al, (2005). *A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams*.] This Order includes requirements to conduct bioassessments of natural streams and waterways.

9. The Ventura Watershed stream segments listed on the CWA § 303(d) list of impaired water bodies have polluted and/or disturbed ecosystems that can be assessed to evaluate their potential for ecological restoration. The purpose of restoration is to reestablish insofar as possible the ecological integrity of degraded aquatic ecosystems. Ecological integrity refers to the condition of an ecosystem, particularly the structure, composition, and natural processes of its biotic communities and physical environment. Restoration strives for the greatest progress toward ecological integrity achievable within the current limits of the watershed. [References: U.S. EPA, 2000. *Principles for the Ecological Restoration of Aquatic Resources*. EPA841-F-00-003. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC. 4 pp., the Federal Interagency Stream Restoration Working Group, (2001). *Stream Corridor Restoration: Principles, Processes, and Practices*.] This Order includes requirements to conduct restoration planning.

10. 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 3-10 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. [References: *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 Bulletin, 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 steams 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 In Rhodes*, D.P. and Williams, G.P. *Adjustments to the Fluvial System* p. 333-350, (1979); Dubuque, Iowa, Kendall/Hunt, Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness*: Watershed Protection Techniques, 1(3), Schueler T. (1994); *Managing Runoff to Protect Natural Streams, The Latest Development and Investigation of Hydromodification in California*, Stein, E.D., and Zaleski, S. (2005); *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*, Coleman, D, MacRae, C, Stein, E.D. (2005); and *Urbanization and Channel Stability Assessment In The Arroyo Simi Watershed of Ventura County*, Final Report, (2004).]

11. The industries and businesses listed in this Order that are to be inspected by Permittees have the potential to discharge contaminated runoff into the MS4, this runoff is an environmental threat because it can adversely impact public health and safety, and the quality of receiving waters. For example, pretreatment program compliance inspections and audits performed in the Los Angeles and Ventura Counties indicate that automotive service and food service facilities sometimes discharge-polluted runoff to the MS4s. The POCs in such wash waters include oil and grease, toxic chemicals, and food waste. Spills from clogged sanitary sewer lines have a high likelihood to reach the receiving waters via MS4s. Overall, the most common POC identified in runoff discharging to the MS4s are: (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 (*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 Water Board in July 1997; *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 Water Board in July 1997). Municipal storm water monitoring data and industrial storm water monitoring data indicate that industrial and commercial sites continue to contribute significant quantities of pollutants in storm water runoff. [References: Ventura County Monitoring Program Report, (2005-2006), *Storm Water Industrial Activities Sampling Program Evaluation in California,* M. Stenstrom and H. Lee, January 2005, http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/lams4Documents.html, *Evaluation of Urban Non-Point Source Runoff of Hazardous Metals Entering Santa Monica Bay, California,* M.S. Buffleben et all, in *Water Science and Technology 2002.* Other studies performed in California also point to the threat of pollution created by nonstorm water discharges to storm drains including discharges of washwaters during dry and wet weather (*Water Quality Concerns and Regulatory Controls for Nonstorm Water Discharges to Storm Drains*, L.D. Duke and M.M. Kihara, Journal of the American Water Resources Association, June 1998.]

12. Rising groundwater and swimming pool water have been found to be sources of pollutants such as salts. Salts increase the salinity of otherwise freshwater systems and disrupt physiological processes. This Regional Water Board has adopted Basin Plan amendments to include TMDLs for salts and this Order includes provisions to control the discharges from these activities in order to directly or indirectly reduce or eliminate the discharge of salts to fresh water systems where salts may impair water quality and beneficial uses.

13. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as: strip malls, parking lots, commercial business parks, and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of POC in storm water. [References: Pitt et al., *Urban Storm Water Toxic Pollutants:* Action Plan Demonstration Project, *Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States Petroleum Institute, (1994); *Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Industrial Storm Water Pollution Prevention: Effectiveness and Limitations of Source Controls in the Transportation Industry*, L. Donald Duke and Y. Jae Chung, Waste Management, Vol. 15, No. 8, pp. 543-558 (1996); Source Characterization, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000); Technomic Press, Field, R et al. Editors; *First Flush Storm Water Runoff from Highways,* M.K. Stenstrom et al. (2000); *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler et at. Technical Report 343, Southern California Coastal Water Research Project (2001); California Storm Water BMP Handbook Municipal, (January 2003); Kayhanian K. Singh A., Suverkropp C.,

Borroum S., (November 2003). *Impact of Annual Average Daly Traffic On Highway Runoff Pollutant Concentrations*. J.Envir. Engrg., Volume 129, Issue 11, pp. 975-990. *Metals and PAHs Adsorbed to Street Particles,* Sim-Lin Lau and Michael K. Stenstrom (2005).]

14. Retail Gasoline Outlets (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. [References: *The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban*, MD, Schueler T. and Shepp D. (1992), and *Concentration of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Landuse*, Ranabal, F.I. and T.J. Bizzard (1995). In Proceedings of the Fourth Biennial Storm Water Research Conference, Florida, pp. 42-52].*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001); *Supplement to Retail Gasoline Outlet Report* (December 2001); *Review of Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets* (November 2001).]

15. The Regional Water Board adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R4-2005-0080) on November 3, 2005. The objective of the program is to monitor runoff from irrigated agriculture facilities in the coastal watersheds of Los Angeles and Ventura Counties. The Regional Water Board's Basin Plan, which designates beneficial uses and establishes water quality objectives for the Region, recognizes that agricultural activities can generate pollutants such as sediment, pesticides, herbicides, and nutrients that upon discharge to receiving water, can degrade water quality and impair beneficial uses. A category identified by the Conditional Waiver as a source of pollutants is nursery operations. This Order includes requirements for the municipal operator to insure the implementation of pollutant reduction and control measures at nursery operations, with the objective of reducing pollutants in storm water runoff within their jurisdiction.

16. Research conducted on the contribution of aerial deposition of trace heavy metals in Los Angeles County watersheds indicates that dry indirect deposition may account for a significant load of pollutants into surface waters. Similar patterns of aerial deposition likely occur in Ventura County. Of the atmospherically deposited pollutants on the watersheds, ten to twenty percent may account for the total load for copper, zinc, nickel, lead, and chromium to the water bodies. Land reservoirs and sequestration may account for the remaining ninety to eighty percent of the atmospherically deposited pollutants on the watersheds. Emissions of semi-volatile organics such as polycyclic aromatic hydrocarbons (PAHs) and pesticides and their subsequent deposition may contribute to the contamination of receiving waters but

appear to be less significant (*Atmospheric Dry Deposition of Trace Metals in the Los Angeles Coastal Region*, L.D. Sabine et al (2005) SCCWRP AR pp. 50-60; *Atmospheric Concentration of PAH, Pesticides, and other Semi-volatile Organic Compounds in the Los Angeles Coastal Region*, L.D. Sabin et al (2005) pp. 61-72; *Contribution of Trace Metals from Atmospheric Deposition to Stormwater Runoff in a Small Impervious Urban Catchment*, Sabin et al., Water Research 39 (2005) 3929-3937; *Measuring and Modeling of Atmospheric Deposition on Santa Monica Bay and the Santa Monica Bay Watershed*, K.D. Stolzenbach et al. (2001). The Los Angeles Regional Water Board will coordinate with the South Coast Air Quality Management Districts, the California Air Resources Board, and other governmental agencies to address multimedia sources of pollution that may contribute to pollution of surface waters.

17. Trash and debris are pervasive pollutants which accumulate in streams, rivers, bays, and ocean beaches throughout Southern California. It poses a serious threat to our oceans and coasts, navigation, biological resources, recreation, human health and safety, aesthetics and economies.
[References: Moore, S.L., Gregorio D., Carreon, M., Weisberg, S.B., and Leecaster, M.K., (2001). *Composition and Distribution of Beach Debris in Orange County, California.* Marine Pollution Bulletin, 42(3), pp. 241-245. *Los Angeles River Watershed Total Maximum Daily Loads for Trash*, Staff Report, (2001). (September, 2005). *2005 Plastic Debris, Rivers to Sea Conference.*]

18. Nitrite and nitrate (NH3) are biostimulatory substances that can cause or contribute to eutrophic effects such as low dissolved oxygen and algae growth impairing warm freshwater and wildlife habitats. NH3 is highly toxic to fish and other aquatic life. Excessive ammonia can cause aquatic life toxicity. [References: *California 2002 303(d) list of water quality limited segments*, (February 4, 2003); *Santa Clara River Total Maximum Daily Loads for Nitrogen Compounds*, Staff Report (2003).]

19. Pesticides are substances used to prevent, destroy, repel or mitigate any pest ranging from insects, animals and weeds to microorganisms. Their effects can be direct (e.g. fish die from a pesticide entering waterways, or birds do not reproduce after ingesting contaminated fish), or indirect (a hawk becomes sick from eating a mouse dying from pesticide poisoning). Pesticide categories include: Organochlorine, Organophosphorus, Organophosphate, and Pyrethroid. [References: *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*; Weston, D.P., Holmes, R.W., You, J., Lydy, M.J. Environ. Sci. Technol.; (Article); 39(24); pp. 9778-9784 (2005); Bioavailability of Pyrethroids in Surface Aquatic Systems; Gan, J., Yang,W., Bondarenko,S., Spurlock,F. (Presentation at CA Department of Pesticide Regulation) (2005); *Pesticides in the Nation's Streams and Ground Water, 1992-2001*; Gilliom, R.J.; Barbash J.E.; Crawford C.G.; Hamilton, P.A.; Martin, J.D.; Nakagaki, N.;

Nowell, L.H.; Scott, J.C., Stackelberg, P.E.; Thelin, G.P.; Wolock, D.M. USGS Circular 129; 2006; *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Organochlorine (OC) Pesticides, Polychlorinated Byphenyls (PCB) and Siltation*, Staff Report, (2006); *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Toxicity, Chlorpyrifos and Diazinon*, Staff Report, (2006); U.S. EPA, *Permethrin, Resmethrin, Sumithrin: Synthetic Pyrethroids For Mosquito Control*, URL: http://www.epa.gov/ pesticides/health/mosquitoes/pyrethroids4 mosquitoes.htm; U.S. EPA, *Chlorpyrifos Summary*, URL: http://www.epa.gov/ oppsrrd1/op/chlorpyrifos/summary.htm; U.S. EPA, *Diazinon Summary*, URL: http://www.epa.gov/ pesticides/op/diazinon/ summary.htm.]

20. Polychlorinated Byphenyls (PCBs) are a subset of the synthetic organic chemicals known as chlorinated hydrocarbons. Concern over PCBs toxicity, persistence (chemical stability) in the environment and that they have been shown to bioconcentrate significantly in aquatic organisms has led to prohibitions on PCBs. [References: *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Organochlorine (OC) Pesticides, Polychlorinated Byphenyls (PCB) and Siltation*, Staff Report, (2006); U.S. EPA, Technical Factsheet on: Polychlorinated Biphenyls (PCBs), URL: http://www.epa.gov/OGWDW/dwh/t-soc/pcbs.html.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by the Code of Federal Regulations (CFR) [40 CFR 122.26(d)] are:

   (a) Adequate Legal Authority.
   (b) Fiscal Resources.
   (c) Storm Water Quality Management Program (SMP).
      (1) Public Information and Participation Program.
      (2) Industrial/Commercial Facilities Program.
      (3) Planning and Land Development Program.
      (4) Development Construction Program.
      (5) Public Agency Activities Program.
      (6) Illicit Connection and Illicit Discharges Elimination Program.
   (d) Reporting Program (Monitoring Report and Program Report).

2. The Ventura County SMP, dated November 2001 (revision 2) identifies seven program areas, which are listed below and were previously approved under Board Order No. 00-108.
   (a) Ventura County SMP

(1) Program Management.
(2) Programs for Residents.
(3) Programs for Industrial/Commercial Businesses.
(4) Programs for Planning and Land Development.
(5) Programs for Construction Sites.
(6) Programs for Public Agency Activities.
(7) Programs for Illicit Connections/Illegal Discharges.

For purposes of region-wide consistency, the program titles are revised and consolidated into the six areas listed in the preceding C.1(c). All Permittee storm water documents submitted to the Regional Water Board are to follow the organization enumerated in C.1(c).

3. The Permittees filed a Report of Waste Discharge (ROWD), dated January 26, 2005. The Permittees applied for renewal of their waste discharge requirements for a 5-year period, which serves as an NPDES permit to discharge wastes to surface waters.

4. The Regional Water Board reviewed the ROWD and determined it to be partially complete under the reapplication policy for MS4s issued by the United States Environmental Protection Agency (REGIONAL WATER BOARD) (61 Fed. Reg. 41697). The Regional Water Board has prepared this Order so that implementation of provisions contained in this Order by Permittees will meet the requirements of the federal NPDES regulations at 40 CFR 122.26.

5. To-date, the monitoring program has consisted of mass emission, receiving water (tributaries), and land-use monitoring stations, toxicity testing, special studies for bio-assessment of the Ventura River and hydrology, identification of ESAs, implementation of the Storm Water Quality Urban Impact Mitigation Plan (SQUIMP), and provide support for volunteer monitoring programs. This Order requires a monitoring program consisting of mass emission, and tributary station(s), toxicity and total suspended solids (TSS) testing, wet weather MS4 WLA monitoring, bio-assessment of the Ventura River, Santa Clara River and Calleguas Creek, trash and debris study, a Pyrethroid assessment, continuation of the hydromodification study, low impact development study, participation in the Southern California Bight Project (SCBP), and support volunteer of monitoring programs.

6. The Principal Permittee is a member of the Southern California Coastal Water Research Project (SCCWRP) Commission. The Principal Permittee also participates in the Regional Monitoring Programs and research partnerships, such as the Southern California Storm Water Monitoring Coalition (SMC) and the Bioassessment Working Group.

D. Permit Coverage

1. The area covered by this Order includes all areas within Ventura County boundaries and all areas within the Municipalities' boundaries (see Figure 1) that are within the Regional Water Board's jurisdiction except for agricultural lands and forest lands. Storm water runoff in these areas are discharged to the watercourses covered by this Order (see Attachment "A"). Provisions of this Order apply to the urbanized areas of the municipalities, areas undergoing urbanization and areas which the Regional Water Board Executive Officer determines are discharging storm water that causes or contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States pursuant to CWA § 402(p)(2)(E).

2. The Permittees covered under this Order were designated on a system-wide basis under Phase I of the CWA § 402(p)(3)(B)(i). The action of covering all Ventura County municipalities under a single MS4 permit on a system-wide basis was consistent with the provisions of 40 CFR 122.26(a)(3)(iv), which states that one permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems; and the Regional Water Board may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

3. Federal, State, Regional, or local entities within the Permittees' boundaries or in jurisdictions outside the Ventura County Watershed Protection 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 Water Board will work with these entities to ensure the implementation of programs that are consistent with the requirements of this Order.

4. This Order incorporates the MS4 TMDLs' WLAs adopted by the Regional Water Board as required under CWA § 303 (d). This order incorporates default WLA monitoring requirements, or where approved, TMDL Implementation Plan Monitoring Program requirements to verify compliance with the adopted TMDL WLAs.

5. Permittees are to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system through inter-agency agreements or other formal arrangements.

E. Federal, State and Regional Regulations

1. The Water Quality Act of 1987 added § 402(p) to the CWA (33U.S.C. § 1251-1387). This section requires the U.S. EPA to establish regulations setting forth NPDES requirements for storm water discharges in 2 phases.

   (a) U.S. EPA 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 1 Final Rule was published on November 16, 1990 (55 Fed. Reg. 47990).

   (b) U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (population of less than 100,000), small construction projects (less than 5 acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA 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 US. The Phase II Final Rule was published on December 8, 1999 (64 Fed. Reg. 68722).

2. The U.S. EPA 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.

3. The U.S. EPA has entered into a Memorandum of Agreement (MOA) with the US 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, and the CWA's water quality standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the U.S. EPA, the Services, and CWA delegated States on CWA permit issuance under § 402 of the CWA [66 Fed. Reg. 11202-11217].

4. The CWA allows the U.S. EPA to delegate its NPDES permitting authority to states with an approved environmental regulatory program. The State of California is a delegated State. The Porter-Cologne Water Quality Control Act (California Water Code- CAL. WATER CODE) authorizes the State Water Resources Control Board (State Water Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State and tributaries thereto.

5. The State Water Board submits a report (a list of water quality limited segments (§ 303[d] list)) on the State's water quality to the U.S. EPA pursuant to § 305(b) of the 1972 CWA, and Title 40, CFR § 130.7, every 2 years. The Report provides water quality information to the general public and serves as the basis for U.S. EPA's National Water Quality Inventory Report to Congress. Title 40 CFR § 130.7(b)(1) provides that waterbodies included on State § 303(d) lists are those waterbodies for which pollution controls required by local, State, or federal authority, including technology-based or more stringent point source effluent limitations or nonpoint source BMPs, are not stringent enough to implement any water quality standard applicable to such waters. Title 40 CFR § 130.7(b)(3) defines "water quality standard applicable to such waters" as "those water quality standards established under § 303 of the [Clean Water] Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements."

6. Under § 303(d) of the CWA, States are required to identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 USC §1313(d)(1)). The most recent 303(d) list was adopted on July, 2003. A TMDL specifies that maximum amount of a pollutant that a water-body can receive, still meet applicable water quality objectives and protect beneficial uses. The U.S. EPA 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 Water Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This Order incorporates a provision to implement and enforce approved WLAs for municipal storm water discharges and requires amending the SMP after pollutant loads have been allocated and approved.

7. Under § 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), US Coastal States with approved coastal zone management programs are required to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: 1) agriculture; 2) silviculture; 3) urban; 4) marinas; and 5) hydromodification. This Waste Discharge Requirement addresses the management measures required for the hydromodification category and the urban category, with the exception of septic systems.

8. The Regional Water Board addresses septic systems through the administration of non-Chapter 15 regulatory programs and the implementation of Regional Water Board Order No.R4-2004-0146. Septic systems are also addressed under State Assembly Bill (AB) 885 (2000). The Regional Water Board will implement and enforce regulations issued by the State Board pursuant to AB 885. Taken together, these State and Local agency requirements when imposed on septic system operators are expected to reduce the bacterial contamination of storm water from improperly maintained septic systems.

9. On May 18, 2000, the U.S. EPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR) 65 Fed. Reg. 31682 (40 CFR 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 CTR (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.

10. The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's coastal waters. It applies to point and nonpoint source discharges. The Ocean Plan identifies the applicable beneficial uses of marine waters that include preservation and enhancement of designated Areas of Special Biological Significance (ASBS) (now called "State Water Quality Protection Areas") and establishes a set of narrative and numerical water quality objectives designed to protect beneficial uses. The SWRCB adopts the California Ocean Plan, and both the SWRCB and the six coastal Regional Water Quality Control Boards (RWQCBs) implement and interpret the California Ocean Plan.

11. This Regional Water Board adopted a revised Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan, which is incorporated into this Order by reference, specifies the beneficial uses of Ventura County water bodies and their tributary streams, and contains both narrative and numerical water quality objectives for these receiving waters. The following beneficial uses identified in the Basin Plan apply to all or portions of each watershed covered by this Order:

    (a) Municipal and domestic supply.
    (b) Agricultural supply.
    (c) Industrial service supply.
    (d) Industrial process supply.
    (e) Ground water recharge.
    (f) Freshwater replenishment.
    (g) Navigation.
    (h) Hydropower generation.
    (i) Water contact recreation.
    (j) Non-contact water recreation.
    (k) Ocean commercial and sport fishing.
    (l) Warm freshwater habitat.

(m) Cold freshwater habitat.
(n) Preservation of Areas of Special Biological Significance.
(o) Saline water habitat.
(p) Wildlife habitat.
(q) Preservation of rare and endangered species.
(r) Marine habitat.
(s) Fish migration.
(t) Fish spawning.
(u) Shellfish harvesting.

12. On March 22, 1999 the Consent Decree in Heal the Bay, Inc.; Santa Monica BayKeeper, Inc. v. Browner, Case No. 98-4825 SBA was approved. Under Establishment of TMDLs- The parties understand that California has the initial opportunity pursuant to § 303(d) of the CWA to adopt and submit to U.S. EPA for approval TMDLs to be established under this Consent Decree. TMDLs developed by Regional Water Boards are adopted as Basin Plan amendments in order to include implementation provisions. The TMDL process follows the procedure below:

(a) Regional Water Board adopts.
(b) State Water Board approves.
(c) Office of Administrative Law approves.
(d) U.S. EPA (Region 9) approves.
(e) State Resources Agency final fee exemption letter.

13. The Regional Water Board has adopted amendments to the Basin Plan, to incorporate TMDLs for the following:

(a) U.S. EPA approved TMDLs with storm water WLAs.
  (1) Santa Clara River and its Tributaries - Nitrogen Compounds.
    (A) Regional Water Board Resolution No. 2003-011.
    (B) State Water Board Resolution No. 2003-0073.
    (C) OAL file No. 04-0123-35.
    (D) U.S. EPA approval date March 18, 2004.
    (E) Final fee exemption date March 23, 2004 (effective date.
    (F) Compliance is 1 year after effective date.

  (2) Malibu Creek and Lagoon - Bacteria.
    (A) Regional Water Board Resolution No. 2004-019.
    (B) State Water Board Resolution No. 2005-0072.
    (C) OAL file No. 05-1018-03 S.
    (D) U.S. EPA approval date January 10, 2006.
    (E) Final fee exemption date January 24, 2006 (effective date).

(F) Compliance for Summer Dry is 3 years after effective date.
(G) Compliance for Winter Dry is 6 years after effective date.

(3) Calleguas Creek, Its Tributaries, and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.
(A) Regional Water Board Resolution No. 2005-009.
(B) State Water Board Resolution No. 2005-0067.
(C) OAL file No. 05-1110-02 S.
(D) U.S. EPA approval date March 14, 2006.
(E) Final fee exemption date March 24, 2006 (effective date).
(F) Compliance for Toxicity and Interim WLA is effective date.
(G) Compliance for Final WLA is 2 years after effective date.

(4) Calleguas Creek, Its Tributaries, and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation.
(A) Regional Water Board Resolution No. 2005-010.
(B) State Water Board Resolution No. 2005-0068.
(C) OAL file No. 05-1206-03 S.
(D) U.S. EPA approval date March 14, 2006.
(E) Final fee exemption date March 24, 2006 (effective date).
(F) Compliance for Interim WLA is effective date.

14. The Regional Water Board adopted and approved requirements for new development and significant redevelopment projects in Ventura 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 Water Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000 for Los Angles County and the Cities in Los Angeles County. Since 2000, new development and redevelopment water quality criteria have been implemented by the Permittees to be consistent with SUSMP. The State Board affirmed the Regional Water Board action and SUSMPs in State Board Order No. WQ 2000-11, issued on October 5, 2000.

(a) A statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Water 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 RGOs. The Regional Water Board properly justified the extensions of SUSMPs and water quality criteria to ministerial projects, projects in environmentally sensitive areas, and RGOs, during the adoption of Regional Water Board Order 01-182. The Regional Water Board's action was upheld by the County of Los Angeles

Superior Court (In Re: Los Angeles County Municipal Storm Water Permit Litigation, Lead Case No. BS 080548, Statement of Decision, Superior Court Central Civil West, March 24, 2005).

(b) The State Water Board's Chief Counsel interpreted the Order to encourage regional solutions and endorsed a mitigation fund or "bank" as alternatives for new development and significant redevelopment. The Regional Water Board has included provisions for Regional solutions and the establishment of a mitigation bank in this Order.

15. The Regional Water Board supports Watershed Management planning to address water quality protection in the region. The objective of the Watershed Management planning 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 available resources.

16. To facilitate compliance with federal regulations, the State Board has issued the following 4 Statewide General NPDES Permits associated with storm water:

(a) Industrial General Permit (IASGP- Industrial Activities Storm Water General Permit), NPDES No. CAS000001, issued on November 19, 1991, reissued on September 17, 1992 and April 17, 1997, currently under review for reissuance.
(b) Construction General Permit (CASGP- Construction Activities Storm Water General Permit), NPDES No. CAS000002, issued on August 20, 1992, reissued August 19, 1999, currently under review for reissuance.
(c) Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), NPDES No. CAS000005, issued on June 18, 2003.
(d) Small MS4 Permit WQ Order No. 2003-0005-DWQ adopted on April 30, 2003.

17. Facilities discharging storm water associated with industrial activities, construction projects that disturb 1 or more acres of soil, or construction projects that disturb less than 1 acre but are part of a larger common plan of development or sale that in total disturbs 1 or more acres, and construction activities associated with small linear underground/overhead projects that result in land disturbances greater than one acre, but less than five acres (small LUPs), are all required to obtain individual NPDES permits for storm water discharges, or be covered by the statewide General Permits by completing and filing a Notice of Intent (NOI) with the State Board. The U.S. EPA 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.

18. State Water Board Resolution No. 68-16 contains the state Antidegradation Policy, titled "Statement of Policy with Respect to Maintaining High Quality Waters in California (Resolution 68-16), applies to all waters of the state, including ground waters of the state, whose quality meets or exceeds (is better than) water quality objectives. Resolution No. 68-16 incorporates the federal Antidegradation Policy (40 CFR Section 131.12) where the federal policy applies, (State Water Board Order WQO 86-17). Both, state and federal antidegradation policies acknowledge that an activity that results in a minor water quality lowering, even if incrementally small, can result in violation of Antidegradation Policies through cumulative effects, for example, when the waste is a cumulative, persistent, or bioaccumulative pollutant.

    (a) State Water Board Resolution No. 68-16 establishes essentially a 2-step process for compliance with the policy.
        (1) Step 1- if a discharge will degrade high quality water, the discharge may be allowed if any change in water quality:
            (A) Will be consistent with maximum benefit to the people of the State.
            (B) Will not unreasonably affect present and anticipated beneficial use of such water.
            (C) Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in Water Quality Control Plans).
        (2) Step 2- any activities that result in discharges to high quality waters are required to:
            (A) Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance.
            (B) Maintain the highest water quality consistent with the maximum benefit to the people of the State.
                (i) If such treatment or control results in a discharge that maintains the existing water quality, then a lowering of water quality would not be consistent with state Antidegradation Policy.
                (ii) Likewise, the discharge could not be allowed under state Antidegradation Policy if:
                    (I) The discharge, even after treatment, would unreasonably affect beneficial uses; or
                    (II) The discharge, would not comply with applicable provisions of Water Quality Control Plans.

19. The Hydromodification Control and Low Impact Development (LID) provisions of this Order are intended to promote the State Water Board and federal Antidegradation policies by preventing water quality and habitat (beneficial) degradation.

20. The State Water Board on June 17, 1999, adopted Order No. WQ 99-05, which specifies standard receiving water limitation language to be included in all municipal storm water permits issued by the State and Regional Water Boards.

21. Cal. Water Code § 13263(a) requires that waste discharge requirements issued by Water 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.

22. Cal. Water Code § 13370 et. seq. requires that waste discharge requirements issued by the Water Boards implement the provisions of the CWA (33 U.S.C. Sec. 1251 et seq.) and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto.

23. 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 F.3rd. 526 (9th Cir., 2001)). The U.S. EPA issued a Final Rule that on October 17, 2006, that exempts the application of a pesticide to or over, including near, waters of the United States if conducted consistent with all relevant requirements under the Federal Insecticide and Fungicide Rodenticide Act (FIFRA), from an NPDES permit under the Clean Water Act in the following two circumstances: (a) The application of pesticides directly to waters of the United States in order to control pests, and (b) The application of pesticides to control pests that are present over waters of the United States, including near such waters, that results in a portion of the pesticides being deposited to waters of the United States (40 CFR 122.3(h)).

24. The California State Assembly passed AB 1721 (Pavley Environmental Education) on September 8, 2005. An act to amend § 60041 of the Education Code, to amend § 71301, § 71302, § 71303, § 71304, and § 71305 of the Public Resources Code, and to add § 13383.6 to the Water Code, relating to environmental education. § 13383.6 is added to the Water Code, to read: § 13383.6. On and after January 1, 2007, if a Regional Water Board or the State Board issues a municipal storm water permit pursuant to § 402(p) of the CWA (33 U.S.C. Sec. 1342(p)) that includes a requirement to provide elementary and secondary public schools with educational materials on storm water pollution, the Permittee may satisfy the requirement, upon approval by the Regional Water Board or State Board, by contributing an equivalent amount of funds to the Environmental Education Account established pursuant to subdivision (a) of § 71305 of the Public Resources Code.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 2100 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 (a governmental agency can use its judgment in deciding whether and how to carry out or approve a project, § 15357) and does not apply to ministerial projects (the law requires a governmental agency to act on a project in a set way without allowing the agency to use its own judgment, § 15369). 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 regardless of weather a project is discretionary or ministerial, the Regional Water 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. The objective of this Order is to protect the beneficial uses of receiving waters in Ventura County. To meet this objective, the Order requires that Best Management Practices (BMPs) will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and achieve water quality objectives and standards. The U.S. EPA envisioned that municipal storm water program would be implemented in an iterative manner and improved with each iteration by using information and experience gained during the previous permit term (*Interpretative Policy Memorandum on Reapplication Requirements for MS4 permits* - 61 Fed. Reg. 41697). Municipalities are required to evaluate what is effective and make improvements in order to protect beneficial uses of receiving waters. This Order requires the implementation of an effective combinations of pollution control and pollution prevention measures, education, public outreach, planning, and implementation of source control BMPs and Structural and Treatment Control BMPs. The better–tailored BMPs combined with the performance objectives outlined in this Order have the purpose of attaining water quality objectives and standards (*Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*- 61 Fed. Reg. 43761). Where WLAs have been adopted for Municipal storm water discharges, this Order requires Permittees to implement controls to achieve the WLAs within the compliance schedule provided in the TMDLs.

   The implementation of the measures set forth in this Order are reasonably expected to reduce the discharge of pollutants conveyed in storm water discharges into receiving waters, and to meet the TMDL WLAs for municipal storm water adopted by the Regional Water Board.

3. The U.S. EPA has recommended that all future TMDLs and TMDL amendments be expressed as daily increments consistent with a federal court ruling (*Friends of the Earth, Inc. v. EPA, et al.* No. 05-5015 (D.C. Cir. 2006)). However, this interpretation does not affect the discretionary authority of the Regional Water Board to express NPDES permit limits and conditions in non daily terms because there is no express or implied statutory limitation (CWA §502(11)) (*Establishing TMDL "Daily Loads" in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in Friends of the Earth, Inc. v. EPA, et al. (April 2006) and Implications for NPDES Permits*, U.S. EPA Office of Water, memorandum, Nov 15, 2006). This Order translates MS4 TMDL WLAs adopted by the Regional Water Board into forms "consistent with the assumptions and requirements of the TMDL", by use of alternate temporal increments, concentrations, presumptive BMPs, prohibitions, and other express limitations.

4. During the term of the Order, the Permittees shall implement all necessary control measures to reduce pollutant(s) which cause or continue to cause or contribute to water quality impairments, but for which TMDLs have not yet been developed or approved, to eliminate the water quality impairment(s). Successful efforts to reverse the wet weather impairments during the permit term for such pollutants, may avoid the need for a WLA for wet weather or the need to develop a TMDL in the future

5. This Order promotes a land development and redevelopment strategy that considers the water quality and water management benefits associated with smart growth techniques. Such measures include hydromodification mitigation requirements, minimization of impervious surfaces, integrated water resources planning, and low impact development guidelines. (Reference: *Protecting Water Resources with Smart Growth*, EPA 231-R- 04-002, U.S. EPA 2004; *Using Smart Growth Techniques as Storm Water Best Management Practices,* EPA 231-B-05-002, U.S. EPA 2005; *Parking Spaces/Community Places: Finding the Balance through Smart Growth Solutions*, EPA 231-K-06-001, U.S. EPA 2006; *Protecting Water Resources with Higher-Density Development*, EPA 231-R-06-001, U.S. EPA 2006.)

6. The implementation of an effective Public Information and Participation Program is a critical component of a storm water management program. While commercial and industrial facilities are traditionally subject to multiple environmental regulations and receive environmental protection guidance from multiple sources, the general public, in comparison, receives significantly less education in environmental protection. An effective Public Information and Participation Program is required because:

   (a) Activities conducted by the public such as vehicle maintenance, improper household waste materials disposal, improper pet waste disposal and the improper

application of fertilizers and pesticides have the potential to generate a significant amount of pollutants that could be discharged in storm water.

(b) An increase in public knowledge of storm water regulations, proper storage and disposal of household wastes, proper disposal of pet wastes and appropriate home vehicle maintenance practices can lead to a significant reduction of pollutants discharged in storm water.

7. The California Supreme Court ruled in its *City of Burbank* Decision that Water Boards when issuing an NPDES permit may not consider economic factors to justify imposing pollutant restrictions that are less stringent than the applicable federal regulations require (*City of Burbank v. State Water Resources Control Bd.*, 35 Cal.4d, 618 (2005)). However, when the pollutant restrictions in an NPDES are more stringent than that which federal law requires, economic factors must be considered. The requirements in this Order may be explicit or more specific than those enumerated in federal regulations under 40 CFR 122.26 or in U.S. EPA guidance. However, the requirements have been prescribed to be consistent with CWA §402(p)(3)(B)(iii) and are necessary to reduce the discharges of pollutants to the maximum extent practicable and to meet water quality standards. Hence they are no more stringent than that required by federal law.

8. This Order also provides flexibility for Permittees to petition the Regional Water Board Executive Officer to substitute a BMP under this Order 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 MEP and attain water quality objectives 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. The State Water Board amended the Policy for the Implementation of Toxics Standards in Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy – SIP) on February 24, 2005. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the State Implementation Policy. The 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 interference. 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.

11. This Order establishes Municipal Action Levels (MALs) for selected pollutants based on nationwide Phase I MS4 monitoring data for pollutants in storm water. (Reference: http://unix.eng.ua.edu/~rpitt/Research/Research.shtml). The MALs were computed using the statistical based population approach, one of three approaches recommended by the California Water Board's Storm Water Panel in its report, *'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 2006). The MALs were obtained by multiplying the Median (central tendency measure) with the Coefficient of Variance (estimate of variance measure). MALs are identified in Attachment "C". Permittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas to not exceed the MALs. On or after (first October in year 3 after permit adoption), two or more exceedences of a MAL will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order.

12. 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 CA Health and Safety Code, § 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.

13. This Order contemplates that Permittees will ensure that implemented Treatment Control BMPs will not pose a safety or health hazard to the public. This Order contemplates that Permittees will ensure that the maintenance of implemented Treatment Control BMPs will comply with all applicable health and safety regulations, such as, but not limited to requirements for worker entry into confined spaces under OSHA Safety and Training education, § 1926.21(b)(6)(i).

14. The CWA prohibits the discharge of pollutants from point sources to waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Water Board adopted statewide General Waste Discharge Requirements for

Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Part 4.G.1. 'Sewage System Maintenance, Overflow, and Spill Prevention Response Plan' are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board recognizes that there may be some overlap between the MS4 permit provisions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes, as satisfying the requirements in Part 4.G.1, provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

15. This Order takes in to consideration the housing needs in the area under the Permittees' jurisdiction by balancing the implementation of Smart Growth and Low Impact Development techniques with the protection of the water resources of the region. Although not required, the Regional Water Board considered the need for housing and the appropriate techniques to allow for reasonable development while protecting the receiving waters from degradation. (Reference: *Considering Housing Needs in Actions Taken by the Regional Water Board: Moving from Costs to Value, 2006).*

16. This Order may have an incremental effect on costs required for compliance with the provisions contained herein. Although not required, Regional Water Board considered costs in preparing this Order. (Reference: *NPDES Stormwater Cost Survey, prepared for California State Water Resources Control Board, CSU, Sacramento 2005).*

G. Public Notification

1. The issuance of waste discharge requirements that serve as an NPDES permit for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 (California Environmental Quality Act) of the Public Resources Code in accordance with California Water Code Section 13389. The California Court of Appeals has affirmed the exemption, and ruled that the Regional Water Board's issuance of an NPDES permit is not subject to review under CEQA (County of Los Angeles et al., v. California Water Boards et al.,) (2006), (Cal.Rptr.3d 619)., Notwithstanding, the Regional Water Board has considered the policies and

requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute environmental documents for the Ventura County MS4 TMDLs incorporated in this Order.

2. The Regional Water 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 make statements and submit their comments.

3. The Regional Water Board has conducted 4 scoping meetings with Permittees and their representatives. On Xxxxx xx, 200x, the Regional Water Board conducted a workshop on reissuance of the NPDES permit and received input from the Permittees and the public regarding proposed changes.

4. This Order shall serve as a NPDES permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 90 days from Order adoption provided the Regional Administrator of the U.S. EPA has no objections.

5. Pursuant to Cal. Water Code § 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board within 30 days of adoption of the Order by the Regional Water Board. A petition must be sent to:

   State Water Resources Control Board
   Office of Chief Counsel
   P.O. Box 100
   Sacramento, CA 95812-0100

6. 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 Cal. Water Code for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Permittees, in order to meet the provisions contained in Division 7 of the Cal. Water Code and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, shall comply with the following:

PART 1 - DISCHARGE PROHIBITIONS

A. Prohibitions - Discharges

1. Discharges into and from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance (as defined In Cal. Water Code § 13050), in waters of the State are prohibited.

2. Discharges from the MS4, which cause or contribute to exceedences of receiving water quality objectives for surface waters are prohibited.

3. Discharges to the MS4 not covered by an NPDES individual or general permit are prohibited.

B. Prohibitions - Non-Storm Water Discharges

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

1. Originate from a State, federal, or other source which they are pre-empted by State or Federal law from regulating.

2. Fall within one of the categories below, are not a source of pollutants, and meet all conditions where specified by the Regional Water Board Executive Officer:
   (1) Stream diversions authorized by the State Water Board.
   (2) Natural springs and rising ground water.
   (3) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].[1]
   (4) Flows from riparian habitats or wetlands.
   (5) Flows from emergency fire fighting activity.
   (6) Potable drinking water supply and distribution system releases.[2]
   (7) Drains for foundation, footing and crawl drains.
   (8) Air conditioning condensate.
   (9) Water from crawl space pumps.
   (10) Reclaimed and potable landscape irrigation runoff.
   (11) Dechlorinated/debrominated swimming pool discharges [see definition Part 7].
   (12) Non-commercial car washing by residents or non-profit organizations.
   (13) Sidewalk rinsing
   (14) Pooled storm water from treatment BMPs.[3]

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[1] NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County.
[2] Releases may occur only with the implementation of appropriate BMPs and dechlorination prior to discharge [see section G for specific BMPs]. Any agency or municipal (i.e., water dept., fire dept., etc.) that either individually or collectively discharge(s) or reasonably expects to discharge 100,000 gallons or more of potable water per year, shall submit an ROWD to obtain a separate NPDES permit under this Order [see section G.10]. Discharges from utility vaults shall be conducted under coverage of a separate NPDES permit specific to that activity. Discharges from well heads and hydrostatic pipe testing shall be subject to a separate NPDES general permit coverage (CAG674001).
[3] All storm water BMPs shall at a minimum be maintained at a frequency as specified by the manufacturer. All storm water BMPs shall be designed to drain within 72 hours. Storm water treatment BMPs may be drained to the MS4 under this Order if the discharge is not a source of pollutants. The discharge shall cease when the discharge has become a source of a pollutant(s), (bottom sediment included). Sediments shall be disposed of properly, in compliance with all applicable local, state, and federal policies, acts, laws, regulations, ordinances, and statutes.

Type of Discharges:	Conditions under which allowed:	Required BMPs for discharge to occur:
Stream diversions permitted by the State Board;	Shall comply with all conditions in the authorization.	Shall comply with all conditions in the authorization.
Natural springs and rising ground water	1. Ground water dewatering requires a separate NPDES permit. 2. Segregate flow to prevent introduction of pollutants.	Shall comply with all conditions in the authorization.
Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)] (Utility vault dewatering requires a separate NPDES permit.)	NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County	Shall comply with all conditions in the authorization.
Flows from riparian habitats or wetlands	Provided that all necessary permits or authorizations are received prior to diverting the stream flow.	Shall comply with all conditions in the authorization.
Flows from emergency fire fighting activity	Pooled water after fire must be discharged or reused in a controlled manner.	
Potable drinking water supply and distribution system releases	Provided planned discharges from water lines and potable water sources shall be dechlorinated, pH adjusted if necessary, reoxygenated, and volumetrically and velocity controlled to prevent resuspension of sediments. Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, even after de-chlorination.	To be discharged, this type of water shall be dechlorinated using aeration and/or sodium thiosulfate and/or be allowed to infiltrate to the ground. BMPs such as sand or gravel bags shall be utilized to prevent sediment transport. All sediments shall be collected and disposed of in a legal and appropriate manner.
Drains for foundation, footing and crawl drains	Dewatering requires a separate NPDES permit.	Shall comply with all conditions in the authorization.
Air conditioning	Segregation of flow to prevent	Infiltration whenever

Type of Discharges:	Conditions under which allowed:	Required BMPs for discharge to occur:
condensate	introduction of pollutants	possible
Water from crawl space pumps	Dewatering requires a separate NPDES permit.	NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County
Reclaimed and potable landscape irrigation runoff	Segregation of flow to prevent introduction of pollutants.	Implement conservation programs to minimize this type of discharge by using less water.
Dechlorinated / debrominated swimming pool discharges [see definition Part 7]	Provided discharge to a sanitary sewer is not available. Swimming pool discharges shall be dechlorinated, pH adjusted if necessary, reoxygenated, and volumetrically and velocity controlled to prevent resuspension of sediments. Cleaning waste water and filter back wash shall not be discharged to municipal separate storm sewers. Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, even after de-chlorination. Chlorine residual in discharge shall not exceed 0.1mg/L.	Pool water may be dechlorinated using time, aeration, and/or sodium thiosulfate.

3. If the Regional Water Board Executive Officer determines that any of the preceding categories of non-storm water discharges are a source of pollutants, the Permittee shall either:

   (a) Prohibit the discharge from entering the MS4; or

(b) Authorize the discharge category and require implementation of appropriate BMPs to ensure that the discharge will not be a source of pollutants; or
(c) Require or obtain coverage under a separate NPDES permit for discharge into the MS4.

4. The Regional Water Board Executive Officer, after providing the opportunity for public comment, may authorize or prohibit the discharge of other categories of non-storm water, after consideration of antidegradation policies and upon presentation of evidence.

PART 2 - RECEIVING WATER LIMITATIONS

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

2. 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.

3. The Permittee shall comply with the Order through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with this Order.[1] This Order shall be implemented to achieve compliance with receiving water limitations. If exceedence(s) of water quality objectives or water quality standards persist, notwithstanding implementation of the Order and its components and other requirements of this Order, 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(s) or Regional Water Board that discharges are causing or contributing to a violation of applicable water quality standards, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report to the Regional Water Board Executive Officer for approval. The RWL Compliance Report shall be included with the Annual Report, unless the Regional Water Board directs an earlier submittal.

[1] Separately, after permit year 3 (reporting year 15 from issuance of the first permit), two or more exceedences of a Municipal Action Level (MAL) will create a presumption that the implementation of measures to reduce the pollutant(s) in MS4 discharges to the MEP are inadequate. The Permittee is affirmatively required to augment measures to reduce the discharge of the pollutant(s) to not violate the MEP. The 'end-of-pipe' compliance points for MALs are at 36 inches in diameter or greater discharge pipes with outfalls to the receiving waters, with receiving water mass emission measurements as default compliance points.

(b) The RWL Compliance Report shall describe BMPs currently being implemented and the additional BMPs that will be implemented, to prevent or reduce any pollutants that are causing or contributing to the exceedences of water quality standards.

(c) The RWL Compliance Report shall include a BMP implementation schedule.

(d) Within 30 days following approval of the RWL Compliance Report the approved, modified suite of BMPs, implementation schedule, and any additional monitoring required shall be implemented.

(e) Modifications to the RWL Compliance Report, required by the Regional Water Board shall be submitted to the Regional Water Board Executive Officer within 30 days of notification.

(f) Implement the revised monitoring program according to the approved schedule.

4. If a member of the public has documentary evidence of RWL violations, the member of the public may petition the Regional Water Board Executive Officer in writing to review the alleged violation within 60 days to determine if Part 2 of this Order was violated.

5. As long as the Permittee complies with the procedures set forth above to comply with the receiving water limitations, is in compliance with the MALs, and is implementing this Order, the Permittee does not have to repeat the procedure for continuing or recurring exceedences of the same water quality standard(s) unless directed to by the Regional Water Board to develop and implement additional BMPs.

6. Nothing in Part 2 shall prevent the Regional Water Board from enforcing any provision of this Order.

PART 3 - STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, adopt and implement applicable terms of this Order within its jurisdictional boundaries. The Principal Permittee shall be responsible for program coordination as described in this Order as well as compliance with applicable portions of the permit within its jurisdiction. This Order shall be implemented no later than (60 days from Order adoption), unless a later date has been

specified for a particular provision in this Order and provided the Regional Administrator of the U.S. EPA has no objections.

2. Each Permittee shall, comply with the requirements of 40 CFR 122.26(d)(2) and implement programs and control measures so as to reduce the discharges of pollutants in storm water to the MEP and achieve water quality objectives.

3. Each Permittee shall implement programs and measures to comply with the TMDLs' WLAs for the MS4 as follows:
   (1) Dry Weather Discharges- achieve the concentration or load based numerical limitation for dry weather discharge identified in this Order (Part 6. Total Maximum Daily Load Provisions) through effective prohibition of dry weather discharges.
   (2) Wet Weather Discharges- achieve the concentration or load based numerical limitation or its BMPs expression for wet weather discharge identified in the Order (Part 6. Total Maximum Daily Load Provisions), or implement the BMPs specifically identified in the Order which have a reasonable expectation, when fully implemented, to achieve the WLAs in the Order (Part 6. Total Maximum Daily Load Provisions).

B. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit, including, but not limited to:

   (a) Illicit connections and illicit discharges, and to remove illicit connections.

   (b) The discharge of non-storm water to the MS4 from:
      (1) Washing or cleaning of gas stations, auto repair garages, or other types of automotive service facilities.
      (2) Mobile auto washing, carpet cleaning, steam cleaning, sandblasting and other such mobile commercial and industrial operations.
      (3) Areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken.
      (4) Storage areas for materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials.
      (5) Swimming pool(s) that have a concentration greater than:
         (A) Chlorine/bromine- 0.1mg/L.
         (B) Chloride- 250mg/L.
         (C) Cyanuric acid of 50ppm;
         (D) E. coli of 235/100 ml (fresh waters).
         (E) Fecal coliforms of 400/100 ml (fresh waters and marine waters).

(F) Enterococcus of 104/100 ml (marine waters).
(G) Total coliforms of 10,000/100 ml, or 1,000/100 ml if the ratio of fecal-to-total coliform exceeds 0.1 (marine waters).

(6) Swimming pool filter backwash.
(7) Decorative fountains and ponds.
(8) Industrial/commercial areas, including restaurant mats.
(9) Concrete truck cement, pumps, tools, and equipment washout.
(10) Spills, dumping, or disposal of materials other, such as:
(A) Litter, landscape and construction debris, garbage, food, animal waste, fuel or chemical wastes, batteries, and any other materials which have the potential to adversely impact water quality; or
(B) Any pesticide, fungicide or herbicide.
(11) Stationary and mobile pet grooming facilities.
(12) Trash container leachate.

2. The Permittees shall possess adequate legal authority to:

(a) Control through interagency agreement, the contribution of pollutants from one portion of the MS4 to another portion of the MS4.

(b) Require persons within their jurisdiction to comply with conditions in the Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows).

(c) Utilize enforcement measures (e.g., stop work orders, notice of violations, fines, referral to City, County, and/or District Attorneys, referral to strikeforces, etc.) by ordinances, permits, contracts, orders, administrative authority, and civil and criminal prosecution.[1]

(d) Control pollutants, including potential contribution[2] 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.

[1] Where the Permittee has no direct authority, the Permittee is required to enter into an agreement with the agency or department that has the enforcement authority. In the case of private responsible parties such as, HOAs, the Permittee must retain enforcement authority.
[2] "Potential contributions" and "potential to discharge," means adequate legal authority to prevent an actual discharge of pollutants to the municipal separate storm sewer system.

(e) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the MS4.

(f) Require the use of control measures to prevent or reduce the discharge of pollutants to achieve water quality objectives.

(g) Require that Treatment Control BMPs be properly operated and maintained.

3. Each Permittee has adopted a Storm Water Quality Ordinance based upon a countywide model. Each Permittee will update its Storm Water Quality Ordinance to be able to enforce all requirements of this Order, no later than (6 months from adoption date).

4. Each Permittee shall submit no later than (180 days after adoption date), a statement by its legal counsel that the Permittee has obtained and possesses all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

C. Fiscal Resources

1. The Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this Order.[1] Each Permittee shall:

(a) Submit an Annual Budget Summary that shall include:
(1) The storm water budget for the prior report year, using actual expenditures with written explanation where necessary for the implementation of the storm water program.

(2) The storm water budget for the upcoming report year, using estimated expenditures with written explanation where necessary for the implementation of the storm water program.

(3) The summary report shall identify for both the prior report year (actual expenditure) and the upcoming report year (estimated expenditure) the following specific categories:
(A) Program Management Activities.
(i) Overall Administrative costs

[1] The sources of funding may be the general funds, and/or Benefit Assessment, plan review fees, permit fees, industrial/commercial user fee, revenue bonds, grants or other similar funding mechanism.

(B) Program Required Activities Implementation (storm water related activities only). Provide figures breakdown of expenditures for the categories below:
- (i) Illicit connection/illicit discharge.
- (ii) Development planning.
- (iii) Development construction.
- (iv) Construction inspection activities.
- (v) Industrial/Commercial inspection activities.
- (vi) Public Agency Activities.
  - (I) Maintenance of Structural BMPs and Treatment Control BMPs.
  - (II) Inspection of Structural BMPs and Treatment Control BMPs;
  - (III) Municipal Street Sweeping for Commercial/Industrial land use only.
  - (IV) Catch basin clean-outs (include dumping fees separately).
  - (V) Storm drain clean-outs (include dumping fees separately).
  - (VI) Other costs (describe).
- (vii) Public Information and Participation.
- (viii) Monitoring Program.
- (ix) Miscellaneous Expenditures (describe).

D. Modifications/ Revisions

1. No later than (90 days after Regional Water Board adoption of this Order) each Permittee shall modify storm water management programs, protocols, practices, and municipal codes to make them consistent with the requirements herein.

E. Designation and Responsibilities of the Principal Permittee

1. The Ventura County Watershed Protection District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

   (a) Participate in the County Environmental Crimes Task Force.
   (b) Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee.
   (c) Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Water Board on permitting issues.
   (d) Provide technical and administrative support for committees that will be organized to implement this Order and its requirements.

(e) Evaluate, assess, and synthesize the results of the monitoring program and the effectiveness of the implementation of BMPs.
(f) Convene the Management Committees (MCs) and subcommittees constituted pursuant to Part F, below, upon designation of representatives.
(g) Implement the Countywide Monitoring Program required under the Order and evaluate, assess and synthesize the results of the monitoring program.
(h) Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Water Board of monitoring and annual reports, and summaries of other reports required under this Order.
(i) Comply with the "Responsibilities of the Permittees" in Part 3.F., below.

F. Responsibilities of the Permittees

1. Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings- Permit Coverage D.1 and D.2) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittees shall:

(a) Comply with the requirements of this Order and any modifications thereto.
(b) Coordinate among its internal departments and agencies, as necessary, to facilitate the implementation of the requirements of this Order applicable to such Permittees in an efficient and cost-effective manner.
(c) Participate in intra-agency coordination (e.g., Planning Department, Fire Department, Building and Safety, Code Enforcement, Public Health, Parks and Recreation, and others) necessary to successfully implement the provisions of this Order.
(d) Report, in addition to the Budget Summary, any supplemental dedicated budgets for the same categories.
(e) Be represented at all Management Committee Meetings, which will meet at least once a month.
(f) Be represented at all subcommittee meetings. Currently there are 5 subcommittees which were functional during the second permit term:
  (1) Residential/Public Outreach.
  (2) Business & Illicit Discharge.
  (3) Planning and Land Development.
  (4) Construction.
  (5) Public Infrastructure.

PART 4 - SPECIAL PROVISIONS

A. General Requirements

1. This Order 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 and achieve water quality objectives for the permitted areas in the County of Ventura.

2. Best Management Practice Substitution

   The Regional Water Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s) and after public notice, 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.
   (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.
   (c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Watershed Initiative Participation

1. The Principal Permittee consents to participate in appropriate water quality meetings for watershed management planning, including but not limited to the following:

   (a) Southern California Stormwater Monitoring Coalition (SMC).
   (b) SMC Regional Monitoring Programs.
   (c) Southern California Regional Bioassessment Program.
   (d) Calleguas Creek Watershed Management Plan.
   (e) Santa Clara River Enhancement and Management Plan.
   (f) Steelhead Restoration and Recovery Plan.
   (g) Wetlands Recovery Project.
   (h) Ventura County Task Force of the Wetlands Recovery Project.
   (i) Southern California Bight Project.
   (j) Other appropriate watershed planning groups.

C. 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 PIPP, and shall coordinate with Permittees to implement specific requirements. The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audience about the MS4, the adverse impacts of storm water pollution on receiving waters and potential solutions to mitigate the impacts.
- To measurably change the waste disposal and storm water pollution generation behavior of target audiences by encouraging implementation of appropriate solutions.
- To involve and engage communities in Ventura County to participate in mitigating the impacts of storm water pollution.

1. Residential Program

(a) "No Dumping" Message
Each Permittee shall label all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping shall be posted at designated public access points to creeks, other relevant water bodies, and channels. Signage and storm drain messages shall be legible and maintained.

(b) Public Reporting
Each Permittee will identify staff who will serve as the contact(s) person for reporting clogged catch basin inlets and illicit discharges/dumping, faded or missing catch basin labels, and general storm water management information. Permittees shall include this information, updated by July 1 of each year, in public information media such as the government pages of the telephone book, and internet web sites. The Principal Permittee shall compile a list of the general public reporting contacts submitted by all Permittees and make this information available on the web site (http://www.vcstormwater.org/contact.htm) and upon request. Each Permittee is responsible for providing current, updated information to the Principal Permittee.

(c) Outreach and Education
(1) The Principal Permittee shall implement the following activities:
(A) Conduct a Storm Water pollution prevention advertising campaign.
(B) Conduct Storm Water pollution prevention public service announcements.
(C) Distribute storm water pollution prevention public education materials to:
(i) Automotive parts stores.
(ii) Home improvement centers/lumber yards/hardware stores.
(iii) Pet shops/feed stores.
(D) Public education materials shall include, but are not limited to information on the proper disposal, storage, and use of:

(i) Vehicle waste fluids.
(ii) Household waste materials.
(iii) Construction waste materials.
(iv) Pesticides, herbicides, and fertilizers (including integrated pest management practices-IPM).
(v) Green waste (including lawn clippings and leaves).
(vi) Animal wastes.

(E) Organize watershed Citizen Advisory Groups/Committees to develop effective methods to educate the public about storm water pollution no later than (365 days after the adoption of this Order).

(F) Organize events targeted to residents and population subgroups; and

(G) Maintain the Countywide storm water website (www.vcstormwater.org), which shall include educational material listed in the preceding section C.1(c)(1)(C).

(2) The Principal Permittee shall develop a strategy to educate ethnic communities through culturally effective methods. Details of this strategy should be incorporated into the PIPP, and implemented, no later than (180 days after the adoption of this Order).

(3) Each Permittee shall continue the existing outreach program to residents on the proper disposal of litter, green waste, pet waste, proper vehicle maintenance, lawn care and water conservation practices.

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

(5) The Permittees shall make a minimum of 10 million impressions per year to the general public related to storm water quality, with a minimum of 5 million impression via newspaper, local TV access, local radio and/or internet access.

(6) 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.
Pursuant to AB 1721 (2005), beginning January 1, 2007, the Permittees, in lieu of providing educational materials/funding to School Districts in the County, may opt to provide an equivalent amount of funds or fraction thereof to the Environmental Education Account established within the State Treasury.[1] This option requires the written approval of the Regional Water Board Executive Officer.

[1] Matching funds shall be equivalent to $10 per targeted student per year. Dollar value is to be indexed to the 2006/2007 fiscal year.

(7) Each Permittee shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee and contact information changes no later than 30 days after a change occurs.

(8) The Permittees shall develop and implement a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of the adverse impacts of storm water pollution and solutions before and after educational programs are conducted. The strategy shall be implemented no later than (180 days after the adoption of this Order).

(9) The Permittees shall develop and implement a behavioral change assessment strategy no later than (180 days after the adoption of this Permit), in order to ensure that the PIPP is demonstrably effective in changing the behavior of the public. The strategy shall be developed based on current sociological data and studies.

(d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants identified in Attachment "B" (Pollutants of Concern) no later than (180 days after the adoption of this Order). Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. the distribution of educational materials on appropriate BMPs for metal fabrication and recycling facilities that have been identified as a potential source). Region-wide pollutants may be included in the Principal Permittee's mass media outreach program.

2. Businesses Program

(a) Corporate Outreach

(1) The Permittees shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations and BMPs. The program shall target a minimum of four RGO franchisers and cover a minimum of 80% of RGO franchisees in the county, four retail automotive parts franchisers, two home improvement center franchisers and six restaurant franchisers. Corporate Outreach for all target facilities shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order). At a minimum, this program shall include:

(A) Conferring with corporate management to explain storm water regulations.

(B) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with recommendations to facilitate employee and facility compliance with storm water regulations.

(2) Corporate Outreach for all RGOs, automotive parts stores, home improvement centers and restaurant chains corporations shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order).

(b) Business Assistance Program
The Permittees shall 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. The Program shall include:

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

(2) Distribution of storm water pollution prevention education materials to operators of auto repair shops, car wash facilities (including mobile car detailing), mobile carpet cleaning services, commercial pesticide applicator services and restaurants.

D. Industrial/Commercial Facilities Program

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. Except where specified otherwise in this Order, pollutant reduction and control measures may be used alone or in combination, and may include Structural Treatment Control, Source Control BMPs, and operation and maintenance procedures, which may be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance with municipal ordinances at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Inventory of 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 specified in Attachment "D":

(1) Commercial Facilities

(A) Restaurants.

(B) Automotive service facilities.
(C) RGOs and automotive dealerships.
(D) Nurseries and nursery centers.

(2) U.S. EPA Phase I, II Facilities

(3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]
(A) Municipal landfills.
(B) Hazardous waste treatment, disposal, and recovery facilities.
(C) Facilities subject to SARA Title III (also known as the Emergency Planning and Community Right-to-Know Act (EPCRA)).

(b) Each Permittee shall include the following minimum fields of information for each critical sources industrial and commercial facility:
(A) Name of facility and name of owner/operator.
(B) Address of facility.
(C) Coverage under the IASGP or other individual or general NPDES permits or any applicable waiver issued by the Regional or State Board pertaining to runoff discharges.
(D) A narrative description including Standard Industrial Classification (SIC) System/North American Industry Classification System (NAICS) Codes that best describe the industrial activities performed and principal products used at each facility and status of exposure to storm water.

(c) The Regional Water Board recommends that Permittees include additional fields of information, such as material usage and/or industrial output, and discrepancies between SIC System/NAICS Code designations (as reported by facility operators) and identify the actual type of industrial activity that has the potential to pollute storm water. In addition, the Regional Water Board recommends the use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system.

(d) 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 inter and intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, and similar information).

2. Inspect Critical Sources

(a) Commercial Facilities

Each Permittee shall inspect all facilities identified in Part 4 D.2. twice during the 5-year term of the Order, provided that the first inspection occurs no later than (2 years from the adoption of this Order). A minimum interval of six months between the first and the second mandatory compliance inspection is required. In addition, each Permittee shall implement the activities outlined in the following subsections. At each facility, inspectors shall verify that the operator is implementing the mandatory source control BMPs. The Permittees shall require implementation of additional treatment control BMPs where storm water flows from the MS4 discharge to an ESA or a CWA § 303(d) listed waterbody (see section 3(b) below). Likewise, for those BMPs that are not adequate to achieve MALs and/or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.

(1) Restaurants-

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 being effectively implemented in compliance with State law, County and municipal ordinances. BMPs in the following Table 1 shall be implemented, unless the pollutant generating activity does not occur.

Table 1

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Waste/Hazardous Materials Storage, Handling and Disposal	Distribution of educational materials on storm water pollution prevention practices to the public.	By Municipality
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures.	SC-11
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures	SC-34
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices	SC-43
Storm Water Conveyance System Maintenance	Implementation of proper conveyance system operation and maintenance protocols.	SC-44

(2) Automotive Service Facilities-

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 2 are being implemented, unless the pollutant generating activity does not occur.

Table 2

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures.	SC-11
Vehicle/Equipment Fueling.	Implementation of effective fueling source control devices and practices.	SC-20
Vehicle/Equipment Cleaning.	Implementation of effective equipment/vehicle cleaning practices and appropriate wash water management practices	SC-21
Vehicle/Equipment Repair	Implementation of effective vehicle/equipment repair practices and source control devices.	SC-22
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices.	SC-31
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures	SC-34
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices	SC-43
Storm Water Conveyance System Maintenance Practices	Implementation of proper conveyance system operation and maintenance protocols.	SC-44

(3) Retail Gasoline Outlets and Automotive Dealerships-

Level of Inspections: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 3 are being implemented, unless the pollutant generating activity does not occur.

Table 3

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures.	SC-11
Vehicle/Equipment Fueling	Implementation of effective fueling source control devices and practices.	SC-20
Vehicle/Equipment Cleaning	Implementation of effective wash water control devices.	SC-21
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures	SC-34
Building and Grounds Maintenance	Implementation of effective facility maintenance practices.	SC-41
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices	SC-43

(4) Commercial Nurseries and Nursery Centers (Merchant Wholesalers, Nondurable Goods, and Retail Trade)-

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 4 are being implemented, unless the pollutant generating activity does not occur.

Table 4

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Outdoor Loading/Unloading	Implementation of effective outdoor loading/unloading practices.	SC-30
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices.	SC-31
Outdoor Equipment Operations	Implementation of effective outdoor equipment source control devices and practices.	SC-32
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Building and Grounds Maintenance	Implementation of effective facility maintenance practices.	SC-41

(A) For nursery operations (Agricultural Facilities) in the NAICS Code 11142x - Nursery and Floriculture Production, which are subject to the Conditional Waiver, each Permittee shall:
  (i) Verify enrollment under the Conditional Waiver by recording a valid identification number.
  (ii) Notify all nonfilers of their lawful obligation to apply for coverage under the Regional Water Board's Conditional Waiver.

(B) Permittees shall submit a list of facility names in the NAICS Code 11142x that have been notified to apply for the Conditional Waiver (nonfilers). The list of nonfilers shall be electronically sent to the Regional Water Board's Regional Programs at the following e-mail address: sunger@waterboards.ca.gov.

(b) Industrial Facilities

Each Permittee shall conduct compliance inspections at Phase I, II facilities as specified below.

(1) **Frequency of Inspection**

(A) Each Permittee shall perform an initial inspection at all industrial facilities identified by the U.S. EPA in 40 CFR 122.26(c) no later than (2 years after the adoption of the Order). After the initial inspection, all facilities determined as having exposure of industrial activities to storm water are subject to a second mandatory compliance inspection. A minimum interval of 6 months between the first and the second compliance inspection is required.

(B) Following the first mandatory compliance inspection, a Permittee shall perform a second mandatory compliance inspection yearly at a minimum of 20% of the facilities determined not to have exposure of industrial activities to storm water. The purpose of this inspection is to verify the continuity of the no exposure status. Facilities determined as having exposure will be notified that they must obtain coverage under the IASGP. A facility need not be inspected more than twice during the term of the Order unless subject to an enforcement action. A minimum interval of 6 months in between the first and the second compliance inspection is required.

(C) Applicable to all facilities: A Permittee need not inspect facilities that have been inspected by the Regional Water Board within the previous 24 month interval. However, if the Regional Water Board performed only one inspection, the Permittee shall conduct the second required mandatory compliance inspection.

(2) **Level of Inspection:** Each Permittee shall confirm that each operator:

(A) 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 (SWPPP) is available on-site; and,

(B) Is effectively implementing BMPs in compliance with County and municipal ordinances. Facilities must implement the source control BMPs identified in Part 4. D. 3. and Appendix D, *California Stormwater Industrial and Commercial BMP Handbook (2003)*. The Permittees shall require implementation of additional treatment control BMPs where the storm water from the MS4 discharges to a CWA § 303(d) listed waterbody; or.

(C) Has applied and has a current No Exposure Certification (and WDID number) for facilities subject to this requirement.

3. Ensure Compliance of Critical Sources

(a) **BMP Implementation:** In the event that a Permittee determines that a BMP is infeasible at any site, including those specified in the California Stormwater Industrial and Commercial BMP Handbook (2003), the Permittee shall require implementation of similar BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve MALs and/or water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.

(b) **ESAs and Impaired Waters:** For critical sources that discharge to ESAs or that are tributary to CWA § 303(d) listed impaired waterbodies, the Permittees shall require operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to exceedences of MALs and/or 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, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement actions 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 and make them available on request to the Regional Water Board, 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 Municipal Storm Water Ordinances and California Water Code § 13260:** A Permittee may refer a violation(s) to the Regional Water Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must be documented with:

(A) Two follow-up inspections, and
(B) Two warning letters or notices of violation.

(2) **Referral of Violations of the Industrial Activities Storm Water General Permit (IASGP), including Requirements to File a Notice of Intent or No Exposure Certification:** For those facilities in violation of the IASGP, Permittees may escalate referral of such violations to the Regional Water Board (electronically on a quarterly basis to the Regional Water Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov) after one inspection and one written notice (copied to the Regional Water Board) to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

(A) Name of the facility.
(B) Operator of the facility.
(C) Owner of the facility.
(D) Industrial activity being conducted at the facility that is subject to the IASGP.
(E) Records of communication with the facility operator regarding the violation, which shall include at least an inspection report.
(F) The written notice of the violation copied to the Regional Water Board.

(3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:** Each Permittee shall initiate, within one business day,[1] 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 municipal storm water urban runoff ordinances, and to oversee corrective action.

(4) **Support of Regional Water Board Enforcement Actions:** As directed by the Regional Water Board Executive Officer, Permittees shall support Regional Water Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Water Board inspectors; appearing as witnesses in Regional Water Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

(5) **Participation in a Task Force:** The Permittees consent to participate with the Regional Water Board, and other public agencies on an enforcement task

[1] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

force such as the Storm Water Task Force, to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

E. Planning and Land Development Program

1. The Permittees shall implement a development-planning program that, no later than ninety (90) days after the date the Permit becomes effective, requires all New Development and Redevelopment projects to:

   (a) Minimize impacts from storm water runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.
   (b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[1] to less than 3 percent of total project area.
   (c) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.
   (d) Minimize pollution emanating from impervious surfaces on developed land such as roof-tops, parking lots, and roadways through the use of appropriate Source Controls (good housekeeping practices), Low Impact Development Strategies, and Treatment Control BMPs.
   (e) Properly design and maintain Treatment Control BMPs (in order to avoid the breeding of vectors).[2]
   (f) Select an integrated approach to mitigate storm water pollution by utilizing a suite of controls in the following order of preference to remove storm water pollutants, reduce storm water runoff volume, and beneficially reuse storm water:
      (1) Low Impact Development Strategies.
      (2) Integrated Water Resources Management Strategies.

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[1] Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is:

- drained into a vegetated cell, over a vegetated surface, or through vegetated swale having soil characteristics, either as native material or amended using approved soil engineering techniques;
- collected and stored for beneficial use such as irrigation, supply for a gray water system, or other purpose; or
- discharged into an infiltration trench,

capable of preventing surface discharge of the runoff quantity that must be mitigated according to Part 4.E.1(III)(2).

[2] Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.

(3) Multi-benefit Natural Feature BMPs.
(4) Prefabricated/Proprietary Treatment Control BMPs.

I. Low Impact Development

1. All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.

2. The Permittees shall develop a LID Technical Guidance Document no later than (3 months from the Order's adoption date) for use by Land Planners and Developers. The LID Technical Guidance Document shall assure compliance with all requirements of Section E. of this Order and shall also include objectives and specifications for LID in the areas of:
   (a) Site Assessment.
   (b) Site Planning and Layout.
   (c) Vegetative Protection, Revegetation and Maintenance.
   (d) Techniques to Minimize Land Disturbance.
   (e) Integrated Management Practices.
   (f) LID Design and Flow Modeling Guidance.
   (g) Hydrologic Analysis.
   (h) LID Translators.

   These objectives shall not be any less stringent than any applicable requirement of Section E. of this Order.

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3. The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with LID objectives and specifications developed in the LID Technical Guidance Document through a training program. The LID training program will include the following:
   (a) LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.
   (b) A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.
   (c) Materials and data from LID pilot projects and demonstration projects including case studies.

(d) Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.
(e) Availability of the LID Technical Guidance Document.

II. Numeric Hydromodification Mitigation Criteria

1. Hydrologic (Flow/Volume/Duration) Control

(a) Each Permittees shall require all new development and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration. This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations.

(b) Natural drainage systems, including tributaries, are located in the following watersheds:
(1) Ventura River.
(2) Santa Clara River.
(3) Calleguas Creek.
(4) Miscellaneous Ventura Coastal.

(c) Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (E_p) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat.[1]

(d) The Southern California Storm Water Monitoring Coalition (SMC) is expected to initiate a study to develop a regional methodology to eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management

[1] See Attachment "E" - Determination of Erosion Potential.

tools.[1] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS):

(1) Establishment of a stream classification for Southern California streams.

(2) Development of a deterministic or predictive relationship between changes in watershed impervious cover and stream-bed/stream bank enlargement.

(3) Development of a numeric model to predict stream-bed/stream bank enlargement and evaluate the effectiveness of mitigation strategies.

(e) Until the completion of the SMC's HCS, Permittees shall continue to implement the following Interim Hydromodification Criteria to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are:

(1) **Projects disturbing land area of less than fifty acres**
Hydrologic control for projects in this size category shall involve matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24 hour storm event (not exceeding the pre-development flows).

(2) **Projects disturbing land areas of fifty acres or greater** [2]
Hydrologic control for projects in this size category shall involve the completion of a Hydromodification Analysis Study (HAS) by the project proponent to demonstrate that post development conditions are not expected to alter the duration of sediment transporting flows in receiving streams and tributaries. The HAS must demonstrate that the selected hydrologic controls will maintain an Erosion Potential value of 1 unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.

(f) The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to

[1] Coleman, D., C. MacRae, and E. Stein. 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. Southern California Coastal Water Research Project. 70 pp.

[2] 91st percentile of all construction projects covered under the general construction permit (CASGP) in Southern California.

identify effective mitigation strategies. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than (18 months from the Order's adoption).

(g) Hydromodification Control Plan

(1) On completion of the HCS (SMC HCS or Permittee HCS), the Permittees shall develop and implement Watershed Hydromodification Control Plans (HCPs), no later than 6 months after the completion of the HCS. The HCP shall identify tributary classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will maintain the stream and tributary Erosion Potential at 1 unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.

(2) The HCS shall contain the following elements:

(A) Hydromodification Management Standard: Storm water discharges from applicable new development and redevelopment projects shall not cause an increase in the erosion potential of the receiving creek over the pre-project (existing) condition.

(B) Natural Drainage Areas and Hydromodification Management Control Areas.

(C) Projects subject to Controls including Redevelopment Projects.

(D) Description of authorized Hydromodification Management Controls.

(E) Hydromodification Management Control Design Criteria.

(F) Range of flows to control namely matching post development discharge rates and durations from critical flow on up to the pre-development 10-year peak flow (or equivalent alternative criteria).

(G) Goodness of fit criteria.

(H) Allowable low flow rate.

(I) Description of the approved Hydromodification Model.

(J) Any alternate Hydromodification Management Model and Design.

(K) In-Stream Measures Design Criteria.

(L) Record Keeping.

III. Post-Construction Storm Water Mitigation Criteria

1. Post-Construction Storm Water BMP Program and Project Applicability

(a) Each Permittee shall require that during the construction of a single-family hillside home, measures be taken to:
   (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 all development projects equal to 5,000 sq. ft. or greater of disturbed area be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution.

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(c) Each Permittee shall require, in addition, that the following development projects be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution:
   (1) Industrial park 5,000 square feet or more of surface area;
   (2) Commercial strip mall 5,000 square feet or more of surface area;
   (3) Retail gasoline outlet 5,000 square feet or more of surface area;
   (4) Restaurant (SIC 5812) 5,000 square feet or more of surface area;
   (5) Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces;
   (6) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;
   (7) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; and
   (8) Redevelopment projects in subject categories that meet Redevelopment thresholds (identified below in section III.4).

(d) Each Permittee shall require, in addition, that post-construction BMPs be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution at development projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will:
   (1) Discharge storm water runoff that is likely to impact a sensitive biological species or habitat or,
   (2) Create 2,500 square feet or more of impervious surface area.

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2. Tiered Numeric Water Quality Design Criteria

(a) **Projects disturbing land areas less than 50 acres**
Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a volumetric and/or hydrodynamic (flow based) treatment control design standard, consistent with the objectives stated in Part 4. E.1. and as identified below to mitigate (infiltrate, filter or treat) storm water:

(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 (Ventura County Technical Manual); or
(C) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system;[1] and/or

(2) Hydrodynamic (Flow Based) Treatment Control BMP
(A) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
(B) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity for Ventura County; or
(C) Ten percent of the 50-year storm design flow rate.

(b) **Projects disturbing land area of 50 acres or greater**
Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a volumetric and/or hydrodynamic (flow based) treatment control design standard, consistent with the objectives stated in Part 4. E.1. and as identified above in Part 4.E.1(III)(2)(a)(1) and (2) to mitigate (infiltrate, filter or treat) storm water.

Each Permittee shall also require that post-construction treatment control BMPs be:

(1) Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic

[1] This option is not available for construction projects that disturb land area 5 acres or greater.

Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate the following:
(A) Rainfall intensity based on hourly rainfall records;
(B) An adjustment factor for within hour rainfall variability; and
(C) Hydraulics of BMP Performance.

(2) Satisfy the objectives identified for storm water quality management identified in Part 4. E.1.

3. Site Specific Mitigation

(a) Each Permittee shall require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment projects not identified in Parts 4. E. III.1(b), III.1(c), and III.1(d), but which may potentially have adverse impacts on post-development storm water quality, where 1 or more of 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.

4. Redevelopment Projects

(a) Each Permittee shall apply the post-construction BMP requirements, or site specific requirements including post-construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories.

(b) 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.
(1) 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.

(2) 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 alteration must be mitigated, and not the entire development.

(c) Redevelopment does not include routine maintenance 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. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

(d) Existing single-family structures are exempt from the Redevelopment requirements.

5. Maintenance Agreement and Transfer

(a) Each Permittee shall require that all development projects subject to post-construction BMP requirements 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.

(1) 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 (HOA) for maintenance of the Structural and Treatment Control BMPs; or

(E) 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

(F) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

6. Development Planning Coordination and Enforcement

(a) Each Permittee shall implement a program to inspect and enforce on new development and redevelopment projects for post-construction control BMPs.

(1) Prior to approving and signing off for occupancy and issuing the Certificate of Occupancy for all new development and redevelopment projects subject to post-construction control BMPs, each Permittee shall inspect the constructed site design, Structural control and Treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.

(b) The State/ U.S. EPA permitting authority may undertake the following actions for coordination with the post-construction BMP provisions of the State construction activity storm water general permit or individual storm water construction permits.

(1) Absence of Post-Construction BMPs

(A) If the State/U.S. EPA inspection does not readily identify the implementation of post-construction control BMPs at the site, the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.

(B) Failure to implement post-construction control BMPs, or implementing ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT).

(2) Inadequate or Ineffective Post-Construction BMPs

(A) If the State/U.S. EPA inspection identifies the implementation of post-construction BMPs, but they are determined to be inadequate or ineffective (e.g. undersized, or non-specific to pollutants of concern, or poorly maintained), the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.

(B) Implementation of inadequate or ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT) for the project.

7. Regional and Redevelopment Area Storm Water Mitigation

(a) A Permittee or a coalition of Permittees may apply to the Regional Water Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will:
(1) Result in equivalent or improved storm water quality.
(2) Protect stream habitat.
(3) Promote cooperative problem solving by diverse interests.
(4) Be fiscally sustainable and has secure funding.
(5) Be completed in four years or less including the construction and start-up of treatment facilities.

(b) A Permittee may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will result in equivalent or improved storm water quality.
(1) Redevelopment Project Areas include (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the Regional Water Board.

(c) Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, as approved in this Order.

8. Mitigation Funding

(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to support regional or subregional solutions to storm water pollution, where any of the following situations occur:
(1) A waiver for impracticability is granted;
(2) Funds become available;

(3) Off-site mitigation is required because of loss of environmental habitat; or

(4) An approved watershed management plan, or an integrated water resources management plan, or a regional storm water mitigation plan, or a wetlands recovery plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.

9. Inspection and Tracking System for Post-Construction Treatment Control BMPs

(a) Each Permittee shall develop and implement no later than (6 months from this Order's adoption) the following:

(1) A GIS or other electronic system for tracking projects that have been conditioned for post-construction treatment control BMPs. The electronic system, at a minimum, should contain the following information:

(A) Municipal Project ID.
(B) State WDID No.
(C) Project Acreage.
(D) BMP Type and Description.
(E) BMP Location (coordinates).
(F) Date of Acceptance.
(G) Date of O&M Certification.
(H) Maintenance Records.
(I) Inspection Date and Summary.
(J) Corrective Action.
(K) Date Certificate of Occupancy Issued.
(L) Replacement or Repair Date.

(2) A post-construction treatment control BMP inspection program to verify proper maintenance and operation of post-construction treatment control BMPs previously approved. The inspection program, at a minimum shall consist of the following elements:

(A) Post-construction treatment control BMP acceptance inspection to ensure proper installation.
(B) Post-construction treatment control BMP Inspection check list.
(C) Inspection at least once every 2 years, beginning (1 year after the Order's adoption), of post-construction treatment control BMPs to ensure treatment effectiveness, hydraulic function, and vector risk minimization, with particular attention to:

(i) Conventional Treatment BMPs - failure, invasive species vegetation, fugitive material, sediment clogging, and improper modifications.

(ii) Non-Proprietary Treatment Control BMPs – solids removal, pump-out, blockage and drawdown drainage;

(D) Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.

10. Developer Technical Guidance and Information

(a) The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include, at a minimum, the following:
   (1) Hydrologic (Flow/Volume/Duration) Control criteria described herein and the interim criteria based on hydrograph matching.
   (2) Expected BMP pollutant removal performance including consistent effluent quality and removal efficiency ranges (International BMP Database, technical reports and the scientific literature).
   (3) Appropriate BMPs for storm water POCs.
   (4) Data on Observed Local Effectiveness and performance of implemented BMPs.
   (5) BMP Maintenance and Cost Considerations.
   (6) Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits.
   (7) LID principles and specifications.

11. Project Review and Inter Department Coordination

(a) Each Permittee shall facilitate a process for effective approval of post-construction control measures. The process shall include:
   (1) Detailed BMP review including BMP sizing calculations, BMP pollutant removal effectiveness, and municipal approval.
   (2) An established structure for communication and delineated authority between and among municipal departments which have jurisdiction over project review, plan approval, and project construction through memoranda of understanding (MOU).

12. California Environmental Quality Act (CEQA) Document Update

(a) 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:
   (1) Potential impact of project construction on storm water runoff.

(2) Potential impact of project post-construction activity on storm water runoff.
(3) 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.
(4) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit.
(5) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies.
(6) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm.
(7) 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 Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended:
(1) Land Use.
(2) Housing.
(3) Conservation.
(4) Open Space.

(b) Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

F. Development Construction Program

Sediment losses due to erosion on construction sites are exacerbated during the wet season. Sediment is a primary pollutant impacting beneficial uses of watercourses. Sedimentation and siltation adversely affect fish spawning, and in time, alter aquatic habitat. Other pollutants including pesticides, herbicides, fertilizers, and metals, adsorb onto sediment particles and detrimentally impact biological systems and water quality.

1. Grading Prohibitions

(a) Each Permittee shall implement a program to control storm water discharges from construction activity at all construction sites within its jurisdiction. During the wet season, the program shall ensure that the following requirements are effectively implemented at all of the construction site categories listed below:
   (1) No grading shall occur between October 1 – April 15 (wet season) for construction projects in the following areas of high erosivity or receiving water impairment or sensitive habitat:
      (A) On hillsides with slopes 20% or steeper prior to land disturbance;
      (B) Directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment; or
      (C) Within or adjacent to an environmentally sensitive area (ESAs).

(b) If grading operations in these areas are not completed before the onset of the wet season beginning October 1st, grading shall be halted and effective erosion control measures shall be put in place to minimize erosion. Grading shall not resume until after April 15th. Depending on the project area, the developer shall implement the Erosion and Sediment control BMPs listed in Tables 5, 6, and 7.
   (1) A Grading Prohibition Variance may be granted by the Regional Water Board Executive Officer, where the Permittee can demonstrate that BMP measures proposed by the project proponent and approved by the Permittee can be reasonably expected to:
      (A) Not cause or contribute to the degradation of water quality.
      (B) Ensure that Total Suspended Solids discharged is 100mg/L or less.
      (C) Ensure that Turbidity of the discharge is 50 NTU or less.
      (D) Not impair beneficial uses.
      (E) Includes a monitoring program to ensure effectiveness.

2. Construction Sites Less than an Acre
   (a) Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites (see the following Table 5) to prevent erosion and sediment loss, and the discharge of construction wastes.[1] Where the Erosivity Factor (R) for the construction project is 50 or greater, erosion controls (erosion avoidance) will be the preferred BMPs.[2]

Table 5

[1] The BMPs are taken from the *California BMP Handbook, Construction, January 2003* and the *Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003*, and addenda.
[2] Fact Sheet, *Construction Rainfall Erosivity Waiver* (2001) EPA 833-F-00-014; *Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE)* (1997), USDA Agricultural Handbook No. 703.

Minimum Set of BMPs for All Construction Sites	CASQA Handbook	Caltrans Handbook
For Erosion Control		
Scheduling	EC-1	SS-1
Preservation of Existing Vegetation	EC-2	SS-2
Sediment Controls		
Silt Fence	SE-1	SC-1
Sand Bag Barrier	SE-8	SC-8
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004).[1]	NS-2	NS-2
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-2
Spill Prevention and Control	WM-4	WM-4
Solid Waste Management	WM-5	WM-5
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

3. Construction Sites 1 acre or greater but Less than 5 acres

(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 6) in addition to the ones identified in the preceding Table 5 at all construction sites 1 acre and greater but less than 5 acres to prevent erosion and sediment loss, and the discharge of construction wastes:

Table 6

BMPs	CASQA Handbook	Caltrans Handbook
For Erosion Control		
Hydraulic Mulch	EC-3	SS-3
Hydroseeding	EC-4	SS-4
Soil Binders	EC-5	SS-5
Straw Mulch	EC-6	SS-6
Geotextiles and Mats	EC-7	SS-7
Wood Mulching	EC-8	SS-8
Sediment Controls		
Fiber Rolls	SE-5	SC-5
Gravel Bag Berm	SE-6	SC-6
Street Sweeping and/or Vacuum	SE-7	SC-7
Storm Drain Inlet Protection	SE-10	SC-10
Additional Controls		
Wind Erosion Controls	WE-1	WE-1

[1] Ponded storm water may be discharged at a concentration of Total Suspended Solids (TSS) of 100mg/L or less.

Stabilized Construction Entrance/Exit	TC-1	TC-1
Stabilized Construction Roadway	TC-2	TC-2
Entrance/Exit Tire Wash	TC-3	TC-3
Non-Storm Water Management		
Vehicle and Equipment Washing	NS-8	NS-8
Vehicle and Equipment Fueling	NS-9	NS-9

Construction Sites 5 acres and Greater

(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 7) in addition to the ones identified in the preceding Tables 5 and 6 at all construction sites 5 acres and greater to prevent erosion and sediment loss, and the discharge of construction wastes:

Table 7

BMPs	CASQA Handbook	Caltrans Handbook
Sediment Controls		
Sediment Basin	SE-2	SC-2
Check Dam	SE-4	SC-4
Tracking Control BMPs		
Stabilized Construction Entrance/Exit	TR-1	TC-1
Non-Storm Water Management		
Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Spill Prevention and Control	WM-4	WM-4
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

4. Local Agency Requirements

(a) Each Permittee shall require for all construction sites 1 acre or greater, compliance with all conditions identified in the preceding F.1, F.2, F.3, and F.4, and the following requirements:
  (1) Local Storm Water Pollution Prevention Plan (Local SWPPP),
    (A) Each Permittee shall require the preparation and submittal of a Local SWPPP, for approval prior to issuance of a grading permit for construction projects.
      (i) The Permittee shall approve no Local SWPPP unless it includes appropriate construction site BMPs and maintenance schedules.

(ii) 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.

(iii) 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:

(iv) *"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."*

(2) Certification Statement

(A) Each Permittee shall require that each landowner or the landowner's agent sign a statement on the Local SWPPP 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."*

(B) The Local SWPPP certification shall be signed by the landowner as follows:

(i) Corporation - by a responsible corporate officer which means the following:

(I) 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

(II) Manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(ii) Partnership or sole proprietorship - by a general partner or the proprietor; or
(iii) Municipality or other public agency - by an elected official, a ranking management official (e.g., County/City Administrative Officer, City Manager, Director of Public Works, or City Engineer).

6. Electronic Site Tracking System

(a) Each Permittee shall use an electronic system to track grading permits, encroachment permits, demolition permits, building permits, or construction permits (and any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

7. Inspections

(a) Each Permittee shall inspect all construction sites for the implementation of storm water quality controls a minimum of once during the wet season. Concurrently, each Permittee shall ensure that:
(1) The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits.
(2) For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.
(3) If compliance with municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance as specified in municipal codes.
(4) If compliance has not been achieved, and the site is also covered under a Construction Activities Storm Water General Permit (CASGP) or Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the procedures listed in section D.3.(d)- Interagency Coordination of this Order.

(b) Prior to approving and/or signing off for occupancy and issuing the Certificate of Occupancy for all construction projects subject to post-construction controls, each Permittee shall inspect the constructed site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. The initial/ acceptance BMP verification inspection does not constitute an operation and maintenance inspection, as required in sections E.III.7.(a)(1) and G.6.(g)(1).

8. State Conformity Requirements

(a) Each Permittee shall ensure that no grading permit, encroachment permit, demolition permit, building permit, electrical permit, or construction permit (or any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the CASGP or Small LUP General Permit[1] unless:
(1) Proof of coverage under a State NPDES permit is demonstrated (a copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site).
(2) Demonstration or 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) Proof of an updated NOI(s) and a copy of the modified SWPPP(s) 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.

9. Interagency Coordination

(a) A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with:
(1) A minimum of 2 follow-up inspection reports (inspections completed within 3 months).
(2) A minimum of 2 warning letters or NOVs.

(b) Referral of Non-filers under the CASGP or the Small LUP General Permit: Each Permittee shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) under the CASGP or Small LUP General Permit, to the Regional Water Board, no later than 15 days after making a determination of failure to file. In making such referrals, Permittees shall include, at a minimum, the following documentation:
(1) Project location address.

[1] NPDES Permit No. CAS000005, Waste Discharge Requirements For Discharges of Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (Small LUP General Permit) for any linear land disturbing activity or activities (cumulatively) that will cause one acre or more of land disturbance but not more than 5 acres.

(2) Project description.
(3) Developer or owners name with complete mailing address.
(4) Project size.
(5) Records of communication with the developer or owner regarding filing requirements.

(c) Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:
(1) Each Permittee shall initiate, within 1 business day,[1] an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.
(A) The initial investigation shall include, at a minimum, an inspection on the facility and its perimeter to confirm the complaint and to determine if the site operator is effectively complying with the municipal storm water/urban runoff ordinances, and to oversee corrective action.

(d) Support of Regional Water Board Enforcement Actions – As directed by the Regional Water Board Executive Officer:
(1) Each Permittee shall support Regional Water Board enforcement actions by:
(A) Assisting in identification of current owners, operators, and lessees of properties and sites.
(B) Providing staff, when available, for joint inspections with Regional Water Board inspectors.
(C) Appearing to testify as witnesses in Regional Water Board enforcement hearings.
(D) Providing copies of inspection reports and other progressive enforcement documentation.

G. Public Agency Activities Program

Each Permittee shall implement a Public Agency Activities 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/Municipal Operations
- Landscape and Recreational Facilities Management

[1] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Infrastructure Maintenance - Long-term
- Public Industrial Activities Management
- Emergency Procedures
- Employee Training

1. Sewage System Maintenance, Overflow, and Spill Prevention Response Plan

   (a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction. The response Plan shall clearly identify agencies responsible and telephone numbers and email for any contact and shall contain at a minimum of the following procedures for:
   (1) Investigation of any complaints received within 24 hours of the incident report.
   (2) Response within two hours to overflows for containment upon notification.
   (3) Notification to appropriate sewer and public health agencies and the Office of Emergency Services (OES) when a sewer overflows to the MS4. This requirement includes notification to the affected public health agencies that are mandated to monitor beach conditions, within 2 hours in case a spill has the potential to be discharged through the MS4 into coastal beaches.

   (b) Each Permittee which owns and/or operates a sanitary sewer system, shall in addition to the preceding section 1(a), also implement the following requirements:
   (1) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.
   (2) Implement procedures and maintenance on schedules to prevent sewage spills or leaks from sewage facilities from entering the MS4.

   (c) Each Permittee with septic systems in their jurisdiction shall implement a response plan for overflows of septic system leachate to surface waters within their respective jurisdiction, and shall consist, at a minimum, of the following:
   (1) Investigation of any complaints received.
   (2) Response within two hours to overflows for containment, upon notification.
   (3) Notification within 24 hours to appropriate agencies and public health agencies when a septic system fails and flows to the MS4.

   (d) In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement the MS4 NPDES permit, other individual NPDES permits that may contain spill prevention, sewer maintenance, pretreatment programs and the SSO WDR will coordinate their compliance activities for consistency and efficiency.

2. Public Construction Activities Management

(a) Each Permittee shall implement and comply with the Development Planning Program requirements in Part 4. E of this Order at all Permittee owned or operated public construction projects.

(b) Each Permittee shall implement and comply with the Development Construction Program requirements in Part 4.F. of this Order at all Permittee owned or operated construction projects.

(c) Each Permittee shall obtain coverage under the CASGP for construction activities and projects that are:
   (1) Covered under 1 (or more) Capital Improvement Projects (including but not limited to street repaving, new streets, channel clearing[1]) or contract, and that individually or cumulatively disturb 1 acre or more of land; or
   (2) Less than 1 acre, but are part of a larger common plan of development that in total disturbs 1 or more acres of land; and
   (3) Linear construction project(s) that disturb 5 or more acres of land.

(d) Each Permittee shall obtain coverage under the Small LUP General Permit when disturbing at least 1 acre, but less than 5 acres of land during linear construction (land area includes trenching and staging areas).

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management/Long Term Maintenance Programs.

(a) Each Permittee shall implement the following BMPs[2] at all Permittee owned, leased facilities and job sites including but not limited to vehicle/ equipment maintenance facilities, material storage facilities, and corporation yards, and at any area that includes the activities as described in the following Tables. Additionally, for any activity or area described in the footnote below,[3] each Permittee shall also implement the BMPs in the Caltrans Storm Water Quality Handbook Maintenance Staff Guide described as B-4 in Table 8.

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[1] A CWA §401 certification may be required separately from the Regional Water Board for activities that occur within or adjacent to Waters of the U.S.. The Permittee shall obtain all necessary permits and certifications from the State and federal permitting authorities before commencing soil disturbing activities.

[2] These BMPs are identified in Appendix B of the *Caltrans Storm Water Quality Handbook Maintenance Staff Guide, May 2003*, and its addenda.

[3] Scheduling and Planning; Spill Prevention and Control; Sanitary/Septic Waste Management; Material Use; Safer Alternative Products; Vehicle/Equipment Cleaning, Fueling, and Maintenance; Illicit Connections Detection, Reporting and Removal; Illegal Spill / Discharge Control and Maintenance Facility Housekeeping Practices.

Table 8

From the Caltrans Storm Water Quality Handbook Maintenance Staff Guide

GENERAL BMPS	B-4
Flexible Pavement	B-9
Asphalt Cement Crack and Joint Grinding/Sealing	B-9
Asphalt Paving	B-10
Structural Pavement Failure (Digouts) Pavement Grinding and Paving	B-11
Emergency Pothole Repairs	B-13
Sealing Operations	B-14
Rigid Pavement	B-15
Portland Cement Crack and Joint Sealing	B-15
Mudjacking and Drilling	B-16
Concrete Slab and Spall Repair	B-17
Slope/Drains/Vegetation	B-19
Shoulder Grading	B-19
Nonlandscaped Chemical Vegetation Control	B-21
Nonlandscaped Mechanical Vegetation Control/Mowing	B-23
Nonlandscaped Tree and Shrub Pruning, Brush Chipping, Tree and Shrub Removal	B-24
Fence Repair	B-25
Drainage Ditch and Channel Maintenance	B-26
Drain and Culvert Maintenance	B-28
Curb and Sidewalk Repair	B-30
Litter/Debris/Graffiti	
Sweeping Operations	B-32
Litter and Debris Removal	B-33
Emergency Response and Cleanup Practices	B-34
Graffiti Removal	B-36
Landscaping	B-37
Chemical Vegetation Control	B-37
Manual Vegetation Control	B-39
Landscaped Mechanical Vegetation Control/Mowing	B-40
Landscaped Tree and Shrub Pruning, Brush Chipping, Tree and Shrub Removal	B-41
Irrigation Line Repairs	B-42
Irrigation (Watering), Potable and Nonpotable	B-43
Environmental	B-44
Storm Drain Stenciling	B-44
Roadside Slope Inspection	B-45
Roadside Stabilization	B-46
Storm Water Treatment Devices	B-48
Traction Sand Trap Devices	B-49
Public Facilities	B-50
Public Facilities	B-50
Bridges	B-52
Welding and Grinding	B-52

(b) Each Permittee shall obtain coverage under the CASGP no later than (7 days of adoption of Order 07-xxx) [Note: Refer Here To Ventura Permit Adoption Date Only]) for long-term maintenance programs including maintenance of flood control channels (such as vegetation removal), maintenance or replacement of streets, sidewalks, roads, and any other project that the Permittee undertakes including all Capital Improvement Projects (CIP) if either 1 or more acres of land are disturbed by grading, clearing or excavation activities for an individual project or cumulatively as part of several projects involving a soil disturbance.

4. Vehicle and Equipment Wash Areas

(a) Each Permittee shall eliminate discharges of wash waters from vehicle and equipment washing no later than (365 days after permit adoption) by implementing any of the following measures at existing facilities with vehicle or equipment wash areas:
(1) Self-contain, and haul off for disposal;
(2) Equip with a clarifier;
(3) Equip with an alternative pre-treatment device; or
(4) Plumb to the sanitary sewer.

(b) Any municipal facilities constructed, redeveloped, or replaced shall have all vehicle and equipment wash areas plumbed to the sanitary sewer or be self contained and all wastewater/washwater hauled for legal disposal.

5. Landscape, Park, and Recreational Facilities Management

(a) Integrated Pest Management (IPM)
Each Permittee shall implement a jurisdiction-wide IPM program (an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.) and ensure that:
(1) Pesticides are used only if, after monitoring indicates they are needed according to established guidelines.
(2) Treatments are made with the goal of removing only the target organism.
(3) Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial, non-target organisms, and the environment.
(4) Its use of pesticides, including Organo-phosphates and Pyrethroids do not threaten water quality.
(5) Partner with other agencies and organizations to ensure that pesticide use within their jurisdiction does not threaten water quality.
(6) Adopt and verifiably implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and encouraging the use of IMP techniques (including beneficial insects) in the Permittees' overall operations and on municipal property.
(7) Policies, procedures, and ordinances shall include commitments and timelines to reduce and ultimately eliminate the use of pesticides that cause impairment of surface waters by implementing the following procedures:
(A) Quantify pesticide use by its staff and hired contractors.
(B) Prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units.
(C) Demonstrate reductions in pesticide use.

(b) Each Permittee shall implement the following requirements no later than (180 days following permit adoption):
(1) Use a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers.
(2) Comply with the provisions and the monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2004-0008-DWQ).
(3) Ensure no application of pesticides, herbicides or fertilizers are applied to an area immediately prior to, during, or immediately after a rain event, or when water is flowing off the area.
(4) Ensure that no banned or unregistered pesticides and herbicides are stored or applied.
(5) Ensure that all staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator.
(6) Implement procedures to encourage the retention and planting of native vegetation to reduce water, pesticide, herbicide and fertilizer needs; and
(7) Store pesticides, herbicides and fertilizers indoors or under cover on paved surfaces or use secondary containment.
(A) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills.
(B) Regularly inspect storage areas.

6. Storm Drain Operation and Management

(a) Catch Basin Cleaning
(1) 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.
Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.
Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.

(2) Each Permittee shall clean catch basins according to the following schedule:
Priority A: A minimum of 3 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.
(3) In addition to the preceding schedule, Permittees shall ensure that any catch basin that is at least 25% full of trash and/or debris shall be cleaned out.

(b) Trash Management at Public Events
(1) Each Permittee shall require for any event in the public right of way or wherever it is foreseeable that substantial quantities of trash and litter may be generated, that the following measures be implemented:
(A) That conditions be placed on any special use permit issued for such event; and
(B) Require the proper management of trash and litter generated; and
(C) Arrange for temporary screens to be placed on catch basins; or
(D) Clean out catch basins, trash receptacles, and grounds in the event area within 24 hours subsequent to the event.

(c) Trash Receptacles
(1) Each Permittee shall install trash receptacles at all transit stops in commercial areas and near schools within its jurisdiction no later than (6 months from the Order's adoption).
(2) Each Permittee shall ensure that all trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.

(d) Catch Basin Labels
(1) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest each catch basin and inlet before the rainy season begins.
(2) Each Permittee shall record and re-stencil or re-label within 15 days of inspection, catch basins with illegible stencils.

(e) Catch Basin Excluders
(1) Each Permittee shall install trash excluders, or similar devices on catch basins to prevent the discharge of trash to the storm drain system on all catch basin inlets no later than (180 from permit adoption).

(f) Storm Drain Maintenance
(1) Each Permittee shall implement a program for Storm Drain Maintenance no later than (180 days after permit adoption) that includes the following:
(A) Visual monitoring of Permittee-owned open channels and other drainage structures for debris at least annually.
(B) Annually, based on the monitoring in the preceding section 6.(a), identify and prioritize problem areas of illicit discharge for regular inspection.
(C) Conduct a review of maintenance activities to assure that the most appropriate storm water BMPs are being utilized to protect water quality.
(D) Remove trash and debris from open channel storm drains a minimum of once per year before the storm season.

(E) Eliminate the discharge of contaminants during MS4 maintenance and clean outs.
(F) Quantify the amount of materials removed using standard measures and ensure the materials are properly disposed of.

(g) Permittee Owned Treatment Control BMPs
(1) Each Permittee shall implement an inspection and maintenance program for all Permittee owned treatment control BMPs, including post-construction treatment control BMPs.
(2) Each Permittee shall ensure proper operation of all treatment control BMPs and maintain them as necessary for proper operation, including post-construction treatment control BMPs.
(3) Any residual water within a treatment control BMP when being maintained shall be:
(A) Hauled away and legally disposed of;
(B) Discharged to the sanitary sewer system (with permits or authorization); or
(C) Treated to remove bacteria, sediments, nutrients, and meet the limitations set in Table 9 prior to discharge to the MS4.

Table 9

Discharge Limitations for Dewatering Treatment BMPs[1]

Parameter	Units	Limitation
Total Dissolved Solids	mg/L	1550
Nitrogen (Nitrate-nitrogen plus nitrite nitrogen)	mg/L	8
Total Suspended Solids	mg/L	100
Turbidity	NTU	50
Oil and Grease	mg/L	10
TPH	µg/L	100
COD	mg/L	120
Cu	µg/L	22.1
Pb	µg/L	12.8
Ni	µg/L	100
Zn	µg/L	170
E. Coli	per 100 ml	235 (fresh water)
Fecal Coliform	per 100 ml	400 (fresh water)

7. Streets and Roads

[1] Limits are from the Water Quality Control Plan Los Angeles Region (Basin Plan) and U.S. EPA Benchmark Values.

(a) Maintenance
(1) Each Permittee shall perform street sweeping of curbed streets in commercial areas to control trash and debris at least 2 times per month.

(b) Road Construction and Reconstruction
(1) Each Permittee shall implement the following BMPs for road reconstruction:
(A) Drain Inlet protection from sediments.
(B) Dewatering of below grade construction areas.
(C) Secondary containment for cold mix.
(D) Sheeting underneath cold mix (during storage) to prevent discharge of spray release, and
(E) Sheeting to cover cold mix (during storage).
(F) If street material is to be concrete, then provide a vehicle wash off area that is isolated from the MS4.

8. Infrastructure Maintenance - Long-term

(a) Each Permittee shall obtain coverage under the CASGP for all long-term maintenance programs including but not limited to any project under the Capital Improvement Program (CIP) including but not limited to: pavement replacement; sidewalk replacement; channel maintenance; roadside maintenance (such as: vegetation removal); or grading, clearing or excavation activities that disturb 1 or more acres of land either for an individual project or as part of a long-term city/county plan that may be less.

9. Public Industrial Activities Management

(a) Each Permittee shall obtain separate coverage under the IASGP for any municipal activity subject to U.S. EPA regulations at CFR 122.26 for the discharge of storm water associated with industrial activity. These facilities include, but are not limited to:
(1) Publicly owned wastewater treatment plants with a design flow of 1 MGD or more or required to have an approved pretreatment program under 40 CFR 403.
(2) Landfills that receive or have received industrial waste or subject to regulation under Subtitle D of EPRCA.
(3) Hazardous Waste Treatment, Storage and Disposal Facilities.
(4) Steam Electric Power Generating Facilities.
(5) Airports (SIC Major Group 45).
(6) Ports (SIC Major Group 44).
(7) Local and Suburban Transit (SIC Major Group 41).

10. Municipal Potable Water Supply System and Distribution De Minimus Discharges

    (a) Each Permittee which owns or operates or maintains a potable water supply system(s) and which performs maintenance of that system by flushing hydrants or other system components, may discharge such waters to the storm drain system provided:
        (1) The total volume of discharges annually is no more than 100,000 gallons[1] for the system per year.
        (2) BMP(s) are implemented to ensure that:
            (A) Chlorine concentration of the discharge is 0.1mg/L or less[2].
            (B) Turbidity is at 50 NTUs or less so as to minimize the discharge of sediment.
            (C) No erosion is caused down side of the discharge.

11. Emergency Procedures

    (a) Each Permittee may conduct repairs of essential public service systems and infrastructure in emergency situations with a self-waiver of the provisions of this Order. An emergency is a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences including riot, accident, or sabotage.
        (1) Where the self-waiver has been invoked, the Permittee shall submit to the Regional Water Board Executive Officer a statement of the occurrence of the emergency, an explanation of the circumstances, and the measures that were implement to reduce the threat to water quality, no later than 7 business days after the situation of emergency has passed.

12. Municipal Employee and Municipal Contractor Training

    (a) Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors in targeted positions (whose interactions, jobs, and activities affect storm water quality) on the requirements of the overall storm water management program to:

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[1] If greater than 100,000 gallons per year, then coverage under a separate NPDES permit from the Regional Water Board (NPDES Permit No. CAG674001) is required.
[2] BMPs for dechlorination include the addition of Sodium Thiosulfate per manufacturer specifications, or aeration that will reduce residual chlorine concentration in water to 0.1mg/L or less.

(1) Promote a clear understanding of the potential for activities to pollute storm water.
(2) Identify opportunities to require, implement, and maintain appropriate BMPs in their line of work.

(b) Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors who use or have the potential to use pesticides, herbicides or fertilizers (whether or not they normally apply these as part of their work). Training programs shall address:
(1) The potential for pesticide-related surface water toxicity.
(2) Proper use, handling, and disposal of pesticides.
(3) Least toxic methods of pest prevention and control, including IPM.
(4) Reduction of pesticide use.

(c) Each Permittee shall, no later than (6 months from the permit adoption) and annually thereafter before June 30, train all of their employees and contractors who are responsible for illicit connections and illicit/illegal discharges. Training programs shall address:
(1) Identification.
(2) Investigation.
(3) Termination.
(4) Cleanup.
(5) Reporting of Incidents.
(6) Documentation of Incidents.

H. Illicit Connections and Illicit Discharges Elimination Program

Each Permittee shall eliminate all Illicit Connections and Illicit Discharges (IC/ID) 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 shall implement an IC/ID Program. The IC/ID procedures shall be documented and made available for review.

(b) Tracking - All Permittees shall, no later than (2 years after the adoption of this Order), map at a scale and in a format specified by the Principal Permittee all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee incidents of illicit connections and discharges on their baseline maps, and shall transmit this

information to the Principal Permittee no later than (2 years after the adoption of this Order). Permittees shall use this information to identify priority areas for further investigation and elimination of IC/ID.

2. Public Reporting

(a) Permittees shall establish and maintain a phone hotline and internet site to receive all reports of IC/ID complaints.

(b) Permittees shall document the location of the reported IC/ID and the actions undertaken in response to all IC/ID complaints.

3. Illicit Connections

(a) Screening for Illicit Connections

(1) The Permittees shall submit to the Principal Permittee:

(A) A GIS layer showing the location and length of underground pipes 18 inches and greater in diameter, and channels within their jurisdiction in accordance with the following schedule:

(i) All channeled portions of the storm drain system no later than (365 days after the adoption of this Order).

(ii) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater, (no later than 3 years after the adoption of this Order).

(iii) All portions of the storm drain system consisting of storm drain pipes 18 inches in diameter or greater, (no later than 5 years after the adoption of this Order).

(B) The status of suspected, confirmed, and terminated illicit connections.

(2) Permittees shall conduct field screening of their storm drain systems in accordance with screening procedures described in the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments (2004).[1] Permittees shall conduct field screening for illicit connections in accordance with the following schedule:

(A) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater no later than (5 years after the adoption of this Order).

(B) High priority areas identified during the mapping of illicit connections and discharges no later than (5 years after the adoption of this Order).

[1] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4

(C) All portions of storm drain systems 50 years or older in age no later than (5 years after the adoption of this Order).

(3) Each Permittee shall maintain a list containing all connections under investigation for possible illicit connection and their status.

(b) Response to Illicit Connections

(1) Investigation -
Upon discovery or upon receiving a report of a suspected illicit connection, a Permittee shall complete an investigation within 21 days, to determine the following:
(A) Source of the connection.
(B) Nature and volume of discharge through the connection.
(C) Responsible party for the connection.

(2) Termination -
Upon confirmation of an illicit storm drain connection, a Permittee shall ensure the following:
(A) Termination of the connection within 180 days of completion of the investigation, using formal enforcement authority to eliminate the illicit connection.

(3) Documentation -
Permittees shall keep records of all illicit connection investigations and the formal enforcement taken to eliminate all illicit connections.

4. Illicit Discharges

(a) Investigation -
The Permittees shall investigate an illicit/illegal discharge during or immediately following containment and cleanup activities, and shall take formal enforcement action to eliminate the illegal discharge.

(b) Abatement and Cleanup -
Each Permittee shall respond, within 1 business day of discovery or a report of a suspected illicit/illegal discharge, with actions to abate, contain, and clean up all illegal discharges, including hazardous substances.

(c) Documentation -
Permittees shall maintain records of all illicit/illegal discharge discoveries, reports of suspected illicit/illegal discharges, their response to the illicit/illegal discharges and suspected illicit/illegal discharges, and the formal enforcement taken to eliminate all illicit/illegal discharges.

I. REPORTING PROGRAM

1. The Principal Permittee in consultation with the Permittees and Regional Water Board staff shall convene an adhoc working group to develop an Electronic Reporting Program, the basis of which shall be the questions in the attached Monitoring Report and Program Report (Reporting Program- Attachment "H") for approval by the Regional Water Board Executive Officer. The Committee shall no later than (6 months of permit adoption):

   (a) Develop an electronic reporting format.

   (b) Include requirements as basis for reporting.

2. Each Permittee shall submit information required in the Reporting Program in a method as appropriate to the format approved by the Regional Water Board Executive Officer.

3. The Principal Permittee shall submit by December 15th of each year beginning the year of 2007, an Annual Report to the Regional Water Board Executive Officer in the form of one hard copy and three compact disk (CD) copies (or an electronic equivalent).

4. The Annual Report shall document the status of the General Storm Water Program, an integrated summary of the results of analyses from:
   (a) The monitoring program described under Part 1- Monitoring Report.

   (b) The requirements described under Part 2-Program Report.

5. Plans shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a compact disk (CD), submit 1 hard copy and 3 CD copies.

6. Study Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

7. Progress Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

PART 5 - WATERSHED ECOLOGICAL RESTORATION PLANNING

Restoration of a degraded aquatic ecosystem to a close approximation of its remaining natural potential is a complex process that requires planning, implementation, monitoring, and management. The purpose of ecological restoration planning is to provide a tool that can

produce improvements in the quality of our water resources to support diverse, productive communities of plants and animals that provide significant ecological and social benefits.[1]

1. The Permittees shall develop and implement Watershed Ecological Restoration Plans (ERP) and submit Annual Watershed Ecological Restoration Status Reports (ERSR) in accordance with the requirements in Part 5 of this Order.

2. The Permittees shall develop ERPs for all Watershed Management Areas' (WMA) stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring (Attachment "F", section E).

3. The ERPs shall include the following Restoration Principles:[2]
   (a) Preserve and protect aquatic resources.
   (b) Restore ecological integrity.
   (c) Restore natural structure.
   (d) Restore natural function.
   (e) Work within the watershed and broader landscape context.
   (f) Understand the natural potential of the watershed.
   (g) Address ongoing causes of degradation.
   (h) Develop clear, achievable, and measurable goals.
   (i) Focus on feasibility.
   (j) Use a reference site.
   (k) Anticipate future changes.
   (l) Involve the skills and insights of a multi-disciplinary team (such as: Wetlands Recovery Project and Ventura County Task Force of the Wetlands Recovery Project).
   (m) Design for self-sustainability.
   (n) Use passive restoration, when appropriate.
   (o) Restore native species and avoid non-native species.
   (p) Use natural fixes and bioengineering techniques, where possible.
   (q) Monitor and adapt where changes are necessary.

4. Permittees within WMA, shall develop ERP for the degraded stream segments of the Ventura River, Santa Clara River and Calleguas Creek, according to the following schedule:

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[1] U.S. EPA, 1995. *Ecological Restoration.* EPA841-F-95-007. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC.
[2] U.S. EPA, 2000. *Principles for the Ecological Restoration of Aquatic Resources.* EPA841-F-00-003. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC. 4 pp.

(a) Starting with the Ventura River, a Watershed ERP is to be developed and implemented for all river segments with a score of "poor" and "very poor" within 18 months from adoption of this Order and submitted to the Regional Water Board Executive Officer for approval.

(b) An ERP for the Santa Clara River and Calleguas Creek are to be developed and implemented for all river segments with a score of "poor" and "very poor" within 18 months from the end of their second monitoring year and submitted to the Regional Water Board Executive Officer for approval.

5. The Permittees shall submit Annual ERSR on the WMA ERP, which shall to include:
(a) Background information.
(b) Evaluation of site conditions.
(c) Progress towards goals summarized and linked to specific stressors and measurements endpoints.
(d) Bioassessment monitoring assessment(s).

PART 6 - TOTAL MAXIMUM DAILY LOAD PROVISIONS

Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing points (Waste Load Allocation) and non-point sources (Load Allocation). Municipal storm water discharges are considered a point source and have been assigned a WLA for certain pollutants. The objective of the TMDL is to restore the waterbody to the highest beneficial use or potential beneficial use designated by the Regional Water Board.

This Order incorporates MS4 WLAs that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA. The WLAs in the Order are expressed either as a numerical limitation, or a suite of BMPs that have been determined as providing a reasonable expectation that the WLAs will be achieved for wet weather flows, or as a prohibition for dry weather flows. Permittees shall implement all control measures to achieve the TMDL WLA(s) as stated in the TMDL by the WLA(s) effective date(s).

1. **Watershed - Pollutant**
   Santa Clara River and its Tributaries' (Reach 3) - Nitrogen Compounds (Ammonia and Nitrate plus Nitrite).

   (a) WLA Implementation
      (1) Prohibition:
      Permittees (Ventura County Watershed Protection District, and the Cities of Santa Paula and Fillmore) in the Santa Clara River and its Tributaries' (Reach 3) shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination.*[1] Permittees shall conduct field screening for illicit connections in accordance with the following schedule:
         (A) All portions of the storm drain system consisting of storm drain pipes and open channels/drains 12 inches in diameter or greater within 5 years after the adoption of this Order.
         (B) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.
         (C) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.
         (D) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.
         (E) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/or 5 or more industrial NPDES storm water sites per square mile within 5 years after the adoption of this Order.
      (2) Numerical Limits:
      The WLAs are expressed as numerical limits in-stream for Ammonia and Nitrate within the Santa Clara River and its Tributaries' Watershed (Reach 3), established for its MS4 Permittees are following:
         (A) MS4 Permittees shall not exceed water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria for Ammonia and Nitrate plus Nitrite.

[1] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.* the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4

2. **Watershed - Pollutant**
Malibu Creek and Lagoon - Bacteria

(a) WLA Implementation

(1) Prohibition:
MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Simi Valley and Thousand Oaks) discharging to Malibu Creek and Lagoon shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination.*[1] Permittees shall conduct screening for illicit connections in accordance with the following schedule:

(A) All portions of the storm drain system consisting of storm drain pipes 12 inches in diameter of greater within 5 years after the adoption of this Order.

(B) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.

(C) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.;

(D) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.

(E) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/or 5 or more industrial NPDES storm water sites per square mile within 5 years after the adoption of this Order.

(2) Numerical Limits:
The WLAs are expressed as exceedence days in-stream for Bacteria within Malibu Creek and Lagoon Watershed, established for its MS4 Permittees are the following (see Table 10):

[1] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4.

Table 10

Bacteria (ml) in-stream

Weather	**Summer Dry (April 1 - October 31)**
WLA	Daily Exceedence Sampling Days = 0 Weekly Exceedence Sampling Days = 0
Weather	**Winter Dry (November 1 - March 31)**
WLA	Daily Exceedence Sampling Days = 3 Weekly Exceedence Sampling Days = 1
Weather	**Wet (November 1 - October 31)**
WLA	Daily Exceedence Sampling Days = 17 Weekly Exceedence Sampling Days = 3
Marine Water	
Geometric Mean	Total coliform density not to exceed 1,000/100 ml
	Fecal coliform density not to exceed 200/100ml
	Enterococcus density not to exceed 35/100 ml
Single Sample	Total coliform density not to exceed 1,000/100 ml
	Fecal coliform density not to exceed 200/100ml
	Enterococcus density not to exceed 35/100 ml
	Total coliform density not to exceed 1,000/100 ml, if the ratio of fecal-to-total coliform >.1
Fresh Water	
Geometric Mean	E. coli not density to exceed 126/100 ml
	Fecal coliform density not to exceed 200/100ml
Single Sample	E. coli density not to exceed 235/100 ml
	Fecal coliform density not to exceed 400/100ml

3. **Watershed - Pollutant**
Calleguas Creek, its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.

(a) WLA Implementation

(1) Numerical Limits:
The WLAs are expressed as numerical limits in-stream for Toxicity, Chlorpyrifos and Diazinon within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 11):

Table 11

Toxicity (TUc) in-stream

Weather	Dry
WLA	1.0

Chlorpyrifos (ug/L) in-stream

Weather	Dry	Dry
WLA	Interim	Final
Chronic (4 day)	0.45	0.014

Diazinon (ug/L) in-stream

Weather	Dry	Dry
WLA	Interim	Final
Acute (1hr.)	1.73	0.10
Chronic (4 day)	0.556	0.10

4. **Watershed - Pollutant**
Calleguas Creek, its Tributaries and Mugu Lagoon[1] - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation

(1) Numerical Limits:
The WLAs expressed as numerical limits in-sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation within Calleguas Creek, its Tributaries and Mugu Lagoon established for the MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 12):

[1] Point Mugu Naval Air Weapons Station is not a Phase I MS4 Permittee.

Table 12

OC Pesticides and PCBs (ng/g) in-sediment

Weather	Dry	Dry	Dry	Dry	Dry
WLA	Interim	Interim	Interim	Interim	Interim
	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Chlordane	17.0	48.0	3.3	3.3	3.4
4,4-DDD	66.0	400.0	290.0	14.0	5.3
4,4-DDE	470.0	1,600.0	950.0	170.0	20.0
4,4-DDT	110.0	690.0	670.0	25.0	2.0
Dieldrin	3.0	5.7	1.1	1.1	3.0
PCBs	3,800.0	7,600.0	25,700.0	25,700.0	3,800.0
Toxaphene	260.0	790.0	230.0	230.0	260.0

OC Pesticides and PCBs (ng/g) in-sediment

Weather	Dry	Dry	Dry	Dry	Dry
WLA	Final	Final	Final	Final	Final
	Calleguas Creek	Revolon Slough	Arroyo Las Posas	Arroyo Simi	Conejo Creek
Chlordane	3.3	0.9	3.3	3.3	3.3
4,4-DDD	2.0	2.0	2.0	2.0	2.0
4,4-DDE	1.4	1.4	1.4	1.4	1.4
4,4-DDT	0.3	0.3	0.3	0.3	0.3
Dieldrin	0.2	0.1	0.2	0.2	0.2
PCBs	120.0	130.0	120.0	120.0	120.0
Toxaphene	0.6	1.0	0.6	0.6	0.6

Siltation (tons/yr.)

WLA	Per year
To Mugu Lagoon	2,496.0

PART 7 - DEFINITIONS

The following are definitions for terms in this Order:

43,560 Square Foot Commercial Development - means any commercial development that creates at least 43,560 square feet of surface area, including parking areas (43,560 sq. ft. equals 1 acre).

Adverse Impact - means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

Agriculture - means the science, art, and business of cultivating the soil, producing crops, and raising livestock.

Antidegradation Policies - refers to the State (*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, and federal policies, which protects high quality surface waters. 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 § 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.

Areas Subject to Storm Water Mitigation Requirements - means areas designated as an Area of Special Biological Significance (ASBS) by the State Board, an area designated as a significant natural resource by the California Resources Agency, or an area identified by the discharger as environmentally sensitive for water quality purposes, based on the Regional Water Board Basin Plan and CWA § 303(d) Impaired Water-bodies List for the County of Ventura.

Authorized Discharge - means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

Authorization to discharge storm water from storm water treatment BMPs - This Order authorizes discharges from storm water treatment BMPs implemented or installed by the Permittees to reduce the discharge of pollutants in storm water discharges during rain events. All

storm water BMPs shall be maintained at a frequency as specified by the manufacturer or more frequently. All storm water BMPs shall be drained to avoid stagnation or breeding of vectors.

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.

Automotive Service Facilities - means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes. 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.

SIC Code	Corresponding NAICS Code
5013	425120, 441310, 425110, & 423120
5014	425120, 425110, 423130, & 441320
5511	441110
5541	447110, & 447190
7532	811121
7533	811112
7534	326212, & 811198
7536	811122
7537	811113
7538	811111
7539	811198, & 811118

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 Water 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 Water 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.

California Environmental Quality Act (CEQA) - means a California statute that requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible (Reference: California Public Resources Code § 21000 et seq.)

Commercial Area(s) - means any geographic area of the Permittees' jurisdiction that is not heavy industrial or residential. A commercial area includes, but is not limited to areas surrounding: commercial activity, 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.

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 any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction also includes structure tear down, routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility; but does not 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.

Construction Activities Storm Water General Permit (CASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from construction activities under certain conditions.

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 any swimming pool discharge with a residual chlorine or bromine level of 0.1mg/L; and does not contain any detergents, wastes, algaecides, or cyanuric acid in excess of 50 ppm, or any other additional chemicals including salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash or swimming pool water containing bacteria.

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 any 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.

Directly Discharging - means outflow from a drainage conveyance system that is composed entirely or predominately of flows from the subject, property, development, subdivision, or industrial facility and not commingled with the flows from adjacent lands.

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 any area that is altered as a result of land disturbance. Examples include but are not limited to: clearing, grading, grubbing, stockpiling and/or excavation, etc...

Effluent limitation - means any restriction imposed by the Permitting Authority (PA) on quantities, discharge rates, concentrations, and/or mass loadings of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Emergency - means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage (Reference: California Public Resources Code § 21060.3. Emergency).

Environment - means the physical conditions, which exist within the area which, will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

Environmentally Sensitive Area - 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" (Reference:

California Public Resources Code § 30107.5). ESAs subject to storm water mitigation requirements are:

1. Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use.

2. California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

Federal Clean Water Act (CWA) - means (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92—500, as amended by Public Law 95—217, Public Law 95—576, Public Law 96—483 and Public Law 77—117, 33 U.S.C. 1251 et seq.

First Storm Event - means the first storm event of the wet season that produces at least 0.25 inches of rain.

Forest Land - means land at least 10 percent stocked with live trees, or land that had this minimum tree stocking in the past and is not currently developed for nonforest use. The minimum area recognized is 1 acre.

Groundwater Dewatering - means the active practice of removing standing water from soil excavations using a pump(s) or other means.

Hillside - means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 20% or greater and where grading contemplates cut or fill slopes.

Horse Stables - means a property where at least one horse is stabled at least part of the year.

Hydromodification - means the alteration away from a natural state of stream flows or the beds or banks of rivers, streams, or creeks, including ephemeral washes, which results in hydrogeomorphic changes

Illegal Discharge - means any discharge to the municipal separate storm sewer (storm drain system) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illegal discharge includes all non-storm water discharges not composed entirely of storm water except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or discharges authorized by the Regional Water Board Executive Officer.

Illicit Connection - means any engineered conveyance that is connected to the storm drain system without a permit or municipal authorization. It also means any engineered conveyance

through which discharges of pollutants to the separate storm drainage systems, which are not composed entirely of storm water or are not authorized by an NPDES permit.

Illicit Discharge - means any discharge to a municipal separate storm sewer (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 not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or authorized by the Regional Water 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 either the Standard Industrial Classifications (SIC) or the North American Industry Classification System (NAICS). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Industrial Activities Storm Water General Permit (IASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Industrial Park - means a land development that is set aside for industrial development. Industrial parks are usually located close to transport facilities, especially where more than one transport modalities coincide: highways, railroads, airports, and navigable rivers. It includes office parks, which have offices and light industry.

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).
9. Report preparation, and if appropriate, recommendations for coming into compliance.

Integrated Pest Management (IPM) - means a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

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 Water Board designated Ventura County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 669,016 thousand, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

Local SWPPP - means the Local Storm Water Pollution Prevention Plan (LSWPPP) required by the local agency for a project that disturbs one or more acres of land. Shall mean a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred as a Storm Water Pollution Control Plan (SWPCP).

Maximum Extent Practicable (MEP) - means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 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." Also, see State Board Order WQ 2000-11, page 20 and Browner decision (Defenders of Wildlife v. Browner (1999), 191 F.3d 1159).

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 "G" of this Order.

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. The ML value represents 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. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique.

Municipal Separate Storm Sewer System (MS4) - means a conveyance or system of conveyances (including roads w/drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), as defined in 40 CFR 122.26(b)(8):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under § 208 of the Federal Clean Water Act (CWA) that discharges into waters of the United States.
2. Designed or used for collecting or conveying storm water.
3. Which is not a combined sewer.
4. Which is not part of a Publicly Owned Treatment Works (POTW), as defined in 40 CFR 122.2.

NAICS - means North American Industry Classification System.

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 and replacement 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.

Nursery - The NAICS will be used to classify nursery operations and determine the type of operations covered under this Order and those covered under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver).

(a) There are 3 broad NAICS sectors available to classify nurseries:
  (1) 111xxx - Crop Production - Agriculture.
  (2) 424xxx - Merchant Wholesalers, Nondurable Goods.
  (3) 44xxxx - Retail Trade.
    (A) **Nursery (Agricultural Facilities - Crop Production)** - means Nursery and Floriculture Production under NAICS Code 11142x. These operations are subject to the **Conditional Waiver**. This industry comprises establishments primarily engaged in (1) growing nursery and floriculture products (e.g., nursery stock, shrubbery, cut flowers, flower seeds, foliage plants, sod) under cover or in open fields and/or (2) growing short rotation woody trees with a growing and harvesting cycle of 10 years or less for pulp or tree stock (e.g., cut Christmas trees, cottonwoods).
    (B) **Nursery (Commercial Facilities - Merchant Wholesalers, Nondurable Goods, and Retail Trade)** - means industries Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers under NAICS Code 424930; and Nursery, Garden Center, and Farm Supply Stores under NAICS Code 444220. This Order covers these types of operations. The industry in NAICS Code 424930 comprises establishments primarily engaged in the merchant wholesale distribution of flowers, florists' supplies, and/or nursery stock (except plant seeds and plant bulbs). The industry in NAICS Code 444220 comprises establishments primarily engaged in retailing nursery and garden products, such as trees, shubs, plants, seeds, bulbs, floriculture products and sod, which are predominantly grown elsewhere. These establishments may sell a limited amount of a product they grow themselves.

Open Channel – means a storm drainage channel that is not a natural water course.

Parking Lot - means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use.

Permit - means an authorization, license, or equivalent control document issued by EPA 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-Permittee(s) and any agency named in this Order as being responsible for permit conditions within its jurisdiction, as defined by Federal Regulation. Permittees to this Order include the Ventura Water Protection District, Ventura County, and the cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley and Thousand Oaks.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

Point Zero - means in the context of the TMDLs, the point at which water from the storm drain or creek initially mixes with water. Point zero has been selected as the compliance point for the TMDL numeric target because access to these drains is, on the whole, not restricted.

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 Drinking Water Supply - means potable drinking water supply releases that are consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Drinking Water Supply Releases - means potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Water Distribution Systems Releases - means releases of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, 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 nor discharge of water from a line that has come into contact with soil as in a trench. Nonetheless, all potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion at

the discharge point or downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Pre-Developed Condition - means native vegetation and soils that existed at a site prior to first development. The pre-developed condition may be assumed to be an area with the typical vegetation, soil, and storm water runoff characteristics of open space areas in coastal Southern California unless reasonable historic information is provided that the area was atypical.

Priority Pollutants - means those constituents referred to in 40 CFR 401.15 and listed in the U.S. EPA 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 (Reference: California Public Resources Code § 21065).

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 supports 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.

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 U.S. EPA or the authorized representative of the Regional Administrator.

Report of Waste Discharge (ROWD) - means an application for renewal of the NPDES Permit for Waste Discharge Requirements for Municipal Separate Storm Sewer Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein.

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).

Restoration - means the reestablishment of predisturbance aquatic functions and related physical, chemical and biological characteristics (Reference: National Research Council. 1992. Restoration of Aquatic Ecosystems: Science, Technology and Public Policy. National Academy Press, Washington, D.C.)

Retail Gasoline Outlet (RGO) - means any facility engaged in selling gasoline and lubricating oils- SIC 5541 and NAICS 447110 & 447190.

- RGOs: 447190 Other Gasoline Stations:
  This industry comprises establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/or providing food services.
- RGOs: 447110 Gasoline Stations with Convenience Stores:
  Retailing automotive fuels in combination with a convenience store or food mart.

Runoff - means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. It is typically comprised of nuisance flows contaminated with pollutants.

SARA Title III - is the Superfund Amendment and Reauthorization Act of 1986 also known as the Emergency Planning and Community Right-To-Know Act (EPCRA). This act mandated the establishment of State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), and Local Emergency Planning Committees (LEPCs) who are responsible for preparing for hazardous materials emergencies through planning and training.

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 only sidewalk rinsing using high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed. Any waste generated from the activity must be collected and properly and legally disposed of. It does not mean hosing of any sidewalk nor street with a garden hose with a pressure nozzle.

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.

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.

SMC - means Southern California Stormwater Monitoring Coalition. The Stormwater Monitoring Coalition is a collaborative research/monitoring partnership of the Southern California Water Boards, Municipal Storm Water Agencies, and municipalities to develop the methodologies and assessment tools to more effectively understand urban storm water and non-storm water (anthropogenic) impacts to receiving waters and to conduct research/monitoring through Subsequent Research Implementation Agreements. The first original cooperative agreement was entered into on February 8, 2001.

Small Construction - means any soil disturbing activities less than 5 acres.

SoCal B-IBI - means Southern California Benthic Index of Biological Integrity.

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.

Stream - means a body of flowing water; natural water course containing water at least part of the year. In hydrology, it is generally applied to the water flowing in a natural channel as distinct from a canal (Reference: US Geological Survey).

Strip Mall - means a commercial development that is a shopping center where the stores are arranged in a row, with a sidewalk in front. Strip malls are typically developed as a unit and have large parking lots in front. They face major traffic arterials and tend to be self-contained with few pedestrian connections to surrounding neighborhoods. It is also called a plaza.

Storm Sampling Event - means a rainfall event that produces more than 0.25 inch of precipitation and that, which is separated from the previous storm event by at least 1 week of dry weather, for the purpose of monitoring.

Storm Water - means storm water runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Storm Water Discharge Associated with Industrial Activity - means industrial discharge, as defined in 40 CFR 122.26(b)(14).

Storm Water Pollution Control Plan (SWPCP) - means a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred to as a Local Storm Water Pollution Prevention Plan (LSWPPP)

Storm Water Quality Management Program - means the Ventura Countywide Storm Water Quality Management Plan, 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 runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

SWAMP - means the State and Regional Water Boards' Surface Water Ambient Monitoring Program.

Targeted Employees - means management and staff who perform or direct activities that directly or indirectly have an effect of storm water quality. The employees generally are employed in the following areas: department of public works, or engineering, or sanitation, or storm water maintenance, drainage and flood control, transportation, streets and roads, parks and recreation, public landscaping and corporation yards, planning or community development, code enforcement, building and safety, harbor dept, airports, buses and trains, and/or general services and fleet services.

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.

Total Maximum Daily Load (TMDL) Dry Weather- defined in the Bacteria TMDLs as those days with less than 0.1 inch of rainfall and those days occurring within three days after a rain.

Toxicity Identification Evaluation (TIE) - means a set of procedures to identify the specific chemical(s) responsible for toxicity through a process of chemical/physical manipulations of samples followed by toxicity tests. These procedures are performed in 3 phases (Phase I- Toxicity Characterization Procedure, Phase II- Toxicity Identification Procedure, and Phase III- Toxicity Confirmation Procedure) 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.

Urbanization - means the process of changing of land use and land patterns from rural characteristics to urban (city-like) characteristics. These changes include (i) the replacement of pervious surfaces with impervious surfaces such as rooftops and buildings, and impervious materials such as asphalt and concrete; and (ii) the conversion of rural land to house new residents, support new businesses, and facilitate vehicular traffic flow.

U.S. EPA 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:

- Facilities subject to storm water effluent limitation guidelines, new source performance.
- Standards, or toxic pollutant effluent standards (40 CFR N).
- Manufacturing facilities.
- Oil and gas/mining facilities.
- Hazardous waste treatment, storage, or disposal facilities.
- Landfills, land application sites, and open dumps.
- Recycling facilities.
- Steam electric power generating facilities.
- Transportation facilities.
- Sewage of wastewater treatment works.
- Light manufacturing facilities.

Vehicle Maintenance/Material Storage Facilities/Corporation Yards - means any Permittee owned or operated facility or portion thereof that:

1. Conducts industrial activity, operates or stores equipment, materials, and provides services similar to Federal Phase I facilities;
2. Performs fleet vehicle service/maintenance including repair, maintenance, washing, or fueling;
3. Performs maintenance and/or repair of machinery/equipment; or
4. Stores chemicals, raw materials, or waste materials.

Waste Load Allocations (WLAs) - means a portion of a receiving water's Total Maximum Daily Pollutant Load (TMDL) that is allocated to one of its existing or future point sources of pollution (Reference: 40 CFR § 130.2(h)).

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 Water Board to regulate all discharges, including storm water discharges.

Water Quality Standards - means the State Water Quality Standards, which are comprised of beneficial uses, water quality objectives and the State's Antidegradation Policy.

Waters of the State - means any surface water or groundwater, including saline waters, within boundaries of the state (Reference: California Water Code § 13050).

Waters of the United States or Waters of the US - 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 impoundment's of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in the preceding paragraph (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 the preceding 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 U.S. EPA. SOLID WASTE AGENCY OF NORTHERN COOK CTY. V.ARMY CORPS OF ENGINEERS (531 U.S. 159 (2001)) The U.S. Supreme Courts SWANCC Decision upheld the primary rights and responsibilities of States over land and water but limited the water and wetland areas subject to federal regulation under the Clean Water Act.

Watercourse - means any natural or artificial channel for passage of water, including the VCFCD jurisdictional channels included in the List of Channels within the Comprehensive Plan of the VCFCD, as approved by the Board of Supervisors of the VCFCD on October 4, 1993, and any amendments thereto.

Watershed Management - means approach for water resources protection. It is a strategy for integrating and managing resources, both human and fiscal that focuses on regulation of point sources, to a more regional approach that acknowledges environmental impacts from other activities.

Watershed Management Areas (WMA) - means the geographically-defined watershed areas where the Regional Water Board will implement the watershed approach. These generally involve a single large watershed within which exists smaller subwatersheds but in some cases may be an area that does not meet the strict hydrologic definition of a watershed e.g., several small Ventura coastal waterbodies in the region are grouped together into one WMA.

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 8 - STANDARD PROVISIONS

A. General Requirements

1. The Permittee shall comply with all provisions and requirements of this Order.

2. Should the Permittee discover that it failed 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 Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes Attachment "F", the Reporting Program, which is a part of this Order and must be complied with.

B. Regional Water Board Review

1. The Regional Water Board may review any formal determinate or approval made by the Regional Water Board Executive Officer pursuant to the provisions of this Order.

   (a) Permittee(s) or a member of the public may request such review upon petition within 30 day of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Water Board.

C. Public Review

1. All documents submitted to the Regional Water 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 (California Government Code § 6250 et seq.).

2. All documents submitted to the Regional Water 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 [40 CFR 122.41(a)]

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), CAL. WATER CODE § 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)]

1. 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; Investigations; Responsibilities [40 CFR 122.41(i), Cal. Water Code § 13225 and § 13267]

1. The Regional Water Board, U.S. EPA, and other authorized representatives shall be allowed:

   (a) Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;

   (b) Access to copy any records, at reasonable times that are kept under the conditions of this Order;

   (c) To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order;

   (d) To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CAL. WATER CODE;

   (e) To review any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan or requirement to investigate the quality of any waters of the state within its region; and,

   (f) To require as necessary any state or local agency to investigate and report on any technical factors involved in water quality control or to obtain and submit analyses of water.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), Cal. Water Code § 13263(f)]

1. 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:
   (a) adequate laboratory controls; and
   (b) appropriate quality assurance procedures.

2. 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]

1. Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Water 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 Water Board, in accordance with the procedural requirements of the CAL. WATER CODE and CCR Title 23 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 Water Board;
   (b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan, including TMDLs;
   (c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA § 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. 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.

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 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

1. The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

1. The Permittees shall furnish, within a reasonable time, any information the Regional Water Board or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order.

2. The Permittees shall also furnish to the Regional Water 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 Water 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 5 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 Water Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][2]

1. Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Water Board may take enforcement action against Permittees for bypass unless:

   (a) 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

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[1] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Ventura County SMP are exceeded, and which endanger public health or the environment.

[1]This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the Ventura County SMP.

[2]This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Ventura County SMP are exceeded, and which endanger public health or the environment.

to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);

(b) 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;

(c) The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or,

(d) 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)][2]

1. 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.

2. 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.

3. 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.

4. 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)]

1. 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 CWA provides the following:

   (a) Criminal Penalties for:
   (1) Negligent Violations:
   The CWA provides that any person who negligently violates permit conditions implementing CWA § 301, 302, 306, 307, 308, 318, or 405 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 CWA § 301, 302, 306, 307, 308, 318, or 405 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 CWA § 301, 302, 307, 308, 318, or 405 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 CWA § 309(c)(4))

(b) Civil Penalties
The CWA provides that any person who violates a permit condition implementing CWA § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed $27,500 per day for each violation.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

1. 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 of Board Order

1. Regional Water Board Order No. 00-108 is hereby rescinded.

S. Board Order Expiration Date

1. This Order expires on **Xx xx, 200x**. The Permittees must submit a Report of Waste Discharge (ROWD) and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than 180 days in advance of such date (**Xx xx, 200x**).

T. MS4 Annual Reporting Program [40 CFR 122.42(c)]

1. The Annual Program Reporting shall include the following information:

(a) *Municipal separate storm sewer systems.*
The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:
(1) The status of implementing the components of the storm water management program that are established as permit conditions;
(2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii) of this part;
(3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (d)(2)(v) of this part;

(4) A summary of data, including monitoring data that is accumulated throughout the reporting year;
(5) Annual expenditures and budget for year following each annual report;
(6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
(7) Identification of water quality improvements or degradation.

I, Jonathan S. Bishop, Regional Water Board 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 Xx xx, 200x.

Jonathan S. Bishop
Executive Office

Case Studies

Author/Agency/Organization	Title	Date	URL
City of Chicago	City Launches Green Roof Grants Program	11/02/05	http://egov.cityofchicago.org/city/webportal/portalContentItemAction.do?BV_SessionID=@@@@0664391742.1150324275@@@@&BV_EngineID=cccdaddidejlkmgcefeceIldffhdfgm.0&contentOID=536932287&contenTypeName=COC_EDITORIAL&topChannelName=HomePage
Architecture Week	A Better Suburbia	01/05	http://www.architectureweek.com/2005/0119/building_1-1.html
Rocky Mountain Institute	Village Homes, Davis, California		http://www.rmi.org/sitepages/pid209.php
EPA	Stormwater Management at the EPA Headquarters Office Complex		http://www.epa.gov/owow/nps/lid/stormwater_hq/
Clausen, J. et al.	Jordan Cove Urban Watershed Section 319 National Monitoring Program Project	02/06	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes120.pdf
Connecticut Department of Environmental Protection	After 10 Years -- Officials Celebrate Results of Important Water Monitoring Project	10/19/05	http://dep.state.ct.us/whatshap/Press/2005/101905.htm
Connecticut Department of Environmental Protection	Jordan Cove Urban Monitoring Project	10/02	http://dep.state.ct.us/wtr/nps/succstor/jordncve.pdf
National Oceanographic and Atmospheric Administration / Coastal Services	Storm Water Management: Putting Real Life to the Test in Connecticut	01-02/04	http://www.csc.noaa.gov/magazine/2004/01/conn.html
Maryland Department of the Environment	Controlling Stormwater: Some Lessons From The Maryland Experience	10/90	
EPA	Bioretention Applications: Inglewood Demonstration Project, Largo, Maryland and Florida Aquarium, Tampa, Florida	10/00	www.epa.gov/owow/nps/bioretention.pdf
PILGRIM Education Fund	Waterways at Risk: How Low-Impact Development Can Reduce Runoff Pollution in Michigan	2005	
STORMWATER, The Journal for Surface Water Quality Professionals	Beyond Flood Control: From green roofs to pervious pavement to underground treatment, Milwaukee experiments with newer water-quality and flood control measures	03-04/04	http://www.forester.net/sw_0403_beyond.html
Blue: Land, Water, Infrastructure	An Assessment of Outer Banks Coastal Environmental Conditions, Existing Stormwater Management Strategies, and the Local and State Regulatory Context to Help Local Communities Effectively Implement Low Impact Development	06/06	
Abrams, Glen J.	New Thinking in an Old City: Philadelphia's Movement Toward Low-Impact Development	02/04	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes112.pdf
EPA	Vegetated Roof Cover: Philadelphia, Pennsylvania	10/00	www.epa.gov/owow/nps/roofcover.pdf
City of Portland Bureau of Environmental Services	Downspout Disconnection Program Hits the Billion Gallon Mark	06/14/05	http://www.portlandonline.com/bes/index.cfm?a=82190&c=37621#disco
Cheng, M., *et al*.	Hydrological Responses from Low Impact Development Comparing with Conventional Development	11/00	http://www.scdhec.net/water/lid/pdf/somerset.pdf
Levitt, J., and Bergan, L.	Using Nature's Plumbing to Restore Aquatic Ecosystems: The City of Seattle's Natural Drainage System	02/05	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes116.pdf
Horner, R., *et al*.	Hydrologic Monitoring of the Seattle Ultra-Urban Stormwater Management Projects: Summaray of the 2000-2003 Water Years	10/04	
Seattle Public Utilities	Natural Drainage Projects		http://www.seattle.gov/util/About_SPU/Drainage_&_Sewer_System/Natural_Drainage_Systems/Natural_Drainage_Overview/index.asp
Dorava, J., Vierbicher Associates, Inc.	Enhancing Storm Water Infiltration to Reduce Water Temperature Downstream		http://www.epa.gov/owow/nps/natlstormwater03/08Dorava.pdf
The City of Vancouver	Crown Street: Vancouver's First Environmentally Sustainable Street	03/30/05	http://www.tac-atc.ca/english/pdf/conf2005/s5/kauffman.pdf
Natural Resources Defense Council	Out of the Gutter: Reducing Polluted Runoff in the District of Columbia	07/02	http://www.nrdc.org/water/pollution/gutter/gutter.pdf

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Benefits of LID	Anacostia River Business Coalition Update	Rain Gardens: Beautifying your Business and Helping the Anacostia	Spring 2003	http://www.potomacriver.org/arbc/newsletters/newsletterspring03.pdf
Benefits of LID	Blankenship, K.	It's a Hard Road Ahead for Meeting New Sprawl Goal; States Will Try to Control Growth of Impervious	2004	http://www.bayjournal.com/article.cfm?article=66
Benefits of LID	Center for Watershed Protection	Stormwater Management 101: Past, Present, and Future	04/06	http://www.rockvillemd.gov/government/commissions/ec/documents/Stormwater_101_CWP.pdf
Benefits of LID	Center for Watershed Protection	Redevelopment Roundtable Consensus Agreement	10/01	http://www.cwp.org/smartsites.pdf
Benefits of LID	Center for Watershed Protection (Stormwater Manager's Resource Center)	Model Post-Construction Stormwater Runoff Control Ordinance		http://www.stormwatercenter.net/Model%20Ordinances/Post%20Construction%20Stormwater%20Management/Final%20Model%20Stormwater%20Control.htm
Benefits of LID	Conservation Research Institute	Changing Cost Perceptions: An Analysis of Conservation Development	02/05	http://www.nipc.org/environment/sustainable/conservationdesign/cost_analysis/Cost%20Analysis%20Report.pdf
Benefits of LID	Guillette, A.	Low Impact Development Technologies	05/18/06	http://www.wbdg.org/design/lidtech.php
Benefits of LID	Guillette, A.	Achieving Sustainable Site Design Through Low Impact Development Practices	05/18/06	http://www.wbdg.org/design/lidsitedesign.php
Benefits of LID	Jones, D.	Low Impact Development	11/98	http://www.ncsu.edu/wrri/conference/2006ac/pdf/Jones_LID-1.pdf
Benefits of LID	Local Government Commission	The Ahwahnee Principles for Resource Efficient Land Use	2005	http://www.lgc.org/ahwahnee/h2o_principles_print.html
Benefits of LID	Local Government Commission	Urban Stormwater Management		http://www.lgc.org/freepub/PDF/water/water_stormwat
Benefits of LID	Mallin, M.	Wading in Waste	06/06	http://www.sciam.com/article.cfm?chanID=sa006&colID=1&articleID=0003B364-B58B-146C-B2F9834... 14B7F0000
Benefits of LID	Metro Nature in Neighborhoods (Portland, Oregon)	Green from the Ground Up	10/06	http://www.metro-region.org/library_docs/nature/06376_building_design.pdf
Benefits of LID	Natural Resources Defense Council	Stormwater Strategies: Community Responses to Runoff Pollution	5/99	http://www.nrdc.org/water/pollution/storm/stoinx.asp
Benefits of LID	Natural Resources Defense Council	Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows	06/06	http://www.nrdc.org/water/pollution/rooftops/rooftops.pdf
Benefits of LID	NEMO	Low Impact Development (LID): A sensible approach to land development and stormwater management		http://www.coastal.ca.gov/nps/lid-factsheet.pdf
Benefits of LID	Puget Sound Action Team	Low Impact Development Local Regulation Assistance Project 2005	2005	http://www.psat.wa.gov/Programs/LID/assistance/LID_assistance.htm
Benefits of LID	Puget Sound Action Team	Natural Approaches to Stormwater Management: Low Impact Development in Puget Sound	03/03	http://www.psat.wa.gov/Publications/LID_studies/lid_natural_approaches.pdf
Benefits of LID	The Low Impact Development Center, Inc.	Low Impact Development for Big Box Retailers	11/05	http://lowimpactdevelopment.org/bigbox/lid%20articles/bigbox_final_doc.pdf
Benefits of LID	The South Whidbey Record	Langley Proposes New Rules for Homes	10/22/05	http://www.psat.wa.gov/Programs/LID/south_whidbey_record_102205.pdf
Benefits of LID	Watershed Protection Techniques	Housing Density and Urban Land Use as Indicators of Stream Quality	01/00	

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California-Specific Reports	American Planning Association	California Smart Growth Advocate Receives National Planning Award	01/07/05	http://www.planning.org/newsreleases/2005/ftp0107053.htm
California-Specific Reports	Chralowicz, D.,*et al.*	Infiltration of Urban Stormwater Runoff to Recharge Groundwater Used for Drinking Water: A Study of the San Fernando Valley, California	6/01	www.bren.ucsb.edu/research/FinalDocs/2001/Stormwater-Final.pdf
California-Specific Reports	California State Water Resources Control Board	Low Impact Development – Sustainable Water Management	01/20/05	http://www.waterboards.ca.gov/lid/index.html
California-Specific Reports	Devinny, J.S.,*et al.*	Alternative Approaches to Stormwater Quality Control	06/04	http://www.usc.edu/dept/geography/ESPE/documents/publication_stormwater.pdf
California-Specific Reports	International Building Council	Building Valuation Data	2003	http://www.nfic.org/exes_pdfs_downloads/Downloads/ICBO%20Bldg%20Valuation%20Table.pdf
California-Specific Reports	Metropolitan Water District of Southern California	2007 Rates and Charges Fact Sheets	2005	http://www.mwdh2o.com/mwdh2o/pages/finance/finance_03.html
California-Specific Reports	Metropolitan Water District of Southern California	Water to be Limited in South Ventura County While Regional Treatment Plant, Large Pipeline Are Shut Down	01/11/2007	http://www.mwdh2o.com/mwdh2o/pages/news/press_releases/2007-01/shutdown.htm
California-Specific Reports	Polakovic, G. (L.A. Times)	Water Quest Shifts Course	06/11/06	http://www.topix.net/content/trb/027155642416035709541424845553428482039 9
California-Specific Reports	Robertus, J., Executive Officer San Diego RWQCB	Stormwater Treatment Options	01/05	
California-Specific Reports	Robertus, J., Executive Officer San Diego RWQCB	Water Quality Regulatory Dynamics of Development	01/06	
California-Specific Reports	RWQCB, Los Angeles Region	The Role of Municipal Operators in Controlling the Discharge of Pollutants in Storm Water Runoff from Industrial/Commercial Facilities	11/01	http://www.swrcb.ca.gov/rwqcb4/html/programs/sto...ter/la_ms4_tentative/ACaseForInspections.pdf
California-Specific Reports	Ventura County Waterworks District No. 17	Annual Water Quality Report	2004	http://publicworks.countyofventura.org/wre/wss/wss_pdf/CA_Ventura17_web%20JB.pdf
Case Study: Chicago, IL	City of Chicago	City Launches Green Roof Grants Program	11/02/05	http://egov.cityofchicago.org/city/webportal/portalContentItemAction.do?BV_SessionID=@@@@0664391742.1150324275@@@@&BV_EngineID=cccdaddidejjkmgcefecelldffhdfgm.0&contentOID=536932287&contenTypeName=COC_EDITORIAL&topChannelName=HomePage
Case Study: Davis, CA	Architecture Week	A Better Suburbia	01/05	http://www.architectureweek.com/2005/0119/building_1-1.html
Case Study: Davis, CA	Rocky Mountain Institute	Village Homes, Davis, California		http://www.rmi.org/sitepages/pid209.php
Case Study: EPA Headquarters, Washington DC	EPA	Stormwater Management at the EPA Headquarters Office Complex		http://www.epa.gov/owow/nps/lid/stormwater_hq/
Case Study: Jordan Cove, CT	Clausen, J. et al.	Jordan Cove Urban Watershed Section 319 National Monitoring Program Project	02/06	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes120.pdf
Case Study: Jordan Cove, CT	Connecticut Department of Environmental Protection	After 10 Years – Officials Celebrate Results of Important Water Monitoring Project	10/19/05	http://dep.state.ct.us/whatshap/Press/2005/101905.htm
Case Study: Jordan Cove, CT	Connecticut Department of Environmental Protection	Jordan Cove Urban Monitoring Project	10/02	http://dep.state.ct.us/wtr/nps/succstor/jordncve.pdf

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Case Study: Jordan Cove, CT	National Oceanographic and Atmospheric Administration / Coastal Services	Storm Water Management: Putting Real Life to the Test in Connecticut	01-02/04	http://www.csc.noaa.gov/magazine/2004/01/conn.html
Case Study: Maryland	Maryland Department of the Environment	Controlling Stormwater: Some Lessons From The Maryland Experience	10/90	
Case Study: Maryland and Florida	EPA	Bioretention Applications: Inglewood Demonstration Project, Largo, Maryland and Florida Aquarium, Tampa, Florida	10/00	www.epa.gov/owow/nps/bioretention.pdf
Case Study: Michigan	PILGRIM Education Fund	Waterways at Risk: How Low-Impact Development Can Reduce Runoff Pollution in Michigan	2005	
Case Study: Milwaukee, WI	STORMWATER, The Journal for Surface Water Quality Professionals	Beyond Flood Control: From green roofs to pervious pavement to underground treatment, Milwaukee experiments with newer water-quality and flood control measures	03-04/04	http://www.forester.net/sw_0403_beyond.html
Case Study: Outer Banks, North Carolina	Blue: Land, Water, Infrastructure	An Assessment of Outer Banks, Coastal Environmental Conditions, Existing Stormwater Management Strategies, and the Local and State Regulatory Context to Help Local Communities Effectively Implement Low Impact Development	06/06	
Case Study: Philadelphia, PA	Abrams, Glen J.	New Thinking in an Old City: Philadelphia's Movement Toward Low-Impact Development	02/04	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes112.pdf
Case Study: Philadelphia, PA	EPA	Vegetated Roof Cover: Philadelphia, Pennsylvania	10/00	www.epa.gov/owow/nps/roofcover.pdf
Case Study: Portland, OR	City of Portland Bureau of Environmental Services	Downspout Disconnection Program Hits the Billion Gallon Mark	06/14/05	http://www.portlandonline.com/bes/index.cfm?a=82190&c=37621#disco
Case Study: Prince George's County, MD	Cheng, M., *et al.*	Hydrological Responses from Low Impact Development Comparing with Conventional Development	11/00	http://www.scdhec.net/water/lid/pdf/somerset.pdf
Case Study: Seattle, WA	Levitt, J., and Bergan, L.	Using Nature's Plumbing to Restore Aquatic Ecosystems: The City of Seattle's Natural Drainage System	02/05	http://www5.bae.ncsu.edu/programs/extension/wqg/issues/notes116.pdf
Case Study: Seattle, WA	Horner, R., *et al.*	Hydrologic Monitoring of the Seattle Ultra-Urban Stormwater Management Projects: Summaray of the 2000-2003 Water Years	10/04	
Case Study: Seattle, WA	Seattle Public Utilities	Natural Drainage Projects		http://www.seattle.gov/util/About_SPU/Drainage_&_Sewer_System/Natural_Drainage_Systems/Natural_Drainage_Overview/index.asp
Case Study: Sun Prairie, WI	Dorava, J., Vierbicher Associates, Inc.	Enhancing Storm Water Infiltration to Reduce Water Temperature Downstream		http://www.epa.gov/owow/nps/natlstormwater03/08Dorava.pdf
Case Study: Vancouver, WA	The City of Vancouver	Crown Street: Vancouver's First Environmentally Sustainable Street	03/30/05	http://www.tac-atc.ca/english/pdf/conf2005/s5/kauffman.pdf
Case Study: Washington, DC	Natural Resources Defense Council	Out of the Gutter: Reducing Polluted Runoff in the District of Columbia	07/02	http://www.nrdc.org/water/pollution/gutter/gutter.pdf
Government Sources	Cantú, Celeste, Executive Director, California Water Boards	Building Livable, Sustainable Communities: Water Quality and Supply is Linked to Growth	04/05/06	http://www.swrcb.ca.gov/agendas/2006/april/0405_01pres.pdf
Government Sources	Department of Defense	Unified Facilities Criteria: Low Impact Development	10/25/04	http://www.wbdg.org/ccb/DOD/UFC/ufc_3_210_10.pdf

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Government Sources	EPA	Preliminary Data Summary of Urban Storm Water Best Management Practices	08/99	http://www.epa.gov/OST/stormwater/
Government Sources	EPA	Field Evaluation of Permeable Pavements for Stormwater Management	10/00	http://www.epa.gov/owow/nps/pavements.pdf
Government Sources	EPA	Low Impact Development (LID): A Literature Review	10/00	http://www.epa.gov/nps/lid.pdf
Government Sources	EPA	Protecting Water Resources With Higher-Density Development	01/06	http://www.epa.gov/dced/pdf/protect_water_higher_density.pdf
Government Sources	EPA	Nonpoint Source News-Notes; Low-Impact Development Pays Off	05/05	http://www.epa.gov/owow/info/NewsNotes/issue75/75issue.pdf
Government Sources	EPA	Nonpoint Source News-Notes; Many Paths Lead to Adoption of Low Impact Development	10/05	http://www.epa.gov/owow/info/NewsNotes/issue76/76issue.pdf
Government Sources	EPA	Using Smart Growth Techniques as Stormwater Best Management Practices	12/05	http://www.epa.gov/dced/pdf/sg_stormwater_BMP.pdf
Government Sources	EPA	Low Impact Development (LID) and Other Green Design Strategies		http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=factsheet_results&view=specific&bmp=124
ernment Sources	EPA	US EPA Storm Water Program's Webcast Series: Post Construction 101		http://www.epa.gov/npdes/outreach_files/webcast/m /fil es/lobby.html
Government Sources	Los Angeles Bureau of Sanitation, Department of Public Works	Reference Guide for Stormwater Best Management Practices	07/00	http://www.lacity.org/SAN/wpd/WPD/download/pdfs/publications/bmp_refguide.pdf
Government Sources	Maryland Department of the Environment	Maryland Stormwater Design Manual, Volumes I & II	10/00	http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp
Government Sources	Maryland, Prince George's County Department of Environmental Resources	Low-Impact Development Design Strategies: An Integrated Design Approach	06/99	http://www.epa.gov/owow/nps/lidnatl.pdf
Government Sources	Maryland, Prince George's County Department of Environmental Resources	Low-Impact Development Design: A New Paradigm for Stormwater Management Mimicking and Restoring the Natural Hydrologic Regime An Alternative Stormwater Management Technology		http://www.epa.gov/ORD/WebPubs/nctuw/Coffman.pdf
Government Sources	Metropolitan Area Planning Council (Boston, MA)	Massachusetts Low Impact Development Toolkit		http://www.mapc.org/LID.html
Government Sources	Outer Banks Hydrology Committee (North Carolina)	Report of LID Findings	11/05	
Industry Sources	American Society of Civil Engineers	Stormwater Management	2004	www.asce.org/pressroom/news/policy_details.cfm?hdlid=160
Industry Sources	California Builder: the Magazine of the California Building Industry Association (Frith, J.)	Building Green: It's Good for the Environment - and the Bottom Line	03-04/02	www.californiabuildermagazine.com/internal.asp?pid=32&spid
stry Sources	California Builder: the Magazine of the California Building Industry Association (Grillo, T.)	Concrete Evidence: Age-Old Materia Continues to Reinvent Itself		http://www.californiabuildermagazine.com/internal.asp?94

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Industry Sources	National Association of Home Builders	Green Home Building Guidelines	2006	http://www.nahbrc.org/greenguidelines/complete_guidelines.pdf
Industry Sources	National Association of Home Builders Research Center	Builder's Guide to Low Impact Development	2003	http://www.toolbase.org/PDF/DesignGuides/Builder_LID.pdf
Industry Sources	National Association of Home Builders Research Center	Guides to Low Impact Development	2003	http://www.toolbase.org/Design-Construction-Guides/Land-Use/low-impact-development-guides
Industry Sources	National Association of Home Builders Research Center	Low Impact Development (LID) Practices for Storm Water Management		http://www.toolbase.org/TechInventory/TechDetails.aspx?ContentDetailID=909&BucketID=6&CategoryID=11
Industry Sources	National Association of Home Builders Research Center	Municipal Guide to Low Impact Development	2003	http://www.toolbase.org/PDF/DesignGuides/Municipal_LID.pdf
Industry Sources	National Association of Home Builders, Partnership for Advancing Technology in Housing (PATH)	The Practice of Low Impact Development	07/03	http://www.huduser.org/Publications/PDF/practLowImpctDevel.pdf
Industry Sources	National Association of Home Builders, Partnership for Advancing Technology in Housing (PATH)	Permeable Pavement		http://www.toolbase.org/techinv/techDetails.aspx?technologyID=98
ry Sources	National Association of Home Builders, Partnership for Advancing Technology in Housing (PATH) ToolBase Services	Environmentally Green... Economically Green: Tools for a Green Land Development Program	2001	http://www.toolbase.org/PDF/DesignGuides/Enviro_Econ_Green.pdf
Industry Sources	National Association of Home Builders, Partnership for Advancing Technology in Housing (PATH) ToolBase Services	Low Impact Development Offers Some Solutions for Groundwater Issues	2001	
Industry Sources	Urban Land Institute, American Society of Civil Engineers, & National Association of Home Builders	Residential Storm Water Management	1975	http://www.toolbase.org/PDF/DesignGuides/storm_water_management.pdf
State and Municipal Storm Water Regulations	California (City of Santa Monica)	Santa Monica Municipal Code, Chapter 7.10: Urban Runoff Pollution	11/28/00	http://www.qcode.us/codes/santamonica/index.php
State and Municipal Storm Water Regulations	California (RWQCB, Los Angeles Region)	Order No. 01-182 (Dec. 13, 2001) (NPDES Permit No. CAS004001)	12/13/01	http://63.199.216.5/webdata/data/docs/6948_01-182_WDR.pdf
State and Municipal Storm Water Regulations	California (RWQCB, San Francisco Bay Region)	Contra Costa Countrywide NPDES Municipal Stormwater Permit Amendment	02/19/03	http://www.swrcb.ca.gov/rwqcb2/Agenda/02-19-03/02-19-03-13finalorder.doc
State and Municipal Storm Water Regulations	Florida (St. Johns River Waste Management District)	Environmental Resource Permits: Regulations of Stormwater Management Systems	10/03/95	
State and Municipal Storm Water Regulations	Illinois	General NPDES Permit For Discharges from Small Municipal Separate Storm Sewer Systems	12/20/02	http://www.epa.state.il.us/water/permits/storm-water/general-ms4-permit.pdf
and cipal Storm ater Regulations	Maryland	Maryland's Stormwater Management Program	11/88	

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State and Municipal Storm Water Regulations	Maryland	Explanation of Maryland's Stormwater Management Program	05/31/00	
State and Municipal Storm Water Regulations	Maryland	Maryland Model Stormwater Management Ordinance	07/00	http://www.mde.state.md.us/assets/document/sedimentstormwater/model_ordinance.pdf
State and Municipal Storm Water Regulations	Maryland	Stormwater Management Code, Title 26, Subtitle 17 Water Management, Chapter 02 Stormwater Management	10/00	http://www.dsd.state.md.us/comar/26/26.17.02.05.htm
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State and Municipal Storm Water Regulations	Missouri	Missouri State Operating Permit	03/10/03	http://www.dnr.mo.gov/env/wpp/permits/issued/R004000.pdf
State and Municipal Storm Water Regulations	New Jersey	Stormwater Rules (N.J.A.C. Chapter 7:8)	2004	
State and Municipal Storm Water Regulations	New Jersey	Annual Groundwater Recharge Analysis	09/01/03	http://www.state.nj.us/dep/stormwater/tier_A/pdf/april2004public_excel2002rlgrs_v2_0.xls
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State and Municipal Storm Water Regulations	New Jersey	NSPS Computations	01/31/06	http://www.state.nj.us/dep/stormwater/pdf/nsps_publicversion20060131.xls
State and Municipal Storm Water Regulations	New Jersey	NSPS User's Guide	01/06	http://www.njstormwater.org/pdf/nsps_userguide2006013.pdf
State and Municipal Storm Water Regulations	New Jersey	New Jersey Stormwater Best Management Practices Manual	02/04	http://www.state.nj.us/dep/stormwater/bmp_manual2.htm
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State and Municipal Storm Water Regulations	New Jersey (Zomorodi, K.)	Curve Number and Groundwater Recharge Credits for LID Facilities in NJ	2004	http://www.dewberry.com/uploadedFiles/Curve_Number_And_Groundwater_Recharge_Credits.PDF
State and Municipal Storm Water Regulations	Oregon (City of Portland)	Stormwater Management Manual	2004	http://www.portlandonline.com/bes/index.cfm?c=35122
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State and Municipal Storm Water Regulations	Washington (City of Olympia)	Low-Impact Development Strategy for Green Cove Basin: A Case Study in Regulatory Protection of Aquatic Habitat in Urbanizing Watersheds	10/02	http://www.psat.wa.gov/Programs/LID/Green_Cove.pdf
State and Municipal Storm Water Regulations	Washington (City of Seattle)	City of Seattle Stormwater, Grading, and Drainage Control Code	07/05/00	http://www.seattle.gov/dclu/codes/sgdccode.pdf
State and Municipal Storm Water Regulations	West Virginia	General National Pollutant Discharge Elimination System Water Pollution Control Permit	03/07/03	http://www.dep.state.wv.us/Docs/4582_SW_MS4_FinalDraft_issuance.pdf
Technical Manuals	Alameda Countywide Clean Water Program	Protecting Water Quality in Development Projects: A Guidebook of Post-Construction BMP Examples	08/05	http://www.basmaa.org/resources/files/ACCWP_Site_Design_Guidebook_final.pdf
Technical Manuals	Bay Area Stormwater Management Agencies Association (BASMAA)	Start at the Source	1999	http://www.basmaa.org/resources/files/Start%20at%20the%20Source%20%2D%20Design%20Guidance%20Manual%20for%20Stormwater%20Quality%20Protection%2Epdf
Technical Manuals	Bay Area Stormwater Management Agencies Association (BASMAA)	Using Site Design Techniques to Meet Development Standards for Storm Water Quality	05/03	http://www.basmaa.org/resources/files/Using%20Site%20Design%20Techniques%2Epdf
Technical Manuals	Caltrans, State of California Department of Transportation	Stormwater Quality Handbooks: Project Planning and Design Guide, Stormwater Pollution Prevention Plan	9/02	www.dot.ca.gov/hq/oppd/stormwtr/PPDG-with-revisions-7-26-05.pdf
Technical Manuals	Integrated Land Management, Inc.	Green Technology: The Delaware Urban Runoff Management Approach	01/04	http://www.dnrec.state.de.us/DNREC2000/Divisions/Soil/Stormwater/New/DURMM_TechnicalManual_01-04.pdf
Technical Manuals	New York	New York State Stormwater Management Design Manual	10/01	
Technical Manuals	Prince George's County, Maryland, Department of Environmental Resources Programs and Planning Division	Low-Impact Development Hydrologic Analysis	07/99	http://www.epa.gov/owow/nps/lid_hydr.pdf
Technical Manuals	Puget Sound Action Team / Washington State University Pierce County Extension	Low Impact Development: Technical Guidance Manual for Puget Sound	01/05	http://www.psat.wa.gov/Publications/LID_tech_manual05/LID_manual2005.pdf
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Technical Manuals	Urban Drainage and Flood Control District of Denver, Colorado	Urban Storm Drainage Criteria Manual		www.udfcd.org/downloads/down_critmanual.htm
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Bay Area Stormwater Management Agencies Association (BASMAA)	Start at the Source	1999	http://www.basmaa.org/resources/files/Start%20at%20the%20Source%20%2D%20Design%20Guidance%20Manual%20for%20Stormwater%20Quality%20Protection%2Epdf
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Florida (St. Johns River Waste Management District)	Environmental Resource Permits: Regulations of Stormwater Management Systems	10/03/95	
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v Jersey	Tier A Municipal Stormwater NPDES Master General Permit	09/01/05	http://www.nj.gov/dep/dwq/pdf/final_tier_a_permit.pdf
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The Low Impact Development Center, Inc.	Low Impact Development for Big Box Retailers	11/05	http://lowimpactdevelopment.org/bigbox/lid%20articles/bigbox_final_doc.pdf
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Environmental Water Resources Institute of the American Society of Civil Engineers	International Stormwater Best Management Practices Database		www.bmpdatabase.org
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BRASH
INDUSTRIES

March 7, 2007

Los Angeles Regional Water Quality Control Board
320 W. 4th Street, #200
Los Angeles, CA 90013-2343

Attention: Dr. Xavier Swamikannu:

Subject: Question and comments pertaining to Ventura Municipal Permit Board Order No. 00-108; NPDES Permit NO. CAS 004002

Dear Dr. Swamikannu:

In reviewing the subject permit a few minor questions occurred. Your clarifications would be appreciated.

1) Please clarify differences between the State Permits' SWPPP and the Municipal Permit's SWPCP. Can one document satisfy both requirements?

2) Is it correct to assume that the Monitoring and Reporting Program NO. CI 7388 applies to the Dischargers, and not NPDES Permittees under the GIASP and GCASP Permits?

3) Do "Treatment Control BMPs" include the use of flocculent aids?

Your assistance in clarifying the foregoing is greatly appreciated.

Sincerely,

M. H. Sachse

Marvin H. Sachse, P.E., CPESC, CPSWQ

4635 Admiralty Way, Marina Del Rey, CA 90292
Telephone: 310-305-8637 ■ Fax: 310-574-0875 ■ www.brashind.com

T E C S

Environmental Compliance Services
106 South Mentor Avenue - Suite 125 • Pasadena, CA 91106
(626) 396-9424 • fax (626) 396-1916

March 2, 2007

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

Subject: Comments Regarding Draft Ventura MS4 Permit

Dear Dr. Swamikannu:

TECS Environmental is pleased to submit for your consideration comments regarding the Ventura County MS4 NPDES on several municipal Permittees.[1] Please note that these comments may also be submitted to you by individual Permittees as well.[2]
[3]

1. Atmospheric Deposition

   The draft Ventura Permit (DVP) contains a reference to atmospheric deposition under the findings section. Its effect on Permit regulatory requirements, however, is unclear. Given that the DVP calls for infiltration, which should be sufficient to address atmospherically deposited pollutants, there does not appear to be a need to deal with atmospheric deposition at all. It should also be mentioned that neither the draft North Orange County MS4 Permit nor the San Diego MS4 Permit references atmospheric deposition. In the case of Los Angeles MS4 Permittees, atmospheric deposition needs to be de-referenced because a number of municipalities are looking into funding an atmospheric deposition study as a means of reducing the WLA for metals. Since infiltration is going to be the structural control of choice, atmospheric deposition should be a non-issue.

[1] Azusa, Baldwin Park, Carson, Cerritos, Commerce, Compton, Claremont, Duarte, Gardena, Inglewood, Irwindale, Lomita, San Dimas, San Gabriel, South Pasadena, Whittier, and Vernon.

Recommendation: Delete reference to atmospheric deposition.

2. Small Linear Underground/Overheard Construction Projects General Permit (LUP)

The LUP is extremely complicated, which may explain why San Diego County does not have an equivalent requirement in its recently adopted MS4 Permit and why the San Diego Regional Board has not proposed it for the North Orange County MS4 Permit, which is scheduled for renewal. Beyond this, it is unnecessary -- at least for municipalities.

This proposed Permit addition would: (1) subject municipalities to LUP requirements; and (2) compel municipalities to enforce LUP requirements on behalf of the Regional Board. The LUP seems superfluous for municipalities given that: (1) a GCASWP can also address removing or relocating lines and facilities; and (2) activities that have the potential for generating pollutants can be covered by specific BMPs in the public (municipal) agency program.

It is also worth noting that according to the LUP fact sheet, municipalities covered under an MS4 Permit may not even require compliance with the LUP. Because the GCASWP is significantly less complicated than the LUP, a GCASWP should be allowed for non-municipal dischargers. Or, perhaps minimum BMPs for LUP projects should be prescribed by municipalities.

Recommendation: Remove the LUP requirement to make it consistent with the San Diego and North Orange County MS4 Permits.

3. State Conformity Requirements

The DVP proposes to condition the issuance of grading, encroachment, demolition, building, electrical, or construction permit by requiring a GCASWP or a Small LUP. This requirement is unclear as to intent and purpose. While it makes sense to require evidence of having applied for a GCASWP or a Small LUP as a condition for a grading permit, it is not clear as to why the issuance of an encroachment, demolition, building, or construction permit would need this condition. If soil disturbance is the determinant, which is the case for the GSCAWP and LUP, then simply make it so.

Recommendation: Retain conditioning grading permit issuance on GCASWP or LUP application, but eliminate such condition for the other permit types.

4. Mandatory Installation of Catch Basin Debris Excluders

The DVP calls for the installers of trash excluders, or similar devices on catch basin inlets to prevent discharge of trash to the storm drain system on all catch basin inlets, no later than 180 days from Permit adoption. Because of the cost associated with this requirement, and because not all watershed areas of Ventura County are subject to a trash TMDL, perhaps it would be more prudent to require debris excluders only for those catch basins that are situated within a watershed area that is subject to a trash TMDL.

Beyond this, provide a schedule for installing the devices over a 5 year period instead of 180 days. 180 days is not enough time to install these controls, which for some municipalities could range from several hundreds to several thousands. It should be noted that not every catch basin can be retrofitted with a debris excluder. A field evaluation will need to be conducted to determine which ones can be. Then there is time needed to budget for the expenditure and select a vendor. Once the vendor is selected, installing the controls will depend on the number of catch basins and whether the vendor has the capability of installing them within a time frame that will be significantly less than 180 days. Further, given that there aren't too many catch basin debris excluder manufacturers to begin with, it is highly doubtful that the vendor(s) would be able to install debris excluders for all Ventura municipalities within this time frame.

Recommendation: Please address/discuss this issue with Permittees.

5. Absence of SUSMP Under Planning and Land Development Program

SUSMP is only mentioned under the findings section of the DVP. Nowhere, however, is it mentioned under the Planning and Land Development Program (the equivalent to the Los Angeles County MS4 Permit's Development Planning Program). Does this mean that the SUSMP has been eliminated – or is this just an accidental omission? It should be noted that the proposed North Orange County MS4 Permit and the San Diego MS4 Permit clearly call for a SUSMP under their development planning programs.

Recommendation: Please explain why SUSMP is no longer a Planning/Land Development sub-set.

6. Development Planning/Land Use Program: Infiltrate Only?

The development planning program contains language relating to treatment controls for subject development/re-development projects. Under 4.E, Planning and Land Development Program, all new development and re-development projects must, among other things: (1) *minimize pollutants emanating from impervious surfaces by reducing the percentage of effective impervious area*; and (2) *minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.* However, under Post-Construction Storm Water Mitigation Criteria (III.2.a) projects disturbing land areas less than 50 acres are required to install post-construction treatment BMPs, consistent with Part 4.E.1 (viz., the infiltration requirement). This requirement appears to be in conflict, however.

Part 4.E.1 essentially calls for infiltration. But section III.2.a calls for post-construction treatment controls, which it says -- in parenthesis -- to "infiltrate, filter, or treat." This means that non-infiltrative controls such as concrete detention basins, catch basin inserts, storm water interceptors, and other manufactured controls that filtrate runoff before discharging the clarified effluent to the MS4 are acceptable. The question is which requirement prevails?

This issue is also being raised because the Los Angeles Regional Board recently has been issuing notices of violations (NOVs) to subject planning priority projects (basically the same projects specified in the DVP) for not including infiltration as a post-construction pollution mitigation measure – despite the fact that the MS4 clearly allows <u>infiltration, filtration, or treatment</u>.

Recommendation: Resolve conflict. Also define "land area." Is it the same soil as disturbance by grading, clearing, and/or excavating?

7. Development Planning/Land Use Program: Infiltration and Groundwater Contamination

The DVP has the potential to require widespread infiltration controls. However, nothing in it warns against siting infiltration controls in areas where there is the potential for infiltration to contaminate groundwater. The Regional Board has taken the position that a 10 foot distance between the infiltration control and water table is sufficient to bio-remediate contaminants. This is not mentioned in the DVP. Given the Regional Board's recent paradigm-shift from manufactured treatment to infiltration the potential impact infiltration can have on groundwater should be addressed. Subject projects should be evaluated for their potential to discharge pollutants to the sub-surface by non-stormwater runoff and

stormwater runoff that could contaminate groundwater. There should also be some discussion on how to deal with impermeable soil.

Recommendation: Do not mandate LID as a means of achieving infiltration. Instead, make it a strategy for so doing. In other words, it should be a means to an end instead of an end in itself.

8. Low Impact Development is Excessive

In addition requiring infiltration under the development planning/land use program, the DVP proposes to require all development and redevelopment projects to integrate Low Impact Development (LID) principles into project design. LID represents a viable strategy that Permittees should consider in meeting post-construction pollution mitigation requirements – not to mention certain TMDLs as well. Nevertheless, LID seems to have the potential to go beyond the basic purpose of the development planning/land use program, which is to reduce pollutants in post-construction runoff – a requirement that is already covered under the infiltrate, filtrate, or treat provision. Further, some requirements associated with LID have nothing to do with runoff quality. Techniques to minimize land disturbance and conversation appear to be among them. This is not to criticize the concept of LID. Indeed, LID offers several aesthetic and environmental benefits, but each community must decide whether it is appropriate.
Recommendation: Allow Permittees to use LID as an optional means of meeting infiltration requirements, to the extent feasible, and to meet certain TMDLs.

9. Trash Receptacle Deployment

The DVP proposes to require the installation of trash receptacles at all transit stops in commercial areas and near schools, no later than 6 months from the Order's adoption. Given that the DVP also calls for the installation of debris excluders for all catch basins, deploying trash receptacles as well seems superfluous. Further, providing 6 months to deploy trash receptacles is not sufficient time to budget and procure them.

Recommendation: Eliminate the trash receptacle deployment requirement or allow a Permittee to substitute a trash receptacle for a catch basin debris excluder. Extend the trash receptacle deployment deadline to one year from the adoption of the next Permit, provided that it is adopted 4 months before the Permittee's next budget is approved.

10. Treatment for Streets, Roads, Highways, and Freeways

This requirement calls for runoff treatment from streets, roads, highways, and freeways over 5,000 square feet. It is not clear, however, what treatment means here. Does it mean infiltration, filtration, or street sweeping? If it means infiltration, more discussion will be needed. There are definite disadvantages to infiltrating runoff into a street, not the least of which include injecting into sub-surface metals such as lead from vehicle emissions and hazardous materials releases caused by an accident.

Recommendation: Please clarify.

11. Trash Receptacle Deployment

The DVP proposes to require the installation of trash receptacles at all transit stops in commercial areas and near schools, no later than 6 months from the Order's adoption. Given that the DVP also calls for the installation of debris excluders for all catch basins, deploying trash receptacles as well seems superfluous.

Recommendation: Require either trash receptacles or debris excluders, but not both in the same areas.

12. Projects Disturbing Land Area 50 Acres or Greater

It is unclear as to why a separate category for projects 50 acres or greater requiring post-construction pollution mitigation is needed and why such projects must be:

Designed using an appropriate public domain hydrodynamic model (such as Storm Water Management Model (SWMM) 5 or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF); and incorporate the following: (A) Rainfall intensity based on hourly rainfall records; (B) An adjustment factor for within hour rainfall variability; and (C) Hydraulics of BMP Performance.

Recommendation: Explain the rationale for creating a separate development planning/land use post-construction treatment requirement for projects 50 acres or greater (why 50 acres?). Also explain the need for hydrodynamic modeling.

13. Illegal Discharge Definition

This definition is exactly the same as an *illicit discharge*. Further, there is no reference to illegal discharge in federal stormwater regulations.

Recommendation: Explain the need to have a definition for illegal discharge given that they appear to be the same.

14. Illicit Connection Definition

The definition of illicit connection raises a couple of issues. First, as it is written, this definition could be interpreted to mean that even if an illicit discharge is released to the MS4 through an engineered conveyance it would be permissible as long as such conveyance is a "permitted connection" to the storm drain or has been authorized by a municipality. This is a separate and apart from the second part of the definition which is: *It also means any engineered conveyance **through which** discharges of pollutants to the separate storm drainage systems, which are not composed entirely of storm water or are not authorized by an NPDES permit.*

It is understood that legal authority is needed in the stormwater permit to force the removal of unauthorized or unpermitted connections to the storm drain – regardless of whether they are used, ultimately, to convey illicit discharges. But placing it under the definition of an illicit connection would only confuse matters. Instead, unpermitted or unauthorized connections should be dealt with under a separate definition called **"illegal connection,"** which would mean: *any connection that causes an illicit discharge.*

Recommendation: Consider creating an illegal connection category that address unpermitted or unauthorized connections and revise the definition of illicit connection to be any connection that conveys an illicit discharge.

15. Illicit Disposal Definition

Illicit disposal means "any disposal, either intentionally or unintentionally of material or waste that can pollute storm water." The problem is that it is only referenced in the definition section of the DVP. Not only is its purpose unclear, but it seems to operate in the same manner as an illicit discharge. From an enforcement perspective this definition could pose a problem because of the issue of "intent."

Recommendation: Delete definition of illicit disposal or explain its relevance.

16. Pollutants of Concern Definition

Although Pollutants of Concern (POC) is referenced in several places in the DVP, there is no tangible definition of it. Clearly a definition would be helpful in determining what specific type of control technology would be required to meet the SUSMP (provided that it will be included in the Ventura Permit), a TMDL, or a numeric limit for a specific pollutant.

Recommendation: Provide a definition of POC or explain why one is not needed.

17. Reimbursement for Industrial Inspections

Under the current and proposed Ventura MS4 Permit, Permittees are required to inspect industrial facilities identified in Code of Federal Regulations 40, CFR 122.26(c). These facilities are required to obtain coverage under the General Industrial Activity Storm Water Permit (GIASWP) Program are obligated to annual permit fees. Since industrial permittees are required to pay a fee to the State Water Resources Control, which presumably includes the cost of inspection, the City should be entitled to a portion of the GIASWP fee to defray its inspection costs.

Recommendation: Consider reimbursing Permittees for inspections at a rate of $300 per facility.

18. Reimbursement for Monitoring

Each Permittee pays an annual MS4 Permit Fee that amounts to several thousands of dollars, based on population. The fee also includes a surcharge. Permittees should be entitled to a portion of the annual fee to pay for Permit-related requirements such as monitoring.

Recommendation: Consider sharing annual MS4 Permit fees.

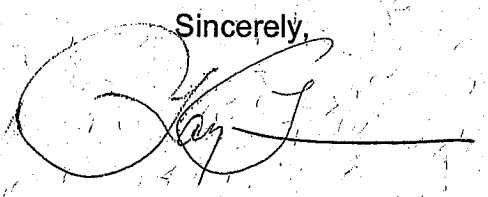
19. Increase De Minimus Municipal Water System Discharges

The DVP proposes to allow the discharge of 100,000 gallons to the MS4 per year without having to apply for a general NPDES discharge permit. The volume is too low and should be based on the size of a municipality's water system and its discharge needs. Further, a provision should be made for discharges that are made to spreading grounds and other unlined conveyances.

Recommendation: Invite further discussion of this matter and include municipal water producers.

TECS Environmental appreciates the opportunity to provide comments on the DVP, which I hope you find constructive, and looks forward presenting them at the April 5th workshop. In the meantime, should you have any questions please call me.

Sincerely,



Ray Tahir

CONTECH STORMWATER SOLUTIONS INC.

February 26, 2007

Dr. Xavier Swamikannu
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

RE: DRAFT VENTURA COUNTY MS4 PERMIT (NPDES PERMIT No. CASOO4002)

Dear Dr. Swamikannu,

Congratulations on this first draft of the Ventura County NPDES Permit. It is an ambitious effort that clearly took a lot of insight and effort to bring to fruition. Thank you for the opportunity to comment. My comments are mainly directed toward the post construction stormwater management elements of the plan and are divided into two sections. First, I'd like you to consider some general comments about the Permit's approach. Second, I have provided comments and suggested changes for specific sections of the permit. For ease of reference, I have included Section numbers, page numbers and a brief subject in dark blue font before each comment.

General Comments:

The complexity of this permit is easy to understand given two factors; a desire on the part of the regional board to measurably improve water quality and a consensus that numeric effluent limits are not feasible to include in a municipal permit. The result is a permit that is overly prescriptive in that it requires specific protection measures to be undertaken on a site level, but gives little to no discussion of the intended water quality impact that is assumed to result from implementation of those measures. In my opinion this permit strays too far from establishing specific performance objectives and is unnecessarily complex and prescriptive.

A simpler, more effective approach would be to require that specific water quality and quantity objectives be met and to establish a process whereby the performance of various BMPs could be qualified related to these performance objectives. For example the Municipal Action Levels as included in Attachment C could be considered to be performance objectives. The permit could require that a BMP manual be developed to identify BMPs that meet or contribute to meeting those objectives. The manual would ideally focus on the fundamental unit processes active in various BMPs with a discussion of the performance impacts resulting from changes to basic BMP design characteristics.

This unit process based BMP design process was specifically recommended by the panel of experts convened by the State Board to comment on the feasibility of numeric effluent limits. Without such an explicit consideration of the performance of various BMPs it is impossible to judge what constitutes treatment to the "maximum extent practicable". In fact, this permit substitutes a performance and feasibility based hierarchy of approaches with an "order of preference" for mitigation approaches that does not necessarily favor more effective BMPs.

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This hierarchy is one example of a prescriptive requirement that constrains a stormwater mitigation system designers options without necessarily providing a water quality benefit. Other examples are requirements that all BMPs drain down within 72-hours, that sites be limited to 5% effective impervious area, and that trash excluders be installed at all drain inlets. In my specific comments I will discuss these and other issues, and provide suggestions that more specifically address the intended water quality benefit without limiting design options.

Specific Comments:

Findings F.11
Page 23
Municipal Action Levels - On or after (first October in year 3 after permit adoption), two or more exceedences of a MAL will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order.

This approach implies that there is a framework for establishing the relative level of effectiveness of various BMPs. For example the permit states that if MALs are exceeded, current controls will be considered ineffective and more rigorous BMPS will be required.

Since no disclosure of performance expectations is required for BMPs initially, and no assessment of BMP performance is required except for MAL compliance monitoring, there is no assessment of baseline BMP performance. Without that, how would we know what we're to be improving on? What criteria will be used to ensure that corrective BMPs are more effective?

Part 1, Table 1
Page 28
72 hour drain down requirement

Please add to this section a provision allowing for the use of BMPs with a permanent pool volume if access to suitable breeding habitat for mosquitoes is eliminated.

A 72 hour draindown requirement eliminates many effective treatment BMPs from consideration. It seems to leave only two types of BMPs as viable options: those that store pollutants on top of a filtering or infiltrating surface such as bed filters or bioretention cells; and those that include a drainage orifice at the bottom of the structure such as a dry detention basin.

On all but the cleanest sites the first option is problematic. Infiltrating or filtering surfaces will become plugged with sediment if it is allowed to accumulate on the surface. Pretreatment should be provided so that the majority of pollutants can be removed prior to filtration or infiltration. Many of the pretreatment technologies that provide trash, sediment and oil and grease removal include sedimentation sumps and underflow baffles to remove floating materials. These are useful tools that would be prohibited by this requirement. They can also be isolated so they do not provide breeding habitat for mosquitoes.

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BMPs with orifices at or near the bottom may not effectively treat low and nuisance flows and will not remove floating pollutants. This makes them poor choices where spills or heavy oil and grease loads are expected. Trash and sediment accumulation may also plug the outlet orifice causing standing water. These devices also benefit from pretreatment.

Part 3 Section A.3.2
Page 31
BMP based implementation of wet weather limits

This section requires that BMPs will be selected that are likely to meet numeric TMDL limits. A process must be established for identifying such BMPs on the basis of performance.

Part 4, Section E.1.b
Page 50
5% Effective Impervious Area threshold

While it is true impacts of development typically become significant once a threshold of imperviousness somewhere between 3-10% is reached it is not realistic to expect that all sites should remain below this level. In many retrofit applications this will not be possible. It is also likely that mandating 95% pervious cover on new development will encourage sprawl. This requirement seems unnecessary since a net increase in runoff volume, peak discharge and runoff duration is prohibited for sites less than 50 acres in Part 4, Section E.II.1.e.1. On projects greater than 50 acres a detailed hydraulic analysis is required to demonstrate that receiving streams and tributaries are not adversely altered.

If this section remains in the final version, please state the specific runoff reduction objective that is assumed to be met and provide for the use of BMPs other than swales that will meet those objectives. For example a retail center with a large impervious parking area that includes infiltration chambers below the parking lot would not be allowed under this section even if that design reduces runoff volumes by >95%. This type of development should be allowed assuming that it adequately reduces runoff rates and volumes.

The requirement that impervious areas be drained through a "properly designed" swale in order to be considered effectively pervious does not guarantee any runoff volume reduction or quality improvement. It also does not encourage pretreatment before pollutants are introduced to a visible, natural area. It is likely to result in swales being overloaded with flow and pollutants as engineers struggle to meet the 5% requirements since no reference is given for what constitutes "proper design".

Part 4, Section E.1.e
Page 50

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Provide 72 hour drain down
See previous comments on Part 1, Table 1

Part 4, Section E.1.f
Page 50
Mitigation approach in order of preference:

(1) Low Impact Development Strategies.
(2) Integrated Water Resources Management Strategies.
(3) Multi-benefit Natural Feature BMPs.
(4) Prefabricated/ Proprietary Treatment Control BMPs.

The directive given by the Clean Water Act and echoed in all State NPDES permits is to reduce discharge of pollutants of concern to the maximum extent practicable. That would seem to require that best performing treatment devices are considered first and lesser performing BMPs should only be considered if the better performers are technically or economically infeasible. Although it's not unprecedented in California, a standard that requires consideration of land based BMPs first and relegates manufactured BMPs to sites where "green" BMPs are infeasible seems to violate the MEP standard.

For example, a recent report from the International Stormwater BMP Database and the CASQA manual shows that grass swales and detention basins are typically the poorest performing public domain BMPs. They are also likely to export phosphorous and bacteria. Vegetated swales or grass filter strips usually require irrigation to support vegetation which not only unnecessarily consumes water, but may contribute to dry weather runoff. Most integrated management practices, which are the building blocks of low impact development, are essentially miniature grass swales and detention basins distributed around a site. Some manufactured, end of pipe BMPs like media filters are consistently more effective for virtually all pollutants, yet they are to be considered only as a last resort under this section.

It would make more sense from a water quality protection perspective to eliminate the hierarchy of implementation approaches and replace it with a simple requirement that the most effective treatment controls be considered first on all sites regardless of whether they are green, grey, natural or manufactured. If engineers are accurately assessing the pollutants of concern and weighing other land use priorities they will necessarily be designing integrated, multi-benefit strategies. They must be given them freedom to use innovative devices as long as performance expectations are justified and disclosed. For example this may include commercial media filters which can be among the most effective BMPS and able to target specific constituents with custom media options.

In many urban areas, particularly at those "hot spots" like convenience stores, bus stops, and heavy traffic areas pollutants can accumulate quickly. There is also a greater potential for spills, or other events that might disrupt vegetated BMPs. For aesthetic purposes, safety reasons and ease of maintenance it is wise to capture and store pollutants in manufactured BMPs where they are contained out of contact with humans and the natural environment. The discretion to make these decisions should be retained by engineers.

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Part 4, Section E.I.2
Page 51
LID manual development

LID is a term that is used to mean many different things. Sometimes it is used synonymously with "integrated management practices" (IMP) to describe actual site design BMPs. LID is more accurately used to describe set of design principles that when implemented correctly, maintain predevelopment hydrologic balance and pollutant export levels on a particular site. IMP are the specific practices or site elements that are utilized to reach the low impact goal. This distinction is important because the permit requires an LID manual, not an IMP manual.

We strongly support development of an LID manual, but with the caveat that in addition to including design and construction guidelines for integrated management practices, there must be a thorough discussion of pollutant and runoff reduction expectations and ongoing operation and maintenance responsibilities associated with these practices. The manual should include all established technologies that provide useful benefits. Allowance for use of innovative technologies that can be shown to provide similar performance and operational burden should also be allowed even if they are not explicitly listed in the manual.

Without defining these key parameters it is impossible to establish which BMPs constitute treatment to the "Maximum Extent Practicable".

Generally it is important that the permit stresses implementation of LID principles rather than prescribing specific integrated management practices. This accomplishes the following key goals which are not met by including prescriptive design criteria in a permit:

- Technological innovation is stimulated instead of stifled as engineers seek to meet performance objectives in more cost effective ways.
- BMP design manuals can and should include prescriptive design standards for BMPs that if followed will result in performance standards being met. However, they must be clear about the expected performance these BMPs.
- BMP design manuals should also include a provision for innovative BMPs to be allowed if they can be proven to meet those same levels of performance.
- Engineers must undertake a more rigorous design process that shows a specific runoff volume reduction and a quantifiable water quality benefit.
- BMPs can be tested to see if they are in fact attaining the level of performance that they are credited with.

Part 4, Section E.II.1.e.1
P 53
Projects disturbing land area of less than fifty acres - Matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24 hour storm event.

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For clarity, please remove the requirement to match hydrographs for pre and post development. For all practical purposes matching hydrographs is impossible. A requirement that predevelopment peak flow and volume not be exceeded would be more appropriate. Restricting runoff duration as well may constrain the design and placement of integrated management practices that collectively may increase the time of concentration on a site. This would be unfortunate.

There is also a reference to "hydrograph matching" on page 61.

Part 4, Section E.III.2.a
Page 55
Mitigate (infiltrate, filter or treat)

Similar language appears in the Los Angeles County SUSMP and is the subject of current confusion. The Regional Board issued a letter of clarification of part 4.D. of the Los Angeles Permit dated December 15th which has been interpreted by some copermittees to mean that all sites must infiltrate the first ¾" runoff.

The language in this section seems to hold infiltration, filtration or treatment as equivalent mitigation strategies. This is inaccurate. Infiltration is superior to treatment by filtration or any other conventional method in that it eliminates runoff and pollutants from overland flow. The term "treat" is confusing when appearing with "filter" since filtration is one method of treatment. The current language implies that "treating" runoff is different than "filtering" runoff, yet there is no definition of what it means to "treat" runoff.

This would be a perfect opportunity to insert some language referencing a specific treatment objective. For example it would be more fitting to say that the design storm must be treated by a BMP or series of BMPs that are likely to result in effluent concentrations below the MALs listed in Attachment C. The possibility of marginally effective treatment practices being used to satisfy the requirement is opened by leaving "treat" undefined.

Part 4, Section E.III.6.b
Page 59
Enforcement action will be taken for inadequate BMP implementation.

What are inadequate or ineffective BMPs? What criteria will be used to decide? Is it intended that the definition of inadequate BMPs is those that do not prevent two or more exceedences of the MALs or that do not meet TMDL requirements?

Part 4, Section E.III.8
Page 60
Mitigation Funding

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This is a critical section of the Permit that I strongly support. Maximum flexibility must be given to Permittees to meet water quality goals from TMDLs or MALs. For some pollutants like pathogens, advance treatment may be required which is far more practical on a regional basis.

This provision will alleviate pressure on redevelopment projects where it is infeasible to meet the 5% effective imperviousness target by allowing municipalities to require a mitigation fee in lieu of on site treatment. This fee could then fund a regional mitigation project.

Part 4 Section 4.G.6.e
Page 78-
Each Permittee shall install trash excluders

Trash excluders installation essentially keeps trash in the streets where it must be recovered. The only sweeping requirement in the Permit, on page 80, requires that curbed streets in commercial areas be swept twice monthly. Minimum sweeping requirements should be set for all areas where excluders are installed.

Trash excluders should not be required where "full capture" trash removal BMPs are installed. For example it may be determined that a single screening system installed at an outfall with many upstream inlets provides more economical and aesthetic litter control.

Summary:
Thank you again for the opportunity to comment. If you have any questions about these comments, please contact me.

Sincerely,

Vaikko Allen II, CPSWQ
Regulatory Relations Manager – West

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Commentors for E-Mails with Title: Proposed Stormwater Permit Won't Clean Our Wat

Karen M. Zieba, Long Beach, CA
Jeffrey Landon, Poway, CA
James L. Marshall, Saugus, CA
Carolyn Casavan, Ventura, CA
Mike Plarzer, Encinitas, CA
Bill Clevenger, Valley Center, CA
Kirk Hartley, Palmdale, CA
Thomas M. Brooks, Riverside, CA
Mark Ferraro, Irvine, CA
Owen Mc Gurrell, Irvine, CA
Morgan Keith, Riverside, CA
Matthew Orzech, Sun City, CA
Craig A. Lawson, Santa Rosa, CA
Mark T. Gran, Imperial, CA
Patti Felker, Newbury Park, CA
Jeff Phillips, Newport Beach, CA
Marice White, Newport Beach, CA
Alia May, Rancho Cucamonga, CA
James W. Ustick II, San Clemente, CA
Kimber Wilburn, Riverside, CA
Kevin Canning, Coto de Caza, CA
Jonathan R. Choi, Irvine, CA
Tim Henry, Oxnard, CA
Casey Beyer, Manhattan Beach, CA
Deborah Frias, Walnut, CA
Brian Gelt, San Diego, CA
Kathy Sisco, Carlsbad, CA
Odie Duggan, Irvine, CA

From: <karen@ziebabuilders.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/7/2007 7:07:10 PM
Subject: Proposed Stormwater Permit Won't Clean Our Water!

Dear Mr. Bishop,,

Your water board is considering a stormwater permit in Ventura County that won't actually improve water quality. The permit relies on incomplete science and studies that aren't applicable in Ventura County. It uses old national data and studies completed in the Pacific Northwest that aren't relevant for Ventura County, where we also need to provide flood control during significant rain events. The permit uses a "one-size-fits-all" approach that doesn't consider Ventura County's climate, geology, hydrogeology, or terrain.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Karen M. Zieba
2625 E. 2nd Street
Long Beach, CA 90803

CC: <karen@ziebabuilders.com>

Commentors for E-Mails with Title: Water Permit Threatens Housing!

Mark Norris, Palmdale, CA
John Sands, Irvine, CA
Christine Shimane, Torrance, CA
John R, Vandervelde, Orange, CA
Kelly Regan, Encinitas, CA
Rick Brown, Newport Beach, CA
Robert A. Perlberg, Culver City, CA
Mabel Hill Garcia, P.E., Irvine, CA
Steve J. Sobotta, Desert Hot Springs, CA
Brian Hudnell, Oxnard, CA
Michael Hemberger, Huntington Beach, CA
Sheila R. Cobrin, Palm Springs, CA
Gary Jones, San Clemente, CA
Dawn R. Johnson, Chino, CA
David McKinzie, Studio City, CA
Paul Medeiros, San Jose, CA
Fred Farr, Corona, CA
John Terando, Riverside, CA
Nancy Voien, Irvine, CA
Tim Casey, Moorpark, CA
Mohamad Younes, Los Angeles, CA

From: <cshimane@driservices.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/7/2007 1:26:12 PM
Subject: Water Permit Threatens Housing!

Dear Mr. Bishop,,

I understand that your water board is considering a stormwater permit in Ventura County that will exacerbate our region's housing crisis. The permit irrationally prohibits construction during the "wet" season – defined in this permit as longer than the dry season - from October 1 to April 15. This will limit the number of homes that can be constructed, driving up construction costs and, ultimately, home prices and HOA fees.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Christine Shimane
2115 W. 166th Place
Torrance, CA 90504

CC: <cshimane@driservices.com>

From: <odied@ocbinc.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/7/2007 1:21:09 PM
Subject: Don't Encourage Sprawl!

Dear Mr. Bishop,,

Your water board is considering a stormwater permit affecting Ventura County stormwater systems. As proposed, the permit will encourage sprawl and discourage infill development and smart growth. Implementing the requirements of this proposed permit will mean dedicating enormous amounts of land to stormwater control. Such land is rarely available in infill projects. As a result, infill and redevelopment projects will be greatly challenged to meet the requirements. So instead of redeveloping land in our developed areas, developers and cities will seek out undeveloped land where these requirements can more easily be met, furthering sprawl and conversion of undeveloped land.

Please reject these stringent requirements and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Odie Duggan
17721 mitchell n.
irvine, CA 92614

CC: <odied@ocbinc.com>

Commentors for E-Mails with Title:Don't Encourage Sprawl!

Marisa O'Neil, Tustin, CA
Brian Starr, Irvine, CA
Denise Kennedy, Irvine, CA
Magda Ghebrial, Santa Fe Springs, CA
Owen McGurrell, Irvine, CA
Craig Ishihama, Newport Beach, CA
Lorraine Fleischmann, Chino Hills, CA
Toby Cornell, Chino, CA
Trudy Zarnowiec, Lancaster, CA
Steven E. LaMar, Irvine, CA
Marcus R. Cook, Los Angeles, CA
Valerie Blake, Encinitas, CA
Steve Seibert, Murrieta, CA
Nicolle Ferrier, Laguna Niguel, CA
Linda Conti, Costa Mesa, CA
Bruce Moock, Aliso Viejo, CA
Lloyd A. Poindexter, VanNuys, CA
Patty Greeves, Idyllwild, CA
David Harding, Irvine, CA
Gretchen Gutierrez, Palmdale, CA
John Mullin, Poway, CA

Commentors for E-Mails with Title: Stormwater Will Stifle Business Growth!

Thomas G. Grable, Lake Forest, CA
Art Dixon, Placentia, CA
Brian Sinderhoff, Costa Mesa, CA
Ralph Bing, Thousand Oaks, CA
Robert Gaouette, Foothill Ranch, CA
Eric G. Shield, Santa Ana, CA
Greg Norris, Northridge, CA
Kristine E. Thalman, Laguna Beach, CA
Lisa Slam, Palm Desert, CA
Jennifer Phillip, San Luis Obispo, CA
Bob Yoder, San Clemente, CA
Phillip K. Smith, Indio, CA
Paul Feiger, Oak Park, CA
Van Martin, San Clemente, CA
Mike Winter, Aliso Viejo, CA
Mitchell Bradford, Corona del Mar, CA
Rick Bianchi, Oak Park, CA
Cathy Huff, Brea, CA
Roberta Colmer, Calabasas, CA
Veronica Trejo, Chatsworth, CA
Cynthia A. Raville, Newhall, CA
Alyson Austin, Irvine, CA
Karen Conlin, Laguna Hills, CA

From: <aaustin@biasc.org>
To: <jbishop@waterboards.ca.gov>
Date: 3/7/2007 1:19:49 PM
Subject: Stormwater Permit Will Stifle Business Growth!

Dear Mr. Bishop,,

The proposed stormwater permit under consideration in Ventura County will stifle business growth and must be revised. Industrial and commercial properties will need to meet stringent construction requirements that will limit their ability to grow and expand their businesses. Such businesses may consider expansion in areas outside of Ventura simply due to construction costs associated with expansion.

In addition, because construction can only occur during summer months, much of the workforce will be idled for months at a time.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Alyson Austin
8058 Scholarship
Irvine, CA 92612

CC: <aaustin@biasc.org>

Commentors for E-Mails with Title: Proposed Permit Levies Unfunded Manadates!

Bobbie Williamson, Diamond Bar, CA
William J. Warkentin, Riverside, CA
Max Greene, San Diego, CA
Jeanne D'Amato, Canoga Park, CA
Bob Gillis, Ladera Ranch, CA
Jarret L. Bjornsen, La Verne, CA
Zoraida Lozoya, Diamond Bar, CA
David L. Pitts, Valencia, CA
Elaine L. Freeman, Simi Valley, CA
Steve Ritz, Yorba Linda, CA
Brian Jacobson, Irvine, CA
Christina Coats, Irvine, CA
Tim Hampton, Oceanside, CA
Larry Lopez, Diamond Bar, CA
Curt Honodel, Antioch, CA
E. L. "Red" Seifert, Mission Viejo, CA
Mark Knorringa, Corona del Mar, CA
Roger A. Grable, Costa Mesa, CA
Diane Lyttle, Irvine, CA
Karen Conion, Laguna Hills, CA

From: <karendc@cacm.org>
To: <jbishop@waterboards.ca.gov>
Date: 3/7/2007 1:19:09 PM
Subject: Proposed Permit Levies Unfunded Mandates!

Dear Mr. Bishop,,

The proposed stormwater permit currently under consideration in Ventura County would force the cities of Ventura to spend their money on specific, unfunded mandates of the Regional Water Quality Control Board, rather than on the priorities of the cities. The permit is extremely specific, paramount to the Regional Water Quality Control Board telling the cities how to do their jobs. The Board has conducted no economic or cost-benefit analysis of whether their one-size-fits-all requirements are the best strategies for individual cities.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Karen Conlon
23461 South Pointe Dr. #200
Laguna Hills, CA 92653

CC: <karendc@cacm.org>

In opposition

March 6, 2007

Los Angeles Water Quality Control Board
Attn: Dr. Xavier Swamikannu,
320 W. 4th Street, no. 200
Los Angeles, California
90013-2343

Re: Comments; on WDR for Municipal Storm Water Discharge within the Ventura County Water Protection District (NPDES) No. CAS 004.

Dear Dr. Swamikannu,

At first glance the currant document appears to look improved from the last few years. However, my concern is that if you have waived regulations for the SSFL, Santa Susana Field Laboratory NPES that presents a problem.

First; since you have waived regulations for the Rocketdyne Missile Site NPES (SSFL) I question will there be a continued monitoring station down stream of the Nuclear site? The report that was just released to the public in October of 2006 shows that there was a 459% greater contamination from the 1959 melt down at the missile site than was ever reported. Was that date taken into consideration when this document was prepared?

Secondly; and probable more important if my memory serves me correctly the discharge into/within the Ventura County Water Shed is directly influenced by;

- The Master Drainage Plan /Master Water Plan that would include the influence of the Rocketdyne Missile Site,

- The sphere of influence from Angeles County line to Ventura County to include the LasLlajas and Chivo's Channels and canyons run off, that are some how always left off the studies due to lack of funding.

If this currant plan is to be consistent, than a complete review of the 1990-1992 Master Drainage Plans/Water Plans must be done to assure its accuracy. My review of the 1990-1992 Water Plan shows that it was based on the 1986 plan that was never adopted, or accurate. Therefore, I question the validity, and or creditability of this 2005-2007 plan being proposed. A review of your files should show that my colleague Mrs. Teresa Jordan and I filed an opposition to the 1992 up-dated plan being presented for several viable reasons.

It is our opinion that to continue to build on a house of cards will cost us the tax payers more in the long run, not to mention the health hazard that would go undetected. You can't keep preparing water/ or drainage plans on false incomplete information hoping that a catastrophic event never occurs.

In conclusion, leaving out streams and tributaries that greatly effect the influence of the water flow down stream simply isn't good sound management of our Water ways, or the water resources they provide. To leave out date and facts of the health hazard from the Rocketdyne melt is criminal. It is my contention that something is very wrong when valid concerns over,false facts and incomplete data being presented is not taken seriously. Clearly this is nothing more than a case of "**Noncompliance**".

And, interesting enough, I contacted the State Water Resources and Federal Agencies about the noncompliance of Ventura County and the City of Simi in December of 1989, and filed a suit for noncompliance against the State and Federal Government for non-compliance in December of 1991. The falsifying information regarding the influence of the Rocketdyne site water discharge and (FEMA) flood Plain has caused my family undue hardship. The cover-up of accurate information will only cause further health hazards for the citizens of Simi Valley and the down stream Communities if not addressed.

Therefore, I must in all good conscience reject this plan and request that the aforementioned data be made part of this proposal in order to have a true and correct picture of the Storm Water Discharge within Ventura County.
Sincerely,

Ginn Doose

Ginn Doose
4922 Alta Street
Simi Valley, Ca.
93063
c/o P.O.Box 2310
Clearlake, Ca.
95422

cc; Mr. Dennis White, IGO DHS/FEMA, fax. 1/202/254-4294
Ms. Janet Reno The A. J. S, fax. 1/515/279-3090
Ms. Teresa Jordan, 1/805/522-5016

P.S. Teresa Please Submit on my behalf, Sincerely
3/6/7 Ginn Doose

3152 Shad Court
Simi Valley, CA 93063
March 6, 2007

Dr. Xavier Swamikannu
LARWQCB
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Public Workshop on Proposed Changes to the Waste Discharge Requirements for Municipal Storm Water Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein, (NPDES NO. CAS004002).

Dear Dr. Swamikannu:

I am opposed to the draft Ventura County Municipal Separate Storm Sewer System(MS4) Permit for the following reasons.

#1 - To date the County and the Watershed Protection District have not responded to my comments on the Draft Multi-Jurisdiction Hazard Mitigation Plan and the Flood Mitigation Plan which are interrelated to this "Order".

#2 - To date the Federal Emergency Management Agency and the County of Ventura, and the City of Simi Valley have not responded to my comments on the Draft Preliminary Flood Insurance Study(FIS) and Preliminary Flood Insurance Rate Maps(FIRMs) which are interrelated to this "Order".

#3 - While the California DWR and the LARWQCB deal with regional water management aspects:

1. Urban Water Management Plan(UWMP), and
2. Integrated Regional Water Management(IRWM) Plan,

this "Order" does not incorporate the Boeing Rocketdyne Santa Susana Field Laboratory's NPDES program permit--even though it is a

separate "Order" the area's runoff significantly impacts the Arroyo Simi part of the Calleguas Watershed Area, and the City of Simi Valley's Municipal Separate Storm Sewer System Permit for which the citizenry is being burdened with fee increases to cover programs and projects to comply with State and Federal government regulations.

#4 - This next 5-years permit is considerably improved from the previously issued ones, but even though the word "shall" appears practically everywhere there are no guarantees that certain requirements will not be made flexible, waived, deferred, or deleted--as exemplified by the Board's recent decision for the Boeing Rocketdyne Santa Susana Field Laboratory requirements.

#5 - Instead of phasing--first, second, third, fourth, and fifth year--requirements as previously done, the draft "Order" allows for meeting them within the 5-years period.

#6 - The City of Simi Valley to date has not responded to my comments on the FY 2006-2007 Preliminary Base Budget which includes State and Federal government funding for the current and updated Municipal and NPDES permit projects.

#7 - The cities of the County of Ventura asked the Watershed Protection District to act as the official body in changing the Ventura County Watershed Protection District Act in order to be able to levy property-related fees to cover the costs of NPDES permit program related projects(California legislator Nava). No public hearings took place at the County and Cities level on this matter.

#8 - To date the resolutions from the County's cities related to the Nava legislative bill have not been adopted to date as required by the Ventura County Board of Supervisors. The IRWM related Coalition will not do.

#9 - To date, the City of Simi Valley has constructed only 1 of 6 to 11 regional stormwater detention

basins that it said it needed to mitigate runoff for its NPDES permit since 1992, even though the Federal Emergency Management Agency allocated the funding toward that project about 5+ years ago.

#10 - To date, the County of Ventura has not rescinded the existing NPDES permit related fees even though they are illegal--there were no public hearings, which is why they cannot be increased since this matter would have to be disclosed to the voters.

#11 - The Los Angeles Regional Water Quality Control Board is not accepting facsimiles for comments from "interested parties" for this Public Workshop on Proposed Changes to the Waste Discharge Requirements for Municipal Storm Water Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein, (NPDES NO. CAS004002). Such directive was non-existent when addressing the State's Water Plan update, and Mr. Lester Snow has accepted my facsimiles relative to public input on the IRWM program and funding. Many a document had to be cross-referenced in order to address this draft. The Los Angeles Regional Water Quality Control Board's staff assists the "Permittees", members of the public don't have that luxury. By excluding facsimile submittals, the LARWQCB's stance is not in keeping with Governor Arnold Schwarzenegger's "open government" policy with regards to the public participation process.

QUESTIONS

1. Page 1 of 118 - A.1: Why does the first sentence state "Permittee" and "Permittees" in the Draft document--Mr. Jonathan S. Bishop's December 27, 2006 letter to Mr. Jeff Pratt refers to the entities as "Co-Permittee" and "Co-Permittees"?

2. Why is this MS4 Permit("Order") update 1½ years overdue?

3. Is there a list with the County and/or its Cities

relative to the "State and Federal facility" mentioned under A.1.3, "an entity"?

4. Does the word "substances" under B.4 cover only the pollutants mentioned under B.1 and 2, or does it cover other items(cars, shopping carts, furniture, etceteras)?

5. Are the words "products of combustion" one and the same as "combustion engine operation" under B.2?

6. The last sentence under "8.", Page 4 of 118, states "This Order includes requirements to conduct bioassessments of natural streams and waterways." What about man-made streams and waterways?

7. Our Recreation and Parks District empties the water from the duck ponds in one of its parks into the city sewer system. Is the District required to obtain a special permit for this activity?

Dr. Swamikannu, please note that Ginn Doose concurs with my comments.

Sincerely,

Mrs. Teresa Jordan

Mrs. Teresa Jordan

From: Paul Jenkin <pjenkin@sbcglobal.net>
To: <twoods@waterboards.ca.gov>
Date: 3/26/2007 7:33:08 PM
Subject: Downtown Specific Plan follow up

Traci -

I recognize that it is too late for formal comments on the Ventura Stormwater Permit, but I wanted to pass this along. Below and attached are communications with the City of Ventura regarding this issue. I understand there is some resistance on their part regarding this permit, and I offer the following pro-active approach to the city instead of further delay and objection. I believe this is an opportunity to showcase some innovative strategies for dealing with the impacts of the existing urban environment, and am advocating that the city follow up on this...

---

to Ventura City Council;

I just wanted to follow up on my comments at the council meeting this past Monday, March 19.

I am aware that the City and other municipalities in the County have considerable concerns relating to the new Municipal Stormwater Permit. The basis for this concern lies in the fact that this permit will be impossible to comply with, as long as our beaches are impacted by the current conditions. (i.e. concrete channels delivering urban runoff directly onto the beaches)

Some of you may have picked up on this aspect of my comments... we are at a point in history where we can either fight the regulators or take proactive measures to solve the problems. We must realize the big picture, that much of the impetus for this regulation comes from the State and Federal oceans initiatives (see background info below). If we become leaders in this regard (like Matilija Dam), we will be able to take advantage of incentives and secure grant funding to augment the city's cost share. The alternative is to fight it and put this money into lawyers pockets.

The concept that we need to embrace may seem radical, but I believe it is achievable: We need to begin the process of "Re-landscaping" our community. This is already happening up north, and we could be leaders in southern California.
For some great examples see the city of Seattle's web pages at http://www.seattle.gov/util/About_SPU/Drainage_&_Sewer_System/Natural_Drainage_Systems/index.asp

This basic concept is included in the Downtown Specific Plan for new infill development. This is good policy, and will be required under the new Stormwater Permit.

However, the city should go beyond "minimum required by law" and take stormwater management into consideration with EVERY redevelopment and landscaping decision - and the community should also embrace the idea and incorporate into our own landscapes. (the photo on the "Ocean

Friendly Gardens" brochure is my front yard, and we will be launching this program soon)

I encourage you to support ongoing efforts through the watershed councils and wetlands recovery projects aimed at restoring the natural function of our waterways. I believe we need to be proactive in achieving the city vision statement:

Our goal is to be a model for other communities of environmental responsibility, living in balance with our natural setting of coastline, rivers, and hillside ecosystems.

- City of Ventura

General Plan 2005

Background

California Ocean Protection Act (Approved by Governor September 23, 2004)
http://resources.ca.gov/copc/

The ocean and coastal waters offshore of the state are unique and valuable natural resources that the state holds in trust for the people of California. The state of our ocean's health is well documented. Reports such as the 1997 Resources Agency report, "California's Ocean Resources: An Agenda for the Future," the 2003 Pew Oceans Commission report, "America's Living Oceans: Charting a Course for Sea Change," and the United States Commission on Oceans Policy's 2004 preliminary report, document degraded ocean values, due to coastal and ocean development, onshore and offshore pollution, certain fishing and aquaculture practices, and invasive species, among other things.

The preservation of the state's ocean resources depends on healthy, productive, and resilient ocean ecosystems. The governance of ocean resources should be guided by principles of sustainability, ecosystem health, precaution, recognition of the interconnectedness between land and ocean, decisions informed by good science and improved understanding of coastal and ocean ecosystems, and public participation in decisionmaking.

Terrestrial sources of ocean pollution in the state contribute to significant water quality degradation, causing deleterious impacts to public health and marine ecosystems, as well as coastal and recreational economics that are essential to the state's future. The ocean ecosystem is inextricably linked to activities on land and all public agencies should consider the impact of activities on land that may adversely affect the health of the coastal and ocean environment.

Paul Jenkin
Environmental Director
Surfrider Foundation Ventura County Chapter
Coordinator, Matilija Coalition
(805) 648-4005 pjenkin@sbcglobal.net
http://surfrider.org/ventura/
www.matilija-coalition.org

www.surferspoint.org

Surfrider Foundation

Ventura County Chapter – Matilija Coalition
239 W Main St., Ventura, CA 93001
(805) 667-2222 **www.matilija-coalition.org**

March 15, 2007

City of Ventura Planning Department
501 Poli St.,Room 117
Ventura, CA 93001

RE: Downtown Specific Plan

The Surfrider Foundation has reviewed sections of the Downtown Specific Plan relating to ocean water quality and the health of the coastal ecosystem. It is encouraging to see that the concept of Ecosystem Based Management has made it into this document. However, we find that while lip service has been given to the issue, the Action Items presented fall short of actually improving the current situation along city beaches. We feel this is a missed opportunity in many respects, and advocate that pro-active measures are taken to develop creative mitigation strategies to improve the health of the coast and beaches.

Our comments below are intended to provide constructive ideas toward improving the condition of our most valuable asset, the beaches of Ventura.

Reduce threats to coastal ecosystem health

First of all, the majority of Action items under this heading are already required by law under the California Coastal Act and the city's Local Coastal Plan, as well as CEQA. Therefore these items do not represent any pro-active effort to actually "reduce threats to coastal ecosystem health."

For instance, while **Action 8.2 requires new coastal development adjacent to the beach to provide non-structural shoreline protection that avoids adverse impacts to coastal processes and nearby beaches,** this has little meaning in the context of the Downtown Specific Plan. The prudent and cost effective way to avoid adverse impacts to coastal processes is to provide adequate setback from the shoreline and watercourses. For the most part this does not apply to the planning area, as all these coastal parcels are designated parks and open space already protected by a seawall, and in which new development would not be anticipated.

Potential impacts of BEACON "opportunistic beach fill" projects.

> *For development in which 100 cubic yards or more of excess material is exported, require that the developer coordinate with the City to determine if the excess material is suitable for beach nourishment ... to place such material in the surf zone at Surfers Point.*

Surfrider recognizes the intent of this Action Item, but has concerns regarding the potential benefits and impacts. To date, upland sediment sources have been found to be unsuitable for beach nourishment due to the high fraction of fine sediments. We feel that deposition of small quantities of marginal quality sediments "in the surf zone" is not in the public interest. (100 – 1000 cubic yards is a very small fraction of the annual littoral transport at Surfers Point) Our concern is that this action will impact nearshore water quality through increased turbidity, while providing insignificant benefits relating to shoreline erosion.

Improve quality of urban stormwater runoff and groundwater recharge.

Action items under this heading include requiring *all new development to preserve natural drainage features and vegetation to the maximum extent practical or to otherwise maintain pre-development site hydrology by using site design techniques that store, infiltrate, evaporate or detain runoff.*

This is good policy, and shall soon be required by law under the RWQCB Urban Stormwater MS4 Permits.

Other Action items include *preparing a Master Drainage Plan and establish a Downtown watershed resource inventory; require engineered drainage plans for all new development; and establish a fee developers may pay in lieu of on-site management of stormwater runoff.*

This also is a great step in the right direction, and a much needed strategy. (It is surprising that the City does not already have a Master Drainage Plan.) Unfortunately, for the most part within the planning area the damage has already been done; the majority of natural vegetation in the planning area has already been lost to urbanization, and wetlands have been reduced by greater than 90% over historic conditions. This is the root cause of degraded coastal water quality.

Scientific research has shown that the biggest threat to "Coastal ecosystem health" (other than sewage spills) is urban runoff. Research and practical experience have also demonstrated that the single most cost effective measure for enhancing ocean water quality and mitigating urban runoff is to restore and enhance coastal wetlands. The City of Ventura should consider opportunities to achieve clean water goals and objectives through wetland and watershed restoration. Specifically, the Capital Improvement Plan includes several million dollars worth of "storm drain upgrade" projects. These projects may present an opportunity to "day light" existing concrete channels to re-establish the filtering benefits provided by naturally functioning wetlands.

Suggested Action: The City will engage in creative planning aimed at restoring the natural functions of our coastal watersheds. Appropriate venues for this include the Ventura River Watershed Council and the Southern California Wetlands Recovery Project.

The Downtown "Streetscape Plan" seems to consist mainly of basic landscaping improvements with palm trees and other non-native trees and some improvement to the aesthetics of the sidewalks and crosswalks. These facelifts are

desperately needed; however this also seems to be a lost opportunity in many regards.

Let's not spend millions of dollars on re-landscaping that does not enhance the hydrologic function of our urban watershed. There is a huge opportunity to develop multi-benefit projects that will achieve the same goals, while also enhancing environmental quality. For example, vegetated medians and street borders have been successfully implemented in other urban areas to act as filters for stormwater runoff while "greening" the urban core. Bike paths and roundabouts should also be included in the plan – these may also serve to calm traffic making the cycling/pedestrian experience safer and more user-friendly, while saving energy and reducing environmental impacts. We recognize that multi-use projects may require more planning and funding initially, but believe that the long-term cost savings and benefits will make it worth the effort.

Suggested Action: The City will pursue multi-benefit projects to "green" the urban core and enhance environmental quality.

Surfrider looks forward to continuing the dialog to ultimately make Ventura a showcase for innovative solutions to the environmental problems we face today.

Sincerely,

A. Paul Jenkin

A. Paul Jenkin
Coordinator, Matilija Coalition
Environmental Director, Surfrider Foundation - Ventura County Chapter
(805) 648-4005

LATE - Commentors for E-mails with Title: Stormwater Will Stifle Business Growth!

Gregory E. Palazzo, Camarillo, CA
Mark May, Simi Valley, CA
George R. Larson, Agoura Hills, CA

Example.

From: <glarson@geosoils.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/8/2007 7:45:07 AM
Subject: Stormwater Permit Will Stifle Business Growth!

Dear Mr. Bishop,,

The proposed stormwater permit under consideration in Ventura County will stifle business growth and must be revised. Industrial and commercial properties will need to meet stringent construction requirements that will limit their ability to grow and expand their businesses. Such businesses may consider expansion in areas outside of Ventura simply due to construction costs associated with expansion.

In addition, because construction can only occur during summer months, much of the workforce will be idled for months at a time.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

George R. Larson
5446 Luis Dr
Agoura Hills, CA 91301

CC: <glarson@geosoils.com>

Example

From: <rcapo@vtnwest.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/8/2007 7:39:00 AM
Subject: Don't Encourage Sprawl!

Dear Mr. Bishop,,

Your water board is considering a stormwater permit affecting Ventura County stormwater systems. As proposed, the permit will encourage sprawl and discourage infill development and smart growth. Implementing the requirements of this proposed permit will mean dedicating enormous amounts of land to stormwater control. Such land is rarely available in infill projects. As a result, infill and redevelopment projects will be greatly challenged to meet the requirements. So instead of redeveloping land in our developed areas, developers and cities will seek out undeveloped land where these requirements can more easily be met, furthering sprawl and conversion of undeveloped land.

Please reject these stringent requirements and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Ralph J. Capo
6946 Van Nuys Blvd. #100
Van Nuys, CA 91405

CC: <rcapo@vtnwest.com>

LATE - Commentors for E-mails with Title: Don't Encourage Sprawl!

Barbara Rossoll, Escondido, CA
Neil T. Baucke, Temecula, CA
John A. Hanson, San Diego, CA
Alan Murphy, Simi Valley, CA
Daniel T. Martinez, Cypress, CA
George Lightner, Alta Loma, CA
Sonja Dawkins, Fontana, CA
Matt J. Breiner, Newbury, CA
Russ Valone, San Diego, CA
P. Shirreffs, Brea, CA
Ralph J. Capo, Van Nuys, CA

LATE - Commentors for E-mails with Title: Water Permit Threatens Housing!

J. Kevin Akins, Altadena, CA
Barbara R. Wagar, San Diego, CA
Donald D. Steffensen, Palm Desert, CA
Greg S. Smith, Brawley, CA
Bobbie kerns, Idyllwild, CA
Les Thomas, Brea, CA
Todd Leibl, Pasadena, CA
John Franklin, Thousand Oaks, CA
Donna Rowley, San Diego, CA

Example

From: <drowley@barrattamerican.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/8/2007 7:15:31 AM
Subject: Water Permit Threatens Housing!

Dear Mr. Bishop,,

I understand that your water board is considering a stormwater permit in Ventura County that will exacerbate our region's housing crisis. The permit irrationally prohibits construction during the "wet" season – defined in this permit as longer than the dry season - from October 1 to April 15. This will limit the number of homes that can be constructed, driving up construction costs and, ultimately, home prices and HOA fees.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Donna Rowley
11685 Sierra Crest Ct.
San Diego, CA 92131

CC: <drowley@barrattamerican.com>

LATE - Commentors for E-mails with Title: Proposed Stormwater Permit Won't Clean Our Wa

Nancy Whipple, San Clemente, CA
David H. Hoffmam, Redondo Beach, CA
Michelle Rodriguez, Westlake Village, CA
Matthew Hawley, Fillmore, CA
Brian Beard, Valencia, CA

Example

From: <bbeard@centexhomes.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/8/2007 7:56:31 AM
Subject: Proposed Stormwater Permit Won't Clean Our Water!

Dear Mr. Bishop,,

Your water board is considering a stormwater permit in Ventura County that won't actually improve water quality. The permit relies on incomplete science and studies that aren't applicable in Ventura County. It uses old national data and studies completed in the Pacific Northwest that aren't relevant for Ventura County, where we also need to provide flood control during significant rain events. The permit uses a "one-size-fits-all" approach that doesn't consider Ventura County's climate, geology, hydrogeology, or terrain.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Brian Beard
23240 Sorrel Court
Valencia, CA 91354

CC: <bbeard@centexhomes.com>

LATE - Commentors for E-mails with Title: Proposed Permit Levies Unfunded Mandates!

L.J. Edgcomb, San Juan Capistrano, CA
Debra J. Pember, Fullerton, CA
Bruce Sanders, Ventura, CA
Kevin Houska, Cathedral City, CA
Michael J. Surges, San Diego, CA
David Patwell, Oak Park, CA
Ron Newburn, Oxnard, CA

Example

From: <rnjnewburn@msn.com>
To: <jbishop@waterboards.ca.gov>
Date: 3/8/2007 7:26:01 AM
Subject: Proposed Permit Levies Unfunded Mandates!

Dear Mr. Bishop,,

The proposed stormwater permit currently under consideration in Ventura County would force the cities of Ventura to spend their money on specific, unfunded mandates of the Regional Water Quality Control Board, rather than on the priorities of the cities. The permit is extremely specific, paramount to the Regional Water Quality Control Board telling the cities how to do their jobs. The Board has conducted no economic or cost-benefit analysis of whether their one-size-fits-all requirements are the best strategies for individual cities.

Please reject this proposed permit and seek a more practical solution. Thank you for considering my viewpoint.

Sincerely,

Ron Newburn
713 Northport Ln.
Oxnard, CA 93035

CC: <rnjnewburn@msn.com>

X5

CITY OF OJAI

401 SOUTH VENTURA STREET
P.O. BOX 1570 / OJAI, CA 93024
TELEPHONE (805) 646-5581
FAX (805) 646-4701

OFFICE OF THE MAYOR

May 23, 2007

Mrs. Francine Diamond (Chair)
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: COMMENTS on DRAFT STORM WATER NPDES PERMIT for VENTURA COUNTY

Dear Mrs. Diamond:

The City of Ojai, urges the California Regional Water Quality Board to consider our small city for eligibility as a Phase II community within Ventura County. Currently, all of the communities in Ventura County are classified as Phase I communities in the Draft Permit.

Encompassing only 4.2 square miles and with a population of 8,000, Ojai lacks the considerable resources needed to meet water quality requirements outlined in the proposed NPDES Permit from Los Angeles Regional Water Quality Control Board.

The Board has within their authority the ability to direct its staff to reduce the requirements for eligible Phase II communities in Ventura County. Once a permit is imposed, some of the funding opportunities will evaporate. If Phase II communities are differentiated in the new permit, we would have additional years to apply for grants. This would allow the City of Ojai to maintain our current storm water treatment efforts without the drastically increased costs to comply with requirements currently set forth in the Draft Permit.

The expense of compliance with Phase I requirements would overwhelm our small city's resources. Ojai's ability to perform other public works services would be disproportionately impacted. Compliance with the proposed requirements are estimated at $300,000 for year one, then about $200,000 annually, or 15% of our total public works budget, thereby limiting our ability to perform road maintenance and other proper maintenance to public facilities.

Ojai desperately needs additional time that would allow us to install storm water treatment devices and develop the necessary funding to conform with the rigorous requirements for urban

areas. Unlike other regions, such as Los Angeles County, the small communities in Ventura County, and particularly the City of Ojai, truly meet the EPA definition of Phase II communities that are separated by large green belts or surrounded by orchards and agricultural land.

Very Truly Yours,

City of Ojai

Carol Smith, Mayor

cc: City Council
Jere Kersnar, City Manager
Mr. Jonathan Bishop, Executive Officer, California Regional Water Quality Control Board

City of Port Hueneme

May 16, 2007

Ms. Francine Diamond, Chair
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: COMMENTS ON DRAFT STORM WATER NPDES PERMIT FOR VENTURA COUNTY

Dear Ms. Diamond:

This letter is a follow up to the public comments made at the April 5, 2007 Regional Water Quality Control Board workshop on Draft NPDES Storm Water Permit No. CAS004002.

The City Council of the City of Port Hueneme would like to request the Board's assistance during this critical juncture in addressing the proposed regulations in the draft MS4 permit as it relates to the spiraling costs associated with meeting water quality objectives.

It is our understanding that the Board has within its authority to direct its staff to reduce and/or tier requirements so as to distinguish between Phase I and Phase II communities. This would maintain the current storm water efforts Port Hueneme is presently making without the drastic increases proposed in the draft Permit. As a member of the Ventura Countywide Stormwater Quality Management Program, the City has been regulated as a Phase I community since 1994.

The City has demonstrated and will continue aggressive efforts to ensure that water resources continue to remain free of pollution. The City, currently facing a budget deficit, could not sustain what is estimated to be up to a 300% increase over and above current aggressive efforts.

Sincerely,

MARICELA P. MORALES
MAYOR

250 North Ventura Road • Port Hueneme, California 93041 • Phone (805) 986-6500

c: Ms. Mary Ann Lutz, Vice Chair
Mr. Dick Richardson
Ms. Maribel Marin
Mr. David Nahai
Mr. Leo J. Vander Lans
Ms. Debbie Smith, Acting Executive Officer
Port Hueneme City Council
David J. Norman, City Manager
Carrie Mattingly, Utility Services Director
Ventura County MS4 Co-permittees

CITY OF FILLMORE
CENTRAL PARK PLAZA
250 Central Avenue
Fillmore, California 93015-1907
(805) 524-3701 · FAX (805) 524-5707

April 3, 2007

Mr. Jonathan Bishop, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: COMMENTS ON DRAFT STORM WATER NPDES PERMIT FOR VENTURA COUNTY

Dear Jonathan;

The purpose of this letter is to share with you the major issues of concern with the draft NPDES permit.

One concern is the prescriptive requirements of specific Best Management Practices (BMP's) to meet storm water treatment requirements. The permit should prescribe the water quality objective and leave the treatment approach up to the local agencies. The following are some examples of problems the prescriptive approach will create in Fillmore:

One example of pending disaster of the prescriptive BMP approach is the mandatory requirement for trash excluders to eliminate trash in storm water. This BMP cannot be implemented in parts of Fillmore without negating the flood protection system that prevents serious flooding of homes in Fillmore. For Fillmore it will be much better to develop downstream BMP's that remove the trash without compromising flood protection.

Another example is the mandatory requirement for pervious pavement. In 75% of Fillmore this does not present a problem but in North Fillmore the land is directly over our open drinking water aquifer which is only 30-feet below the ground surface. The soil between the drinking water aquifer and the surface is porous sand and gravel so pollutants could rapidly migrate to the drinking water. Therefore in North Fillmore pervious pavements could allow pollutants such as MTBE to poison our only drinking water supply. For this reason the City has been carefully selecting BMP's for North Fillmore that will not put the water supply at risk but the mandated BMP's in the draft permit would override our local control and put the water supply at risk.

The mandatory hydromodification requirement also has negative impacts to the community of Fillmore. As you know the City is bounded on three sides by major rivers:

Santa Clara River (108,000 CFS), Sespe Creek (120,000 CFS) and Pole Creek (6,000 CFS). During a major rain event flood water can only exit the City before and after the peak flows in the rivers. We have about 3 hours to empty the flood waters out of the City before the peak river flows occur and shut the flap gates. It is critical that the detention basins be empty as the peak river flows pass so if there is a thunder storm during the peak the water can be held in the basin rather than in homes. With the mandatory hydromodification requirements our detention basins would have to be full instead of empty and the city would be at risk of flooding when peak river flows pass.

In addition I do not understand the logic of applying the hydromodification requirements to Fillmore because we are the downstream section of major rivers. How can a hydraulic impact occur to the Santa Clara or Sespe when a City discharge is overwhelmed three hours later by a flow that is 400 times larger?

Another concern about the permit is that the requirements are becoming very onerous and far in excess of what is required for Phase II Communities. Fillmore is separated from other communities by miles of green belt and is truly a qualifying Phase II City. It would be quite appropriate for the permit to designate reduced requirements for Communities in Ventura County that qualify as Phase II Communities.

The City also supports the joint comments made in the joint co-permittee letter submitted by the Ventura County Watershed Protection District.

Your consideration of these issues is greatly appreciated and I welcome your comments or request for additional information. Please address questions or comments to me at 805-524-1500 Ext 231.

Very Truly Yours

CITY OF FILLMORE

Bert J. Rapp, P.E.
Public Works Director

cc: City Council
Tom Ristau, City Manager

3152 Shad Court
Simi Valley, CA 93063
April 11, 2007

Miss Tracy Woods
LARWQCB
320 W. 4th Street
Los Angeles, CA 90013

Re: Comment Letters Received on the December 2006 Draft Ventura Permit--Posted March 26, 2007.

Dear Miss Woods:

I am writing to thank the Board and staff for including the April 5, 2007 workshop related aforementioned materials on the agency's website.

Miss Woods, I am also writing to bring to your attention a couple of interesting points that I noticed with regards to some of the letters.

#1 - The Ginn Doose March 6, 2007 letter under "4. Comments received from residents" does not appear when clicked. Instead the following statement appears "i The webpage cannot be found..." This problem only occurs with this item(about 33-37).

#2 - The Cities of Fillmore and Santa Paula are not listed under "1. Comments received from Ventura Cities". While the County of Ventura's 10 cities are listed on the first page of the March 6, 2007 Ventura Countywide Stormwater Quality Management Program's letter as participating agencies, did these 2 Cities also have to submit for the record written comments to the Board on the Draft?

#3 - The name of Odie Duggen appears as author of the "Don't Encourage Sprawl" E-Mail, and is listed in the "Proposed Stormwater Permit Won't Clean Our Water!" E-Mail under "4. Comments received from Residents/Public". Is the person's comment counted once or twice by the Board, and/or staff?

#4 - The March 12, 2007 comment letter from the City of Inglewood and the March 6, 2007 comment letter from the City of Carson are essentially one and and the same--Inglewood's varies just slightly. Normally wording to the effect of "joint comment letter", "collective comments", "collaborated effort", or "concur with the comments from _____" accompany correspondence from one entity agreeing with another entity's statements. The City of Inglewood's comments letter does not include such wording. This case of plagiarism was poorly implemented because while the points are the same, and the wording is exactly the same --with a very few exceptions--the letter is riddled with mistakes. Did the City of Carson give the City of Inglewood the permission to copy its letter word for word? If not, does the Board and/or staff count plagiarized submittals?

#5 - The March 7, 2007 letter from the State of California Department of Transportation states on Page 3--second to last paragraph--"we note that CASQA is preparing a *Guidance Manual on Assessing Stormwater Program Effectiveness*, which may present a more appropriate approach for evaluating MS4 performance", and the CASQA March 7, 2007 letter on Page 6 also mentions the proposed document. Will there be public hearings at each local government level, or at the very least by the Los Angeles Regional Water Quality Control Board(LARWQCB)?

#6 - Mr. Marvin H. Sachse's(Brash Industries) March 7, 2007 letter asks for assistance "in clarifying the foregoing" points. Please forward a copy of the LARWQCB's response to Mr. Sachse's letter to my fax number (805)522-5016 when available.

Miss Woods, I would appreciate very much a formal written response to this letter. Thank you.

Sincerely,

Mrs. Teresa Jordan

Mrs. Teresa Jordan

TERESA JORDAN
3152 SHAD COURT
SIMI VALLEY, CA 93063
TELEPHONE NO. (805) 522-5016

TO: Miss Tracy Woods
LARWQCB
320 W. 4th Street
Los Angeles, CA 90013

FAX NO.: (213)-576-6640

DATE: April 11, 2007

NO. OF PAGES: 3 (includes cover sheet)

RE: Comment Letters Received on the December 2006 Draft Ventura Permit -- Posted March 26, 2007.
April 12, 2007 - Second Attempt MJJ

Meeting Attendance Sheet

17 September 2007

Location: California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200, Los Angeles, CA 90013

4pm

Subject: Ventura County Draft MS4 Permit Discussion

	Name	Agency/ Company/ or Resident	Email Address	Telephone
1	Carlos Urrunaga	RWQCB	Currunaga@waterboards.ca.gov	213 620 2083
2	Tracy Woods	LA-RWQCB	twoods@waterboards.ca.gov	213/620-2095
3	Mark Grey	BIA/SC-CICWQ	mgrey@biasc.org	909-525-0623
4	Lisa Austin	Geosyntec	laustin@geosyntec.com	(310) 839-6040
5	Holly Schroeder	BIA-CA/Ventura	hschroeder@biagov.org	818 585 1882
6	Xavier Swamikannu	RWQCB		213-620-2094
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Linda S. Adams
Agency Secretary

California Regional W er Quality Control Board

Los Angeles Region

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.waterboards.ca.gov/losangeles

Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Wet Weather Toxicity Testing
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343
Meeting Date and Time:	July 17, 2007 @ 1245

NAME	ORGANIZATION	PHONE #	E-MAIL ADDRESS
1. Tracy Woods	LA-RWQCB	213/620-2095	twoods@waterboards.ca.gov
2. Michael Machuzak	Aquatic Bioassay+Consul	805-643-5621	aquabio@pacbell.net
Phil Markle	LACSD	562-699-7411 EXT2808	pmarkle@lacsd.org
Steven Ross	LACDPW	626 458-4316	Sross@dpw.lacounty.gov
John Merrifield	LACDPW	626 4584361	jmerrifi@dpw.lacounty.gov
Steve Bay	SCCWRP	714-755-3204	steveb@sccwrp.org
7. Guangyu Wang	SMBRC	213-576-6639	gwang@waterboards.ca.gov
8. Xavier Swamikannu	RWQCB-LA	213-620-2094	
9. Arne Anselm	Ventura WPD	805 654 3942	ARNE.ANSELM@VENTURA.ORG
10. Gerry McGowen	City of LA	310-648-5611	gerald.mcgowen@lacity.org
11. Stan Asato	CLA EMD	310-648-5194	stan.Asato@lacity.org
12 Ted von Bitner	County of Orange	714-567-6396	theodore.vonbitner@rdmd.ocgov.com
13. Mark Gold	Heal the Bay	310 451-1500	mgold@healthebay.org

B001365

California Environmental Protection Agency

ed Paper

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

SMBRC Technical Memorandum on Toxicity Testing of Wet and Dry Weather Runoff

Draft July 13, 2007

Background

History of urban runoff toxicity testing in southern California [need input from group]. A diversity of methods and study designs are currently used for monitoring, which complicates the comparison and interpretation of the data for management uses.

The objectives of toxicity monitoring for municipal stormwater permits are different than for municipal wastewater (POTW) permits. For stormwater, the primary objectives are to characterize the magnitude of toxicity between different watersheds and to determine the cause of toxicity. Unlike wastewater permits, the assessment of compliance with a specific numeric toxicity criterion is not a current goal of municipal stormwater monitoring.

Discharges of stormwater and dry weather runoff are fundamentally different from POTW or industrial effluent discharges and the methods and monitoring design should therefore also differ. POTW effluent discharges are present year-round, relatively consistent from day to day, and originate from a treatment plant that provides convenient access for sampling. Runoff discharges differ in that the flow characteristics and composition are unpredictable and highly variable. Access to safe and representative runoff sampling points may be limited, requiring the location of sampling sites in areas that do not permit the use of sophisticated sampling methods or are not representative of the entire watershed.

The objective of this memorandum is to provide guidance to the LA RWQCB for use in developing MS4 permit monitoring and reporting requirements. Information and guidance on key aspects of study design, testing, data interpretation, and toxicity identification are presented. This guidance takes the form of recommendations, rather than absolute requirements, in recognition of the diverse situations that may be encountered in a monitoring program. The authors encourage the user to follow this guidance to the extent possible, so that greater comparability and success of toxicity monitoring can be obtained.

This memo was developed through consultation with the following agencies:

Sampling/Study Design Considerations

Study Design

- Test site locations should be determined on a site-specific basis. At least one site should be included in each watershed of interest and this site should represent a location as close to the receiving water discharge as feasible (e.g., mass emission station).
- The number of sites should be determined for each monitoring program based on considerations such as the objectives of the study, watershed characteristics, and accessibility of sampling locations.
- Multiple concentrations should be tested so that the relative toxicity of the sample can be determined. A minimum of three concentrations should be tested: 100%, 50%, and 25%. Additional concentrations may be included that are based on a 0.5x series. Replicates of each concentration should be tested as specified for the specific test method.
- Salinity of the test samples should be adjusted as needed to eliminate salinity stress on marine test organisms. Adjustments should be made using hypersaline brine or concentrated sea salts in order to minimize sample dilution. The dilution created by salinity adjustment should be included when reporting the concentration of the sample tested.
- Sediment particles in the sample should only be removed if they are likely to interfere with the test. The preferred method is to allow the sample to settle for up to one hour and then remove the overlying water for testing. Filtration is not recommended due to potential for changing the toxicity from contamination or sorption.

Frequency and Timing

- Dry and wet weather events should be sampled from each watershed because different sources and magnitudes of toxicity may be present.
- Two wet weather (storm) events should be sampled per year. The first sample should represent the first storm of the season that meets the sampling critical criteria. The second storm sample should be collected at least 30 days after the first, but generally no later than February. Each sample must be matched with a chemistry sample.
- Wet weather sampling criteria should be defined in permit, suggestions include predicted 0.25" & 72 hr antecedent. The precipitation criterion is intended to maximize success in obtaining sufficient sample for testing. However, the sample should not be discarded as unacceptable solely on the basis of a lower than predicted precipitation. Greater importance should be placed on obtaining a sample during the desired time frame (e.g. first storm of year). If sufficient sample was collected and it represents primarily wet weather runoff, it should be tested
- One dry weather sample should be tested per year, generally sampled April-October (or when dry weather flow is present)

- The critical conditions should also be met for dry weather sampling; to be determined on a site-specific basis. Critical conditions might include: input needed.

Sample Type and Handling

- A composite sample, matched with a chemistry sample of identical composition, should be collected. Compositing methods may vary due to site and weather considerations, but should produce a sample that is representative of the discharge during the sampling period. Flow-weighted compositing should be used in most cases.
- Volume needed is determined by specific test methods to be used. Generally, up to 5 gallons may be needed for baseline testing, with up to an additional 5 gallons for TIE studies.
- Glass containers should be used for both sample collection and storage. Plastic containers may accelerate changes in toxicity due to sorption and loss. Samples should be sealed with a minimum of head space and stored in the dark.
- Samples must be stored on ice or under refrigeration between the end of sampling and the start of the test.
- Toxicity tests should be started with 36 h of the end of sample collection. Tests within 72h are acceptable for wet weather samples, but must be flagged and reason for delay explained.

Toxicity Test Methods

Test method selection

- A minimum of two species should be used for each sample in order to address uncertainties in sample toxicant composition and test method sensitivity
- The test methods should be selected from the following list of EPA-standard short-term chronic methods for freshwater or marine effluents:

  Ceriodaphnia 7-day growth and reproduction
  Fathead minnow 7-day survival and growth
  Algal test
  Sea urchin fertilization (20 minute exposure)
  Sea urchin embryo 72-hour development
  Mysid 7-day survival and growth
  Topsmelt 7 day survival and growth
  Mendia 7-day survival and growth

- Periodic multispecies screening (2 freshwater and 2 marine species) is needed to verify that sensitive methods are used. Screening should be conducted once every 5 years or permit cycle, whichever is shortest.
- Both marine and freshwater test methods are appropriate for any sample. Methods should also be compatible with constraints of stormwater and dry weather flow testing: available on short notice, exposure time relatively short, low

volume requirements, tolerant of moderate amounts of suspended particles, available during season of interest.

QA/QC

- Required elements include acceptable control criterion, MSD, reference toxicant, controls for salinity, hardness, and pH, water quality within tolerance ranges, sample storage time <36h (<72 h for stormwater)
- Response to QA exceedence should be contingent upon nature of failure, potential impact on data, and prospects for repeated testing. Some exceedances will render data invalid, others may prompt flag but still be sufficient to evaluate monitoring objectives.
- Lack of ability to repeat wet weather toxicity tests should be considered in judging data acceptability.

Data analysis and interpretation

- Toxicity is defined for this program must meet two characteristics: a statistically significant difference relative to the control (paired test) and a response equal to or greater than the minimum significant difference (MSD) established for the method.
- Statistical analysis methods should be consistent with EPA guidance.
- Toxicity results should be reported in the following formats: mean response (e.g., growth rate), control adjusted response (% of control), and toxic units (100/NOEC).

Toxicity Identification Evaluations

The purpose of toxicity identification evaluations (TIEs) is to determine the principal cause(s) of the toxicity observed in the monitoring program. While TIE guidance is available it must be recognized that a TIE should be flexible, in order to adapt to unexpected events or to preliminary results. Stormwater and dry weather runoff TIEs present a challenge because the available sample volume is often limited and additional sample collection may not be possible. For these reasons, some TIEs may be unsuccessful due to the lack of toxicity or inability to conduct some analyses. Such events should be anticipated by both the regulator and permitee and do not necessarily indicate a failure to comply with the monitoring program requirements.

Triggers

- If prior testing indicates the presence of toxicity at a site, then a TIE should considered for the current monitoring period. If no prior toxicity data is available for a site, then one year of monitoring should be conducted to characterize the toxicity.
- It is not feasible to conduct >2 stormwater TIEs simultaneously. Prioritization of sites for TIE analysis should be established by the regulatory agency, in collaboration with the permittee.
- A sufficient magnitude of toxicity is needed to enable the interpretation of the TIE treatments. Generally, a toxicity response of at least 50% relative to the

control is sufficient and should trigger a TIE. Conducting a TIE on a sample with a toxicity response between the MSD and 50% has a reduced chance of success, but may be feasible depending on the test species.

- Sites with the greatest magnitude of toxicity should receive highest priority for TIE testing.
- A TIE should be conducted on the first storm of the season (if sufficient toxicity is present). Sufficient sample should therefore be collected to permit TIE testing. It is not advisable to wait until the second storm sample to conduct the TIE because the magnitude of toxicity is likely to be less.

Methods

- The TIE should be conducted on a single species, generally the one showing the strongest toxicity response at a site.
- EPA guidance should be followed in conducting the TIE. The specific methods to be used vary depending on whether the species is marine or freshwater.
- The minimum methods (Phase I) to be applied to each TIE sample must include: 1) particle removal, 2) metal chelation by EDTA, 3) organics removal by SPE column, 4) assessment of confounding factors (ammonia, hardness, pH), 5) baseline toxicity.
- Additional TIE methods are contingent upon the nature of the Phase I TIE results. A study plan for these methods should be developed by the analytical lab and approved by monitoring program coordinator before sampling begins.
- Sample storage criteria for toxicity characterization shall not apply for TIEs.

Interpretation

- What constitutes a completed TIE?
- How many TIEs should be conducted for a site?

Recommendations For Future Work And Additional Considerations

- Sediments
- Links to impacts
- Social studies or circumstances

California Regional W· · Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

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

Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Ventura Countywide draft MS4 Permit		
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343		
Meeting Date and Time:	July 9, 2007 @ 1400		
NAME	**ORGANIZATION**	**PHONE #**	**E-MAIL ADDRESS**
1. Tracy Woods	LA-RWQCB	213/620-2095	twoods@waterboards.ca.gov
2. E. Solomon	"	" " 2037	esolomon
3. Tarya Swaminathan	" "	213 620 2094	
4. Mark Carey	BIA/SC	909-396-8893	MCAREY@BIASC.ORG
5. Lisa Austin	Geosyntec	(310) 839-6040	laustin@geosyntec.com
6.			
7.			
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10.			
11.			
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13.			

B661371

E. Planning and Land Development Program

1. **Post-Construction Storm Water Planning and Land Development Program Purposes.** The Permittees shall implement a Planning and Land Development Program in accordance with and pursuant to this Section 4.E., for all New Development and Significant Redevelopment projects subject to this Order to satisfy the following purposes:

   (a) Minimize substantial adverse impacts from storm water runoff on the beneficial uses of water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.

   (b) Minimize to the maximum extent practicable pollutant loading and other substantial adverse water quality affects from impervious surfaces, such as roof-tops, parking lots, and roadways, through the use of properly designed, technically appropriate source control BMPs (including good housekeeping practices), Low Impact Development Strategies that reduce the percentage of Effective Impervious Area[1], treatment control BMPs, and, for projects discharging into Natural Drainage Systems, hydromodification control BMPs.

   (c) Properly select, design and maintain treatment control BMPs to address those pollutants of concern identified for particular projects to assure proper function for long-term pollutant removal and to avoid the breeding of vectors.[2]

2. **Post-Construction Storm Water Planning and Land Development Program Project Applicability.**

   (a) Single Family Hillside. To the extent that a Permittee may lawfully impose conditions, mitigation measures or other requirements on the development

---

[1] Effective Impervious Area means that portion of the impervious area that drains directly to a receiving surface water body via a hardened storm drain conveyance system without first draining to a pervious area with some opportunity for filtration evapotranspiration, infiltration; whereas impervious surfaces that drain through pervious or vegetated areas or infiltration facilities prior to discharge into a receiving surface water are considered "disconnected" and are not part of Effective Impervious Area. Pursuant to this Order, New Development and Significant Redevelopment shall incorporate LID strategies to the maximum extent practicable (MEP). The goal of the Planning and Land Development Program is to limit Effective Impervious Area to no more than 3% to 10% of watershed area, depending upon local conditions, but this goal may not be achievable through the implementation of control strategies and BMPs that constitute MEP.

[2] Treatment BMPs that are designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors. Treatment control BMPs that are designed to have standing pools of water, such as treatment wetlands and wet ponds, shall include adequate vector control measures.

or construction of a single-family home in a hillside area as defined in the applicable Permittee's Zoning Code, each Permittee shall require that during the construction of a single-family hillside home, the following measures will be implemented to the maximum extent practicable:

(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 geotechnical instability; and

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

(b) New Development SQUIMP Applicability. Each Permittee shall require that the following New Development projects be subject to conditioning and approval for the preparation and implementation of a Storm Water Quality Urban Impact Mitigation Plan (SQUIMP) incorporating technically feasible and appropriate controls and BMPs pursuant to Section 4.E.3 below to mitigate storm water pollution:

(1) New development projects disturbing one acre or greater and adding 5,000 square feet or more of impervious surface;

(2) Industrial park adding 5,000 square feet or more of impervious surface area;

(3) Commercial development adding 5,000 square feet or more of surface area;

(4) Retail gasoline outlet adding 5,000 square feet or more of surface area;

(5) Restaurant (SIC 5812) adding 5,000 square feet or more of surface area;

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

(7) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;

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

(9) Projects discharging directly to an Environmentally Sensitive Area (ESA), where the development will:

i. Discharge storm water runoff that is likely to adversely impact a sensitive biological species or habitat and related beneficial uses; and

ii. Create 2,500 square feet or more of impervious surface area.

(c) Significant Redevelopment SQUIMP Applicability. Each Permittee shall require, in addition, that Significant Redevelopment projects be subject to conditioning and approval for the preparation and implementation of a SQUIMP incorporating technically feasible and appropriate post-construction controls and BMPs pursuant to Section 4.E.3 below to mitigate storm water pollution.

(1) Significant Redevelopment projects are projects involving 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.

(2) Where Significant Redevelopment results in an increase of more than fifty percent of the total existing impervious surface of a previously existing development that was not subject to post development storm water quality control requirements, and the valuation of proposed improvements (including interior improvements) exceeds fifty percent of the assessed value of the existing site improvements, then the entire project must be mitigated.

(3) Where Significant Redevelopment results in an increase of less than fifty percent of impervious surfaces of a previously existing development, then only the addition must be mitigated, and not the entire development.

(4) Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, or original purpose of facility, or emergency activities required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

(5) Existing single-family structures are exempt from the Significant Redevelopment requirements unless such projects disturb one acre or greater and add 5,000 square feet or more of impervious surface.

(d) The following road maintenance practices shall not be deemed New Development or Significant Redevelopment, and are otherwise exempt from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/re-grading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

(e) The following underground utility projects shall not be deemed New Development or Significant Redevelopment, and are otherwise are exempt from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: utility maintenance or refurbishment projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

(f) Where feasible, the Permittees shall utilize the update periods specified in this Order for preparation and implementation of new SQUIMP requirements to ensure that projects undergoing approval processes include application of the new, updated SQUIMP requirements in their plans. Notwithstanding the foregoing, the New Development and Significant Redevelopment shall exclude, and the new SQUIMP requirements contained in this Order, including Section 4.E.3 of this Order below, shall not apply to projects or project phases that, prior to the effective date of the new SQUIMP requirement, meet any one of the following conditions:

(1) The project or phase has received tentative tract map and SQUIMP approvals; or

(2) The project or phase has begun grading or construction activities; or

(3) A Permittee determines that lawful prior approval rights for a project or project phase exist, whereby application of a new SQUIMP requirement to the project is practically or legally infeasible.

3. SQUIMP Requirements.

(a) General Contents of SQUIMP.

(1) Each Permittee shall require applicants seeking approvals for the New Development and Significant Redevelopment projects (as specified in Section 4.E.2. above) to prepare a site and activity specific SQUIMP that employs an integrated water resources management approach to mitigate storm water pollution by utilizing a properly selected suite of technically feasible controls that are appropriate for the project to

remove storm water pollutants, reduce post-development storm water runoff volume, velocity and duration, and beneficially reuse storm water:

i. Low Impact Development (LID) strategies.

ii. Source control BMPs.

iii. Hydromodification control BMPs.

iv. Treatment control BMPs.

(2) Permittees may allow SQUIMPs to substitute the following types of control measures and BMPs for onsite and/or site specific BMPs and control measures required in SQUIMPs by Section 4.E.3(a)(1) above.

i. In any SQUIMP, the Permittees may allow the implementation of subregional or regional LID, hydromodification control, and/or treatment control measures and BMPs, provided that the regional or subregional measures and BMPs provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the SQUIMP.

ii. In SQUIMPs for Significant Redevelopment and infill development, the Permittees may allow the hydromodification control and treatment control requirements of this Section 4.E.3 for all or a portion of the project area to be met by controlling a substitute area that drains to the same receiving water so long as the substitute area has equivalent flow and pollutant characteristics to the project area.

iii. In SQUIMPs for Significant Redevelopment and infill development, the Permittees may allow the payment of fees toward installation, implementation , maintenance and operation of approved subregional and regional hydromodification, control and/or treatment control BMPs, provided that the subregional or regional measures and BMPs: are reasonably likely to be funded and implemented in a period of time sufficient to mitigate post-construction adverse water quality impacts, provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the SQUIMP.

(b) **Specific SQUIMP Requirements--Source Control BMPs.**

(1) Each Permittee shall require SQUIMPs to specify appropriate post-construction source control BMPs based on planned activities and uses for New Development and Significant Redevelopment projects consistent with existing adopted Permittee SQUIMP manuals.

(c) **Specific SQUIMP Requirements--Low Impact Development.**

(1) SQUIMPs prepared for New Development and Significant Redevelopment projects shall integrate Low Impact Development (LID) strategies into project design to infiltrate, disperse, and retain runoff onsite to the extent technically feasible and appropriate, as further defined by the LID guidance required by section 4.E.3.(c)(3) below, taking into account existing groundwater conditions, and flood control, hydrology, geotechnical, and channel stability goals and constraints. In determining the degree to which LID strategies must be or have been implemented, it is appropriate for Permittees to consider the scale of development, site planning BMPs employed, and volume and flow controls achieved by other BMPs and measures implemented for a project area, including, without limitation, regional, subregional and site-specific source control, treatment control, hydromodification, and LID measures and BMPs. One or a combination of the following LID strategies shall be implemented unless shown to be infeasible or inappropriate given applicable goals and constraints. [List to be provided]

(2) Pursuant to Section 4.E.3(c)(3) below, the Permittees shall work with other stakeholders to adopt revisions to the Technical Guidance Manual for Stormwater Quality Control Measures to incorporate guidance for integration of LID strategies into New Development and Significant Redevelopment no later than 12 months from the Order's adoption date for use by land planners and developers. The revisions shall include objectives and specifications for integration of LID strategies in the areas of:

i. Site Assessment.

ii. Site Planning and Layout.

iii. Vegetative Protection, Revegetation and Maintenance.

iv. Techniques to Minimize Land Disturbance.

v. Integrated Water Resources Management Practices.

vi. LID Design and Flow Modeling Guidance.

vii. Hydrologic Analysis.

viii. LID Translators, which explain the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(3) The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with information regarding LID objectives and specifications contained in the revised adopted Technical Guidance Manual for Stormwater Quality Control Measures through a training program. The LID training program will include the following:

i. LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.

ii. A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.

iii. Materials and data from LID pilot projects and demonstration projects including case studies.

iv. Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.

v. Availability of the guidance regarding integration of LID strategies into project planning and SQUIMPs in the revised adopted Technical Guidance Manual for Stormwater Quality Control Measures.

vi. Guidance regarding the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(d) **Specific SQUIMP Requirements--Hydromodification Control**

(1) Hydromodification Control Measures and BMPs.

i. Unless a hydromodification control exemption applies pursuant to section 4.E.3.(d)(2) below, Permittees shall require SQUIMPs to specify hydromodification control BMPs consistent with the requirements, including numeric hydrologic control criteria, of Section 4.E.3.(d)(3), to minimize and

mitigate to the maximum extent practicable substantial adverse post-development impacts due to increases in runoff rates, velocities and duration to the physical structure and stability, water quality and/or biological integrity of Natural Drainage Systems as necessary to protect their beneficial uses.

ii. Hydromodification control BMPs may include one, or a combination of on-site, regional or subregional LID strategies and hydromodification control BMPs, as well as in-stream controls. Regional and subregional controls shall be implemented prior to discharge of project runoff into the Natural Drainage System. When existing natural conditions and beneficial uses within a Natural Drainage System have not been adversely affected prior to a proposed New Development or Significant Redevelopment project, preference must be given in preparing the SQUIMP to regional, subregional, and on-site hydromodification controls and BMPs over in-stream controls as necessary to protect existing beneficial uses. SQUIMPs incorporating in-stream controls shall demonstrate that the in-stream controls do not significantly adversely affect existing beneficial uses within the Natural Drainage System.

iii. In determining compliance with the numeric hydrologic control criteria of Section 4.E.3(b)(3) below, peak, volume and duration reductions achieved by all BMPs and control measures cumulatively, including, without limitation, those achieved by LID strategies, treatment control BMPs, and hydromodification control BMPs, shall be considered.

iv. Natural Drainage Systems means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways, including tributaries, located in the following watersheds:

a. Ventura River.

b. Santa Clara River.

c. Calleguas Creek.

d. Miscellaneous Ventura Coastal.

(2) Hydromodification Control Exemptions.

i. Permittees may exempt the following New Development and Significant Redevelopment projects from implementation of

SQUIMP requirements mandating inclusion of hydromodification controls (but not LID strategies):

a. Projects within a natural watershed where a geomorphically-based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present.

b. Significant Redevelopment Projects that do not do not increase impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

c. Projects that discharge directly or via a storm drain to a sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

d. Projects that discharge directly or via a storm drain into concrete or significantly hardened channels (*e.g.*, rip rap, sackcretec, etc.), which, in turn, discharge into a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

e. Single-family residential projects that disturb less than one acre or add less than 10,000 ft^2 of new impervious area.

f. Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility.

(3) Numeric Hydrologic Control Criteria

i. **Interim Hydromodification Criteria.** Interim hydromodification control standards are required for the protection of Natural Drainage Systems until the completion by the Permittees of the Hydromodification Management Plan (HMP) required in Section 4.E.3.(ii)b. below.

a. Unless a hydromodification control exemption applies, Permittees shall require SQUIMPs for the following New Development and Significant Redevelopment Project categories discharging to Natural Drainage Systems to specify and require implementation of hydromodification controls:

1. New Development and Significant Redevelopment projects less than 200 acres.

(A) Until the Permittees develop the HMP, these projects shall implement hydromodification controls such that peak flow and volume of the 2-year, 24-hour storm event post-development hydrograph will match within one percent the peak flow and volume of the 2-year, 24-hour storm event pre-project hydrograph.

(B) Alternatively, these projects may elect to develop and implement a Hydromodification Analysis Study (HAS) or implementation tool pursuant to the following subsection 2.

2. New Development and Significant Redevelopment Projects 200 acres or greater.

(A) Until the completion of the HMP, these projects shall complete and implement a Hydromodification Analysis Study (HAS) that demonstrates that post development conditions are not expected to alter the duration of sediment transporting flows in receiving waters. The HAS must demonstrate that the selected hydromodification control BMPs will maintain an Erosion Potential (Ep) value shown to be protective of the Natural Drainage Systems from hydromodification impacts.

(B) Alternatively, these projects may elect to develop an implementation tool in accordance with the following methodology. The implementation tool shall be based on flow duration control in the form of nomographs relating planned impervious area and local soil type (infiltration rates) to determine hydromodification control BMP volume and land area requirements for the proposed project. The nomographs shall be derived from continuous simulation modeling using Ventura County specific rain gauge records and local soils types. The model shall be calibrated using data from a local undeveloped gauged watershed.

ii. **Final Hydromodification Criteria.** The Permittees shall prepare a HMP that includes final hydromodification control standards for the protection of Natural Drainage Systems.

a. The Permittees shall participate in the Southern California Coastal Water Research Project (SCCWRP) Hydromodification Control Study (HCS).

b. No later than one year after completion of the HCS, the Permittees shall develop and implement a Hydromodification Management Plan (HMP) taking into account local watershed conditions. The HMP shall identify stream classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will maintain the Erosion Potential (Ep) value shown to be protective of the Natural Drainage Systems addressed by the HMP.

c. The HMP shall contain the following elements:

   1. Final Hydromodification Management Standards.

   2. Natural Drainage Areas and Hydromodification Management Control Areas.

   3. The New Development and Significant Redevelopment projects subject to the HMP.

   4. Description of authorized Hydromodification control BMPs.

   5. Hydromodification Control BMP design criteria.

   6. For flow duration control methods, the range of flows to control and goodness of fit criteria (by way of example only, appropriate criteria may be to approximate the pre-project flows and durations for the continuous range of flows from the critical flow, Qc, to the 10-year return period flow, based on long-term rainfall records. Within this range, the post-project flow duration curve shall not deviate above the pre-project flow duration curve flows by more than 10 percent, and shall not deviate above the pre-project flow duration curve flows over more than 10 percent of the length of the curve).

   7. Applicable low critical flow, Qc, which initiates sediment transport.

8. Description of the approved Hydromodification Model.

9. Any alternate Hydromodification Management Model and Design.

10. In-stream controls design criteria.

11. Monitoring and Effectiveness Assessment.

12. Record Keeping.

(e) **Specific SQUIMP Requirements—Treatment Controls**

(1) **Tiered Numeric Water Quality Design Criteria.** SQUIMPs prepared for the following categories of New Development and Significant Redevelopment projects shall incorporate treatment control BMPs that are designed in accordance with the following volumetric and/or (flow based) treatment control design standards, which are consistent with the objectives stated in Part 4. E.1.

i. Projects less than 200 acres

a. Volumetric Treatment Control BMP Sizing Criteria

1. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, using a 48-hour draw down time, 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 the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

b. Flow Based Treatment Control BMP Sizing Criteria

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 2 times the 85th percentile hourly rainfall intensity as determined from the local rainfall record; or

3. Ten percent of the 50-year storm design flow rate as determined from the methodology presented in the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

ii. Projects 200 acres or greater

1. Projects disturbing land area of 200 acres or greater shall implement treatment control BMPs that are sized to capture and treat 80 percent of the average annual runoff volume, using an appropriate public domain continuous flow model (such as Storm Water Management Model (SWMM) or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF)) and the local rainfall record.

4. Maintenance Agreement and Transfer.

(a) Each Permittee shall require that all New Development and Significant Redevelopment projects subject to post-construction BMP requirements provide verification of enforceable maintenance provisions for structural source control, treatment control, and hydromodification control BMPs, including but not limited to final map conditions, legal agreements, covenants, conditions or restrictions, CEQA mitigation requirements, conditional use permits, and/or other legally binding maintenance requirements.

(1) Verification at a minimum shall include the developer's signed statement accepting responsibility for maintenance of the BMPs until the responsibility is legally transferred, and either:

i. A signed statement from the public entity assuming responsibility for structural BMP maintenance; or

ii. Written conditions in the sales or lease agreement, which require the property owner or tenant to assume responsibility for structural BMP maintenance and agreeing to conduct a maintenance inspection at least once a year; or

iii. Written text in project conditions, covenants and restrictions (CCRs) assigning structural BMP maintenance responsibilities to the Home Owners Association (HOA); or

iv. Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of BMPs.

5. Development Planning Coordination and Enforcement.

(a) No later one year from the date of this Order's adoption, each Permittee shall revise its inspection and enforcement program for New Development and Significant Redevelopment post-construction structural source, treatment and hydromodification control BMPs as set forth in this subsection 4.E.3.

(b) Each Permittee shall inspect, with trained staff or consultants, all development sites upon completion of construction and prior to final approval/occupancy to ensure proper installation of permanent erosion controls, LID strategies, and structural source control, treatment control, and hydromodification control BMPs. Enforcement shall be taken as necessary based on inspection results. This inspection may be combined with other inspections, provided that it is performed by trained staff or consultants.

(c) Each Permittee shall develop and implement a GIS or other electronic system for tracking projects that have been conditioned for post-construction construction structural source, treatment and hydromodification control BMPs. The electronic system, at a minimum, should contain the following information:

(1) Municipal Project ID.

(2) State WDID No.

(3) Project Acreage.

(4) BMP Type and Description.

(5) BMP Location (coordinates).

(6) Date of Acceptance.

(7) Date of O&M Certification.

(8) Maintenance Records.

(9) Inspection Date and Summary.

(10) Corrective Action.

(11) Date Certificate of Occupancy Issued.

(12) Replacement or Repair Date.

(d) Each Permittee shall develop and implement a program to verify proper maintenance and operation of post-construction structural source, treatment and hydromodification control BMPs previously approved. The inspection program shall incorporate the following elements:

(1) Inspection at least once every 2 years, beginning 1 year after the Order's adoption, of post-construction structural source, treatment, and hydromodification control BMPs assess operational conditions with particular attention to:

i. For nonproprietary BMPs – hydraulic function, invasive vegetation, vector risk, fugitive material, sediment clogging, and improper modifications.

ii. For proprietary BMPs – solids removal, pump-out, blockage and drawdown drainage.

(2) Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.

(e) The State Water Resources Control Board and U.S. EPA have the authority provided by law to enforce the post-construction BMP provisions of the Statewide General NPDES for Stormwater Discharges Associated with Construction Activities (GCP) or individual storm water construction permits.

6. Regional and Redevelopment Area Storm Water Mitigation.

(a) A Permittee, a coalition of Permittees, or another entity or person responsible for complying with municipal requirements adopted pursuant to this Order, may apply to the Executive Officer for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for the SQUIMP requirements of this Order. The Executive Officer may consider for approval such a program if its implementation will:

(1) Result in equivalent or improved storm water quality as provided for in the SQUIMP requirements of this Order.

(2) Promote cooperative problem solving by diverse interests.

(3) Be fiscally sustainable and have secure funding.

(4) For New Development projects, will result in construction of regional or subregional treatment control or hydromodification control facilities

prior to discharge of runoff from the region or subregion served by the facilities.

(5) For Significant Redevelopment and infill development, will result in construction of regional or subregional treatment control or hydromodification control facilities in a period of time sufficient to mitigate post-construction adverse water quality impacts.

(b) The Executive Officer shall approve or disapprove of such a regional storm water mitigation program within 180 days of receipt of an application pursuant to this section.

(c) A Permittee, a coalition of Permittees or another entity or person responsible for compliance with municipal requirements adopted pursuant to this Order, may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. The Regional Water Board may consider for approval such a program if its implementation will result in improved storm water quality.

(1) Redevelopment Project Areas include: (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the Executive Officer.

(d) Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, except as expressly approved in this Order.

7. **Mitigation Funding.**

(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to fund regional or subregional solutions to storm water pollution, where any of the following situations occur:

(1) A waiver for impracticability is granted;

(2) Funds become available;

(3) Off-site mitigation is required because of loss of environmental habitat; or

(4) An approved watershed management plan, an integrated water resources management plan, a regional or subregional storm water mitigation plan, a wetlands recovery plan, or similar plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.

8. Developer Technical Guidance and Information.

(a) The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include, at a minimum, the following:

(1) Hydromodification control criteria described in this Order, including the numeric criteria.

(2) Expected treatment control BMP pollutant removal performance including effluent quality and removal efficiency ranges from the ASCE/EPA International BMP Database, technical reports and the scientific literature, as well as data on observed local effectiveness and performance of implemented BMPs.

(3) Selection of appropriate treatment control BMPs for stormwater pollutants of concern.

(4) BMP maintenance and cost considerations.

(5) Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits.

(6) LID principles and specifications.

9. Project Review and Inter Department Coordination.

(a) Each Permittee shall facilitate a process for effective approval of post-construction control measures. The process shall include:

(1) Detailed BMP review including BMP sizing calculations, BMP pollutant removal effectiveness, and municipal approval.

(2) An established structure for communication and delineated authority between and among municipal departments that have jurisdiction over project review, plan approval, and project construction through memoranda of understanding (MOU) or an equivalent mechanism.

10. California Environmental Quality Act (CEQA) Document Update.

(a) Each Permittee shall, within six months of the adoption of this Order, incorporate into its CEQA process those additional procedures, if any, that are necessary 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:

(1) Potential impact of project construction on storm water runoff.

(2) Potential impact of project post-construction activity on storm water runoff.

(3) 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.

(4) Potential for discharge of storm water to cause significant harm to or to impair the beneficial uses of the receiving waters.

(5) Potential for significant changes in the flow velocity or volume of storm water runoff to cause significant harm to or to impair the beneficial uses of the receiving waters in Natural Drainage Systems.

11. General Plan Update.

(a) Each Permittee shall amend, revise or update its General Plan to include appropriate watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended:

(1) Land Use.

(2) Housing.

(3) Conservation.

(4) Open Space.

(b) Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

F. Development Construction Program

1. Each Permittee must implement a construction program that meets the requirements of this section, prevents illicit construction-related discharges of pollutants into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites, reduces construction site discharges of pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

2. Minimum Construction BMP Implementation

   (a) Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites requiring a grading permit to prevent erosion, sediment loss, and the discharge of construction wastes.[3] Consistently with the Statewide General NPDES Permit for Stormwater Discharges Associated with Construction Activities ("GCP"), BMPs shall be implemented to control and abate the discharge of pollutants in stormwater discharges from construction sites utilizing the best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). Erosion control BMPs (erosion avoidance) shall be preferred to sediment control BMPs.

      (i) Each Permittee shall require the implementation of BMPs selected from those listed in Table 1 (and others as needed) to control pollutants in discharges from construction sites to the BAT/BCT.

Table 1

Construction Site BMPs	CASQA Handbook[4]	Caltrans Handbook[5]
Erosion Control		
Scheduling	EC-1	SS-1
Preservation of Existing Vegetation	EC-2	SS-2
Hydraulic Mulch	EC-3	SS-3
Hydroseeding	EC-4	SS-4
Soil Binders	EC-5	SS-5
Straw Mulch	EC-6	SS-6
Geotextiles and Mats	EC-7	SS-7
Wood Mulching	EC-8	SS-8
Slope Drains	EC-11	SS-11

[3] The BMPs are taken from the *California BMP Handbook, Construction, January 2003* and the *Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003*, and addenda. This list is not meant to endorse any specific product or manufacturer. BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

[4] BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

[5] BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

Construction Site BMPs	CASQA Handbook[4]	Caltrans Handbook[5]
Erosion Control		
Sediment Controls		
Silt Fence	SE-1	SC-1
Sediment Basin	SE-2	SC-2
Check Dam	SE-4	SC-4
Fiber Rolls	SE-5	SC-5
Gravel Bag Berm	SE-6	SC-6
Street Sweeping and/or Vacuum	SE-7	SC-7
Sand Bag Barrier	SE-8	SC-8
Storm Drain Inlet Protection	SE-10	SC-10
Additional Controls		
Wind Erosion Controls	WE-1	WE-1
Stabilized Construction Entrance/Exit	TC-1	TC-1
Stabilized Construction Roadway	TC-2	TC-2
Entrance/Exit Tire Wash	TC-3	TC-3
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004).[6]	NS-2	NS-2
Vehicle and Equipment Washing	NS-8	NS-8
Vehicle and Equipment Fueling	NS-9	NS-9
Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-2
Spill Prevention and Control	WM-4	WM-4
Solid Waste Management	WM-5	WM-5
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

(b) An effective combination of erosion and sediment control practices shall be implemented on disturbed areas without regard to time of season. The six major objectives of combined erosion and sediment control practices to control pollutants in discharges from construction sites to the BAT/BCT at every construction site shall be:

(i) Minimize exposed areas during the rainy season;
(ii) Provide erosion control practices on disturbed areas, slopes, and stockpiles;
(iii) Provide properly designed drainage facilities to control concentrated flows;
(iv) Provide sediment control practices around the perimeter of the construction site, at all transition areas within the project site (e.g.,

transition from slope to flat areas), and at all internal inlets to the storm drain system during the rainy season;

(v) Reduce the tracking of sediment off site at all times; and

(vi) Reduce wind erosion all year.

(c) All disturbed areas that will not be re-disturbed for 20 days (inactive) shall be provided with erosion control measures within 14 days from last disturbance, or within the 48 hours prior to a predicted rainfall event of 0.1 inch or greater as determined by the Quantitative Precipitation Forecast. The erosion control practices should achieve control equivalent to 70-90 percent soil coverage until the permanent vegetation or other permanent stabilization provides the intended long-term erosion control function at the site.

(d) On-site drainage facilities for carrying concentrated flows shall be designed to control erosion and to prevent damage to downstream properties.

(e) Sediment control practices shall be provided around the down gradient perimeter of the construction site and at all internal inlets to the storm drain system during the rainy season. These sediment control measures may include filtration devices (such as silt fences, straw bale barriers, and inlet filters) and/or settling devices (such as sediment traps or basins). Filtration devices that are designed for sheet flow shall be installed and maintained properly in order to perform effectively (i.e., within 48 hours after each rain event accumulated sediments shall be removed). Sediment traps or basins shall be designed and maintained in accordance with requirements of the GCP.

(e) Practices shall be implemented and maintained to reduce the tracking of sediment off site at all times. This may be accomplished by stabilized construction entrances or other appropriate and effective measures designed in accordance with the most current CA BMP Handbooks or their equivalent.

(f) Practices shall be implemented and maintained to reduce wind erosion at all times. This may be accomplished by limiting the area of disturbance, applying dust control measures, and stabilizing disturbed areas in a timely manner, and should be designed in accordance with the most current CA BMP Handbooks or their equivalent.

3. Enhanced Construction BMP Implementation

Each Permittee shall implement, or require implementation of, enhanced practices to address the exceptional threat to water quality posed by all construction sites defined as being within a "hillside area" pursuant to the

applicable Permittee's Zoning Code, areas directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment, or directly discharging to an environmentally sensitive area (ESA).

(a) Enhanced practices for high risk sites shall include increased BMP inspection and maintenance requirements.

(i) High risk sites shall be inspected by the SWPPP preparer/engineer of record, or qualified construction water quality compliance personnel or consultants who are Certified Professionals in Erosion and Sediment Control (CPESC) at the time of BMP installation, at least weekly during the rainy season, within the 48 hours prior to a predicted rainfall event of 0.1 inch or greater as determined by the Quantitative Precipitation Forecast, and monthly during the dry season.

(ii) During the rainy season (October 1st to April 15th), the area of disturbance shall be limited to the area that can be controlled with an effective combination of erosion and sediment control BMPs. Enhanced sediment controls should be used in combination with erosion controls and should target portions of the site that cannot be effectively controlled by standard proactive erosion controls described above. Effective sediment and erosion control BMPs proposed by the proponent shall include a combination of the following:

(A) Catwalking or trackwalking;
(B) Soil binders, hydraulic mulch, or other tackifiers;
(C) Sediment barriers at a minimum of 150 foot spacing;
(D) Stormdrain inlet protection;
(E) Plastic sheeting for stockpiles;
(F) Silt fences or fiber rolls;
(G) Stabilized construction entrance(s) so as to prevent the track-out of bulk material, extending 25 feet or more in cumulative length from the project site boundary, or into proximity of any connected and unprotected storm drain;
(H) Provide sediment basins when feasible and appropriate, designed pursuant to GCP standards, and incorporating enhanced sediment basin controls, such as the addition of baffles or other controls, as necessary to improve reductions in sediment load. Sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls alone, and are not necessarily required or appropriate throughout a site;
(I) Provide sediment traps when feasible and appropriate, with a minimum of 12 inches of freeboard prior to the first set of dewatering holes in riser pipe. The entire riser pipe shall be

jacketed with additional protections (i.e. gravel or filter fabric). Sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls alone, and are not necessarily required or appropriate throughout a site; and/or

(J) Cessation of construction activity as necessary to prevent work past the point of effective BMP implementation.

4. SWPPP Requirements

(a) Each Permittee shall require for all construction sites 1 acre or greater, compliance with all conditions identified in the preceding sections F.1, F.2, and F.3, and the following requirements:

(1) Inclusion in the project Storm Water Pollution Prevention Plan (SWPPP), prepared pursuant to the GCP, of those BMPs necessary to comply with all conditions identified in the preceding sections F.1, F.2, and F.3.

(A) Each Permittee shall require the preparation and submittal of the SWPPP as required by the GCP prior to, and as a condition of issuance of the first grading permit for construction projects.

(i) The SWPPP shall include appropriate construction site BMPs and implementation and maintenance schedules as required by the GCP and this Order.

(ii) The SWPPP must include the rationale used for selecting or rejecting certain BMPs for various construction site phases and weather conditions. The project SWPPP preparer/engineer of record, CPESC or authorized qualified designee, must sign a statement on the SWPPP to the effect:

"As the SWPPP preparer/engineer of record, I have selected appropriate BMPs for implementation based upon site, construction phase, and weather conditions, as necessary to effectively control the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware of the suite of selected BMPs that must be installed, monitored, and maintained for various project phases, site conditions and weather conditions to ensure their effectiveness. The BMPs not selected for implementation are redundant or are deemed not applicable to either the proposed or anticipated

site, or weather or drainage conditions, or construction activities."

(2) Certification Statement

(A) Each Permittee shall require that each landowner or the landowner's agent sign a statement on the SWPPP 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 SWPPP to reflect current conditions, or failing to properly and/or adequately implement the SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."*

(B) The SWPPP certification shall be signed by the landowner as follows:

(i) Corporation - by a responsible corporate officer which means the following:

(I) 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

(II) Manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(ii) Partnership or sole proprietorship - by a general partner or the proprietor; or

(iii) Municipality or other public agency - by an elected official, a ranking management official (e.g., County/City Administrative Officer, City Manager, Director of Public Works, or City Engineer).

5. Permittee's Electronic Site Tracking Systems.

(a) Each Permittee shall use an electronic system to track grading permits, encroachment permits, demolition permits, building permits, or construction permits (and any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

6. Permittee Inspections of Construction Sites.

(a) Each Permittee shall inspect all construction sites for the implementation of storm water quality controls a minimum of once during the rainy season (October 1st to April 15th).

(b) Each Permittee shall inspect high risk construction sites for the implementation of storm water quality controls a minimum of once per month during the rainy season.

(c) Concurrently, each Permittee shall ensure that:

(1) The SWPPP shall be reviewed for compliance with this Order, local codes, ordinances, and permits.

(2) For inspected sites that have not adequately implemented their SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.

(3) If compliance with this Order, municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance as specified in municipal codes.

(4) If compliance has not been achieved, and the site is also covered under the GCP or Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the procedures listed in section D.3.(d) - Interagency Coordination of this Order.

(b) Prior to approving and/or sign off for the Certificate of Occupancy for all construction projects subject to post-construction controls, each Permittee shall inspect the constructed post-construction site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. The initial/ acceptance BMP verification inspection does not

constitute an operation and maintenance inspection, as required in sections E.III.7.(a)(1) and G.6.(g)(1).

7. State Conformity Requirements

(a) Each Permittee shall ensure that no grading permit, encroachment permit, demolition permit, building permit, electrical permit, or construction permit (or any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the GCP or Small LUP General Permit[7] unless:

(1) Proof of coverage under a State NPDES permit is demonstrated (a copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site).

(2) Demonstration or Certification that a SWPPP has been prepared by the project developer.

(3) Proof of Change of Information form (COI) and a copy of the modified SWPPP(s) 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.

8. Interagency Coordination

(a) A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with:

(1) A minimum of 2 follow-up inspection reports (inspections completed within 3 months).

(2) A minimum of 2 warning letters or Notices of Violation (NOVs).

(b) Referral of Non-filers under the GCP or the Small LUP General Permit: Each Permittee shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) under the GCP or Small LUP General Permit, to the Regional Water Board, no later than 15 days after making a determination of failure to file. In making such referrals, Permittees shall include, at a minimum, the following documentation:

[7] NPDES Permit No. CAS000005, Waste Discharge Requirements For Discharges of Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (Small LUP General Permit) for any linear land disturbing activity or activities (cumulatively) that will cause one acre or more of land disturbance but not more than 5 acres.

(1) Project location address.
(1) Project description.
(2) Developer or owners name with complete mailing address.
(3) Project size.
(4) Records of communication with the developer or owner regarding filing requirements.

(c) Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:

(1) Each Permittee shall initiate, within 1 business day,[8] an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.

(A) The initial investigation shall include, at a minimum, an inspection on the facility and its perimeter to confirm the complaint and to determine if the site operator is effectively complying with the municipal storm water/urban runoff ordinances, and to oversee corrective action.

(d) Support of Regional Water Board Enforcement Actions – As directed by the Regional Water Board Executive Officer:

(1) Each Permittee shall support Regional Water Board enforcement actions by:

(A) Assisting in identification of current owners, operators, and lessees of properties and sites.
(B) Providing staff, when available, for joint inspections with Regional Water Board inspectors.
(C) Appearing to testify as witnesses in Regional Water Board enforcement hearings.
(D) Providing copies of inspection reports and other progressive enforcement documentation.

[8] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

Meeting Attendance Sheet

5 July 2007

@ 3pm

Location: **California Regional Water Quality Control Board**
Los Angeles Region
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Subject: Ventura County Draft MS4 Permit Discussion (Development Planning/Construction)

	Name	Agency/ Company/ or Resident	Email Address	Telephone
1	Holly Schroeder	BIA/GLAV	hschroeder@biaglav.org	818 585 1882 (cell)
2	Carlos Urrunaga	RWQCB LA	currunaga@waterboards.ca.gov	213 620 2083
3	Lisa Austin	Geosyntec	laustine geosyntec.com	(310) 839-6040
4	Mark Grey	BIA/SC-CICWQ	mgrey@biasc.org	909-396-9993
5	Xavier Swamikannu	LARWQCB - LA		213-620-2094
6	Tracy Woods	RWQCB-LA	twoods@waterboards.ca.gov	213/620-2095
7	☆ Via Telephone:			
8	☆ Michael Levy (Senior Staff Counsel) CA-RWQCB		MLevy@waterboards.ca.gov	916/341-5193
9	☆ Jennifer L. Fordyce (Staff Counsel) CA-RWQCB		JFordyce@waterboards.ca.gov	916/324-6682
10				
11				
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14				

SUMMARY OF PROPOSED POST-DEVELOPMENT CONTROL MEASURES FOR PROJECTS REQUIRING SQUIMPS

Permit Requirement	Exemptions	Project Type: Significant Redevelopment & Infill Conditions	Project Type: New Development: Small Project (<200 acre) Conditions	Project Type: New Development: Large Project (≥200) Conditions	Project Type: New Development: Single Family Hillside Zoning Alternative Conditions
Low Impact Development	No exemption to the extent technically feasible and appropriate to do LID, taking into account existing groundwater conditions, and flood control, hydrology, geotechnical, and channel stability goals and constraints.	• Can be on site or regional • Proposed list of mandated minimum LID strategies to be prepared for use in permit	• Can be on site or regional • Proposed list of mandated minimum LID strategies to be prepared for use in permit	• Can be on site or regional • Proposed list of mandated minimum LID strategies to be prepared for use in permit	(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 geotechnical instability; and (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in geotechnical instability.
Treatment Control	None	• Properly select, design and maintain treatment control BMPs to address pollutants of concern • Can be on site or regional • Can substitute off-site equivalent area if on-site is infeasible • Allow for fee-in-lieu • Requirements apply based on project size as for new development	• Properly select, design and maintain treatment control BMPs to address pollutants of concern • Can be on site or regional. • Size using WEF or BMP Handbook methods (volume-based) or specific intensity (flow-based)	• Properly select, design and maintain treatment control BMPs to address pollutants of concern • Can be on site or regional • Size using continuous model method to achieve 80 percent capture of average annual runoff volume	
Hydromodification Control	• Geomorphically-based watershed-specific study provides for no hydromod potential impacts • Redevelopment projects that do not increase hydromod potential • Lack of hydromod susceptibility in project's receiving water	• Can be on site, regional or in-stream[1] • Can substitute off-site equivalent area if on-site is infeasible • Allow for fee-in-lieu • Requirements apply based on project size as for new development	• Can be on site, regional or in-stream[1] • Implement LID Strategies unless/until Local Implementation Tool[2] or until HMP is complete. • Use Local Implementation Tool once available until HMP is complete. • Implement HMP criteria[3] after HMP is completed. • May elect to do HAS[3] prior to adoption of the HMP	• Can be on site, regional or in-stream[1] • Complete an HAS[3] prior to adoption of HMP. • May elect to develop or use Local Implementation Tool[2].	

[1] Preference must be given in preparing SQUIMPs to regional, subregional, and onsite controls over in-stream controls as necessary to protect existing beneficial uses.
[2] Tool to specify numeric hydromod control BMP sizing.
[3] Including specified Ep value shown to be protective of Natural Drainage Systems.

Meeting Attendance Sheet

5 July 2007

Location: California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Subject: Ventura County Draft MS4 Permit Discussion @ 1300

	Name	Agency/ Company/ or Resident	Email Address	Telephone
1	Deb Smith	RWQCB	dsmith@waterboards.ca.gov	213-576-6609
2	Xavier Swamikannu	"	XSwamikannu@ " "	213-620-2094
3	Vicki Musgrove	City of Ventura	Vmusgrove@ci.ventura.ca.us	805 652-4518
4	Gerhardt Hubner	VC WPD	Gerhardt.Hubner@ventura.org	805 654-5051
5	Carlos Urrunaga	RWQCB	curunaga@waterboards.ca.gov	213 620 2083
6	Paula Rasmussen	RWQCB	prasmussen@waterboards.ca.gov	213 576 6791
7	Tracy Woods	LA-RWQCB	twoods@waterboards.ca.gov	213/620-2095
8 *	Michael Levy	SWRCB-Chief Counsel		
9 *	Mack Walker	LWA		
10 *	Tess Dunham	Somach, Simmons + Dunn		
11 *	= VIA TELEPHONE			
12				
13				
14				

List of Legal Issues for Discussion with Regional Water Board – July 5, 2007

1. MALs to Determine Compliance with MEP
   a. Not consistent with State's Interpretation of MEP, which is site specific & flexible
   b. Definition of MEP in Draft Order not an appropriate definition
   c. Violation of MAL deemed to be a violation of MEP
   d. More stringent then federal law, therefore subject to §13241 analysis

2. Area Covered by the Permit
   a. Attempts to address "areas undergoing urbanization"
   b. Should be limited to urban areas
   c. Tie Permit Coverage to urban areas and appropriate zoning classifications

3. Monitoring Program
   a. Must adhere to 13267 principles (i.e. reasonable relationship as compared to the need and the benefits to be obtained)
   b. Be related to determining compliance with the MS4 permit provisions

4. New Permit Requirements that May Exceed Federal Law and May be subject to State Subvention Requirements
   a. Ecological Restoration Plans
   b. Trash Receptacles
   c. Monitoring of Industrial and Construction Sites to Determine Compliance with Statewide General Permit Requirements
   d. Low Impact Development
   e. Hydromodification
   f. Seasonal Grading Prohibition

5. Other Findings and/or Permit Provisions of Issue
   a. CEQA & General Plan Requirements
   b. Allocation of all necessary funds
   c. Public petitions to Regional Board Executive Officer
   d. Permit Requirements more stringent then Federal Law (i.e. subject to 13241)
   e. Atmospheric Deposition
   f. Anti-Degradation Findings
   g. Aquatic Pesticides
   h. Sanitary Sewer System Overflows
   i. State Implementation Policy for Toxic Pollutants
   j. Pesticide Use, storage and use record provisions
   k. 303(d) List

California Regional Water Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

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

Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Ventura Countywide draft MS4 Permit
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343
Meeting Date and Time:	June 27, 2007 @ 1330

	NAME	ORGANIZATION	PHONE #	E-MAIL ADDRESS
1.	Tracy Woods	LA-RWQCB	213/620-2095	twoods@waterboards.ca.gov
	Lisa Austin	Geosyntec Consultants	310/839-6040	laustin@geosyntec.com
	Bill O'Brien	City of Ojai	805-658-6617	
	Paula Rasmussen	LA RWQCB	2135766791	prasmussen@waterboards.ca.gov
	Ayman Jabbouri	LA City / Watershed Pr.	(213)485-0315	ayman.jabbouri@lacity.org
	Ray Gutierrez	County of Ventura Public Works Agency	(805)654 2059	raymond.gutierrez@ventura.org
7.	PAUL TANTET	" "	805-662-6737	paul.tantet@ventura.org
8.	Kevin Gieschen	City of Simi Valley	805 583 6462	KGiesche@SimiValley.org
9.	TERI DAVIS	CITY OF MOORPARK	8055176241	tdavis@ci.moorpark.ca.us
10.	Mack Walker	Larry Walker Assc.	530.753.6400	mackw@lwa.com
11.	Anita Kuhlman	City of Camarillo	8053839659	akuhlman@ci.camarillo.ca.us
12	CARRIE MATTINGLY	CITY OF PORT HUENEME	8059866506	cmattingly@ci.port-hueneme.ca.us
13.	Mark Pumford	City of Oxnard	(805) 271-2220	mark.pumford@ci.oxnard.ca.us

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Meeting Attendance Sheet

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Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343		
Meeting Date and Time:	June 27, 2007 @ 1330		
NAME	**ORGANIZATION**	**PHONE #**	**E-MAIL ADDRESS**
14. Deb Smith	RWQCB-LA	213-576-6609	dsmith@waterboards.ca.gov
15. Angie Tam	Charles Abbott Associates.	(310) 257-2012	angietam@caaprofessionals.com
ARNE ANSELM	VENTURA CO. WATERSHED PD	805 654 3942	ARNE.ANSELM@VENTURA.ORG
Gerhardt Hubner	VC WPD	805 654-5051	
Vicki Musgrave	City of Ventura	805 652-4518	vmusgrave@ci.ventura.ca.us
Richard Watson	RWA/APR	949.855.6272	rwatson@rwaplanning.com
Mark Grey	BIA/SC - CICWQ	909-396-9993 x252	MGREY@BIASC.ORG
21. Carlos Urrunaga	RWQCB CA	213 6202083	Curunaga@waterboards.ca.gov
22. BERT RAPP	FILLMORE	805 524-3701	bRAPP@CI.FILLMORE.CA.US
23. Via Teleconference-Xavier Swamikannu	CA-RWQCB	213/620-2094	XSwamikannu@waterboards.CA.gov
24. Via Teleconference-Michael Levy (Staff Counsel)	CA-RWQCB	916/341-5193	MLevy@waterboards.ca.gov
25			
26.			

Ventura Countywide Draft MS4 Permit Discussion Meeting

June 27, 2007

Location: Water Board - Los Angeles Library

----- Agenda -----

The purpose of the meeting is to discuss storm water permit topics & requirements contained in the draft Ventura County MS4 permit (NPDES No. CAS004001).

Introduction	Swamikannu	
1330 – 1600		
Phase I vs. Phase II Cities – Tiered Approach	Discussion by All	
Jurisdictional Areas	Discussion by All	
Ecological Restoration Plans	Discussion by All	
Planning and Land Development Requirements (Construction, Post-Construction BMPs, & Grading Restrictions	Discussion by All	
Next Steps and Any Future Meeting	All	

ISSUE PAPER
ALTERNATIVE LANGUAGE FOR PERMIT COVERAGE FOR ALL AREAS OF VENTURA COUNTY

Issues

The Draft Order proposes that the provisions of the Order shall apply to "the urbanized areas of the municipalities, areas undergoing urbanization and areas which the Regional Water Board Executive Officer determines are discharging storm water that causes or contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States pursuant to CWA §402(p)(2)(E)." In addition, the Draft Order describes the area covered by the order as the whole County of Ventura except for agricultural lands and forest lands. The Permittees have identified several issues of concern related to Draft Order's permit coverage.

- The Regional Board's ability to include areas into the municipal separate storm sewer ("MS4") permit pursuant to CWA §402(p)(2)(E) is not as broad as is indicated in the language of the Draft Order. EPA has adopted extensive federal regulations that implement the stormwater provisions of the CWA. The federal regulations clarify that inclusion of discharges under section 402(p)(2)(E) of the CWA applies to discharges of stormwater from conveyance facilities. According to the federal regulations, designations under section 402(p)(2)(E) may include

  > a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at §122.2.

  (40 CFR §122.26(a)(1)(v).)

- Stormwater discharges subject to the provisions of this Order must be part of a municipal separate storm sewer system ("MS4"). The federal regulations define MS4 as

  > a system of conveyances (i) owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity....[That is] (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

For Discussion Purposes Only

(40 CFR §122.26(b)(8).) Thus, the Regional Board cannot expand permit coverage to discharges from areas that do not go into a system of conveyances that are not owned or operated by the Permittees.

- The terminology as used in the Draft Order implies that the Regional Board intends to apply the permit provisions to all "areas" of the County, except for agricultural and forest areas. This terminology is inconsistent with the language as contained in the CWA and federal implementing regulations. Permit coverage should be limited to conveyance systems of stormwater that are within the jurisdictional areas of the Permittees. The inclusion of broader "area" language could result in the Permittees being responsible for stormwater runoff that is outside of their jurisdictional boundaries.

- The federal regulations require that the Permittees have the legal authority to control discharges to the MS4. (40 CFR 122.26(d)(1) & (d)(2).) Thus, the Regional Board's ability to include discharges to conveyance systems outside of urban areas is limited to discharges that are within the jurisdictional boundaries of the Permittees.

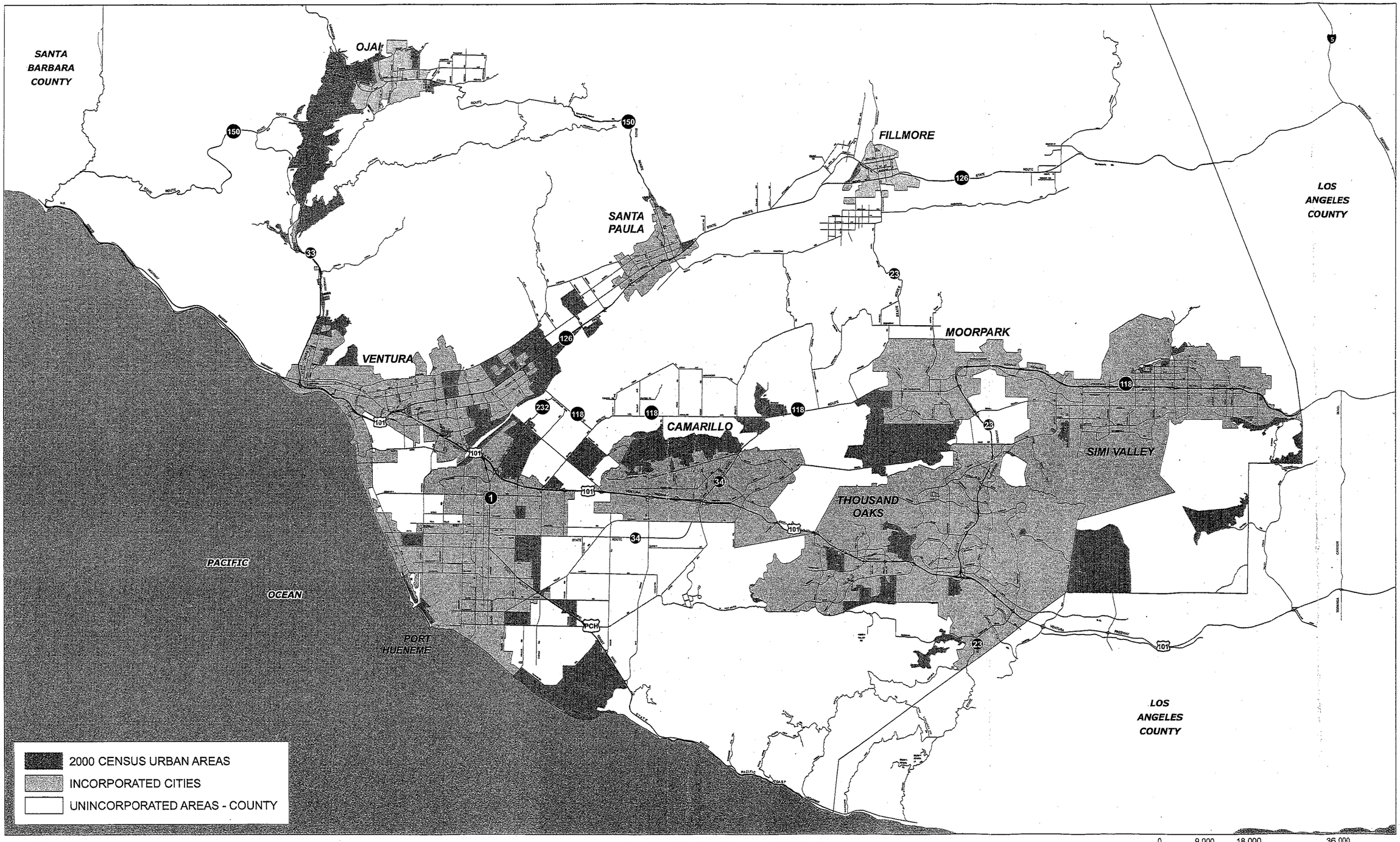
- The Regional Board cannot subject agricultural discharges to the provisions of the MS4. As indicated above, agricultural storm water runoff is exempted from the CWA. In Ventura County, stormwater discharges outside of the urban areas typically contains agricultural stormwater even if the "area" in question may not be considered an agricultural "area". Thus, it would be practically impossible for the Regional Board to subject non-urban areas of the County to the MS4 provisions without also including discharges from agriculture.

Alternative Approach

- Permit coverage should be limited to the city boundaries of the Permittees and the urban areas of the unincorporated areas of Ventura County.

- Permit coverage language should mirror the language as contained in the existing MS4 permit for Ventura County.

- The Permittees continue to work through stakeholder, watershed processes to address all areas of Ventura County. The many TMDLs adopted for areas within the County provide an appropriate mechanism for dealing water quality standard impairments for areas outside of the urban areas covered by the MS4 permit. Because the TMDLs cover all types of discharges, it is not necessary to cover non-urban stormwater under this MS4 permit.



Ventura County
Resource Management Agency
GIS Development & Mapping Services
Printed on 06/26/2007

COUNTY OF VENTURA
2000 CENSUS URBAN AREAS
BASE MAP

0 9,000 18,000 36,000 Feet

N

Disclaimer: this map was created by the Ventura County Resource Management Agency, Mapping Services - GIS, which is designed and operated solely for the convenience of the County and related public agencies. The County does not warrant the accuracy of this map and no decision involving a risk of economic loss or physical injury should be made in reliance therein

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SANTA BARBARA COUNTY

OJAI

SANTA PAULA

FILLMORE

LOS ANGELES COUNTY

VENTURA

MOORPARK

CAMARILLO

SIMI VALLEY

THOUSAND OAKS

PACIFIC OCEAN

PORT HUENEME

LOS ANGELES COUNTY

INCORPORATED CITIES

2000 Census Block Groups (Population Density)

Less than 1,000 people/square mile

1,000 or more people/square mile

Ventura County
Resource Management Agency
GIS Development & Mapping Services
Printed on 06/26/2007

COUNTY OF VENTURA
2000 CENSUS POPULATION DENSITY
BASE MAP

0 9,000 18,000 36,000 Feet

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B001410

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Ventura Countywide Stormwater Program's Proposed Alternative to Watershed Ecological Restoration Plan Requirements

Issue

Part 5 of the Draft Order requires the Permittees to develop and implement Watershed Ecological Restoration Plans (ERPs) for all areas that have obtained poor scores through the required bioassessment monitoring. There are several issues regarding this requirement:

- The Regional Board's justification for this requirement is to "reestablish insofar as possible the ecological integrity of degraded aquatic ecosystems." (Draft Order p.4.) However, the Regional Board fails to indicate how ERP is required for the Permittees to meet MEP or any specific legal requirement or water quality standard. The Regional Board also fails to identify its authority that would allow it to require the Permittees to develop and implement Ecological Restoration Plans. The Regional Board's authority is limited to issuing permit requirements that implement NPDES permit regulations and compliance with water quality standards. It does not extend to requiring watershed-wide ecological restoration planning.

- If it is determined that the Regional Board does have the legal authority, the Permittees are concerned with the broad scope of the language as drafted. The Permittees would be made responsible for writing and implementing restoration plans regardless of the Permittees' contributions to causing the condition. This indirectly makes the Permitees responsible for impact from agriculture and other discharges. The Permittees' jurisdictional areas make up only a portion of the watersheds in question and are therefore only part of the solution. A low index of biological integrity could be caused by a number of factors and contributors including: Other NPDES permitted dischargers; Nonpoint Sources of Pollution; Natural sources; Invasive Species; Natural conditions, such as the absence of surface flows; and, others. Additionally, many stream segments are on private property where Permittees have no access to make improvements. The Permittees do not possess the authority to control discharges of other entities to a stream segment or the authority to implement on the ground changes to comply with this requirement.

  For example, the State Water Resources Control Board's Surface Water Ambient Monitoring Program (SWAMP) data for the Santa Clara River watershed show numerous areas with relative IBI ranking of "poor". Some of these areas are in Los Angeles County, some are in open space areas in the upper watersheds, some are upstream of Ventura County urban areas, some are meant to be dry and are expected to score poorly, and some are in the depositional zones of the lower watersheds. For many years, we have been participating with numerous watershed groups to address a multitude of issues, most of which have little or nothing to do with urban runoff. The impacts to watershed ecology must continue to be solved through the watershed-based stakeholder process. The Permittees are willing to work with the watershed groups to define criteria, identify proportional contributions to the problem, and help develop plans for areas the Permittees have easements and rights-of-way.

- The Draft Order would require that the Southern California Index of Biological Integrity (SoCal B-IBI) be used to develop a score for assessed sites and identify areas for restoration. (Draft Order at p. F-16.) The SoCal B-IBI is not applicable to all of Ventura County. This

index was developed for high gradient, riffle-pool dominated systems with perennial flow. The majority of streams with urban runoff contribution in Ventura County are low gradient streams. Data was not collected for the SoCal B-IBI index to evaluate non-perennial streams, low gradient streams where deposition rather than erosion is dominant. Using the SoCal B-IBI to require ERPs will lead to misidentified stream segments, misused resources and may potentially harm stream segments if attempts are made to 'restore' these streams to ecological conditions that never existed.

Alternative Approach

Instead of requiring ERPs within the text of the stormwater permit, the Permittees instead encourage the Regional Board to work with the Permittees to evaluate bioassessment monitoring in order to determine what actions may be appropriate for the Permittees. For example, the Ventura County Stormwater Program has submitted results of bioassessment monitoring for the Ventura River annually to the Regional Board for the last 7 years. Typically, there are marginal IBI scores throughout the watershed, and one poor score near the Ventura River Estuary. As expected, the station near the terminus of the watershed, a depositional environment, is not expected to score well. The requirement for an ERP should not be based on this one, inappropriate site. The marginal sites are nearly always above the urban areas of the watershed and outside the jurisdictional boundaries of the Permittees. It cannot be concluded that the impairment to these sites is caused by discharges from an MS4 and therefore no MS4 should be responsible for ecological restoration. The Permittees recommend that Regional Board staff meet with existing stakeholder groups to address impairments identified by the bioassessment data (e.g., the Matilija Dam, mining operations, or cattle grazing).

Furthermore, the California Department of Fish and Game, the State Water Board, and other entities are currently working to refine the SoCal B-IBI in order to properly assess a wider range of habitats. Until the SoCal B-IBI is refined to include the preponderate habitats in Ventura County, it is an inappropriate tool for use in Ventura County. Once an appropriate assessment index is developed, the Regional Board should work with the Permittees and other appropriate stakeholders within Ventura County to properly determine the County's restoration needs. Because stream degradation can be caused by a variety of stakeholders, we contend that a successful ERP needs to be developed with the cooperation and commitment from all the stakeholders in a watershed. Co-permittees under the municipal stormwater program are either leading or participating with other stakeholders in the current watershed efforts.

In the meantime, the Permittees propose the following alternative approach for addressing ecological conditions. If program monitoring discovers a stream segment that obtained a score of "poor" or "very poor" on the refined index that is directly downstream of an urban area, and the area above the urban area scored above "poor" or "very poor", the permit should encourage the Permittees to work with the watershed groups to define criteria, identify proportional contributions to the problem, and help develop plans for areas the Permittees have easements and rights-of-way. This plan will identify the steps needed to identify sources of degradation and determine a course of action towards restoration.

Conclusion

The Permittees understand the value in restoring creeks and streams as it improves natural habitat and the quality of life for local residents. The Permittees also understand the value in working through the watershed process, as is supported by Finding E. 15 of the Draft Order. "The Regional Water Board supports Watershed Management to address water quality protection in the region...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." The Permittees suggest that the development of ERPs will be more effective if developed through a watershed-wide process with all stakeholders responsible for the health of the stream or creek. Improvements brought forward by one entity will have little effect if the impacts of others are not addressed at the same time.

Draft Ventura County Draft MS4 Permit
Proposed Planning and Land Development Program Requirements

E. Planning and Land Development Program

1. **Post-Construction Storm Water Planning and Land Development Program Purposes.** The Permittees shall implement a Planning and Land Development Program in accordance with and pursuant to Sections 4.E. below, for all New Development and Significant Redevelopment projects subject to this Permit to satisfy the following purposes …

2. **Post-Construction Storm Water Planning and Land Development Program Project Applicability.**

   (a) Single Family Hillside
   (b) New Development SQUIMP Applicability
   (c) Significant Redevelopment SQUIMP Applicability
   (d) Road Maintenance Practices Exemption
   (e) Underground Utility Projects Exemption
   (f) Prior Approved Project Exemption and Update Periods

3. **SQUIMP Requirements.**

   (a) General Contents of SQUIMP
   (b) Specific SQUIMP Requirements--Source Control BMPs
   (c) Specific SQUIMP Requirements--Low Impact Development.
   (d) Specific SQUIMP Requirements--Hydromodification Control
   (e) Specific SQUIMP Requirements--Treatment Controls

4. **Maintenance Agreement and Transfer.**

5. **Development Planning Coordination and Enforcement.**

6. **Regional and Redevelopment Area Storm Water Mitigation.**

   (a)Regional or sub-regional storm water mitigation program to substitute in part or wholly for the SQUIMP requirements of this Order.
   (b)Redevelopment Project Area Master Plan (RPAMP)

7. **Mitigation Funding.**

8. **Developer Technical Guidance and Information.**

9. **Project Review and Inter Department Coordination.**

10. **California Environmental Quality Act (CEQA) Document Update.**

11. **General Plan Update.**

SUMMARY OF PROPOSED POST-DEVELOPMENT CONTROL MEASURES FOR PROJECTS REQUIRING SQUIMPS

Permit Requirement	Exemptions	Project Type			
			New Development		
		Significant Redevelopment & Infill Conditions	Small Project (<200 acre) Conditions	Large Project (≥200) Conditions	Single Family Hillside Zoning Alternative Conditions
Low Impact Development	No exemption to the extent technically feasible and appropriate to do LID, taking into account existing groundwater conditions, and flood control, hydrology, geotechnical, and channel stability goals and constraints.	• Can be on site or regional • Proposed list of mandated minimum LID strategies to be prepared for use in permit	• Can be on site or regional • Proposed list of mandated minimum LID strategies to be prepared for use in permit	• Can be on site or regional • Proposed list of mandated minimum LID strategies to be prepared for use in permit	(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 geotechnical instability; and (5) Direct surface flow to vegetated areas before discharge unless the diversion would result in geotechnical instability.
Treatment Control	None	• Properly select, design and maintain treatment control BMPs to address pollutants of concern • Can be on site or regional • Can substitute off-site equivalent area if on-site is infeasible • Allow for fee-in-lieu • Requirements apply based on project size as for new development	• Properly select, design and maintain treatment control BMPs to address pollutants of concern • Can be on site or regional. • Size using WEF or BMP Handbook methods (volume-based) or specific intensity (flow-based)	• Properly select, design and maintain treatment control BMPs to address pollutants of concern • Can be on site or regional • Size using continuous model method to achieve 80 percent capture of average annual runoff volume	
Hydromodification Control	• Geomorphically-based watershed-specific study provides for no hydromod potential impacts • Redevelopment projects that do not increase hydromod potential • Lack of hydromod susceptibility in project's receiving water	• Can be on site, regional or in-stream[1] • Can substitute off-site equivalent area if on-site is infeasible • Allow for fee-in-lieu • Requirements apply based on project size as for new development	• Can be on site, regional or in-stream[1] • Implement LID Strategies unless/until Local Implementation Tool[2] or until HMP is complete. • Use Local Implementation Tool once available until HMP is complete. • Implement HMP criteria[3] after HMP is completed. • May elect to do HAS[3] prior to adoption of the HMP	• Can be on site, regional or in-stream[1] • Complete an HAS[3] prior to adoption of HMP. • May elect to develop or use Local Implementation Tool[2].	

[1] Preference must be given in preparing SQUIMPs to regional, subregional, and onsite controls over in-stream controls as necessary to protect existing beneficial uses.
[2] Tool to specify numeric hydromod control BMP sizing.
[3] Including specified Ep value shown to be protective of Natural Drainage Systems.

Draft Ventura County Draft MS4 Permit
Proposed Development Construction Program Requirements

F. Development Construction Program

1. Each Permittee must implement a construction program that meets the requirements of this section, prevents illicit construction-related discharges into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites, reduces construction site discharges of pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

2. Minimum Construction BMP Implementation

   (a) Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites requiring a grading permit consistent with the CGP… Erosion control BMPs (erosion avoidance) shall be preferred to sediment control BMPs. Table including all BMPs.

   (b) An effective combination of erosion and sediment control practices shall be implemented on disturbed areas. The six major objectives of combined erosion and sediment control practices …

   (c) All disturbed areas that will not be re-disturbed for 20 days shall be provided with erosion control measures within 14 days from last disturbance.

   (d) On-site drainage facilities for carrying concentrated flows shall be designed to control erosion and to prevent damage to downstream properties.

   (e) Sediment control practices shall be provided around the down gradient perimeter of the construction site and at all internal inlets to the storm drain system during the rainy season.

   (f) Practices shall be implemented and maintained to reduce the tracking of sediment off site at all times.

   (g) Practices shall be implemented and maintained to reduce wind erosion at all times.

3. Enhanced Construction BMP Implementation.
   (a) Each Permittee shall implement, or require implementation of, enhanced practices to address the exceptional threat to water quality posed by all construction sites in hillside areas as defined in the applicable Permittee's Zoning Code, areas directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment, or directly discharging to an environmentally sensitive area (ESAs).

   (b) Enhanced practices for high risk sites shall include increased BMP inspection and maintenance requirements.

California Regional Water Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

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

Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Ventura Countywide draft MS4 Permit
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343
Meeting Date and Time:	June 27, 2007 @ 1100

NAME	ORGANIZATION	PHONE #	E-MAIL ADDRESS
1. TRACY Woods	LA-RWQCB	213/620-2095	twoods@waterboards.ca.gov
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NAME	**ORGANIZATION**	**PHONE #**	**E-MAIL ADDRESS**
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Via Teleconference - Xavier Swamikannu	LARWQCB	213/620-2094	xswamikannu@waterboards.ca.gov
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California Environmental Protection Agency

..cled Paper

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Ventura Countywide Draft MS4 Permit Discussion Meeting

June 27, 2007

Location: Water Board - Los Angeles Library

----- Agenda -----

The purpose of the meeting is to discuss storm water permit topics & requirements contained in the draft Ventura County MS4 permit (NPDES No. CAS004001).

Introduction	Swamikannu	
1100 -1200		
1. Follow up items to June 13th meeting • LID – Modified Outline • Hydromodification – Susceptible Tributaries • Routine Maintenance – Line & Grade, Federal Definition of Routine Maintenance • Timeframes – Prioritization Scheme • Alternative Language – Swimming Pool Discharges, Illicit Connections, Critical Sources	VC Permittees/ RWQCB	
2. Principal Program Requirements – • Public Outreach • Mandatory Committee Participation • Special Studies • Annual Report • Monitoring – TSS	VC Permittees/ RWQCB	

Timeframes that the Permittees find too short to produce a quality product:

Condition or Requirement	Effective Date/ Applicable Deadline	Page #	Condition no.	Permit Section Reference	Time Requested in Comments Letter
Update Stormwater Ordinance to enforce all requirements of this Order	No later than 6 months from Order Adoption)	33	Part 3.B.3	Implementation-Legal Authority	Requested 2 Years
Develop LID(*) Technical Guidance Document	No later than 18 Months from the Order Adoption Date	51	Part 4.E.1.I.2	Special Provisions-Planning Land Development-LID(*)	Requested 3 Years
Modify stormwater programs, protocols, practices, municipal codes	No later than 90 days after Adoption date	34	Part 3.D.1	Implementation-Modifications/Revisions	Ninety days is insufficient time to complete revisions to "programs, protocols, practices and municipal code". We suggest two years. Also, this requirement conflicts with Part 3, B. 4 which provides for six months to complete revisions.
ıtement by legal counsel ting permittee has legal hority to comply with der	No later than 180 days after Adoption date	33	Part 3.B.4	Implementation-Legal Authority	Requiring legal counsel to declare Permittee has "obtained and possesses all necessary legal authority to comply with this Order" is infeasible, given that it is unclear how Permittees will have legal jurisdiction to enforce some of the provisions of this Order.
velop Electronic porting Format	6 months	85	Part 4 I 1 (a)	Special Provisions	Request one year
tain coverage under SGP	7 days after adoption	76	Part 4 G 3(b)	Special Provisions	Conflicts with finding G4 page 25: "shall take effect 90 days from Order adoption" and Part 3.A.1 Adopt and implement applicable terms of this Order no later than (60 days from Order Adoption).
der shall serve as NPDES permit and take effect	90 days from adoption	25	Finding G4	Public notifications	Conflicts with Part 3.A.1 page 31: Adopt and implement applicable terms of this Order no later than (60 days from Order Adoption)
Adopt and implement applicable terms of this Order	No later than (60 days from Order Adoption) unless otherwise specified per Order	31	Part 3.A.1	Implementation-General Requirements	Conflicts with finding G4 page 25: "shall take effect 90 days from Order adoption"
Develop and Implement watershed Hydromodification Control Plans.	No later than 6 mos. after completion of HCS	53	Part 4.E.1.II.(g) (1)	Special Provisions-Planning & Land Development-Numeric Hydromodification Mitigation	Requested 1 year.

Swimming Pool Discharges

Draft Permit Requirements:

Page 32, Part 3, B.1.(b)(5)

1. Permittees shall have the necessary legal authority to prohibit, including, but not limited to:

   (b) The discharge of non-stormwater to the MS4 from:

   (5) Swimming pool(s) that have a concentration greater than:
   (A) Chlorine/bromine – 0.1 mg/L.
   (B) Chloride – 250 mg/L.
   (C) Cyanuric acid of 50 ppm;
   (D) E. coli of 235/100 ml (fresh waters)
   (E) Fecal coliforms of 400/100 ml (fresh waters and marine waters)
   (F) Enterococcus of 104/100 ml (marine waters)
   (G) Total coliforms of 10,000/100 ml, or 1,000/100 ml if the ratio of fecal-to-total coliform exceeds 0.1 (marine waters).

Page 97, Definitions

Dechlorinated/ Debrominated Swimming Pool Discharge - means any swimming pool discharge with a residual chlorine or bromine level of 0.1mg/L; and does not contain any detergents, wastes, algaecides, or cyanuric acid in excess of 50 ppm, or any other additional chemicals including salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash or swimming pool water containing bacteria.

Alternatives:

Page 28, Table 1

Type of Discharges:	**Conditions under which allowed:**	**Required BMPs for discharge to occur:**
Dechlorinated / debrominated swimming pool discharges [see definition Part 7]	Prior notification to Permittee has been made, and pool discharger educated on requirements. Provided discharge to a sanitary sewer is not available. Swimming pool discharges shall be dechlorinated, pH adjusted if necessary, ~~reoxygenated~~, and volumetrically and velocity controlled to prevent resuspension of sediments.	Pool water may be dechlorinated using time, aeration, and/or sodium thiosulfate.

	Cleaning waste water and filter back wash shall not be discharged to municipal separate storm sewers. Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, ~~even~~ until after de-chlorination. Chlorine residual in discharge shall not exceed 0.1mg/L. Discharge shall not cause or contribute to an exceedence of any water quality objective.	

Page 32, Part 3, B.1.(b)(5)

1. Permittees shall have the necessary legal authority to prohibit, including, but not limited to:

   (b) The discharge of non-stormwater to the MS4 from:

   (5) Swimming pool discharges that drain directly to receiving waters or with a residual chlorine level of greater than 0.1 mg/l and/or containing detergents, wastes, algaecides, sediment, or salts from pools commonly referred to "salt water pools".

Page 97, Definitions:

Dechlorinated/ Debrominated Swimming Pool Discharge - means any swimming pool discharge with a residual chlorine level of less than or equal to 0.1 mg/L; and does not contain any detergents, wastes, algaecides, sediment or salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash.

Screening for Illicit Connections (Page 84, Part 4, H.3.(a)(2))

Draft Permit Requirement:

(2) Permittees shall conduct field screening of their storm drain systems ~~in~~ to ~~I~~identify illicit connections. ~~accordance with screening procedures described in the~~ Illicit Discharge ~~Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments (2004)~~[4]. ~~-~~Permittees shall conduct field screening for illicit connections in conjunction with their ongoing storm drain maintenance and illicit discharge programs. The illicit connection program shall :

(A) Focus on storm drain systems serving restaurants, ~~and~~ automobile repair, and industrial facilities ~~businesses~~; ok

(B) Document field screening activities;

(C) Develop a map with all illicit connections discovered during the field screening; and

(D) Be completed within 5 years of the adoption of the Permit. ~~accordance with the following schedule:~~

~~(A) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater no later than (5 years after the adoption of this Order).~~

~~(B) High priority areas identified during the mapping of illicit connections and discharges no later than (5 years after the adoption of this Order).~~

~~(C) All portions of storm drain systems 50 years or older in age no later than (5 years after the adoption of this Order).~~

ISSUE PAPER
FOR
PRINCIPAL PERMITEE ACTIVITIES

Special Studies

Issue: Several special studies are required without a proper nexus to urban stormwater pollution or considering other studies in the region, are of questionable value, or are proposed on a countywide scale when smaller logical studies can be taken to conserve resources.

Pyrethroids G.1 page F19
The Pyrethroid Monitoring requirement is unnecessarily burdensome; monitoring for pyrethroids is costly and labor intensive and should be done in an economically logical process. This requirement requires an extensive countywide study with a potentially large number of sites. For example, on the Santa Clara River there would be 3 major tributaries with 2-6 stations (6-18 stations total), and secondary tributaries (undefined) would have 2-3 stations. Assuming 2-3 secondary tributaries, the total sampling sites could be from 10 to 27 sites. This is an inefficient shotgun approach to a problem that has not been observed in the lower watershed. The Program's proposed monitoring approach based on the Model Monitoring Program would first devote resources to answer the question "Is there a pyrethroid problem in Ventura County?"

Additionally, this study duplicates much of the effort set forth in the alternative pesticides study required under the monitoring plan for the Calleguas Creek organochlorine TMDL. This study will determine if pesticides that will be used to replace diazinon and chlorpyrifos are a concern in urban runoff. Information from this study should be used to assess the need for any additional pyrethroid study in the county, and any pyrethroid monitoring in other watersheds should begin at the base of the watershed before resources are spent upstream.

Notwithstanding, Water Code 13267 section (b)(1) requires that a study should be justified by "a reasonable relationship to the need for the report and the benefits obtained by the reports". The expansive monitoring requirements contained in the draft order do not bear a reasonable relationship as it requires monitoring in areas that are not likely to be impacted by municipal stormwater discharges, and requires monitoring for constituents that may not be of concern.

Alternative Approach and Suggested Language:
Allow the pesticides study required under the monitoring plan for the Calleguas Creek organochlorine TMDL to be completed and results available before requiring a resource-extensive Region-wide pyrethroid study. Alternatively, If it is an inappropriately long time before the Calleguas study provides results, pyrethroid monitoring at the base of the Santa Clara and Ventura Rivers could be required.

Trash Page F-17, F
This requires the Permittees to perform special studies to quantify pollutants from non-MS4 sources. Trash and debris are a problem in urban runoff and the Permittees are aware of their responsibility for controlling that problem. However, there needs to be a nexus between the required study and the MS4s. The trash and debris study required has a focus on ocean beaches where the referenced study showed that the most abundant items were from overboard disposal from ocean vessels. Requiring the MS4 Permittees to study trash from ocean vessels does not meet the reasonable relationship criteria.

> **Alternative Approach and Suggested Language:**
> The required study should be focused on inland waters and coastal waters where trash and debris have a direct nexus to MS4 sources, providing useful assessment and source reduction information for Permittee's MS4 programs.

Southern California Bight Project page F-22 J.
The Principal Permittee is already a volunteer Commission member of SCCWRP at a cost of $75,000 to the Program, and as such is contributing to future Southern California Bight Project updates. This required additional contribution to Southern California Bight Project is not justified. It is unclear how the $250,000 amount (over $0.30 per Ventura County resident) was determined, and how this compares to the contributions from the other NPDES dischargers to the Southern California Bight. Multiple stakeholder projects such as the So. Cal. Bight normally will have funding equations and an MOU to formalize the agreement. It is not necessary to require a specific dollar amount in the permit.

> **Alternative Approach and Suggested Language:**
> Require membership and participation in SCCWRP Commission, CTAG and Stormwater Monitoring Coalitions meetings.

Total Suspended Sediment Monitoring page F-2, A.9
The purpose for collecting information on every 0.25 inch storm is unclear. This requirement will consume valuable resources for results of questionable value. The relationship between TSS and pollutant loading has not been well-established, and with Ventura County's open space and agriculture-dominated watersheds the urbanized contributions of total TSS would only be a very small part. A statistical review of past monitoring data shows the R-square values for TSS and various metals on the three watersheds to be mostly below 0.5 – a very poor correlation.

Sampling <u>every</u> 0.25 inch storm is a significant increase in Program cost and will require staff to be prepared for 10-18 sampling events per year. The 0.25" trigger is also problematic in watersheds with agriculture and open space because the streams do not show a significant increase in flow from even a larger 0.50" rain event, meaning that a sample from a 0.25 inch storm will not be sampling storm runoff but rather base flow.

The value of beginning this effort is questionable. The Program has years of data where TSS was sampled at the same time as other constituents. If a correlation to total loading is desired, these data could be evaluated to detect significant trends.

> **Alternative Approach and Suggested Language:**
> Replace this requirement with a special study to evaluate historical data for trends correlating TSS with other pollutant loads. If that study shows a need for this requirement, a 0.5" storm event trigger would be more appropriate for Ventura County due to the predominant open space and agriculture land uses.

Mandatory Participation and Organization of Watershed Groups

Issue: The Draft Order requires Permittees to attend and hold meetings regardless of need or the topics on the agenda. Additionally, the Draft Order requires Permittees to develop new watershed groups without considering the ongoing efforts of existing watershed groups. The Ventura Countywide program has been working for 15 years. The need for mandatory meetings may have been necessary to get all the parties at the table when it was first forming, but that is not the case now.

Mandatory participation and organization of various groups and mandatory meeting attendance is discussed in several areas in the Draft Order: Part 3 E. 1. (a) (p. 35); Part 3 F. 1. (e)(f) (p. 36); Part 4, B.1. (p.36); Part 4, C. 1. (c) (1) (E) (p. 38). As written these requirements represent burdensome and time consuming efforts and do not provide the Permittees with the flexibility needed to implement an efficient program. The Permittees need to be able to decide when it is necessary and efficient to hold and attend meetings, and should not be required to attend meetings whose agendas have nothing to do with improving Stormwater Quality. Each section should be addressed by permit writers to allow the Permittees this flexibility.

Difficult to determine compliance – Part 4, B.1 (p.36)
The Draft Order requires "Watershed Initiative Participation" by the Principal Permittee to be met by participating in an open ended list of regional meetings and programs. Although the Permittees are supportive of the various watershed efforts and research programs identified, and have participated in the past, it is inappropriate for the Regional Board to mandate in a stormwater permit participation in voluntary watershed programs. Furthermore, the Draft Order does not state how the Regional Board would determine compliance with this provision, or rather how non-compliance with participating with "other appropriate watershed planning groups" would be determined.

Notwithstanding this requirement does not provide flexibility for the Permittees to decide how to meet the requirement. Placing mandates on which staff attends certain meetings may create costly and inefficient duplication of efforts. For instance, if a co-permittee is already participating on the County Environmental Crimes Task Force, and is willing to represent the Countywide Stormwater Program at the Task Force, and to report on these issues at the Countywide stormwater meetings, why should the Principal Permittee also attend?

Alternative Approach and Suggested Language:

Allow flexibility so that Permittees can pick the most economical way to comply. Change language from require attendance to "the Permittees are encouraged to attend".

Redundant Groups Required Under Part 4, C. 1. (c) (1) (E) (p. 38)
This permit provision requires the Permittees to "organize watershed Citizen Advisory Groups/ Committees". As the Draft Order noted in the previous requirement there are already watershed based groups in the major watersheds of Ventura County such as Calleguas Creek Watershed Steering Committee, Santa Clara River Watershed Committee, and Ventura River Watershed Council, additionally there are already broad based watershed groups including Friends of the Santa Clara River and the Malibu Creek Watershed Advisory Council. Notwithstanding the statements regarding the Regional Board's authority to require participation, requiring organization of new groups when similar ones already exist is an unnecessary burden.

Alternative Approach and Suggested Language:
Working within the existing group structures will be more effective than starting a new group or committee. The sentence should be revised to read: "Work with existing local watershed groups or organize Citizen Advisory Groups/Committees . . ."

Burden of Excessive Meetings Part 4 F(e)(f) (p. 36)
Mandatory meeting attendance for mandatory monthly program meetings is not an efficient use of time. This is to be a five year permit, and after the first two years many new programs and requirements will have been developed and implemented. During the later half of the permit term the Permittees may not have to meet as frequently. The frequency of these unnecessary meetings will be a huge 20-25 staff hours/month drain on city resources (especially smaller cities with small staffs). Additionally, circumstances beyond the Permittee's control can cause them to miss a meeting.

Alternative Approach and Suggested Language:

Change the attendance requirement to 90% for all subcommittees and the management committee mandatory meeting requirement to quarterly.

Public Outreach and Participation

Issue: Draft Order has excessive requirements on where and how much public outreach is required. The prescriptive nature of these requirements does not allow for a flexible program to focus resources on public outreach methods found effective, but rather insists that the number of impressions is made each year while still holding the Permittees responsible for effectiveness.

Number of Impressions Part 4, C. 1. (c) (5) (p. 38)
The existing permit requirement is 2.1 million impressions based on three times the population of Ventura County. That is similar to other permits in the state that have such a requirement, however several have no such numeric standard. The latest US Census data (2005) shows Ventura County with a population of 820,000. The requirement in the Draft Order for 10 million impressions is 12 times the population, an inappropriately large increase.

Alternative Approach and Suggested Language:

During the last reporting period an extra effort was made by all Permittees to ensure the success of a new outreach campaign, made possible without the in-kind donations given by several media organizations, resulting in impressions above and beyond our current permit requirement.

5 million impressions, four times the previous requirement, would be realistically achievable and leave resources available for more in-depth educational opportunities.

Outreach to School-aged Children Part 4 C 1. (c) (6) (p.39)
We are in agreement that educational outreach to children is an important way to affect a change in behavior. However, requiring this be done in schools presents difficulties. The Permittees do not have the authority to put any material into a classroom. It will be up to the discretion of the educational system to use anything provided to them, including resources from AB1721.Targeting all grades from K-12 compounds the obstacles because not all those grades have in their curriculum subjects that are open to the stormwater pollution message. For example, the stormwater message may be perceived as appropriate to include in earth and life sciences which are taught in grades 6 and 7, but not for physical science which is taught in grade 8. In grades 9-12 science is presented as discipline-specific courses - which are not required to be taken by all students.

The Environmental Education Account is an option, however, there is no guarantee that money given to the account will be spent in Ventura County or on stormwater pollution, or that it will even be used in the classroom. According to the Cal/ Environment and Education Initiative website, spending money in the account requires both Legislative appropriation and consultation with the California Integrated Waste Management Board, but no consultation with the State Water Resources Control Board. There is a concern that these funds will be used exclusively for solid waste and recycling programs, and that the Permittees will still be responsible for measurable improvements.

Measuring improvements in the classroom would require teachers to share information on their students with the Program, something that they have no incentive to do. Measuring the effectiveness of outreach to children is an appropriate part of the program. However, we believe a more effective program would be one that is outside the classroom.

Requiring Permittees to demonstrate improvement in public school students' knowledge is beyond the authority the authority of the Regional Board. Education standards are set by the Board of Education.

Alternative Approach and Suggested Language:

The Permittees need flexibility in providing outreach to children. The cost of this approach prevents creative alternative approaches that would use other known effective outreach methods such as television, radio and the internet. Also, reaching a target audience in multiple ways is considered a more effective method to affect a behavior change. We would suggest a focused requirement to provide educational outreach to the same number of school-aged children. This would allow the Permittees the flexibility to develop a program that will have a better chance of success and maximize the benefit of their resources.

Corporate Outreach Part 4 C 2. (a) (2) (p. 40)
The requirement that Ventura County Permittees must confer with corporate managers is both vague and burdensome. It is highly likely that corporate management offices are outside of Ventura County and possibly outside of California. Ventura County Permittees can only be responsible for educating the operators of franchises within Ventura County and cannot be expected to change the behavior of entire corporations.

Alternative Approach and Suggested Language:
Please define corporate managers as those managers directly operating franchises in Ventura County.

Annual Reporting Program

Issue: The reporting section is in a cumbersome format. To date, the Permittees have not received feedback from the Regional Board on the adequacy or any deficiencies in the current Annual Report format. The previous effort to reformat and revise the Annual Report cost the Permittees over $130,000. This will increase staff time, for both the RWQCB and Permittees, with little or no improvement in water quality.

Alternative Approach and Suggested Language:
We request the current Annual Report format be retained. As an alternate:

Using language based on the Stockton permit

PART 2 - PROGRAM REPORT
On an annual basis the Permittees shall complete an Annual Monitoring Program Report that responds adequately to the evaluative questions below which correspond to the Order, or propose an alternative form in the revised SWMP to be used instead of the questions below.

California Regional Wat Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

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

Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Planning and Land Development - Ventura Countywide Draft MS4 Permit
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343
Meeting Date and Time:	June 13, 2007 @ 1330

NAME	ORGANIZATION	PHONE #	E-MAIL ADDRESS
1. Gerry Greene	Downey	562 904-7112	ggreene@~~greene~~downeyca.org
2. Richard WATSON	CPR	949.855.6272	rwatson@rwaplanning.com
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4. Bill O'Brien	City of Ojai	805-658-6611	billo@hawksciv1.com
5. Gerhardt Huber	VCWPD	805 654-5051	Gerhardt.Huber@vcwatersheds
6. ARNE ANSELM	VCWPD	805 6543942	ARNE.ANSELM@VENTURA.OR
7. TERI DAVIS	MOORPARK	805 517 6241	tdavis@ci.moorpark.ca.1
8. Anita Kuhlman	City of Cam	383-5659	
9. KEVIN Gieschen	City of Sim Valley	805 5836462	
10. PAUL TANTET	VENTURA COUNTY PWA	805-662-6737	paul.tantet@ventura.org
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13. RICHARD BRADLEY	CITY of VENTURA	(805) 652-4582	RBRADLEY@CI.VENTURA.CA.US

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Meeting Date and Time:	June 13, 2007 @ 1330

NAME	ORGANIZATION	PHONE #	E-MAIL ADDRESS
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22. Bill DePoto	LACDPW-WMD	626-458-4313	BDEPOTO@DPW.LACOUNTY.GOV
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24. Xavier Swamikannu	" "	(213)620-2094.	
25 Via TeleConference - Jennifer Fordyce Staff Counsel	LA-RWQCB	(916)324-6682	jfordyce@waterboards.ca.gov
26.			

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California Environmental Protection Agency

Rec. Paper

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Ventura Countywide Draft MS4 Permit Discussion Meeting

June 13, 2007

Location: Water Board - Los Angeles
Pacific Ocean Room

----- Agenda -----

The purpose of the meeting is to discuss Stormwater permit topics & requirements contained in the draft Ventura County MS4 permit (NPDES No. CAS004001).

Introductions	All	5 minutes
1:30 pm -4 pm		
1. Land Use Planning and Low Impact Development	Introduction by VC Permitteees Discussion by All	45 minutes
2. Hydromodification	Introduction by VC Permitteees Discussion by All	45 minutes
3. Planning and Land Development Requirements (Construction, Post-Construction BMPs, Grading Restrictions	Discussion by All	45 minutes
4. Agenda Topics for Next Meeting	All	15 minutes

Recommended Changes to Draft Permit Regarding Planning and Land Use Development and Low Impact Development

E. Planning and Land Development Program

1. The Permittees shall implement a development-planning program that has the following goals for ~~will require all~~ New Development and Redevelopment projects ~~to~~:

   (a) Minimize impacts from storm water runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.

   (b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[1] to less than 5 percent of total project area (new development projects only). Alternative reductions may be considered if adequate documentation is provided.

   (c) Minimize pollutants emanating from impervious surfaces by reducting the percentage of effective impervious area to the maximum extend practicable (redevelopment projects only).

   ~~(c)~~(d) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.

   ~~(d)~~(e) Minimize pollution emanating from impervious surfaces on developed land such as roof-tops, parking lots, and roadways through the use of appropriate Source Controls (good housekeeping practices), Low Impact Development Strategies, and Treatment Control BMPs.

   ~~(e)~~(f) Properly design and maintain Treatment Control BMPs (in order to avoid the breeding of vectors).[2]

   (g) Select an integrated approach to mitigate storm water pollution by utilizing a suite of controls ~~in the following order of preference~~ to

---

[1] Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales, planter boxes, bioretention areas or other site controls recognized as effective in absorbing runoff from impervious surfaces ~~(native vegetation)~~ using approved dispersion techniques.

[2] Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.

remove storm water pollutants, reduce storm water runoff volume, and beneficially reuse storm water.

~~(f)~~2. The planning and land development program shall incorporate a comprehensive and inclusive approach to addressing runoff from new development and redevelopment. The approach shall include as appropriate low impact development practices, hydromodification controls and post construction storm water mitigation measures. ~~:~~

~~(1)Low Impact Development Strategies.~~
~~(2)Integrated Water Resources Management Strategies.~~
~~(3)Multi-benefit Natural Feature BMPs.~~
~~(4)Prefabricated/Proprietary Treatment Control BMPs.~~

I. Low Impact Development

1. All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. ~~LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.~~

2. The Permittees shall ~~develop~~ incorporate ~~a~~ LID design standards into the Countywide Technical Guidance Document no later than ~~(18 months~~ three years from the Order's adoption date~~)~~ for use by Land Planners and Developers. The LID ~~Technical Guidance Document~~ standards shall ~~include objectives and specifications for LID in the areas~~ addresse~~d~~:

   (a) Site Assessment.
   (b) Site Planning and Layout.
   (c) Vegetative Protection, Revegetation and Maintenance.
   (d) Techniques to Minimize Land Disturbance.
   (e) ~~Integrated Management Practices~~LID practices.
   ~~(f)LID Design and Flow Modeling Guidance.~~
   ~~(g)Hydrologic Analysis.~~
   ~~(h)~~(f) LID ~~Translators~~ credits.
   (g) Limitations for using LID ~~including but not limited~~ related to~~:~~ high groundwater, soil constraints, drinking water aquifer impacts, ~~and~~ redevelopment projects, and other site-specific factors reducing the feasibility of LID practices.~~.~~

3. The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with LID objectives and specifications developed in the LID Technical Guidance Document through a training program. The LID training program will include the following:

(a) LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.
(b) A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.
(c) Materials and data from LID pilot projects and demonstration projects including case studies.
(d) Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.
(e) Availability of the LID Technical Guidance Document.

ISSUE PAPER

Land Use Planning and Low Impact Development

Statement of Issue: The Ventura Draft Permit requires the Permittees to implement a development-planning program that requires all new development and redevelopment projects to implement several strategies (including low impact development concepts) aimed at reducing impacts from storm water runoff on natural drainage systems and water bodies. However, these strategies may actually place local agencies in conflict with other environmental concerns (e.g. air pollution) and policy (e.g. General Plan) and may actually work against "smart growth" principles.

Draft Permit Language

Among other requirements, the Draft Permit requires the Permittees to modify their land use planning program to address water quality through a set of guiding principles and standards.

Part 4 E Planning and Land Development Program (page 50)

1. The Permittees shall implement a development-planning program that will require all New Development and Redevelopment projects to:

    (a) Minimize impacts from storm water runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.
    (b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[1] to less than 5 percent of total project area.
    (c) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.
    (d) Minimize pollution emanating from impervious surfaces on developed land such as roof-tops, parking lots, and roadways through the use of appropriate Source Controls (good housekeeping practices), Low Impact Development Strategies, and Treatment Control BMPs.

---

[1] Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales (native vegetation) using approved dispersion techniques.

(e) Properly design and maintain Treatment Control BMPs (in Permit to avoid the breeding of vectors).[2]

(f) Select an integrated approach to mitigate storm water pollution by utilizing a suite of controls in the following Permit of preference to remove storm water pollutants, reduce storm water runoff volume, and beneficially reuse storm water:

(1) Low Impact Development Strategies.
(2) Integrated Water Resources Management Strategies.
(3) Multi-benefit Natural Feature BMPs.
(4) Prefabricated/Proprietary Treatment Control BMPs.

Part 4 I Low Impact Development (page 51)

1. All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.

2. The Permittees shall develop a LID Technical Guidance Document no later than (18 months from the Permit's adoption date) for use by Land Planners and Developers. The LID Technical Guidance Document shall include objectives and specifications for LID in the areas of:

(a) Site Assessment.
(b) Site Planning and Layout.
(c) Vegetative Protection, Revegetation and Maintenance.
(d) Techniques to Minimize Land Disturbance.
(e) Integrated Management Practices.
(f) LID Design and Flow Modeling Guidance.
(g) Hydrologic Analysis.
(h) LID Translators.

3. The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with LID objectives and specifications developed in the LID Technical Guidance Document through a training program. The LID training program will include the following:

(a) LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.
(b) A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.
(c) Materials and data from LID pilot projects and demonstration projects including case studies.

[2] Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.

(d) Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.
(e) Availability of the LID Technical Guidance Document.

Discussion

The Permittees and other interested parties have identified a number of significant issues or concerns with the Draft Permit. For each issue, the discussion provides a rationale for the concern (including related problems that will result from adoption of the Draft Permit); alternative approaches used by other regional boards, and recommended changes to the Draft Permit aimed at addressing each issue. In addition, an underline-strikeout version of Section E.1, which illustrates the changes needed to address problem areas is provided in Attachment 1.

The application of hydromodification requirements to all projects is too broad. The Draft Permit's broad applicability to *all* new development and redevelopment projects greatly exceeds applicable thresholds in other regional water quality jurisdictions. Furthermore, there is no supporting documentation to support the inclusion of all new development and redevelopment projects. This extraordinary treatment of storm water entities in Ventura County raises serious concerns about the fair and equal application of storm water management rules on a statewide basis. The inclusion of all development projects will cause significant burdens upon Permittees and development projects in relation to compliance monitoring, enforcement, and increased costs. For example, unlike in other jurisdictions, home improvement projects would be subject to the Permit even if no land disturbing activities are conducted. Such broad requirements are unwarranted and will discourage home improvement to the detriment of local communities. The solution to this problem is to narrow the applicability of the development planning requirements in a fashion similar to the approaches taken in other water quality jurisdictions. Below is a delineation of project size threshold in storm water NPDES permits from the San Francisco Bay and San Diego Regional Water Quality Control Boards.

Permit No. R2-2003-0021 (San Francisco Bay Region)
The Permit applies only to Group 2 Projects.[3] Group 2 Projects generally include only projects creating 10,000 square feet or more of impervious surface, excluding sidewalks, bicycle lanes, trails, bridge accessories, guardrails, and landscape features for streets, roads, highways, and freeway projects. Redevelopment projects under Group 2 are subject to the Permit only if classified as "significant," which includes projects on a previously developed site that results in addition or replacement of impervious surface totaling 10,000 square feet or more, excluding routine maintenance and repair and interior remodels. Under this provision, single family homes not part of a larger common plan of development are excluded from the Group 2 Project definition. (See Region 2

[3] The former Group 1 projects, which involved projects having larger impervious surface area have been subsumed under Group 2 projects under the Permit as of August 15, 2006 (See C.3.c.ii of Permit No. R2-2003-0021).

Board (2003) Sec. C.3.c.i and C.3.c.ii).

Tentative Permit No. R-9-2007-002 (San Diego Regional Board)
This Permit applies only to "Priority Development Projects." In short, these projects include:

- Redevelopment projects that create, add, or replace at least 5,000 square feet of impervious surfaces on an already developed site having certain size minimums such as a housing division of 10 or more dwelling units, commercial developments greater than one acre, etc.
- Development projects disturbing one acre or more of land within three years of adoption of the Permit.
- For new development projects, housing subdivisions of ten or more dwelling units, commercial developments greater than one acre, heavy industry developments greater than one acre, and specific development types such as automotive repair shops, restaurants, gasoline stations, medium sized parking lots, etc.

Draft Permit's five percent impervious surface requirement is overly protective, not reflective of local conditions and may lead to urban sprawl. The Draft Permit's five percent limit on effective impervious area will hinder smart growth and encourage urban sprawl. The primary reason for this is that smart growth projects involve high density development and re-development in a manner resulting in little to no opportunity for storm water infiltration. Thus, complying with the Permit's five percent limit would be nearly impossible for smart growth while convenient for urban sprawl where sufficient land is available for infiltration purposes. Resulting sprawl will then create more urban impacts on a watershed scale. Moreover, the five percent limit would require Permittees to verify compliance, which would be unnecessary where effective LID strategies are utilized, as the Contra Costa Clean Water Program has shown (see below). Where LID strategies are emphasized, the focus should be on proper construction and maintenance of LID practices.

One solution to the problem the five percent limitation poses would be to exempt smart growth development from the impervious surface limitation. In the alternative, Section E.1 (b) could be rephrased to require reduced impervious surfaces at the watershed scale through promotion of site design practices such as clustering development and promoting infill on a watershed basis to preserve open space. At the project scale the requirement could call for narrower streets and sidewalks, utilization of pervious sidewalks and parking areas, minimizing cul-de-sacs, reducing parking requirements, and providing treatment opportunities where available. This is the approach taken on Tentative Permit No. R9-2007-002 (San Diego Region) (See Section d (4)).

Although the five percent limit in the Draft Permit applies only to the "effective" impervious surface area, allowing only vegetated swales to render such surfaces "ineffective" under Footnote 1 is inadequate. Conveying site runoff through *any* type of vegetation or treatment would help reduce hydrologic impacts of impervious areas. In fact, the use of vegetated swales is only one subcategory of recognized practices utilized

in LID strategies. In relation to the above issue, the fact that impervious surface can be rendered "ineffective" under Footnote Note 1 will not make compliance with the five percent limitation on such surfaces achievable for high density and in-fill projects because only one option is provided to render impervious surfaces "ineffective." Other forms of LID strategies and treatment control BMPs such as planter boxes, dry wells, and bioretention areas are available to render an impervious surface ineffective. Lastly, the reference to "native" vegetation in the footnote should be modified because it is unclear what is meant by "native" and the fact that other vegetation besides native is effective in treating stormwater (see Ventura County Technical Guidance Manual for Stormwater Quality Control Measures).

The five percent limitation is inconsistent with other tentative storm water planning requirements such as those contained in the San Francisco Bay and San Diego Regional Permits referenced above, neither of which contains this limitation. In addition, the limitation is not necessary where LID strategies are implemented effectively at a development site. For example, as part of its "C.3" requirements, the Contra Costa Clean Water Program developed a sizing factor of 0.04 for LID practices, which represents the ratio of surface area utilized as a LID practices to the area of impervious surfaces in the developed area. This factor is based on a Portland, Oregon criterion, which is based on an infiltration rate of 5 inches per hour. Assuming proper construction of LID practices and the minimum Portland infiltration rates, the Contra Costa sizing factor indicates LID surface area need only be roughly four percent of the total area (impervious and pervious surface area). Therefore flexibility should be provided to allow other approaches to minimize from impervious areas other than limiting the effective impervious area.

The Draft Permit should encourage LID through existing site design BMPs. Unlike in other regions, the Draft Permit establishes a stand alone LID Guidance Manual different from the Ventura County Technical Guidance Manual for Stormwater Quality Control Measures. As an example Tentative Permit No. R9-2007-002 (San Diego) does not specifically require a LID based program. Rather, this permit requires Priority Development Projects to implement Site Design BMP consistent with LID principles. Thus the Permittees may augment their site design BMPs to create a LID based program. This provides a consistent and singular message to the development community. Instead of mandating LID programs, the permit authorizes parties to implement LID site design BMPs in place of Treatment Control BMPs with specified conditions. The flexible nature of these provisions enables Permittees to design SUSMP-based requirements to meet site-specific concerns and criteria as opposed to the one-solution-fits-all approach favored in the Draft Permit.

The deadline and schedule for the Technical Guidance Document is unrealistic. Eighteen months is an insufficient amount of time to develop a LID Technical Guidance Document because materials needed to support the guidance document must first be developed before developers can be expected to implement LID strategies. A more realistic time frame for developing the LID guidance document is three years.

Likewise, the Draft Permit lacks a realistic and sensible schedule for development and implementation of LID strategies. Under the Draft Permit, all development projects must integrate LID principles into project design without an apparent grace period during which compliance is tolled until after LID research, development, and training programs are completed. The Draft Permit should instead delineate a schedule that focuses first on research and development of LID guidelines, then on training programs utilizing the guidelines' principals, and finally on integration of LID into development projects. This approach will avoid haphazard enforcement by Permittees, unnecessary project delays, and premature and ineffective LID strategies.

The Draft Permit is inconsistent and contradictory in its recommended approach for addressing stormwater runoff from new development and redevelopment. In section E.1.d the Permittees are required to minimize pollutants from impervious surfaces through the use of source control, site design (and the use of LID) and treatment control BMPs. However, in Section E.1.(f) the permittees are required to select an approach that mitigates pollution through (in order of preference) LID strategies, Integrated Water Resources Management Strategies, Multi-benefit natural feature BMPs and prefabricated /proprietary treatment control BMPs. The two approaches appear in conflict with each other. First in Section E.1. (d) source control measure is a fundamental approach to minimizing pollutants while in Section E.1 (f) there is not mention of it in the preferred approach. Likewise it's unclear how integrated water resources management strategies, multi-benefit natural BMPs and proprietary BMPs relate to the requirements of E.1 (d). The section should be modified to indicate that a comprehensive approach to addressing pollutants from impervious surfaces includes site design, source control and treatment control BMP and that within each of these categories an identity of which BMPs are preferred. If Section E.1 is intended to specify that LID strategies shall be the primary means of managing the impacts storm water runoff from development projects, it should clearly state this and focus the discussion of LID requirements in only one section dedicated to LID strategies.

Summary of Comparison to Approaches Utilized in Other Regions

Table 1 below highlights the differences between the Draft Permit and NPDES stormwater NPDES permits in other regional water quality in regard to onsite design measures.

Table 1. Comparison of Significant Provisions in Draft Permit 07-xxx and MS4 Permits in the San Francisco Bay and San Diego Bay Regional Water Quality Control Boards

Provision	Draft Permit	San Diego Region	SF Bay Region
Applicability	All new development & redevelopment projects. Applicable even to small projects involving single dwelling units.	Priority Development Projects, as defined.	Group 2 projects, as defined.
Percent Effective Impervious Surface Limit	5% of total project area	None	None
Onsite alternatives	None. Preference for LID strategies	LID not specifically required except as an alternative to some or all treatment control BMPs. Site design BMPs required on equal footing with treatment control BMPs except must only serve to infiltrate a "portion of impervious areas." Specified site design BMPs required only where applicable and feasible. (Sec. d(4))	Dischargers may request alternatives to site design measures based on impracticability. Showing of impracticability not required for regional or watershed-based storm water treatment facilities. (Sec. C.3.g).
LID Technical Guidance Document (TGD)	Permittees must develop TGD within 18 months of Permit's adoption.	Not specifically required. Copermittees must develop criteria for site designs listed in local SUSMP to ensure effective implementation.	Permittees must make necessary revisions to existing guidance and design standards to control runoff.

References

Dalziel and Cloak. Simplified Low Impact Development Design for Compliance with Stormwater Treatment Requirements

Portland, Oregon (1999). Stormwater Water Management Manual. The 2004 Update to this manual is available at http://www.portlandonline.com/bes/

Region 2 Board (2003). California Regional Water Quality Control Board San Francisco Bay Region. Contra Costa Countywide NPDES Municipal Stormwater Permit Amendment, Permit No. R2-2003-0022 Amending Permit No. 99-058 NPDES Permit No. CAS0029912, February 19, 2003.

Region 4 Board (2007). California Regional Water Quality Control Board for the Los Angeles Region. Permit No. 07-xxx, NPDES No. CAS004002, (Ventura County MS4 Permit), March 7, 2007.

Region 9 Board (2007) California Regional Water Quality Control Board San Diego Region. Tentative Permit No. R9-2007-0002 NPDES No. CAS0108740 (Orange County MS4 Permit), February 9, 2007.

ISSUE PAPER
for
Hydromodification Requirements for Ventura County NPDES Permit

Issues:

The Co-permittees have identified the following issues in the Hydromodificaiton section of the Draft Permit (pages 52 to 54) for discussion and resolution before the permit is finalized:

- Add practical, measurable interim criteria that applies to Ventura County conditions until such time as the SMC Study is completed in 3-5 years.
- Standardize vocabulary to agree with other parts of permit
  - use pre-project not pre-development
- Identify exemptions and use interim exemptions until local studies can be completed
- Re-locate background information about SMC up-front and outside of requirements.
- Include reference and linkage to requirements for Low Impact Development
- Coordinate hydromodification requirements with other Integrated Watershed Management Planning in Ventura County

Suggested Revisions to Draft Permit:
Additions/proposed changes are shown in highlight

II. Numeric Hydromodification Mitigation Criteria

Background: The Southern California Storm Water Monitoring Coalition (SMC) has initiated a study to develop a regional set of methods to eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management tools.[1] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS):

(1) Establishment of a stream classification for Southern California streams.
(2) Development of a deterministic or predictive relationship between changes in watershed impervious cover and stream-bed/stream bank enlargement.
(3) Development of a numeric model to predict stream-bed/stream bank enlargement and evaluate the effectiveness of mitigation strategies.

1. Hydrologic (Flow/Volume/Duration) Control

(a) Each Permittees shall require all new development and redevelopment projects to implement hydrologic control measures to prevent accelerated downstream erosion and to protect stream habitat in natural

[1] Coleman, D., C. MacRae, and E. Stein. 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. Southern California Coastal Water Research Project. 70 pp.

drainage systems. Hydrologic control measures may include on-site, regional, or in-stream runoff control measures, or a combination thereof.

(b) Hydrologic control measures for hydromodification objectives are to be consistent with local watershed plans and will accommodate or work in combination with Low Impact Development or other hydrologic control measures for other objectives.

(c) Natural drainage systems, including tributaries, are located in the following watersheds:
(1) Ventura River.
(2) Santa Clara River.
(3) Calleguas Creek.
(4) Miscellaneous Ventura Coastal.

(d) The following projects are exempted from hydromodification analysis and from implementing new hydrologic control measures:
1. Projects that do not increase the effective impervious area compared to the pre-project conditions
2. Projects that discharge to a sump, a lake or area under tidal influence.
3. Projects that discharge into hardened channels on three sides that discharges into a lake or tidal zone or to enclosed pipelines.
4. Projects that discharge to aggrading channels, where there is accumulation of sediments over decades with no indication of erosion.
5. Projects in single-family residential areas that are less than 10,000 ft^2 of new impervious area.
6. Infrastructure projects less than 10,000 ft^2 in the jurisdiction of the Permittees.
7. Projects for which it can be shown that there is not a potential for significant hydromodification impact downstream with planned hydrologic control measures that may include on-site, regional, or in-stream runoff control measures, or a combination thereof, such as discharge from a small catchment area into large river systems.
8. When the project is a replacement, maintenance, or repair of a Permittee's existing Capital Improvement Project.

(e) Until the completion of the SMC's HCS, Permittees shall implement the following **Interim Hydromodification Criteria** to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are:

(1) Exemptions to Hydromodification Interim Criteria:

- Redevelopment Projects, affordable housing, or "transit" commuter planned housing of 10 acres or less.
- Infill projects in highly developed sub-watersheds (i.e. that are 90 percent or more built out, or more than 65 percent impervious) *(Santa Clara Permit)*.

(2) Allowable flows rates: Flow duration controls may be designed to discharge at a very low rate that does not threaten to erode the receiving body. This flow rate, called "Qcp" shall be no greater than 20 percent of the pre-project 2-year peak flow, (Bay Area Permit, Fairfield- Suisun May 2007)

In Ventura County, the equivalent of the 2-year peak is 10 percent of the 50-year peak (Ventura Countywide 2002). For the interim criteria, the allowable Qcp flow rate will be 2 percent of the 50-year peak flow.

(3) **Projects increasing impervious area by less than fifty acres**
Hydrologic control for projects in this size category shall involve matching the 2-year post project peak flow, volume and duration to the pre-project peak flow, volume and duration for the 2-year 24 hour storm event.

Where percolation is not feasible because of groundwater quality, groundwater level issues, or because of Ventura County soil types that are low in permeability, the post-project peak needs to match the pre-project peak. The additional volume can be discharged at below the Qcp flow level.

Alternatively, the Permittees may develop flow duration or peak flow control requirements which would maintain pre-project sediment transporting flows. In this case the Permittees shall use a continuous simulation model or other analysis tool with local rainfall data and soil types, to develop nomographs or other design tools for relating percent impervious area and other variables with hydrologic control measures.

(4) **Projects increasing impervious area by fifty acres or greater** [2]
Hydrologic control for projects in this size category shall involve the completion of a Hydromodification Analysis Study (HAS) by the project proponent to demonstrate that post project conditions are not expected to alter the sediment transport in receiving streams and tributaries. The HAS must demonstrate that the

[2] 91st percentile of all construction projects covered under the general construction permit (CASGP) in Southern California.

selected hydrologic control measures will be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of changes in flow from impervious surfaces, or significantly damage stream habitat in natural drainage system all tributaries.

(f) The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to identify effective mitigation strategies and hydrologic control measures. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than 18 months from the Order's adoption.

(g) Hydromodification Control Plan

(1) On completion of the HCS (SMC HCS or Permittee HCS), the Permittees shall develop and implement Watershed Hydromodification Control Plans (HCPs), no later than 18 months after the completion of the HCS. The HCP shall identify tributary classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.

(2) The HCS shall become part of an integrated and comprehensive Ventura County manual that defines hydrologic control guidelines. This Manual will incorporate guidelines for LID, water quality treatment, and hydromodificaiton, and will build upon the current "Technical Guidelines for Stormwater Quality Control Measures" developed for the NPDES permit, and guidelines in the Ventura County Hydrology Manual for detention and retention basins..

(3) The HCS shall contain the following elements:

(A) Hydromodification Management Standard: Storm water discharges from applicable new development and redevelopment projects shall not cause an increase in the erosion potential of the receiving creek over the pre-project (existing) condition.

(B) Consideration of sediment balance will be included.

(C) Natural Drainage Areas and Hydromodification Management Control Areas.

(D) Projects subject to Controls including Redevelopment Projects.

(E) Description of authorized Hydromodification Management Controls.

(F) Hydromodification Management Control Design Criteria.
- Range of flows to control namely matching post development discharge rates and durations from critical flow on up to the pre-project 10-year peak flow (or equivalent alternative criteria).
- Goodness of fit criteria.
- Allowable low flow rate.

(G) Hydromodificaiton Modeling
- Description of the approved Hydromodification Model.
- Any alternate Hydromodification Management Model and Design.

(H) In-Stream Measures Design Criteria.

(I) Record Keeping.

(J) Requirements for exempting a project from hydromodification requirements including consideration of cost, regional facilities, and in-stream measure practicality. Alternative financing requirements shall also be addressed. (see Alameda Permit Impracticability Section, May 2007).

Reference:

Ventura Countywide Stormwater Quality Management Program 2002. Technical Guidance Manual for Stormwater Quality Control Measures

California Regional W er Quality Control Board

Los Angeles Region

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

Linda S. Adams
Agency Secretary

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Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Ventura Countywide Draft MS4 Permit
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343
Meeting Date and Time:	June 13, 2007 @ 1000

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NAME	ORGANIZATION	PHONE #	E-MAIL ADDRESS
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Ventura Countywide Draft MS4 Permit Discussion Meeting

June 13, 2007

Location: Water Board - Los Angeles
Pacific Ocean Room

----- Agenda -----

The purpose of the meeting is to discuss Stormwater permit topics & requirements contained in the draft Ventura County MS4 permit (NPDES No. CAS004001).

Introductions	All	5 minutes
10 am -12 noon		
1. Update on Draft Permit Timeline and Process	RWQCB	15 minutes
2. Routine Maintenance Requirements	VC Permittees	30 minutes
3. Permit Time Frames	VC Permittees	30 minutes
4. Alternative Language for Permit Requirements	VC Permittees	30 minutes

Time Schedules for Permit Implementation

Issue

The implementation schedules for most of the program provisions are extremely compressed and will lead to poor execution and the misdirection of resources. In the Draft Order where there was an opportunity to provide an implementation schedule it was commonly decided that 180 days or 6 months was the appropriate time frame. But when all the implementation provisions are put together, the Draft Order creates an impossible schedule. For example, individually the following requirements' time frames do not seem unreasonable, but when combined are impracticable.

1. Update Stormwater Ordinance and enforce all requirements of Order within 6 months (Draft Order at p. 33)
2. Modification of SWMP, policies, codes, etc. within 90 days (Draft Order at p. 34)
3. Ethnic community education strategy within 180 days (Draft Order at p. 38)
4. In-school effectiveness strategy within 180 days (Draft Order at p. 39)
5. Behavioral change assessment strategy within 180 days (Draft Order at p. 39)
6. Pollutant of Concern outreach program within 180 days (Draft Order at p. 39)
7. Install trash excluders on all catch basins within 180 days (Draft Order at p. 78)
8. Develop Electronic Reporting Format within 6 months (Draft Order at p. 85)
9. Watershed based tributary monitoring plan within 6 months (Draft Order p. F-8)

The Draft order must be modified to provide for an overall, practical and realistic schedule to allow Permittees to create an effective program.

Alternative Approach

Below is a matrix of all the time frames listed in the draft order. With each permit requirement is summary of our original comment submitted as Attachment B of the Permittee's comment letter on the Draft Order, including our suggested time frame. These time frames were selected based upon our understanding of the requirement involved and the logistics needed to effectively implement programs to meet that requirement.

The Permittees understand that the new permit will represent an increase in program requirements, and they are committed to meeting that challenge. But to do so a realistic amount of time must be granted to create workable, effective programs.

Condition or Requirement	Effective Date/ Applicable Deadline	Page #	Condition no.	Permit Section Reference	Time Requested in Comments Letter
Discharger comply with TMDL waste load allocations	No later than 20 years from effective date of policy	14	E.9	Federal State & Regional Regulations	Agreed to time frame
Order shall serve as NPDES permit and take effect	90 days from adoption	25	Finding G4	Public notifications	Conflicts with Part 3.A.1 page 31: Adopt and implement applicable terms of this Order no later than (60 days from Order Adoption)
Receiving Water Limitation Compliance Report	w/ Annual Report implement 30 days after 30 day approval	30	Part 2.3(d)	Receiving Water Limitations	Agreed to time frame
Adopt and implement applicable terms of this Order	No later than (60 days from Order Adoption) unless otherwise specified per Order	31	Part 3.A.1	Implementation-General Requirements	Conflicts with finding G4 page 25: "shall take effect 90 days from Order adoption"
Update Stormwater Ordinance to enforce all requirements of this Order	No later than 6 months from Order Adoption)	33	Part 3.B.3	Implementation-Legal Authority	2 Years
Statement by legal council stating permitte has legal authority to comply with Order	No later than 180 days after Adoption date	33	Part 3.B.4	Implementation-Legal Authority	Requiring legal counsel to declare Permittee has "obtained and possesses all necessary legal authority to comply with this Order" is infeasible, given that it is unclear how Permittees will have legal jurisdiction to enforce some of the provisions of this Order.
Modify stormwater programs, protocols, practices, municipal codes	No later than 90 days after Adoption date	34	Part 3.D.1	Implementation-Modifications/Revisions	Ninety days is insufficient time to complete revisions to "programs, protocols, practices and municipal code". We suggest two years. Also, this requirement conflicts with Part 3, B. 4 which provides for six months to complete revisions.
Organize Citizen Advisory Groups/Committees to develop methods for education	No later than 365 days after Adoption date	38	Part 4.C.1 (c)(1)(A)	Special Provisions-PIPP(*)-Residential-Outreach & Ed	Watershed groups already exist. The sentence should be revised to read: "Work with existing local watershed groups or organize Citizen Advisory Groups/Committees . . ."
Principal Permitee to develop strategy to educate ethnic communities & incorporate into PIPP**	No later than 180 days after Adoption date	38	Part 4.C.1 (c)(2)	Special Provisions-PIPP(*)-Residential-Outreach & Ed	1 Year

For Discussion Purposes Only

Provide contact info on staff responsible for public outreach activities	No later than 30 days after change occurs	39	Part 4.C.1 (c)(7)	Special Provisions-PIPP(*)-Residential-Outreach & Ed	Agreed to time frame
Develop & Implement strategy to measure effectiveness of in-school education programs	No later than 180 days after Adoption date	39	Part 4.C.1 (c)(8)	Special Provisions-PIPP(*)-Residential-Outreach & Ed	Object to in-school programs. 1 year requested for effectiveness measurement strategies - 4.C.1 (c)(9)
Develop & Implement a behavioral change strategy to ensure PIPP effectiveness	No later than 180 days after Adoption date	39	Part 4.C.1 (c)(9)	Special Provisions-PIPP(*)-Residential-Outreach & Ed	1 Year
Develop outreach programs that focus on watershed-specific pollutants identified in Attachment B POCs (*)	No later than 180 days after Adoption date	39	Part 4.C.1 (d)	Special Provisions-PIPP(*)-Residential-Pollutant-specific	Agreed to time frame
Develop and implement Corporate outreach program	To begin no later than 2 years after Adoption of this order	40	Part 4.C.2 (a)(1)	Special Provisions-Business-Corporate Outreach	Agreed to time frame
Corporate outreach for all target facilities shall be conducted not less than 2 times during term of this order.	To begin no later than 2 years after Adoption of this order	40	Part 4.C.2 (a)(2)	Special Provisions-Business-Corporate Outreach	Agreed to time frame
Inspect all facilities identified in Part 4D.2 twice during the term of this Order, provided the first inspection occurs no later than 2 years from adoption of this Order	To begin no later than 2 years after Adoption of this order. Mandatory interval of 6 months.	42	Part 4.D.2 (a)	Special Provisions-Industrial/ Commercial Facilities-Inspect Critical Sources	Inspection time frame not an issue, requiring treatment control BMPs for discharges to ESA or 303(d) water bodies is.
Perform Initial Inspection of the Industrial facilities identified in 40 CFR 122.26 (c)	To begin no later than 2 years after Adoption of this order. Mandatory interval of 6 months.	47	Part 4.D.2 (b)(1)(A)	Special Provisions-Industrial/Commercial Facilities-Inspection Frequency	Agreed to time frame

Develop LID(*) Technical Guidance Document	No later than 18 Months from the Order Adoption Date	51	Part 4.E.1.I.2	Special Provisions-Planning Land Development- LID(*)	3 Years
Participate in second phase of SMC's HCS to develop regional stream classification system or complete similar study.	No later than 18 months from Order's Adoption	53	Part 4.E.1.II.(f)	Special Provisions-Planning & Land Development- Numeric Hydromodification Mitigation	Please change "... (18 months from the Order's adoption.)" to "...(18 months from the Order's adoption, or the date the Regional Board notifies the Permittees that the SMC is not proceeding with the HCS, whichever is greater.)
Develop and Implement watershed Hydromodification Control Plans.	No later than 6 mos. Of completion of HCS	53	Part 4.E.1.II.(g)(1)	Special Provisions-Planning & Land Development- Numeric Hydromodification Mitigation	One year.
Obtain coverage under CASGP	7 days after adoption	76	Part 4 G 3(b)	Special Provisions	Conflicts with finding G4 page 25: "shall take effect 90 days from Order adoption" and Part 3.A.1 Adopt and implement applicable terms of this Order no later than (60 days from Order Adoption).
Eliminate discharge from vehicle washing	365 days	76	Part 4 G 4(a)	Vehicle and Equipment Wash	Agreed to time frame
Pesticides Procedures	180 days	77	Part 4 G 5(b)	Landscape, Park, and Recreational Facilities Mgmt.	Agreed to time frame
Catch Basin Trash Excluders	180 days	78	Part 4 G 6(e)	Storm Drain Operation Mgmt.	Trash excluders should not be required without other options to control trash such as trash management programs and end-of-pipe collection devices.
Storm Drain Maintenance Program	180 days	79	Part 4 G 6(f)(1)	Storm Drain Operation Mgmt.	Agreed to time frame
GIS Storm Drain Pipe	Channeled portions -365 days All greater than 36" – 3 years All greater than 18" – 5 years	84	Part 4 H. 3. (a) (1) (A)	Storm Drain Operation Mgmt.	Agreed to time frame
Develop Electronic Reporting Format	6 months	85	Part 4 I 1 (a)	Special Provisions	Agreed to time frame
Watershed Ecological Restoration Plans	18 months	87	Part 5 4 (a)	Watershed Ecological Restoration Planning	See Issue Paper
Begin Trash Study	2nd October	F-19	Part 5 F58	Watershed Ecological Restoration Planning	The required study should be limited to only the inland waters and coastal waters where trash and debris monitored could be assumed from MS4 sources, and therefore provide useful information for the MS4 programs.

Ventura River Bioassessment Plan	6 months prior to SMC (year 2010)	F-15	Part 5 E7 & H4 4(a)	Watershed Ecological Restoration Planning	Agreed to time frame
Participate w/ SMC Regional Bioassessment	Year 2010	F-15	Part 5 E6	Watershed Ecological Restoration Planning	Agreed to time frame
Watershed based tributary monitoring plan	6 months	F-8	Part 5 C2	Watershed Ecological Restoration Planning	Tributary monitoring not a part of adaptive monitoring plan submitted to Regional Board.
Monitoring Results Report	45 days	I-3	Part 4(a)15	Special Provisions	Preliminary data only.

(*) Acronym Key:	
POC=Pollutant of Concern	HCP=Hydromodification Control Plan
PIPP=Public Information and Participation Program	LID=Low Impact Development
SMC=Southern California Stormwater Monitoring Coalition	HCS=Hydromofification Control Study

ISSUE PAPER
for
ROUTINE MAINTENANCE REQUIREMENTS
Contained in the Draft Stormwater Permit for the
Ventura Countywide Stormwater Program

Statement of Issue: Should the Ventura permit require routine and long-term maintenance activities to be covered under the State Construction General Permit (CASGP)?

Draft Permit Language:

The Draft Permit addresses coverage of routine and long-term maintenance activities under the CASGP in several places, as presented below.

Part 4 G 2. Public Construction Activities Management (page 73)

(c) Each Permittee shall obtain coverage under the CASGP for construction activities and projects that are:
  (1) Covered under 1 (or more) Capital Improvement Projects (including but not limited to street repaving, new streets, channel clearing[1]) or contract, and that individually or cumulatively disturb 1 acre or more of land; or
  (2) Less than 1 acre, but are part of a larger common plan of development that in total disturbs 1 or more acres of land; and
  (3) Linear construction project(s) that disturb 5 or more acres of land.

(d) Each Permittee shall obtain coverage under the Small LUP General Permit when disturbing at least 1 acre, but less than 5 acres of land during linear construction (land area includes trenching and staging areas).

Part 4 G 3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management/Long Term Maintenance Programs.(page 76)

(b) Each Permittee shall obtain coverage under the CASGP no later than (7 days of adoption of Order 07-xxx) [Note: Refer Here To Ventura Permit Adoption Date Only]) for long-term maintenance programs including maintenance of flood control channels (such as vegetation removal), maintenance or replacement of streets, sidewalks, roads, and any other project that the Permittee undertakes including all Capital

> Improvement Projects (CIP) if either 1 or more acres of land are disturbed by grading, clearing or excavation activities for an individual project or cumulatively as part of several projects involving a soil disturbance.

Definition of Construction (page 93)

> Construction - means any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction also includes structure tear down, routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility; but does not 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.

Discussion:

The Draft Permit requires coverage of routine and long-term maintenance activities under the CASGP as a result of the following permit requirements: (1) by including routine maintenance within the definition of construction; (2) by specifically identifying certain routine maintenance activities, such as street repaving and channel clearing, as Capital Improvement Projects that need to be covered under the CASGP; and (3) by specifically identifying certain long-term maintenance activities, such as maintaining flood control channels, as activities that need to be covered under the CASGP.

The Permittees believe that coverage of routine and long-term maintenance activities under the CASGP is inappropriate for the following reasons:

The requirement that routine maintenance activities be covered under the CASGP is new and not covered under the current NPDES permit. The current Ventura Countywide NPDES Permit explicitly excludes from the definition of construction: "...routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility..." There is no explanation in the Draft Permit findings as to why this new requirement is being imposed.

The requirement for coverage of routine maintenance activities under the CASGP is inconsistent with the CASGP itself. Requirement for coverage under the CASGP "...does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility." Since the SWRCB does not require that long-term maintenance activities be required to get coverage under the CASGP, it is inappropriate for the Draft Permit to include such a requirement.

The requirement for coverage of routine maintenance activities under the CASGP is inconsistent with other MS4 permits. The Permittees are unaware of any other MS4 permit in the State that requires routine maintenance activities, explicitly excluded under the CASGP permit, to obtain coverage under that permit.

The requirement for coverage of routine maintenance under the CASGP serves no significant beneficial purpose. The most significant threats to water quality with respect to routine or long-term maintenance activities are activities within or adjacent to streams, including those cited in the permit (channel clearing, maintenance of flood control channels, vegetation removal). But such maintenance activities are already addressed under other regulatory programs. Specifically, any activity, such as channel clearing or vegetation removal within channels, that may result in soil disturbing activities within or adjacent to waters of the U.S. are required to obtain a 401 certification from the Regional Water Board as well as permits from other State and Federal permitting authorities. Thus, a permit requirement that coverage also be obtained under the CASGP is duplicative, unnecessary, and may have conflicting requirements.

If the definition of construction is to be modified, it should be modified in the CASGP. The CASGP is the primary document which addresses requirements for construction. If the definition of construction is to be expanded to include routine and long-term management activities, it should be expanded in the GASGP, not in individual MS4 permits. Until that time, MS4 permits should utilize the definition of construction contained in the current GASGP.

For the reasons cited above, the Permittees believe that these particular sections should be modified to reflect the traditional definition of construction, which excludes routine and long-term maintenance.

Alternative:

It is proposed that the definition of construction be modified to reflect the definition in the current NPDES permit and the current CASGP. It is also proposed that the Draft Permit provisions which identify routine and long-term maintenance activities as requiring coverage under the CASGP be deleted. Specifically, it is proposed that the Draft Permit language cited above be modified as follows:

Part 4 G 2. Public Construction Activities Management (page 73)

.....

(e) Each Permittee shall obtain coverage under the CASGP for construction activities and projects that are:

(4) Covered under 1 (or more) Capital Improvement Projects ~~(including but not limited to street repaving, new streets, channel clearing1)~~ or contract, and that individually or cumulatively disturb 1 acre or more of land; or

(5) Less than 1 acre, but are part of a larger common plan of development that in total disturbs 1 or more acres of land; and

(6) Linear construction project(s) that disturb 5 or more acres of land.

(f) Each Permittee shall obtain coverage under the Small LUP General Permit when disturbing at least 1 acre, but less than 5 acres of land during linear construction (land area includes trenching and staging areas).

Part 4 G 3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards ~~Management/Long Term Maintenance Programs.~~(page 76)

~~(b) Each Permittee shall obtain coverage under the CASGP no later than (7 days of adoption of Order 07-xxx) [Note: Refer Here To Ventura Permit Adoption Date Only]) for long term maintenance programs including maintenance of flood control channels (such as vegetation removal), maintenance or replacement of streets, sidewalks, roads, and any other project that the Permittee undertakes including all Capital Improvement Projects (CIP) if either 1 or more acres of land are disturbed by grading, clearing or excavation activities for an individual project or cumulatively as part of several projects involving a soil disturbance.~~

Definition of Construction (page 93)

Construction ~~-~~ means any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction also includes structure tear down. It does not include street maintenance such as street overlays, ~~,~~ routine maintenance to maintain original line and grade ~~if greater than 5 acres total but not necessarily at once~~, hydraulic capacity, or original purpose of facility. Nor does it ~~; but does not~~ 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.

Or alternatively use the actual definition from the State Construction General Permit:

Construction activity ~~subject to this General Permit~~ includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Construction activity also include activity that results in soil disturbances of less than one acre ~~is subject to this General Permit if the construction activity~~ but is part of a larger common plan of development that encompasses one or more acres of soil disturbance or if there is significant water quality impairment resulting from the activity. 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 protect public health and safety. ~~Dischargers should confirm with the local RWQCB whether or not a particular routine maintenance activity is subject to this General Permit.~~

ISSUE PAPER
For
Alternative Language for Permit Requirements
Contained in the Draft Stormwater Permit for the Ventura Countywide Stormwater Program

Trash Excluders (Page 78, Part 4, G.6.(e)(1))

Draft Permit Requirement:

"Each Permittee shall install trash excluders or similar devices on catch basins to prevent the discharge of trash to the storm drain system on all catch basin inlets no later than (180 from permit adoption)."

Alternative:

1) Each Permittee shall install trash excluders or similar devices on catch basins and/or outlet trash capture systems at outfalls sufficient to serve major commercial areas and areas of high density residential development to prevent the discharge of trash to the storm drain system; **or**

2) Each Permittee shall have a Trash Management Program in place within 1 year of permit adoption. This program shall consist, at a minimum, of the following actions and activities:

(a) Perform street sweeping of curbed streets in commercial areas at least two times per month and perform street sweeping of curbed streets in residential areas at least six times per year.
(b) Install trash receptacles at all transit stops and at other appropriate locations in commercial areas. Trash receptacles shall be routinely cleaned out to prevent trash overflow.
(c) Perform trash collection on public property and right-of-way on a routine basis.
(d) Implement procedures to promptly remove and properly dispose of trash and bulky items that have been illegally deposited on public property or right-of-way.
(e) Promptly enforce laws prohibiting the accumulation of trash on private property.
(f) Implement a program that allows residents to dispose of unwanted materials at no or low cost at least once per year (community cleanup days, free landfill days, or other activities).
(g) Actively support citizen involvement events such as creek/beach cleanup events, Adopt-a-Creek/Beach programs, group service activities, community riparian restoration activities, community grant programs and other opportunities to collect and properly dispose of trash.
(h) Incorporate litter prevention messages in outreach programs and, if appropriate, coordinate with other local programs.

For Discussion Purposes Only

Treatment BMPs at Critical Sources

Draft Permit Requirement:

Page 42, Part 4, D.2.(a) Commercial Facilities:

" ...At each facility, inspectors shall verify that the operator is implementing the mandatory source control BMPs. The Permittees shall require implementation of additional treatment control BMPs where storm water flows from the MS4 discharge to an ESA or a CWA § 303(d) listed waterbody (see section 3(b) below)...."

Page 47, Part 4, D.2.(b)(2)(B) Industrial Facilities:

"....Permittees shall require implementation of additional treatment control BMPs where the storm water flows from the MS4 discharges to a CWA § 303(d) listed waterbody;..."

Page 48, Part 4, D.3.(b) Ensure Compliance of Critical Sources:

"(b) ESAs and Impaired Waters: For critical sources that discharge to ESAs or are tributary to CWA § 303(d) impaired waterbodies, the Permittees shall require operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to exceedences of MALs and/or water quality objectives."

Alternative:

Remove the language requiring treatment control BMPs at commercial and industrial facilities (Pages 42 and 47). Treatment control BMPs should only be required when a pollutant generated from a facility is causing or contributing to exceedences of the water quality objective for the same pollutant in the receiving water. Treatment control BMPs should not be required at all critical sources simply because an MS4 discharges to a 303(d) listed waterbody. Section D.3.(b) recognizes this perspective.

The language in section D.3.(b) should be amended to read as follows:

"(b) ESAs and Impaired Waters: For critical sources that discharge to ESAs or are tributary to CWA § 303(d) impaired waterbodies, the Permittees shall require operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to exceedences of ~~MALs and/or~~ water quality objectives."

For Permittees named as a Responsible Parties in a TMDL, the TMDL implementation plan shall supersede this requirement.

For Discussion Purposes Only

Screening for Illicit Connections (Page 84, Part 4, H.3.(a)(2))

Draft Permit Requirement:

(2) Permittees shall conduct field screening of their storm drain systems in accordance with screening procedures described in the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments (2004) [1]. Permittees shall conduct field screening for illicit connections in accordance with the following schedule:

(A) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater no later than (5 years after the adoption of this Order).

(B) High priority areas identified during the mapping of illicit connections and discharges no later than (5 years after the adoption of this Order).

(C) All portions of storm drain systems 50 years or older in age no later than (5 years after the adoption of this Order).

Alternative:

During the first term of the Ventura County Municipal Permit, Permittees conducted an illicit discharge/connection investigation of high priority drainages within their jurisdictions. The investigation, which was very resource intensive, consisted of field screening through visual inspections and a limited amount of monitoring. The results are documented in the September 1995 Ventura County Stormwater Quality Management Program Annual Report to the Regional Board. Alternative language for the third term permit could consist of the following:

"The Permittees shall continue to prohibit all illicit connections and illegal discharges to the MS4s through their ordinances, inspections, and monitoring programs. Permittees shall perform routine surveys for illicit discharges and illegal dumping in above-ground check points in the collection system, including elements that are typically inspected for other maintenance purposes, such as end of pipes, creeks, flood conveyances and catch basins, in coordination with routine Public Works and Watershed Protection District maintenance and inspection activities."

Swimming Pool Discharges

Draft Permit Requirements:

Page 32, Part 3, B.1.(b)(5)

1. Permittees shall have the necessary legal authority to prohibit, including, but not limited to:

    (b) The discharge of non-stormwater to the MS4 from:

For Discussion Purposes Only

(5) Swimming pool(s) that have a concentration greater than:
(A) Chlorine/bromine – 0.1 mg/L.
(B) Chloride – 250 mg/L.
(C) Cyanuric acid of 50 ppm;
(D) E. coli of 235/100 ml (fresh waters)
(E) Fecal coliforms of 400/100 ml (fresh waters and marine waters)
(F) Enterococcus of 104/100 ml (marine waters)
(G) Total coliforms of 10,000/100 ml, or 1,000/100 ml if the ratio of fecal-to-total coliform exceeds 0.1 (marine waters).

Page 97, Definitions

Dechlorinated/ Debrominated Swimming Pool Discharge - means any swimming pool discharge with a residual chlorine or bromine level of 0.1mg/L; and does not contain any detergents, wastes, algaecides, or cyanuric acid in excess of 50 ppm, or any other additional chemicals including salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash or swimming pool water containing bacteria.

Alternatives:

1. Permittees shall have the necessary legal authority to prohibit, including, but not limited to:

(b) The discharge of non-stormwater to the MS4 from:

(5) Swimming pool discharges that drain directly to receiving waters or with a residual chlorine level of greater than 0.1 mg/l and/or containing detergents, wastes, algaecides, sediment, or salts from pools commonly referred to "salt water pools".

Page 97, Definitions:

Dechlorinated/ Debrominated Swimming Pool Discharge - means any swimming pool discharge with a residual chlorine level of less than or equal to 0.1 mg/L; and does not contain any detergents, wastes, algaecides, sediment or salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash.

Linda S. Adams
Agency Secretary

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Los Angeles Region

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Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Meeting Subject:	Municipal Action Levels (MALs)
Meeting Location:	LARWQCB 320 W. 4th St., # 200 Los Angeles, CA 90013-2343
Meeting Date and Time:	June 6, 2007 @ 1200

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11.			
12			
13.			

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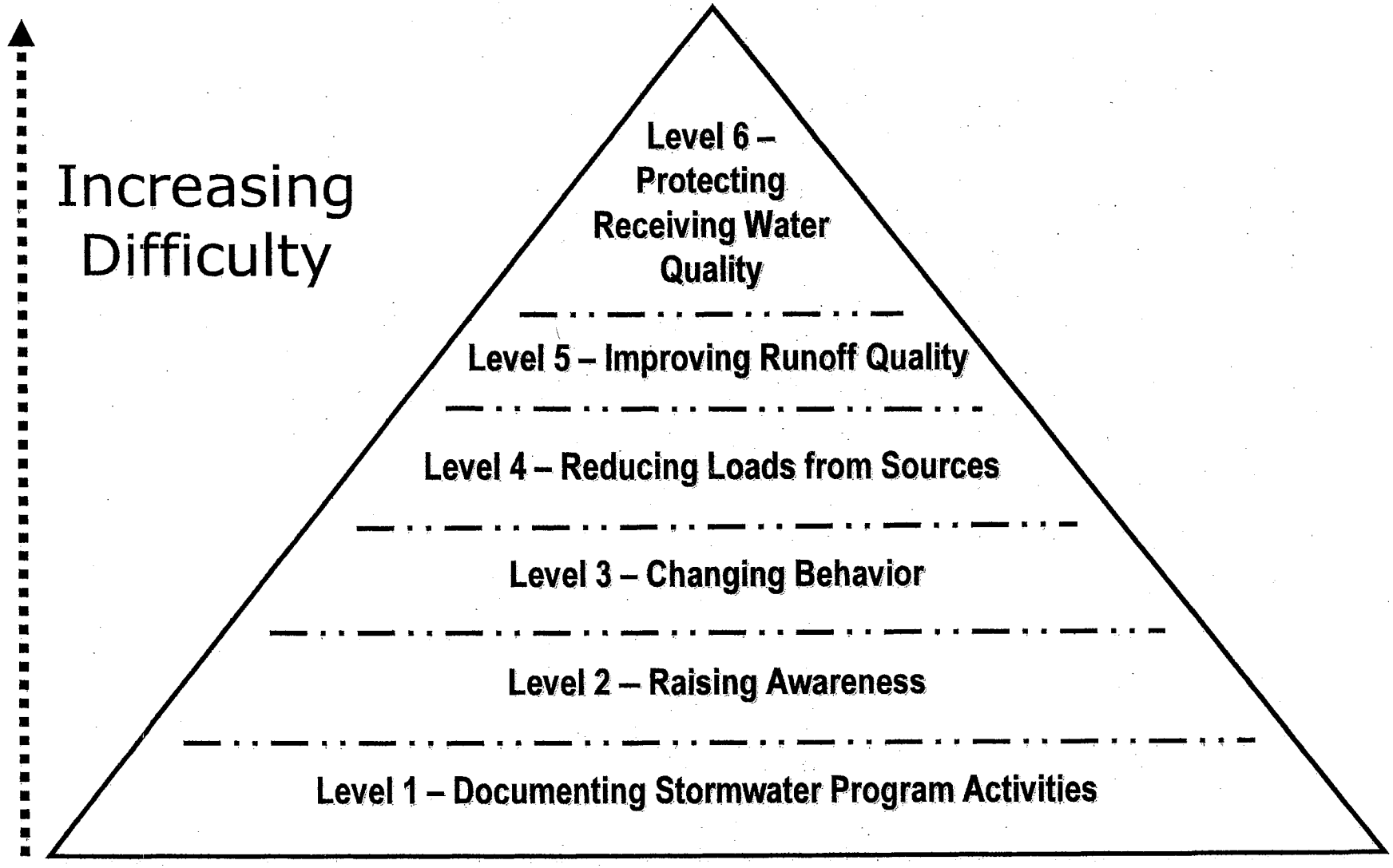
6-6-07

Municipal Program Effectiveness Assessment

Assessment Outcome Levels



6-6-07

CASQA White Paper – Establishing Quantifiable Measurements to Assess Municipal Stormwater Program Effectiveness and Permit Compliance (6-4-07 Draft)

Introduction

Section 402(p) (3) (B) of the federal Clean Water Act (CWA) provides that "permits for discharges from municipal storm sewers ... shall require controls to reduce the discharge of pollutants to the maximum extent practicable ...." While the CWA does not specifically define MEP, USEPA has described MEP as a flexible, site-specific standard. (National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Regs. 68722, 68732, 68754 (Dec. 8, 1999).) "The pollutant reductions that represent MEP may be different for each [municipal stormwater discharger] given the unique local hydrological and geological concerns that may exist and the differing possible pollutant control strategies." (*Id.* at 68754.)

California also has not specifically defined MEP for its permitting purposes. However, the state has relied upon other federal programs to guide its understanding of MEP. In particular, the state relied upon the term as used in Superfund legislation and CERCLA. (SWRCB Order No. 2000-11 at p. 20.) Using these statutes, the state concluded "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." (*Id.* at p. 20.).

In addition, stormwater permits in California include requirements that the discharges of stormwater pollutants will not cause or contribute to an exceedance of a water quality standard. To comply with this requirement an iterative process has been established that provides for the implementation of BMPs and subsequent refinement if an exceedance is identified. This approach is consistent with USEPA guidance[1] to States regarding approaches to developing permit conditions. This guidance notes the use of BMPs in stormwater permits and expanded or better tailored BMPs in subsequent permits as necessary to provide for the attainment of water quality standards.

Thus for permitting purposes, USEPA and the state have interpreted the term "maximum extent practicable" to be flexible and relative to the local conditions and proposes to use an iterative approach for addressing exceedances of water quality standards. Even with this two prong approach there has been increasing pressure on municipalities to demonstrate the effectiveness of their stormwater management programs. Regulators have also been considering more direct ways to assess whether a stormwater management program is meeting its NPDES permit requirements and reducing pollutants to the maximum extent practicable. And finally environmental groups are of the opinion that

[1] R. Perciasepe, USEPA Assistant Administrator, 08/01/96 Memorandum regarding Interim Permitting Approach for Water Quality Based effluent limitations in Storm Water Permits.

not enough progress with the stormwater programs has been made under the current iterative process to improve and protect water quality.

There are several ways to assess the effectiveness of a stormwater program, ranging from showing an improvement in the runoff quality, to showing an increase in public knowledge about stormwater pollution, to demonstrating that construction sites have implemented best management practices consistent with their stormwater pollution prevention plans. The purpose of this white paper is to present an approach developed by the California Stormwater Quality Association for assessing the effectiveness of a stormwater management program, for providing better accountability of permit compliance, and for systematically protecting water quality in an iterative but cost effective manner.

Background

Although there have been various efforts in the last few years to develop metrics for assessing stormwater program effectiveness and defining MEP there are a number of recent efforts that have accelerated the need to address this issue. First, the State Water Board in September 2005 convened a panel of stormwater experts (Blue Ribbon Panel) to address the following question:

> "Is it technically feasible to establish numeric effluent limitations or some other quantifiable limit for inclusion in storm water permits?"

The logic here is that the effectiveness of a stormwater program (and permit compliance) may be evaluated by comparing runoff with a numeric value. The Blue Ribbon Panel's report, issued in June 2006 (BRP Report), unequivocally states the position that numeric limits for municipal stormwater discharges are not possible at this time. Specifically, the BRP Report states, in the "Municipal Recommendations" Section:

> *"It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges.....*
>
> *For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an "upset" value, which is clearly above the normal observed variability, may be an interim approach which would allow "bad actor" catchments to receive additional attention. For the purposes of this document, we are calling this "upset" value an* ***Action Level*** *because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken ... ..."* Underline added. (Page 8)

The Report, however, was silent on identifying other quantifiable limits for inclusion in stormwater permits.

A second effort that took place prior to and during the development of the Blue Ribbon Panel's report was an initiative that CASQA undertook to develop an overall strategy for stormwater permitting in California. It was CASQA's position that the use of the Panel Report recommendations had to be considered within a comprehensive approach or

context for stormwater management in California. Although the BRP was not specifically directed to address the overall stormwater context, the appropriateness of any recommendation depended in part on compatibility with the existing permitting system. Thus CASQA actively worked on the development of a *Progressive Approach for Regulating Stormwater* and permit strategies for the upcoming general industrial and general construction stormwater permits as well as future municipal permits (herein collectively referred to as the CASQA *Progressive Approach*). The *Progressive Approach* is shown graphically in Figure 1. Essentially CASQA proposed a logical sequence of options to regulate stormwater discharges. These options (see Figure 1) included:

- Option 1 - Iterative Process and Benchmark

Status – Currently used in USEPA multi-sector general permit (industrial) and in California stormwater permits.
Compliance Strategy – 1) Stormwater Management or Pollution Prevention Plan developed and implemented; 2) Effectiveness assessments conducted; 3) Analytical monitoring results compared to water quality standards and/or benchmarks; 4) Iterative process used to focus BMPs on problematic pollutants. Compliance based on implementing iterative process (municipal) and annual compliance assessment (industrial/construction).

- Option 2 - Action Levels/Trigger Compliance

Status – Not currently used for municipal and construction stormwater permits; however, State of WA model exists for industrial.
Compliance Strategy – 1) Stormwater Management or Pollution Prevention Plan developed and implemented; 2) Effectiveness assessments conducted (e.g., inspections, analytical) – comparison to adaptive management indicators (action levels) dictates compliance response; 3) Iterative process used to focus BMPs, potentially problematic dischargers are required to establish and implement corrective action plans; 4) Compliance based on meeting action levels and for potentially problematic dischargers, developing and implementing corrective action plans.

- Option 3 - Technology Based Effluent Limits (TBELs)

Status – Currently is being used by USEPA in limited cases (e.g., meat and poultry industry). USEPA has established procedures to develop TBELs (primarily for wastewater discharges). Development of effluent limitations based on treatment controls available to minimize the pollutants and considers site conditions, activities, return period, constituents, treatment effectiveness, and costs.
Compliance Strategy – Discharger required to implement treatment and source controls to meet numeric effluent limitations. Monitoring required to confirm performance and assess compliance.

- Option 4 - Water Quality Based Effluent Limits (WQBELs)

Status – WQBELs have not been used to date as a compliance tool. Used in some situations inappropriately. WQBEL based on protection of beneficial uses of the receiving water. Currently USEPA does not have a procedure in place for developing WQBELs for stormwater.
Compliance Strategy – Discharge required to comply with numeric effluent limitations. Derivation of effluent limits based on compliance with water quality objectives. Monitoring is required to confirm compliance.

This issue paper focuses on Option 2 for municipal dischargers.

The third effort that has accelerated the need to address the incorporation of quantifiable limits in permits is the Los Angeles Regional Water Board's recently issued draft Ventura Countywide stormwater NPDES permit. The Board issued it in December 2006 and proposed to use municipal action levels (MALs) expressed as numeric values and applied to 36 inch are greater outfalls to define the MEP standard. Such an approach redefines the concept of "action levels" as envisioned by the Blue Ribbon Panel to one of defining the technology based effluent limit (option 3 in CASQA *Progressive Approach*).

The fourth effort that although not directly tied to establishing quantifiable limits for permits does address the development of a stormwater monitoring program that supports permit compliance and stormwater management program implementation. This effort is the Model Monitoring Program for Municipal Separate Storm Sewers Systems in Southern California (Model Program) developed by the Stormwater Monitoring Coalition, 2004. The Model Program presents five management questions that, when addressed, use adaptive triggers to expand a monitoring program in a logical and resource-protective way to move from assessment monitoring to source identification. The five management questions posed in the Model Program are:

1. "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?
2. "What is the extent and magnitude of the current or potential receiving water problems?"
3. "What is the relative urban runoff contribution to the receiving water problems?"
4. "What are the sources to urban runoff that contribute to receiving water problems?"
5. "Are conditions in the receiving waters getting better or worse?"

The fifth effort that addresses the issue of identifying quantifiable measurements for assessing the effectiveness of a stormwater management program is the recently issued Municipal Stormwater Program Effectiveness Assessment Guidance (CASQA, 2007). This Guidance provides guidance to stormwater managers/regulators in designing and conducting an assessment to determine the effectiveness of a stormwater management program. Critical to the use of the guidance is an understanding of how a stormwater program may be evaluated. There are six outcome levels that are used to assess the effectiveness of a stormwater program. These six levels are summarized below:

Outcome Levels	Outcome levels
1	Documenting activities
2	Raising awareness
3	Changing behavior
4	Reducing loads from sources
5	Improving runoff quality
6	Protecting receiving water quality

The concept behind the outcome levels is that while the ultimate goal of a stormwater program is to protect receiving waters, stormwater program managers will need, at times, to rely on programmatic or implementation evaluations to measure the effectiveness of

their programs. This is due to the inherent difficulties in measuring statistically valid change in stormwater environmental data. It is very difficult to see measurable changes in water quality on a short-term basis and if detected to link those changes to the implementation of the stormwater program. Thus managers must look to document activities consistent with their permits and raise awareness of the public and employees regarding the importance of stormwater quality so that they may change their behavior to protect water quality. These behavioral changes will lead to reducing loads at the sources and a corresponding improvement in runoff quality. And finally this will lead to the protection of the receiving water quality. To date most program and corresponding NPDES permit have relied almost exclusively on level 1 – documenting activities, to assess the effectiveness of a stormwater program and document permit compliance.

The other program that, although not tied directly to the stormwater program and the MEP standard, should be acknowledged is the Federal Total Maximum Daily Loads (TMDL) program. Under section 303(d) of the 1972 Clean Water Act, a state is required to develop lists of water bodies that do not meet water quality standards and therefore are impaired. The law requires that the state establish priority rankings for waters on the lists and develop TMDLs for these waters. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. The allocation of the loads will depend upon the TMDL as some TMDLs have sufficient data to allocate the pollutant loadings among point and nonpoint pollutant sources while other TMDLs assign the loading to the receiving water with follow-up allocation being developed when sufficient data are available. The TMDLs must be approved by the State Water Board and USEPA. Once approved the TMDL are incorporated into NPDES permits according to the schedule and requirements identified in the approved TMDL . The TMDL program essentially serves as the safety net for water quality protection should the implementation of the non-point and point source control program (i.e., NPDES permits with technology based effluent limits) be inadequate to protect receiving water quality. In the context of CASQA *Progressive Approach* the TMDL program requirements may be incorporated into any one of the compliance options and is pollutant and water body specific.

Approach

In the following paragraphs CASQA presents an approach that addresses and integrates the issues and efforts discussed above. The approach expands on CASQA earlier efforts to characterize Option 2 of the Progressive Approach and may be used as a compliance strategy for upcoming municipal stormwater NPDES permits. The objectives of the CASQA approach are to:

1. Develop metrics for assessing the effectiveness of a stormwater program and integrating these metrics into a NPDES permit for compliance purposes.
2. Establish an assessment process for identifying water quality issues relevant to stormwater discharges and follow-up action for identifying the sources and implementing additional control measures.
3. Integrate at a conceptual level the TMDL program into the stormwater program and NPDES permit to ensure consistency and to avoid redundancy.

Ultimately the approach may be used to establish permit conditions and compliance requirements. Compliance would be determined by the municipality's efforts to meet the Permit conditions, reduce pollutants to the maximum extent practicable, and meet water quality standards.

The approach consist of two parallel tracks (see Figure 2): program implementation and assessment and source identification track. The program implementation track reflects the development and implementation of the stormwater management plan. The permittees in consultation with the Regional Board would develop metrics for establishing the level of program implementation and for assessing the effectiveness of the stormwater management program. The metrics would focus on the first four outcomes levels identified in the CASQA Guidance Manual. As an example CASQA developed various metrics/quantifiable measurements for each of the stormwater program elements. These metrics are shown in Table 1. Further development is warranted and would be on a permit by permit basis to reflect local conditions and water quality concerns and program resources.

Once the metrics are identified and incorporated into the NPDES permit the municipality would be required to implement the program. Record keeping would be required to support the determination of whether the metrics are being met. If the metrics are not met the municipality would be required to modify their stormwater program to support the implementation needed to meet the metrics. There are two levels of metrics, one called an action level and one called a benchmark. The action level metric reflects the level of implementation or performance where, if below the action level, the municipality's effort is inadequate and immediate action must be taken to correct. Permit compliance would be determined by whether the municipality takes immediate corrective action. The benchmark level reflects the level of implementation or performance that reflects a fully integrated and comprehensive stormwater program. Ultimately the goal of all municipalities is to attain the benchmarks. The critical difference between the approach described above and the current iterative process used in existing permits is that the metrics are actually tied to performance. They reflect a measurement of an effective program and not just "bean counting" metrics that dominate current permits. They also move the program to a higher outcome level from just documenting that an action took place (e.g., inspect construction sites twice during the wet season and once during the dry season) to one that shows a change in behavior or reduction in loads (e.g., construction contractors are in compliance with local erosion control requirements).

In parallel and in conjunction with the Implementation Track is the Assessment and Source Identification Track. This track is structured after the Model Program and supports the overall stormwater program by addressing the management questions noted previously. The monitoring program is a logical and resource-protective way to move from assessment monitoring to source identification and focused control measures.

Because of the various approaches used to date in monitoring, different municipalities are at difference stages of the Model monitoring program. Thus, the first step (See Figure 3) is to evaluate the data collected to date including all point and non-point source

monitoring as well as other environmental programs that could be used to answer the management questions. These other environmental programs include wastewater point source, TMDLs, SWAMP, Bight and others. Pending on the completeness of the data the permittees may enter the flow diagram at different stages. But assuming a municipality is starting with the initial question of whether current conditions are protective of beneficial uses (Question 1, Figure 3) then every effort should be made to use ongoing environmental monitoring efforts and where appropriate augment the monitoring effort to provide the data to answer the question.

Once a water quality issue is identified then the municipality is required to determine the extent and magnitude of the problem (Question 2, Figure 3). This is accomplished through a broader temporal and spatial monitoring effort, including upstream and downstream monitoring of urban areas.

Next the permittees are required to determine the relative contribution from urban runoff to the receiving water problem (Question 3, Figure 3). This effort can reflect minimal resolution and in many cases an estimate based on typical outfall runoff characteristics for difference land uses applied to typical runoff quantities for corresponding land uses may suffice. This estimate serves as starting point and is refined as more data is collected.

The next question pertains to identifying the sources to urban runoff that contribute to the receiving water problem (Question 4, Figure 3). Using the outfall characterization data (both wet and dry weather data) the permittee may develop municipal action levels that are used to identify the catchments with the most likely sources of the pollutant in question. As suggested by the Blue Ribbon Panel action levels would be established to identify the "bad actors" thus an appropriate outlier number would be established (e.g., mean plus two standard deviations). Outfalls would be monitored for the problematic pollutants and compared with the action levels. This would in turn allow the permittees to focus on catchments for subsequent drainage system monitoring and source identification work.

Assuming that the municipality has determined that its urban discharge is causing or contributing to a water quality standard exceedance (Figure 2, 1st decision diamond), the municipality must develop and implement a pollutant specific water quality control plan. Such a plan would include identification of the controllable sources of the pollutants and proposed control measures/BMPs to mitigate the sources. A time schedule with milestone dates would be established. In situations where there is TMDL, the plan could be equivalent to a TMDL Implementation Plan.

As noted previously the TMDL program serves as the regulatory safety net for water bodies that have become impaired in spite of efforts to implement BMPs for point and non-point sources of pollutants. The TMDL may be incorporated into any of the four options identified in the *Progressive Approach* (see Figure 1). As such the load allocation developed in the TMDL is incorporated into a permit and may be applied at the point of discharge or in the receiving water. In addition and if sufficient data exists the

permits may require the implementation of BMPs and control measures to achieve the allocations. Alternatively the permit may establish requirements to demonstrate that the load reductions are being met. The permit may also require additional special studies to further support the TMDL.

In the case of a TMDL, to answer the question posed in the 2nd decision diamond in Figure 2: "Has WQ plan been effective and optimized?, municipalities will implement control measures and studies to both assess the allocation as well as to gauge progress toward the allocation. For example, in the case of progress measures, they might be expressed as:

- Outcome level 4 – Reducing loads from sources: annual average load reduction resulting from implementing pollution prevention activities, and source and treatment control measures
- Outcome level 5 – Improving runoff quality: rolling multi-year annual average load relative to allocation, or concentration relative to receiving water target

Monitoring would be ongoing and if, after fully implementing the pollutant specific water quality control plan (Figure 2, 2nd decision diamond), there is improvement in the runoff or receiving water then the municipality would continue the implementation of the plan. If on the other hand there is no change in water quality then the municipality would be required to prepare a compliance feasibility study. This study is critical critique of the water quality issue and a through evaluation of the options to address the issue. Included in this evaluation is a review of the applicability of the water quality standard to the water body in question, a technical and financial evaluation of the BMP options (including source control and treatment control BMPs), and identification of regulatory options for addressing the water quality issue. Ultimately the municipality would recommend an approach to address the water quality issue either through BMPs, regulatory opportunities, or some combination of the two. The compliance feasibility study would serve as the basis for the renewal of the permit.

Figure 1. CASQA Progressive Approach for Regulating Stormwater

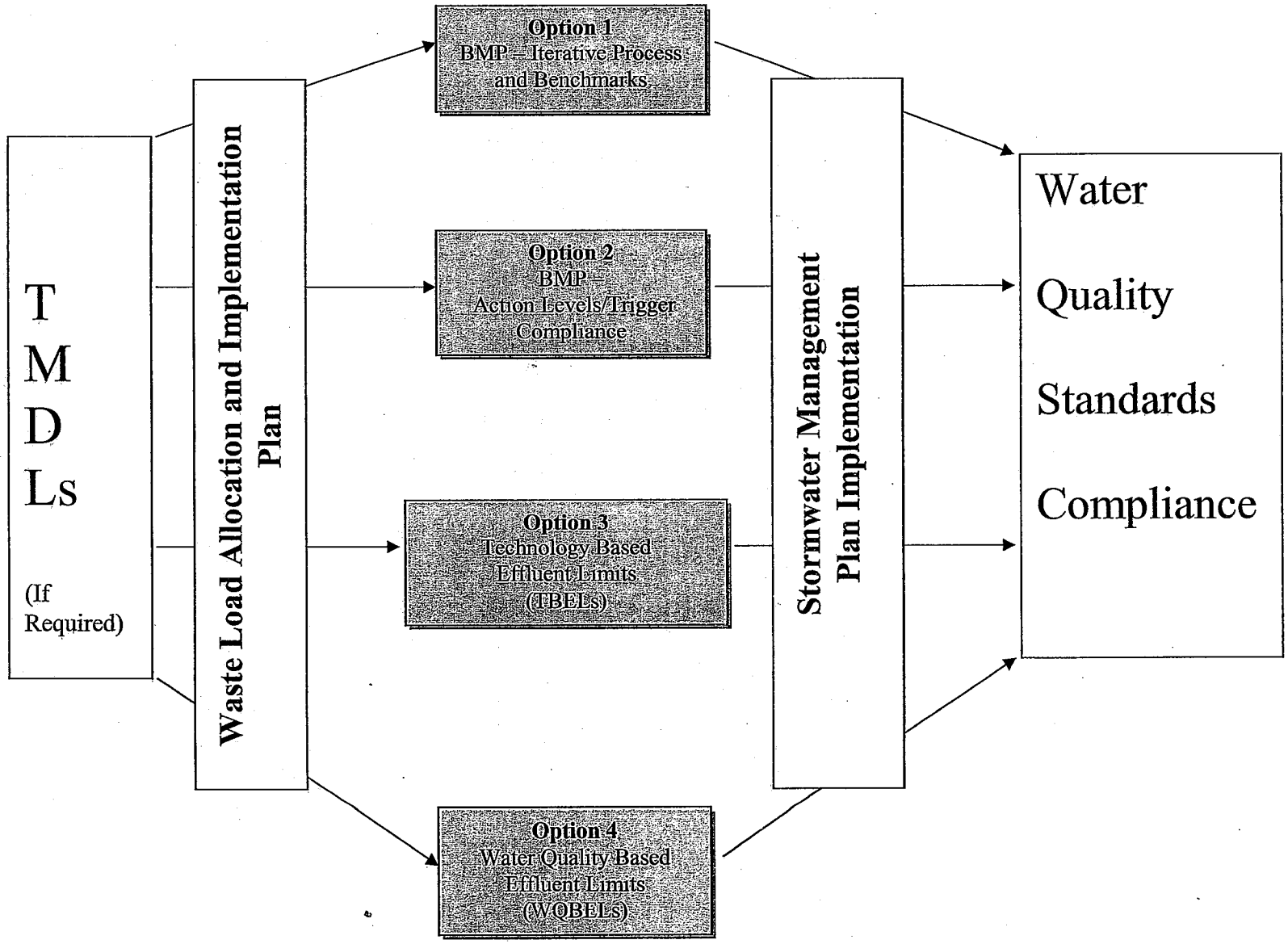


Figure 2. Proposed Option 2 Permit Structure

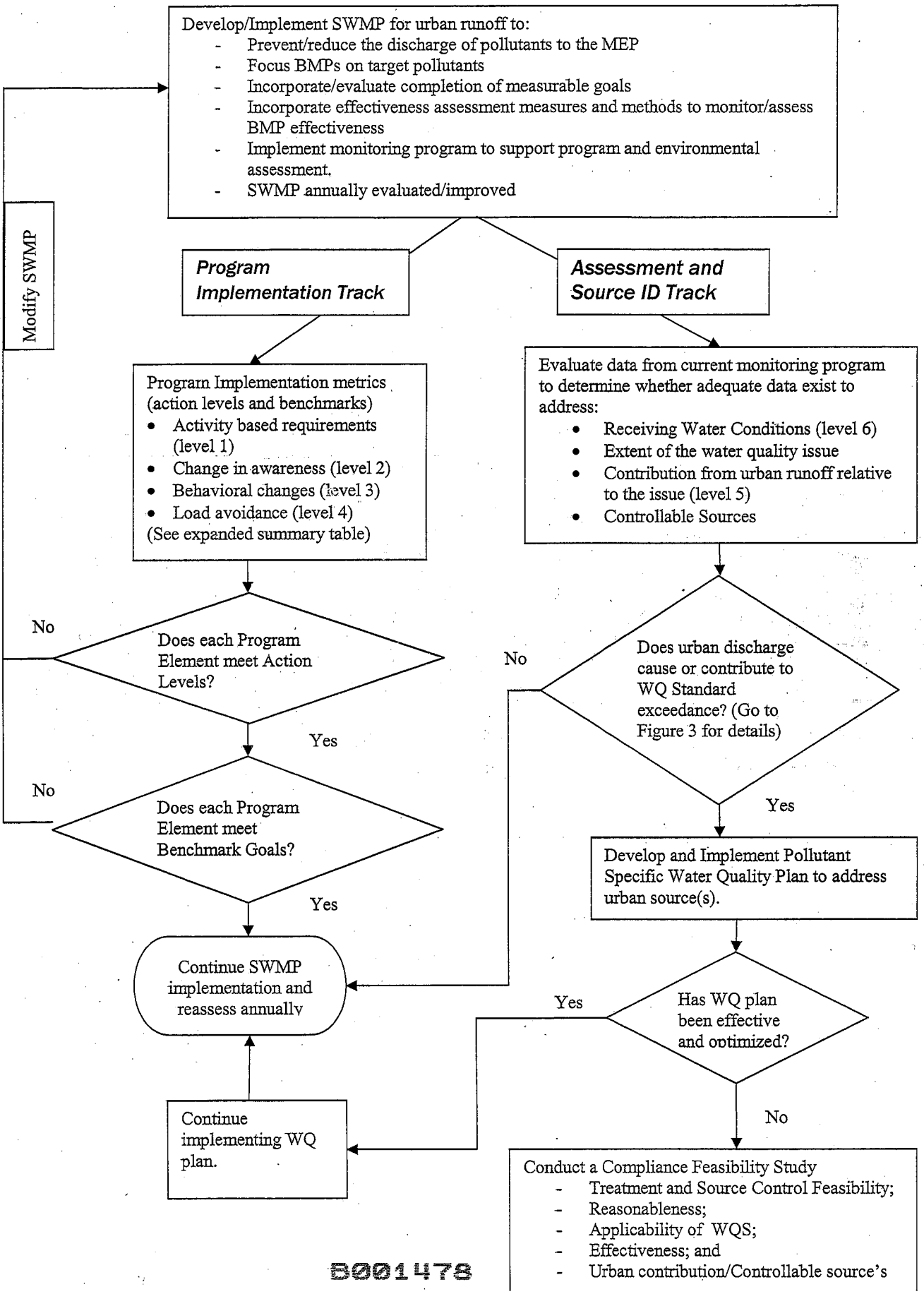
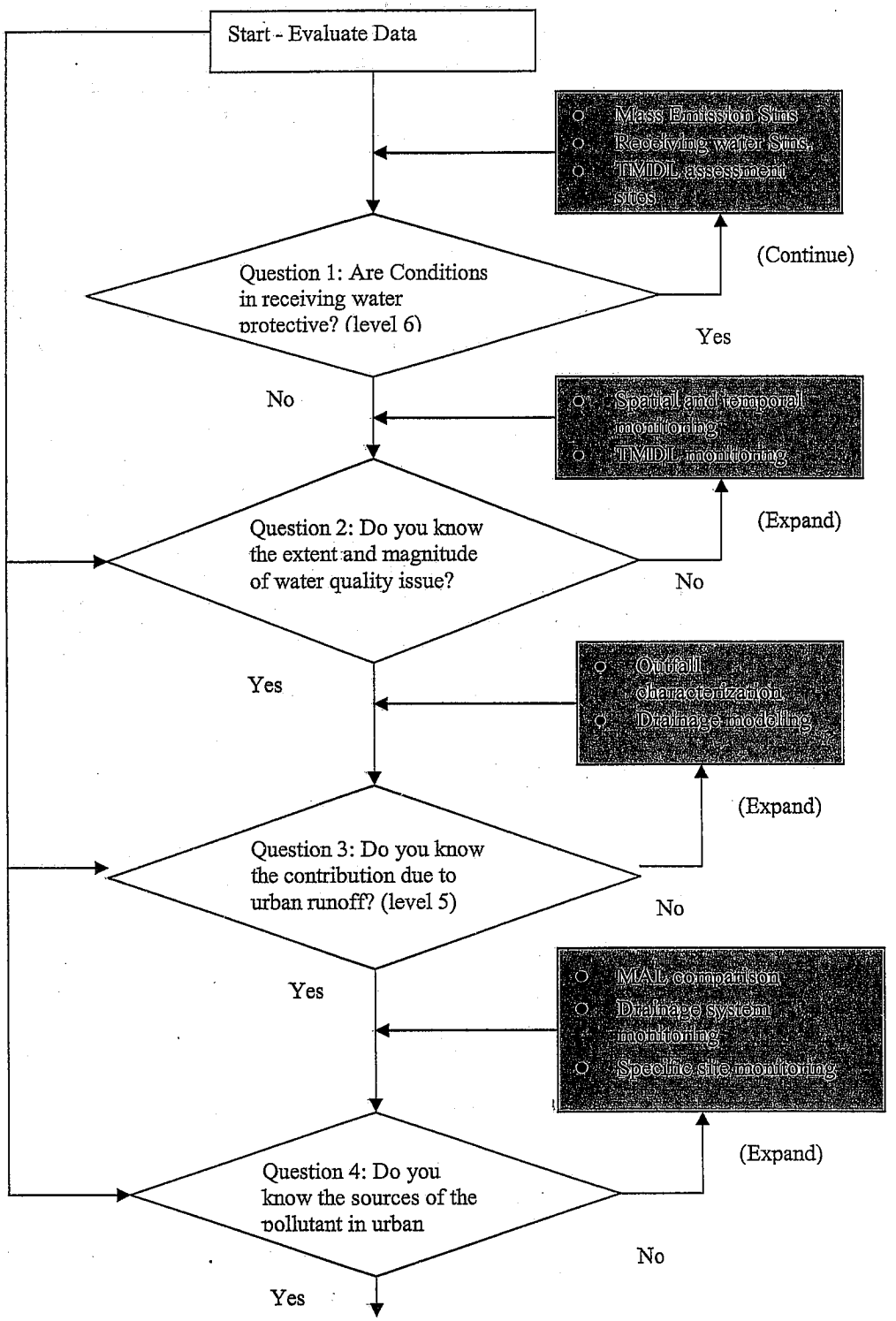


Figure 3. Expanded Monitoring Flow chart – Does Urban Discharge Cause or Contribute to Water Quality Standard Exceedances? (1)



(Return to Figure 2 box: Develop and Implement Pollutant Specific Water Quality Plan to address urban source(s)

(1) Highlighted boxes reflect current or proposed monitoring efforts (function of MS4 program)

Table 1. Metrics for Assessing Permit Compliance

Program Element	Effectiveness Assessment Outcome Level	Goal	Options for Defining Quantifiable Measure	Action Level *	Benchmark
Construction	1- Documenting Activities	Provide frequent inspection of construction sites	% of all construction sites are inspected according to specified schedule during wet season	90	100
	3 – Changing Behavior	Increase the number of construction sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of construction sites in significant compliance with local construction stormwater requirements	for >1 ac., 75% <1ac. 50%	100
			% of state permitted sites have completed and available SWPPPs for each site (document during inspection)	80	100
Illegal Discharges / Illicit Connections	3 – Changing Behavior	Respond rapidly and efficiently to illicit discharges	% of illicit discharges impacting human health responded to within 24 hours of upon receiving notification	80	100
		Eliminate all illegal connections	% of illegal connections eliminated or permitted once detected	80	100
Industrial / Commercial	1- Documenting Activities	Provide frequent inspection of industrial sites	% of state permitted industrial sites are inspected according to specified schedule	90	100
	3 – Changing Behavior	Increase the number of industrial sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of industrial sites in significant compliance with local stormwater requirements	75	100
			% of state permitted sites have a completed and available SWPPP for each site (document during inspection)	75	100
Municipal Operations	2 - Raising Awareness	Raise a target audience's awareness and understanding of an issue	% of employees to which requirement is applicable have attended training and taken test	90	100
	3 – Changing Behavior	Implement BMPs at vehicle maintenance facilities	% of City owned vehicle maintenance facilities that have developed, implemented, and kept current SWPPP (General Permit) or SWPCP (non-General Permit)	80	100
		Decrease use of pesticides	% of permittee landscaping under IPM	30	70
		Optimize use of fertilizers	% of permittee landscaping with site specific nutrient management plans	30	70

New Development	3 – Changing Behavior	Change a target audience's behavior which results in the implementation of recommended BMPs	**Upon first review**, percentage of projects that are incorporating LID concepts and adequate source controls as required by performance standards	80	100
			Upon first review, percentage of projects requiring treatment that are incorporating adequate treatment controls as required by performance standards	80	100
	4 – Load Reduction	Ensure adequate maintenance of post construction BMPs	% of post construction BMPs with adequate maintenance (based on inspection); quantify load reductions.	70	100
Public Education	2 - Raising Awareness	Raise public awareness and understanding of an issue	Percent of general public who know difference between sewer and storm drain	25	50
		Increase awareness of target audience	Percent of target audience who know not to dump in storm drain	50	75

B0041491

AND VIA TELEPHONE

Meeting Attendance Sheet

01 June 2007

Location: California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Subject: Monitoring Program Discussion - Draft Ventura County MS4 Permit

	Name	Agency/ Company/ or Resident	Mailing and/or Email Address	Telephone	FAX #
1	CARLOS CURRUNAGA	CRWQCB - LA	ccurrunaga@waterboards.ca.gov	213 620 2083	
2	Mack Walker	LWA	mackw@lwa.com	530.753.6400	
3	Ashli Desai	LWA	ashlid@lwa.com	310.394.1836	
4	Vicki Musgrove	City of Ventura	vmusgrove@ci.ventura.ca.us	8056524518	
5	Anita Kuhlman	City of Camarillo	akuhlman@ci.camarillo.ca.us	383-5659	
6	Tracy Woods	CA - RWQCB	twoods@waterboards.ca.gov	213/620-2095	
7	Gerry Greene	Downey	ggreene@downeyca.org	562/904-7112	
8	Shirley Birosik	RWQCB-LA	sbirosik@waterboards.ca.gov	213-576-6679	
9	Ivar Ridgeway	LA-RWQCB	iridgeway@waterboards.ca.gov	(213)620-2158	
10	DAN RADULESCU	— " —	dradulescu@waterboards.ca.gov	(213)576-6760	
11	Kangshi Wang	LA RWQCB	kwang@waterboards.ca.gov	(213)576-6980	
12	Frank Wu	LA Co. DPW	fwu@dpw.lacounty.gov	626 458-4358	
13	WS Nye	LARWQCB	lnye@waterboards.ca.gov	213 576-6785	
14	Mark Gold	HEIS	mgold@healthebay.org	310 451-1500	

Meeting Attendance Sheet

01 June 2007

	Name	Agency/ Company/ or Resident	Mailing and/or Email Address	Telephone	FAX #
15	Kirsten James	Heal the Bay			
16	Xavier Swamikannu	RWQCB-LA			
17	ARNE ANSELM	VENTURA WPD	ARNE.ANSELM@VENTURA.ORG	805 654 3942	
18	DEB SMITH	RWQCB-LA	VIA TELEPHONE		
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draft Ventura MS4 Permit
Monitoring Meeting
June 1, 2007 – 1400 to 1600

Location: Water Board - Los Angeles
Pacific Ocean Room

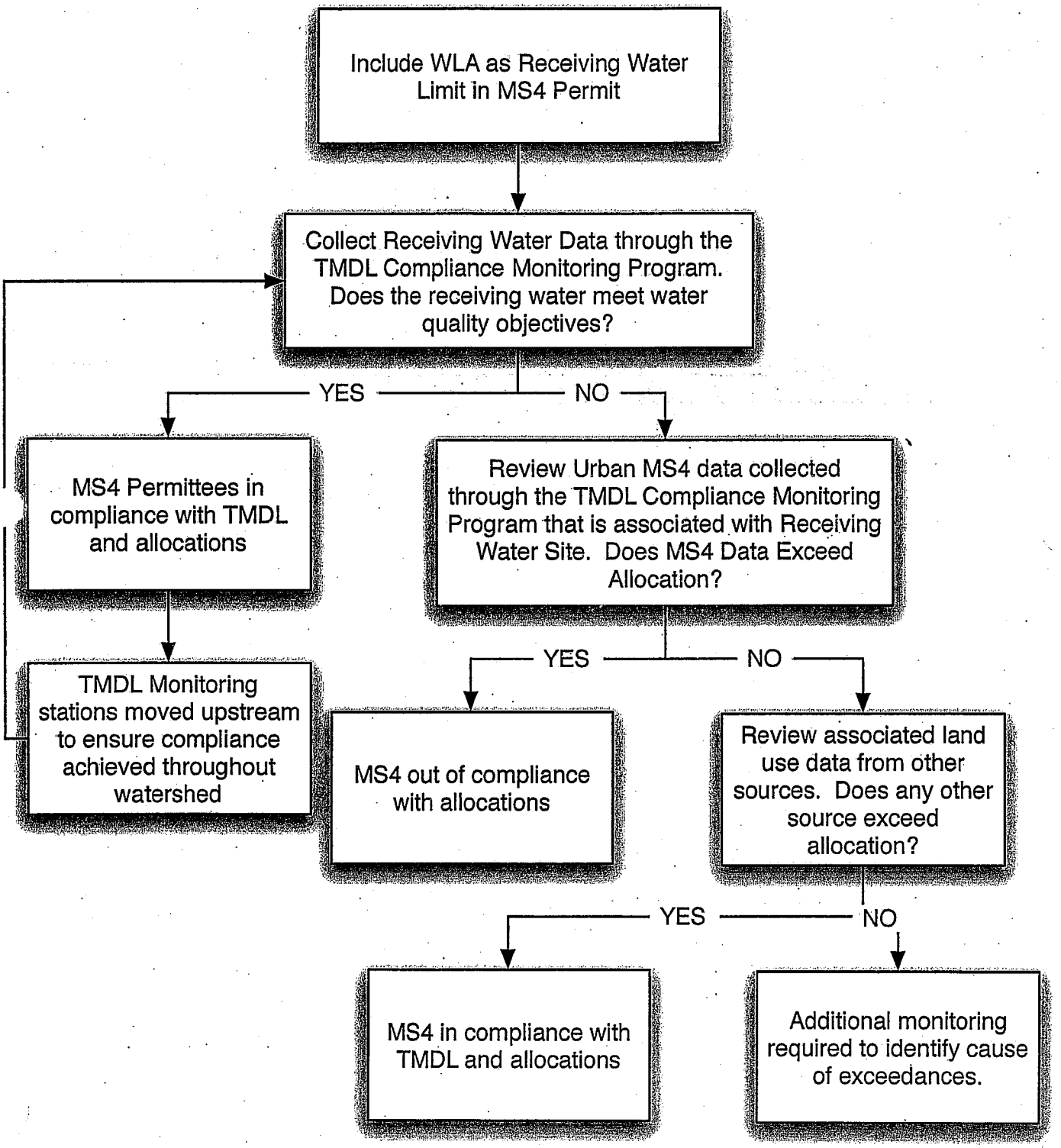
----- Agenda -----

The limited purpose of the meeting is to discuss MS4 permit monitoring topics contained in the draft Ventura County MS4 permit (NPDES No. CAS004001).

Introduction	Swamikannu	5 minutes
VENTURA COUNTY PRESENTATION		**1410-1440**
1. Historical Background	Ventura Storm Water Permittees	10 minutes
2. Proposed Monitoring Program	Ventura Storm Water Permittees	20 minutes
3. TMDLs	Ventura Storm Water Permittees	10 minutes
DISCUSSION ITEMS		**1440-1600**
4. Storm Water Discharge	Regional Board Staff	20 minutes
5. Compliance Monitoring	Regional Board Staff	30 minutes
6. TMDLs	Regional Board Staff	20 minutes
7. Meeting Summary	Swamikannu	5 minutes

From Larry Walker & Assoc & MS4 Permittees

Flow Chart for Determining TMDL Compliance for MS4 Permittees

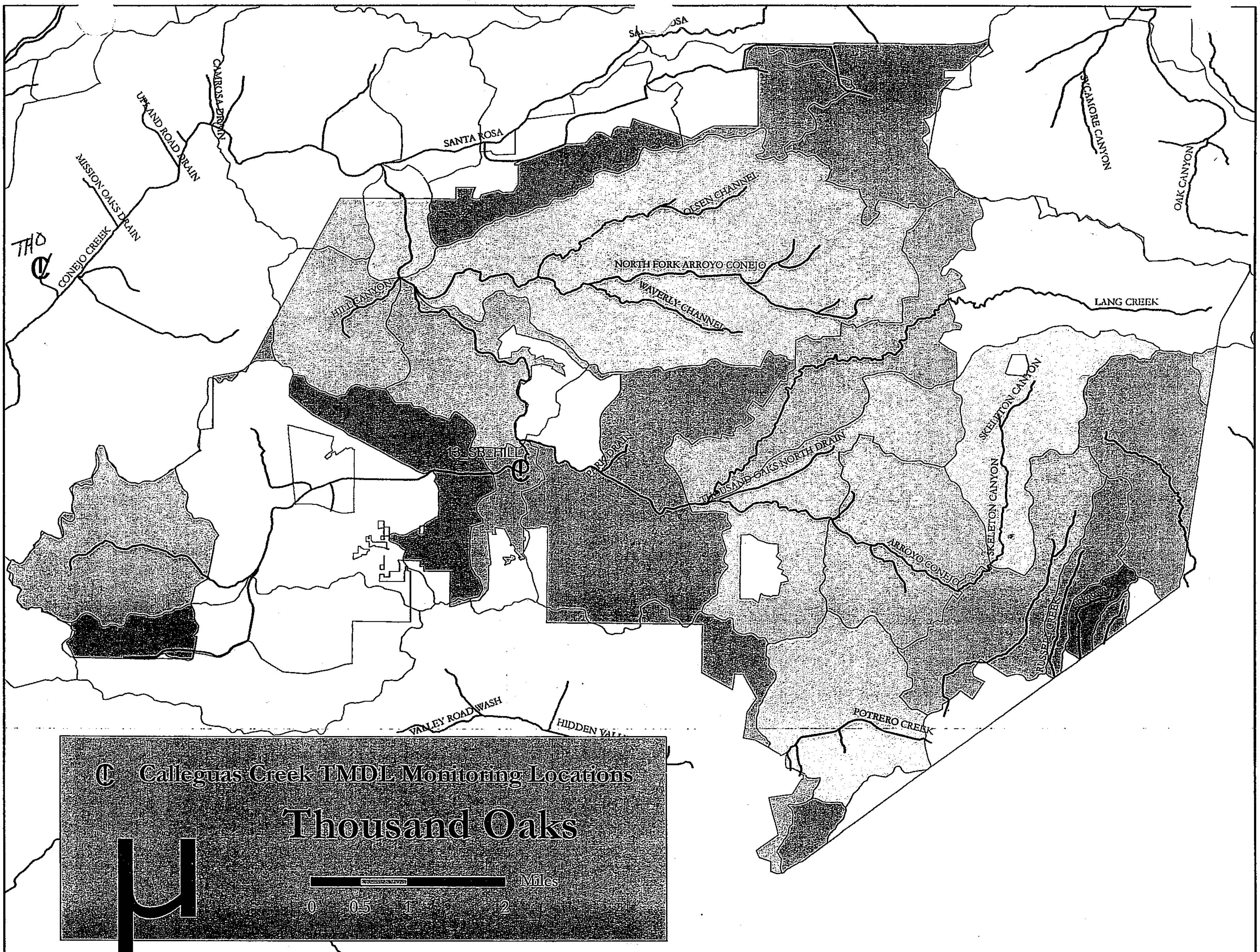


From: "Arne Anselm" <Arne.Anselm@ventura.org>
To: "Tracy Woods" <twoods@waterboards.ca.gov>
Date: 6/7/2007 8:57:25 AM
Subject: Calleguas Creek TMDL Sampling Locations

Hi Tracy,
Here are the maps of the Calleguas Creek TMDL urban sampling locations and the presentation I gave last Friday. A note on the maps - we don't have the detail to show exactly what part of the city each site is monitoring. In the maps each catchments is in a different color, a monitoring location may be picking up only a part of the catchment (east Camarillo), almost all of the catchment (Moorpark), or the catchment plus one or more upstream catchments (Thousand Oaks and Simi). If you have any questions, or would like these changed somehow, please let me know.

Arne

Arne Anselm
Water Quality Monitoring Manager
Ventura County Watershed Protection District
805.654.3942
www.vcstormwater.org


Calleguas Creek TMDL Monitoring Locations
Thousand Oaks
Miles
0 0.5 1 2
THO
CONEJO CREEK
MISSION OAKS DRAIN
UPLAND ROAD DRAIN
CAMROSA DRAIN
SANTA ROSA
OLSEN CHANNEL
NORTH FORK ARROYO CONEJO
WAVERLY CHANNEL
HILL CANYON
LANG CREEK
SYCAMORE CANYON
OAK CANYON
SKELETON CANYON
THOUSAND OAKS NORTH DRAIN
ARROYO CONEJO
POTRERO CREEK
VALLEY ROAD WASH

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Calleguas Creek TMDL Monitoring Locations
Simi Valley
N
0 0.5 1 2
Miles
SANTA ROSA
TIERRA REJADA CREEK
SYCAMORE CANYON
LONG CANYON
OAK CANYON
BUS CANYON DRAIN
BREA CANYON
SCARAB CANYON
DRY CANYON
RUNKLE CANYON
MEIER CANYON
CHEESEBORO CREEK
TURNER CANYON
BELL CANYON TRIBUTARY
BELL CANYON
LAS VAJAS TRIBUTARY
BOX CANYON
HIDDEN VALLEY

Calleguas Creek TMDL Monitoring Locations
Camarillo
N
0
0.5
1
2
Miles
REVOLON CHANNEL
FERRO DITCH
SANTA CLARA DRAIN
MESA SCHOOL TRIBUTARY
MONA FLATS DRAIN
BEARDSLEY
CAMARILLO HILLS DRAIN
PLEASANT VALLEY DRAIN
PLEASANT VALLEY DRAIN TRIBUTARY
HONDA BARRANCA
HONDA BARRANCA TRIBUTARY
MISSION DRAIN
RANCHO CAMARILLO HILLS DRAIN
WEST TRIBUTARY SOMIS DRAIN
CALLEGUAS CREEK
CONEJO CREEK
GROVES PL. DRAIN
ST. JOHNS DRAIN
FOX BARRANCA
LONG CANYON
CARMOSA DRAIN

Calleguas Creek TMDL Monitoring Locations
Moorpark
N
0 0.25 0.5 1 Miles
GABBERT CANYON
07D_CTP
ARROYO SIMI
PEACH HILL WASH
WALNUT CANYON
HAPPY CAMP CANYON
SANTA ROSA
CAPMUS ROAD CANYON

Ventura County MS4 Monitoring Program

Arne Anselm

V.C.W.P.D.

June 1, 2007

Ventura County MS4 Monitoring Program

- Description Ventura County and its Watersheds
- Historic and Current Program Monitoring
- Proposed Monitoring Program
- Example Watershed – Calleguas Creek
  - TMDL coordination

Ventura County Watersheds

- Calleguas
- Santa Clara
- Ventura
- Malibu
- Coastal

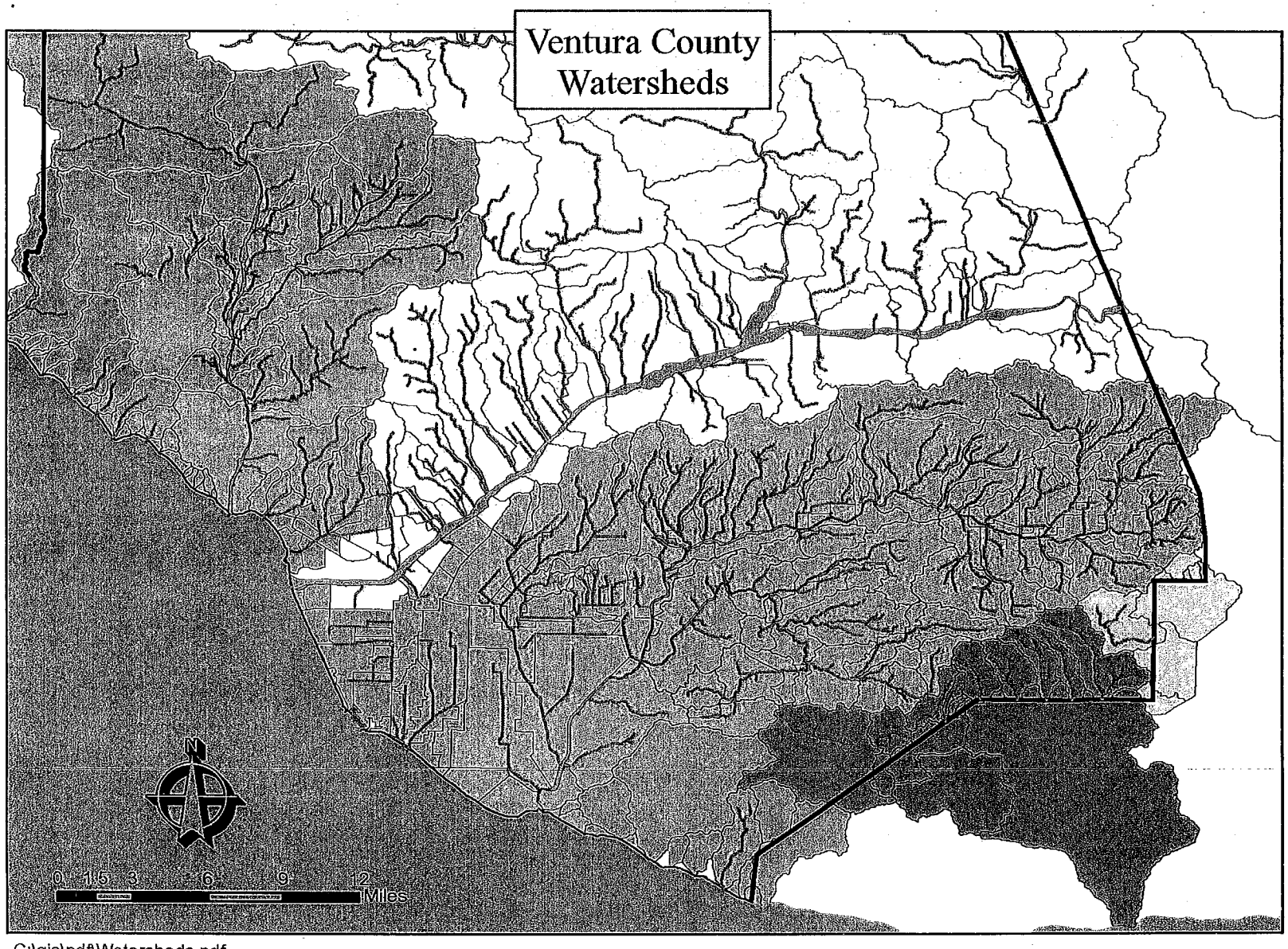

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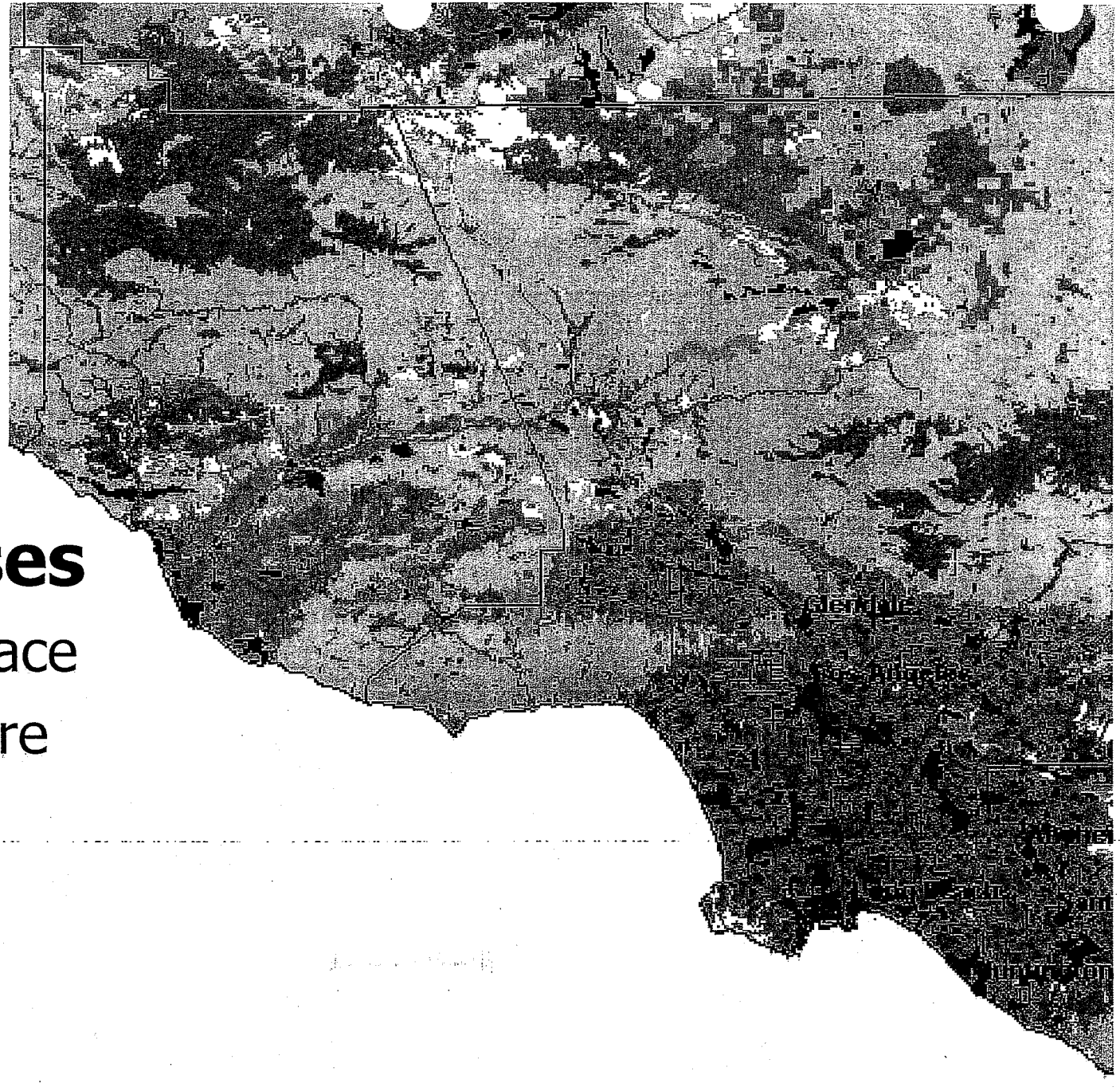
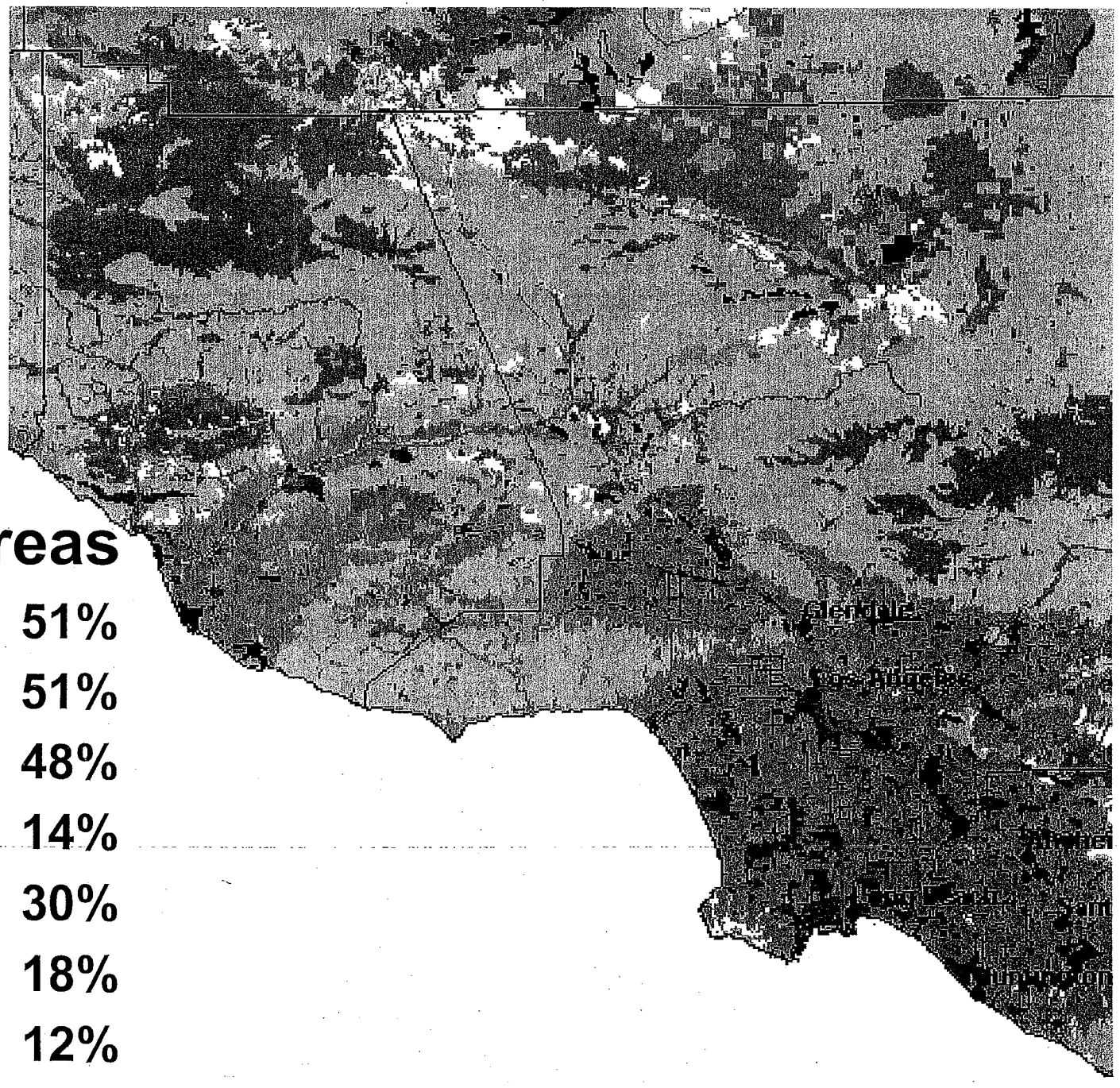
EXHIBIT 9

- **Land Uses**
  - Open Space
  - Agriculture
  - Urban



Percent Of County runoff attributed to Urban Areas

Los Angeles	51%
Orange	51%
Riverside	48%
San Bernadino	14%
San Diego	30%
Santa Barbara	18%
Ventura	12%



SOAR – Save Agriculture and Open Space

- Ventura County's SOAR initiative requires public approval for rezoning land from agricultural to urban uses in 1998.

- Voters approved urban growth control initiatives in eight of the county's 10 cities.
  - Ojai, has extremely stringent growth management policies and experiences little growth.
  - Port Hueneme, is completely surrounded by Oxnard

Historic and Current Program Monitoring

Began 1993 as part of comprehensive program.

- Urban runoff discharge characterization by monitoring representative different land uses.
- Receiving water monitoring to establish water quality baseline.
- Mass emission monitoring began 2001
  - Diminished ability to identify urban contributions

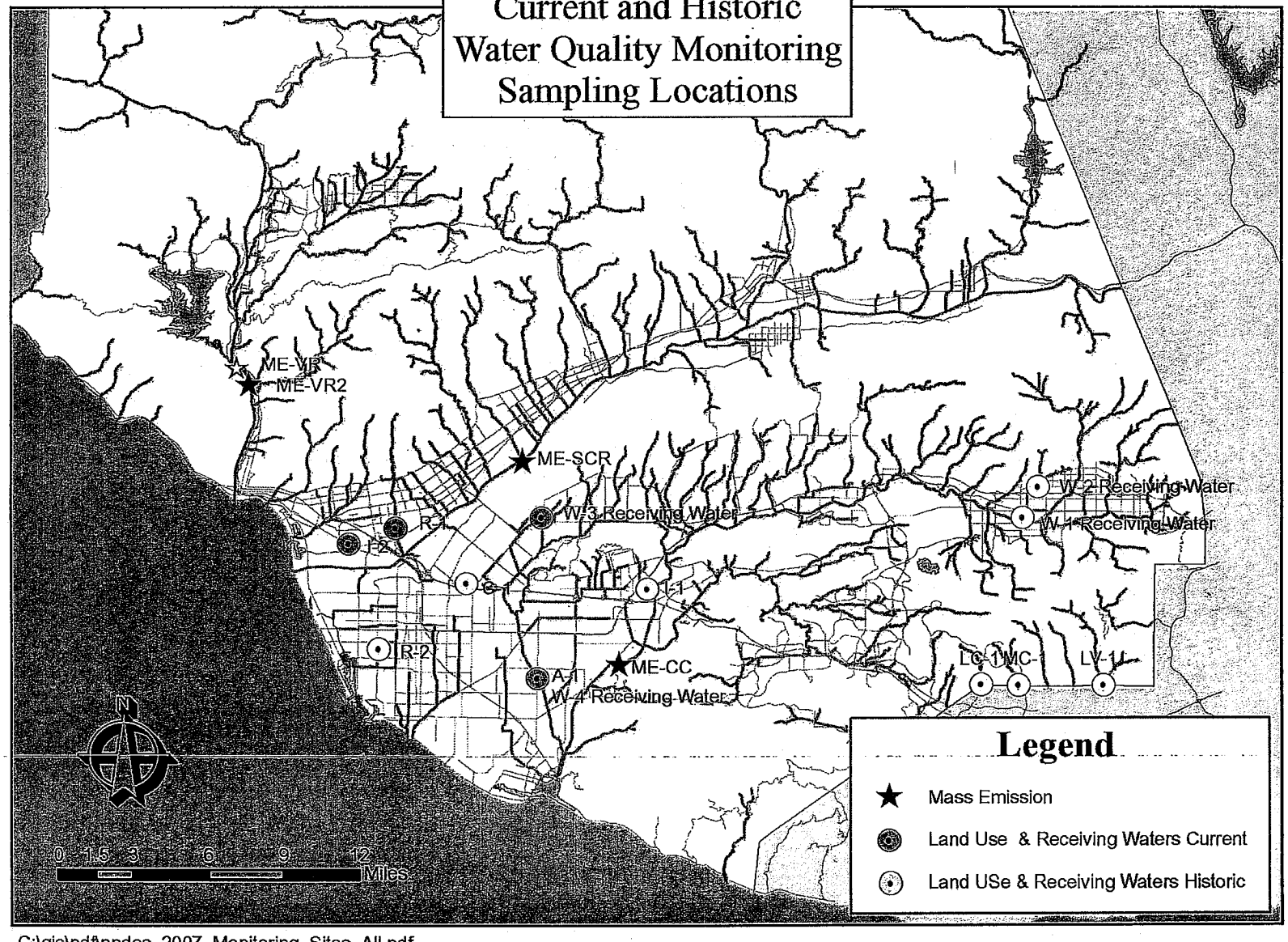
Historic and Current Program Monitoring

- Mass emissions at three major watersheds
  - Four wet events
  - Two dry
- Macroinvertebrate Bioassessment
- Sophisticated Database
- Completion of Trend Analysis for Pollutants of Concern

Historic and Current Program Monitoring

- Pollutants of Concern
  - Identified through land use and receiving water monitoring
  - Program elements adjusted to focus on POCs
    - Metals
      - Increased attention on metals in automotive outreach and inspection
    - Bacteria
      - Pet waste bag dispenser program
      - Horse owner outreach

Current and Historic Water Quality Monitoring Sampling Locations



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Future Program Opportunities

- Based on Model Monitoring Program
  - Redirect resources to provide program with information to improve effectiveness
- Build upon and complement historical other regional and TMDL monitoring efforts

Model Monitoring Program

- Written by Southern California Stormwater Monitoring Coalition, 2004
- Partially funded by SWRCB
- Developed for Southern California region.

1: "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?

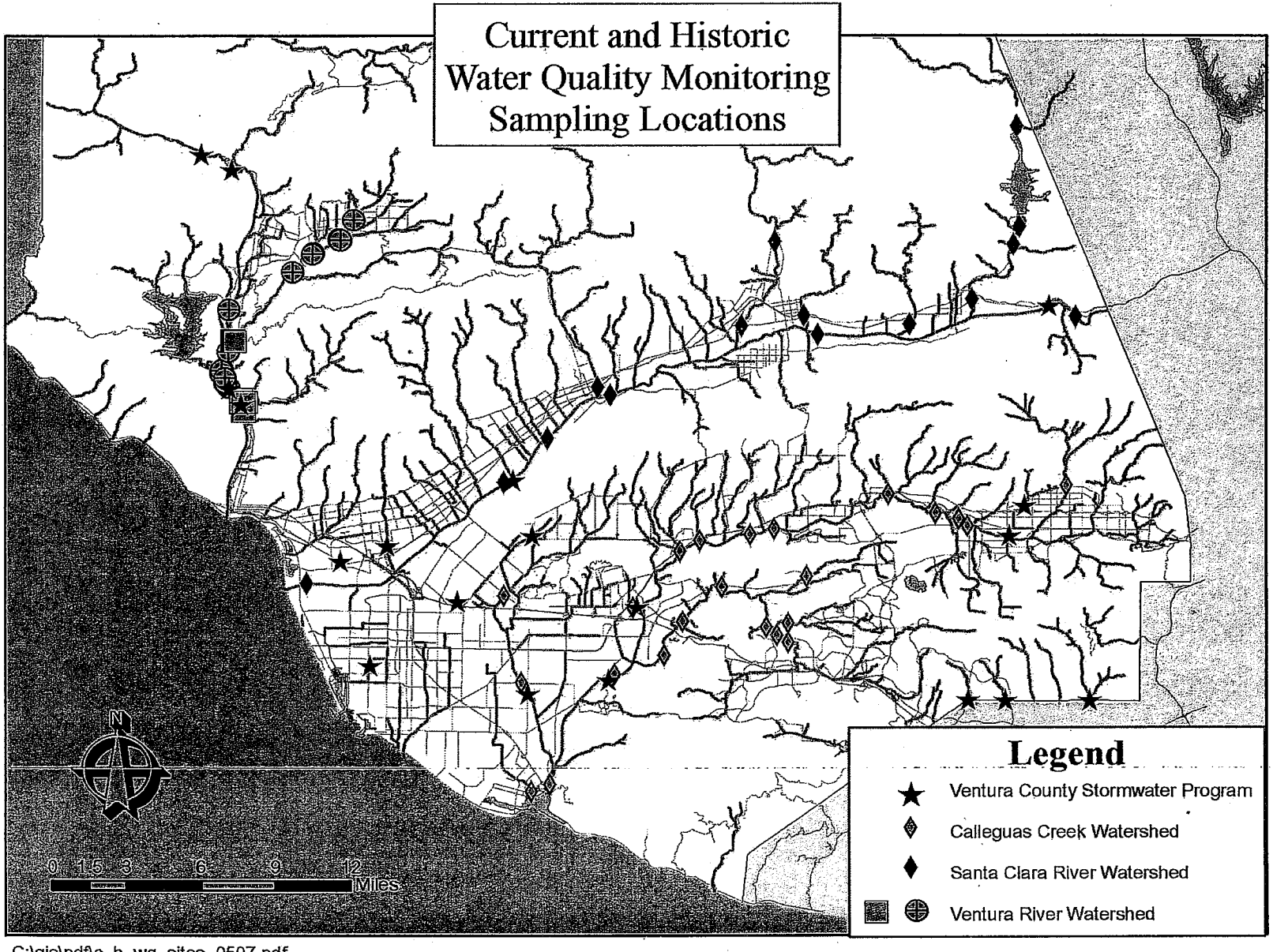
- **Proposed Actions:**
  - Compile countywide data available for analysis.
  - Verify or perform statistical analysis on available data.
  - Identify data gaps.

Basis Assumption

- If receiving water quality objectives are being met then subsequent investigation monitoring (i.e. questions 2-4) is not required.

Other Regional Monitoring Efforts

- TMDL characterization
- POTW in-stream monitoring
- SWAMP Monitoring
- Ocean Monitoring
  - Bight, POTW, AB411



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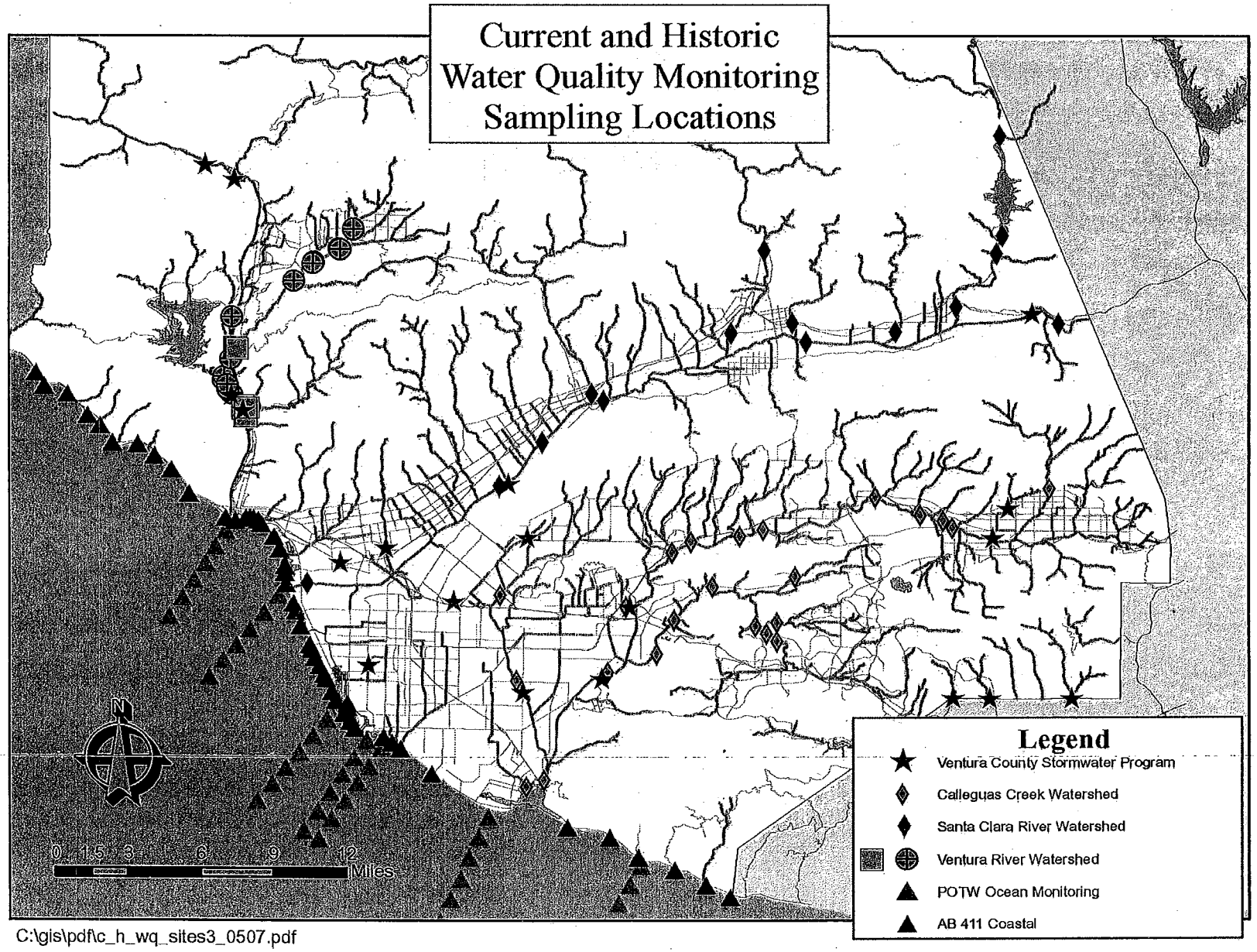

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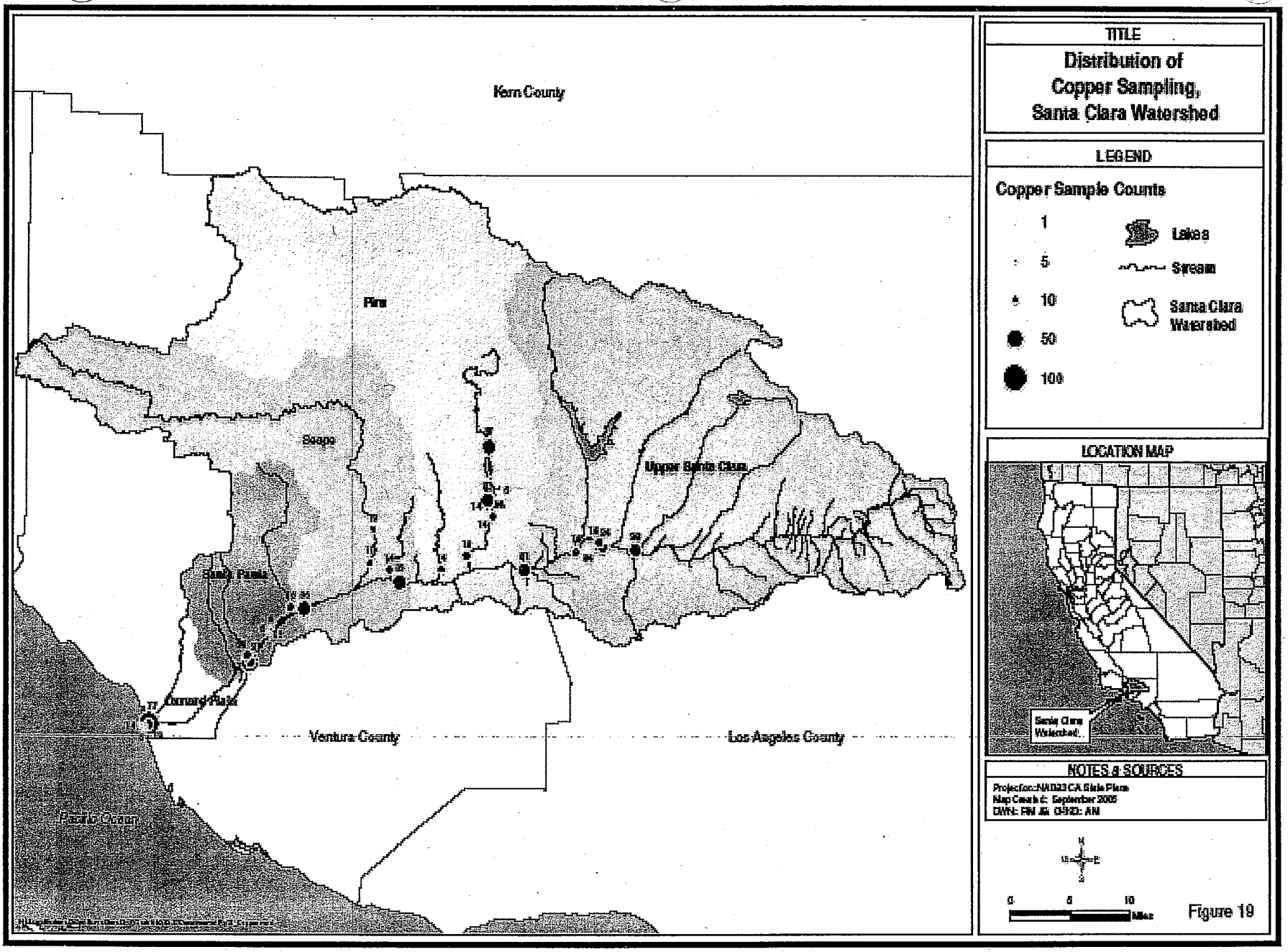
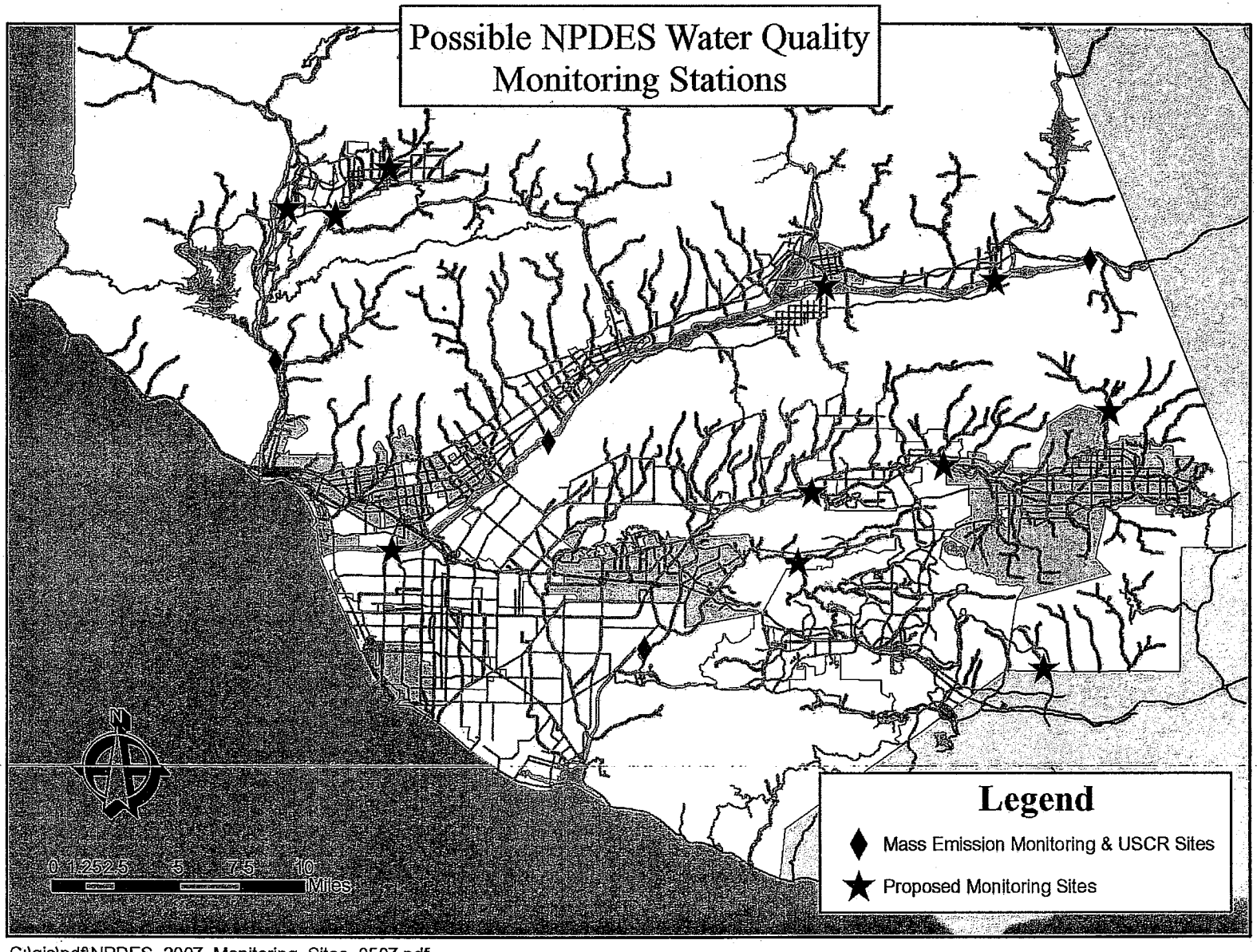


Figure 19

2: "What is the extent and magnitude of the current or potential receiving water problems?"

Proposed Actions:

- Intense two year watershed monitoring studies.
- Monitoring points downstream of major urban areas.
- Coordination with existing bioassessment sites for weight of evidence Triad approach.
- Consistent with TMDL monitoring requirements.



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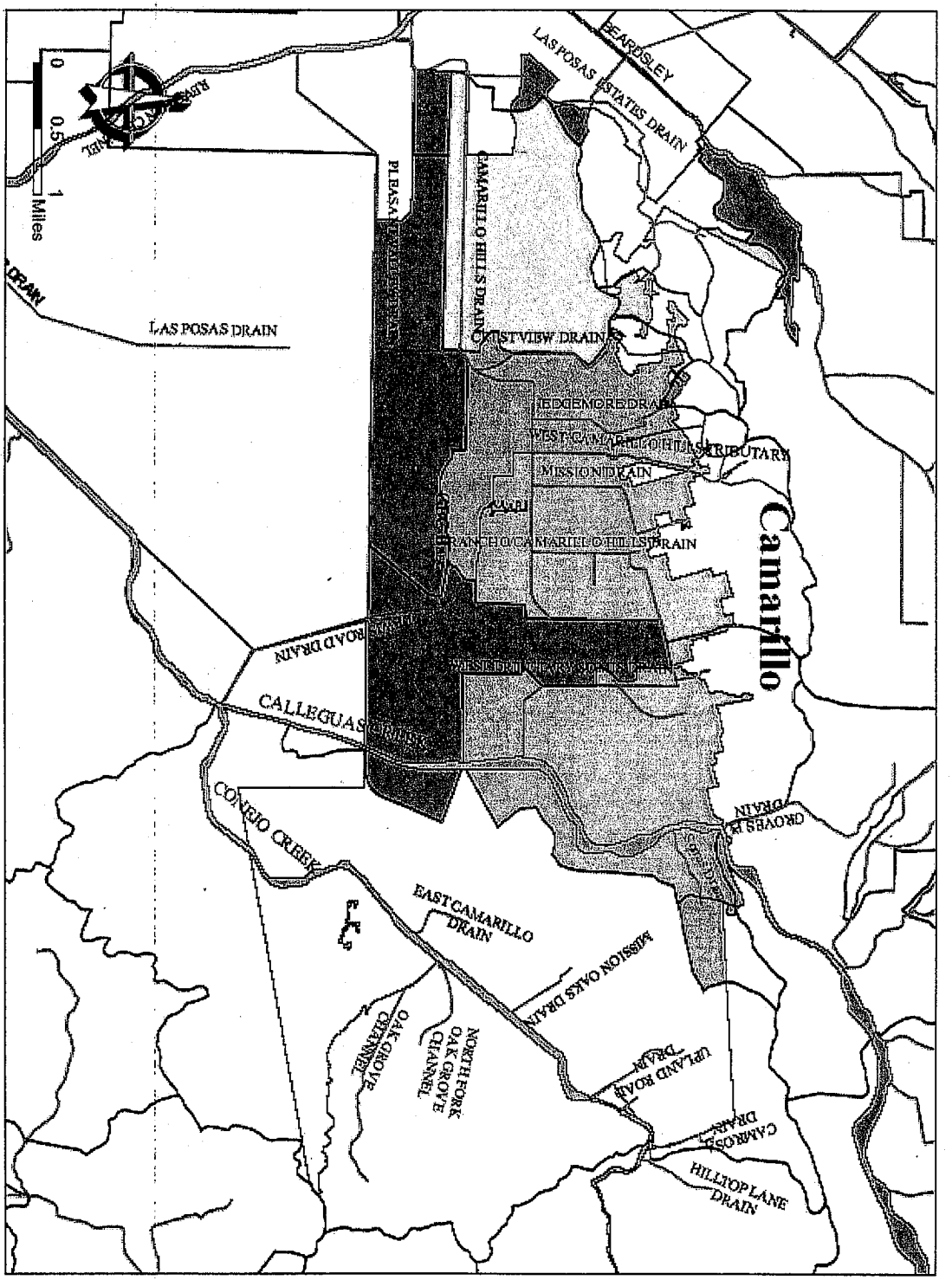
3: "What is the relative urban runoff contribution to the receiving water problems?"

- **Proposed Actions:**
  - Use computer models to evaluate urban runoff contributions to receiving water problems.
  - Evaluate data from intensive watershed monitoring for urban discharge contributions to water quality problems.
  - Direct monitoring of urban area discharge points for pollutants found downstream.


0
0.5
1
Miles
LAS POSAS DRAIN
LAS POSAS ESTATES DRAIN
EARLSLEY
CAMARILLO HILLS DRAIN
CRISTVIEW DRAIN
EDGEMORE DRAIN
MISSION DRAIN
RANCHO CAMARILLO HILLS DRAIN
Camarillo
CALLEGUAS CREEK
CONEJO CREEK
EAST CAMARILLO DRAIN
MISSION OAKS DRAIN
OAK GROVE CHANNEL
NORTH FORK OAK GROVE CHANNEL
UPLAND ROAD DRAIN
CAMROSE DRAIN
HILLTOP LANE DRAIN

4: "What are the sources to urban runoff that contribute to receiving water problems?"

- **Proposed Actions:**
  - Conveyance or outfall monitoring for evaluation with Blue Ribbon Panel action levels
  - Identify pollutants to address
  - Statistical analysis to locate likely sources
  - Illicit discharge and illicit connection screening
  - Consistent with TMDL monitoring

4: "What are the sources to urban runoff that contribute to receiving water problems?"

- **Blue Ribbon Panel Action Levels**
  - Urban discharge monitoring for evaluation with action levels
    - When a problem is identified in a receiving water and;
    - It is likely associated with urban runoff

5: "Are conditions in the receiving waters getting better or worse?"

- **Proposed Actions:**
  - Look at 15 year history of monitoring data
  - Statistical trends analysis after each intensive watershed monitoring study.
  - Identification of additional POCs.
  - Development of Action Plan for statistically discernable increasing trends in POCs.

How are the Stormwater and TMDL Monitoring Programs Connected?

- Stormwater program monitoring is designed to:
  - assess program effectiveness
  - direct program resources
- TMDL monitoring is designed to determine compliance
  - Constituents have already been determined to be problematic
- Management Program Questions apply to both programs
  - Data from TMDL monitoring will refine initial analysis and can help answer questions for the stormwater program

TMDL Compliance Monitoring

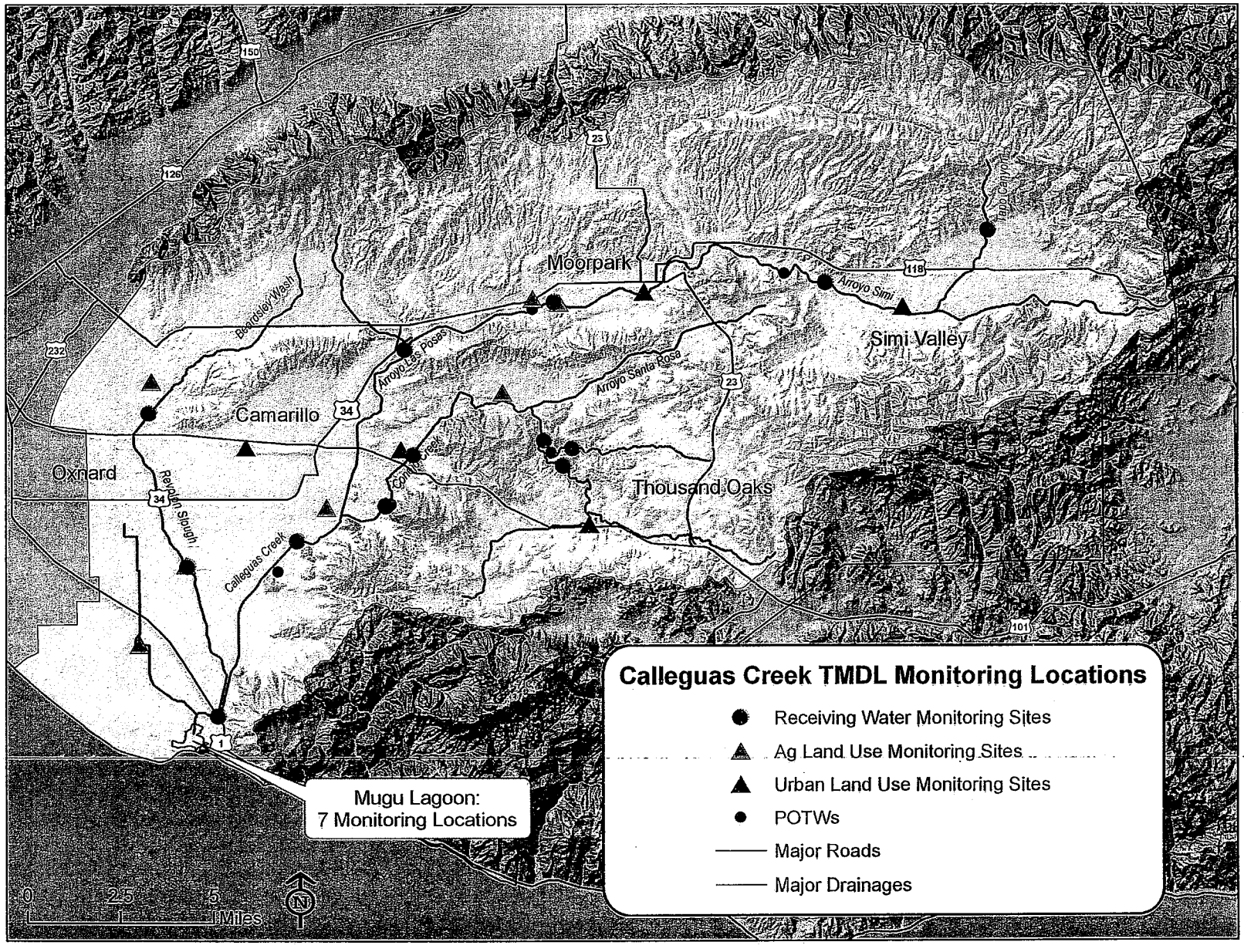
- Santa Clara River Nitrogen
- Malibu Creek Bacteria
- Calleguas Creek
  - Nutrients (no stormwater WLAs)
  - Toxicity and Organophosphate (OP) Pesticides
  - Organochlorine (OC) Pesticides

Information on Management Questions provided by TMDLs

Management Question	Status
1. Are conditions protective of beneficial uses?	No. TMDLs developed for impaired water bodies.
2. Do we know the extent of the problem?	TMDL has initial analysis
3. Do we know the contribution of urban ruonff to the problem?	TMDL has initial analysis
4. What are the sources of urban runoff that contribute to the problem?	TMDL requires studies to answer this question

TMDL Monitoring - Calleguas Creek Example

- Receiving Water
- Urban Discharge
- Sediment and Fish Tissue
- Toxicity
- Benthic Invertebrate
  - planned, but optional part of QAPP
  - only in Mugu Lagoon


Moorpark
Simi Valley
Camarillo
Oxnard
Thousand Oaks
Arroyo Simi
Arroyo Las Posas
Arroyo Santa Rosa
Beardsley Wash
Revlon Slough
Calleguas Creek
Conejo Creek
150
126
232
34
23
118
101
1
Mugu Lagoon:
7 Monitoring Locations
0
2.5
5
Miles
N
Calleguas Creek TMDL Monitoring Locations
Receiving Water Monitoring Sites
Ag Land Use Monitoring Sites
Urban Land Use Monitoring Sites
POTWs
Major Roads
Major Drainages

B001521

TMDL Monitoring Frequency

- Water: Quarterly + 2 Wet Events
- Sediment: Annually
- Tissue: Annually

TMDL Monitoring

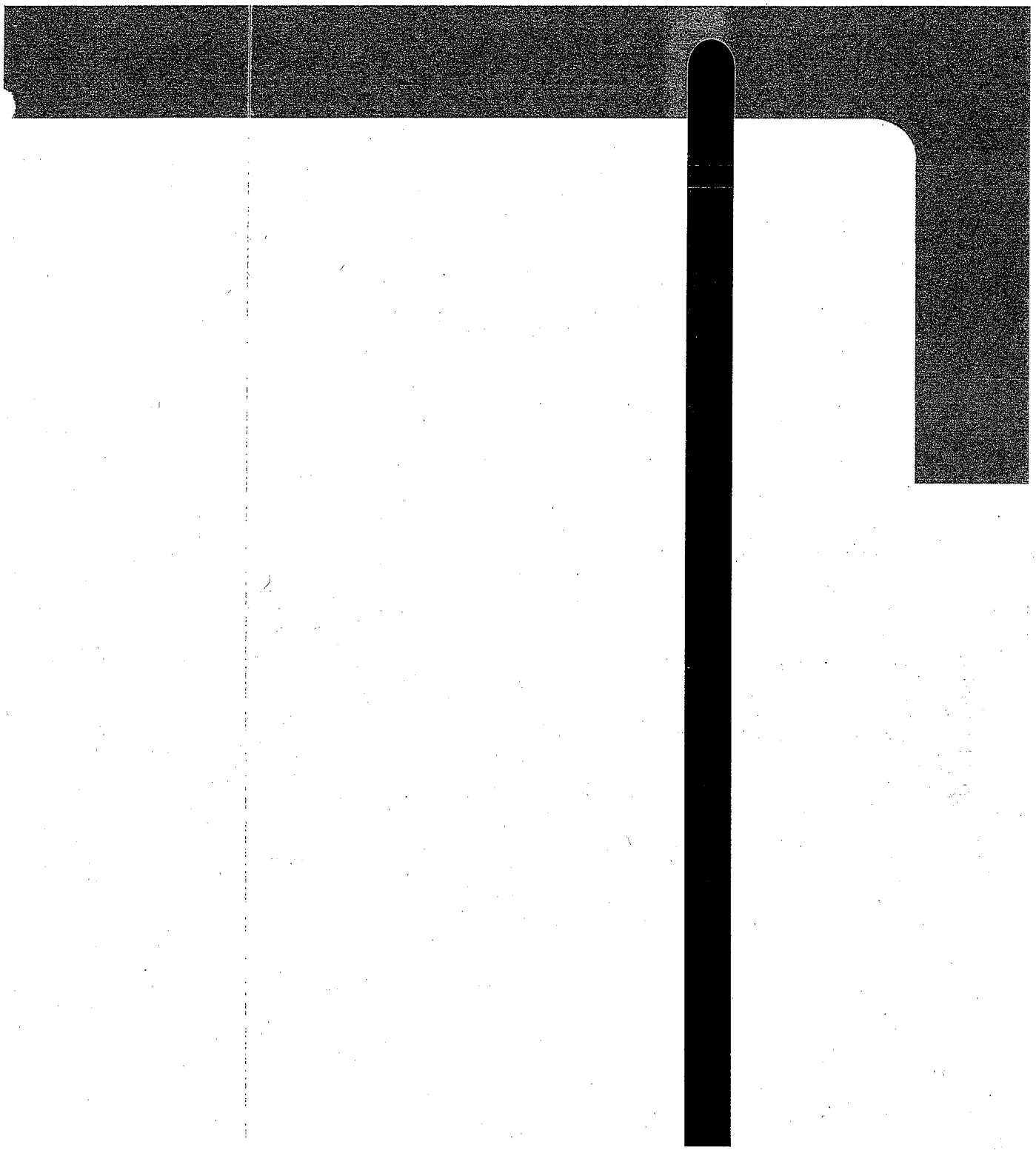
Constituents	Receiving Water	Tissue	Sediment	Land Use (Water)
Nutrients	X			X
Toxicity	X		X	X
OP Pesticides	X	X	X	X
Triazine	X		X	X
Pyrethroids	X		X	X
OC Pesticides	X	X	X	X

TMDL Compliance

- Is receiving water meeting objectives? ***Questions 1 and 2***
- If not, does land use data meet allocations? ***Questions 3 and 4***
- If not, MS4 is out of compliance
- If land use data meets allocations, additional investigation may be necessary to determine if MS4 is causing receiving water exceedances

Draft Monitoring Plan Summary

- Identify problems in waters bodies
- Determine extent and magnitude of problem
- Identify if urban discharge significantly contributes to a problem
- Monitor urban discharge
  - Identify pollutants
  - Identify sources
- Compliment TMDL monitoring requirements



Meeting Sign-in Sheet

Date: 31 May 2007

Location: California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Subject: Discussion on the December 2006 Draft Ventura County MS4 Permit

	Name	Agency/ Company/ Resident	Mailing and Email Address	Telephone	FAX #
1	CARLOS CURRUNAGA	CRWQCB-LAREGION	ABOVE. ccurrunaga@waterboards.ca.gov	213 620 2083	213 576 6640
2	Xavier Swamikannu	" "		213 620-2094	" "
3	Holly Schroeder	Building Industry Assoc.		818 585 1888	
4	Lisa Austin	Geosyntec Consultants	laustin@geosyntec.com	310 839-6040	310 839-6041
5	Fijy Solomon	LARWQCB	ejsolomon@waterboards.ca.gov	213 620-2237	213 576-5777
6	Deb Smith	RWQCB	dsmith@waterboards.ca.gov	213-576 6609	576 6625
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9					
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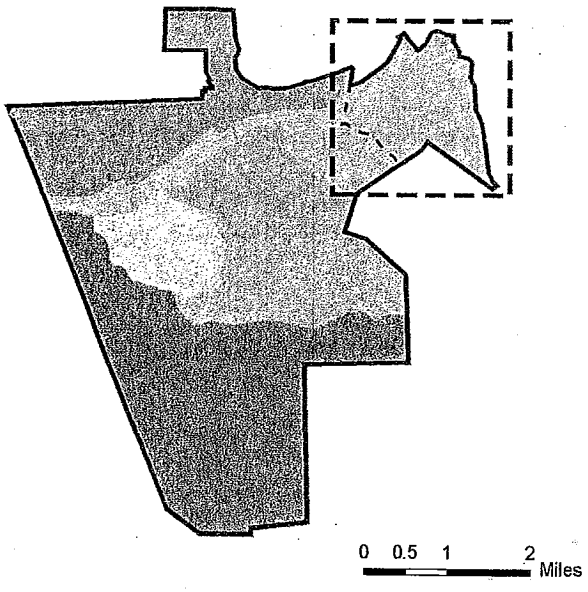
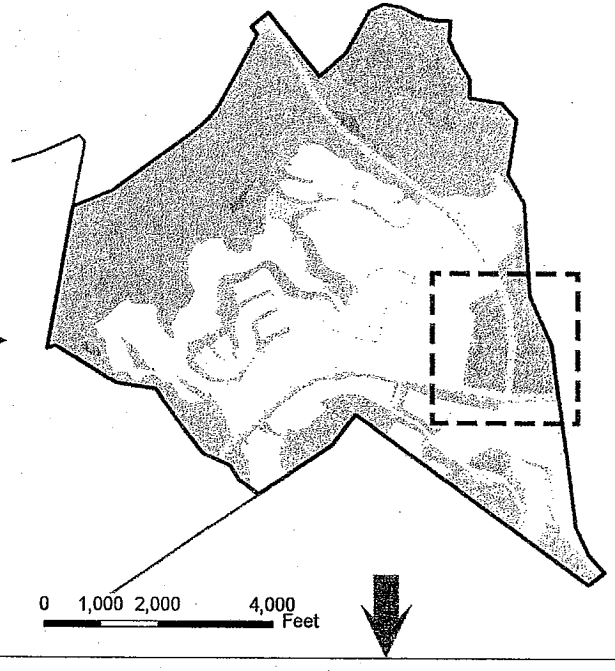
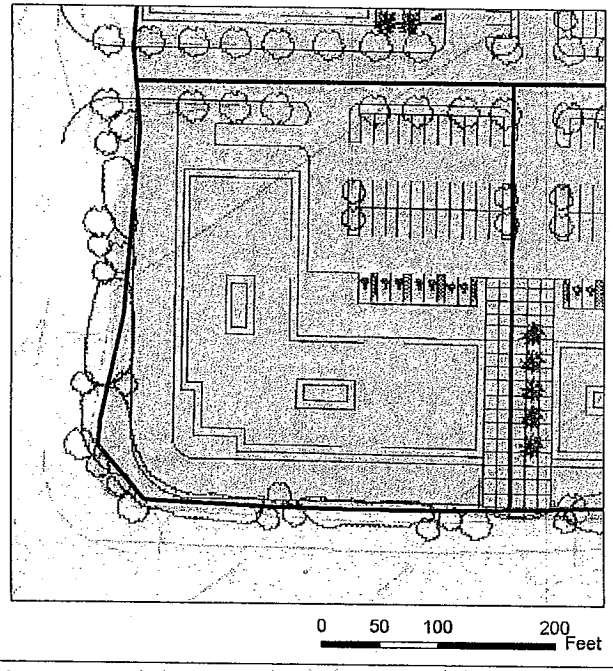
Specific Plan Scale



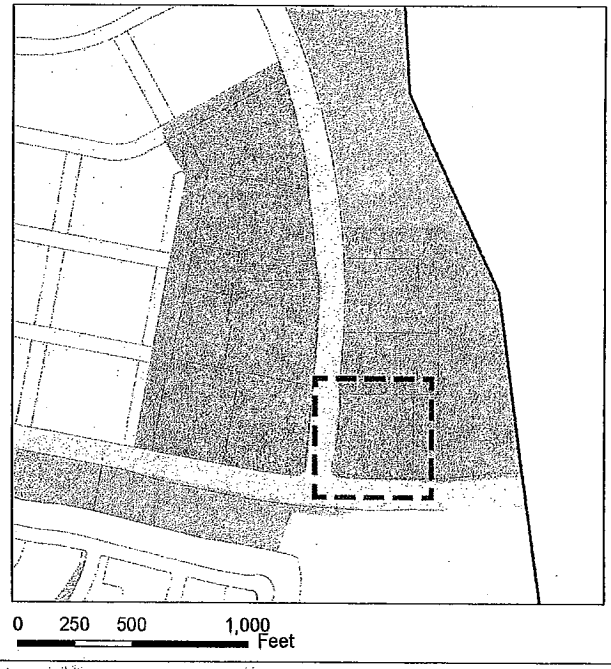
Tract Map Scale



Lot Scale



Planning Area Scale



Meeting Sign-in Sheet

Date: 29 May 2007 **Location: CRWQCB – Los Angeles Region**
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Subject: Discussion of Potable Water Discharges / Draft Ventura County MS4 Permit

	Name	Agency/ Company/ Resident	Mailing and Email Address	Telephone	FAX #
1	Carlos Urrunaga	RWQCB	Above	213 620 2083	213 576 6640
2	Kurt Souza	CDHS	1180 Eugenia Place, Suite 200, Carpinteria 93013	805 566 1326	805 745 8196
3	Shu-Fang Orr	CDHS	1449 West Temple Street, Room 202 Los Angeles, CA 90026 sperg@dhs.ca.gov	(213) 580-5702	2135805711
4	Jeff OKeefe	"	"	213 580-3181	"
5	Paul Williams	CDHS	"	213 977-7372	"
6	Stefan Cajina	CDHS	"	213-580-3127	"
7	Xavier Swamikannu	RWQCB	Cal EPA - RWQCB	213-620-2094	213 620-2094.
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DRAFT

29 May 2007

COUNTY OF LOS ANGELES - DEPARTMENT OF PUBLIC HEALTH
PUBLIC HEALTH PROGRAMS AND SERVICES - ENVIRONMENTAL HEALTH
CROSS-CONNECTION & WATER POLLUTION CONTROL PROGRAM
5050 Commerce Drive, Rm. 116, Baldwin Park, CA 91706-1423

A GUIDE TO SAFE STORM-WATER/CISTERN WATER REUSE, PIPELINE CONSTRUCTION AND INSTALLATION

INTRODUCTION: Storm Water/Cistern Water is NOT to be confused with tertiary treated, Title 22 water. It is NOT Recycled Water as defined in Cal. Code of Reg., Title 22. With that point being made and as a result of increasing interest and initiative to use onsite storm-water/cistern water capture techniques for onsite landscape irrigation supply and the consequential need or desire for the transmission and use thereof, this Department has found it necessary to develop the following guidelines for water pipeline construction, installation and safe reuse of this type of water for the protection of domestic water supplies and public health.

1. Presently within the County of Los Angeles there are no regulatory definition of storm-water/cistern water that would catagorize it as either recycled water or any other regulated water source. It is an alternate water source as referenced in the Uniform Plumbing Code. Therefore storm water/cistern water, i.e. non-potable water, for the purposes of these guidelines, shall be recognized as an alternate non-potable water source and any regulation pertaining to domestic water and the protection of the domestic water supply in relation to an alternate non-potable water supply shall apply.

2. Plans and specifications for the storm water/cistern water capture, distribution, use and operational practices shall be submitted for review and approval to the County of Los Angeles Department of Public Health prior to implementation. Building & Safety Departments having jurisdiction shall also be notified for approval.

3. Prior to commencing construction the Contractor shall contact the Los Angeles County Department of Public Health, Cross Connection and Water Pollution Control Program, to arrange for inspection of all on-site storm water/cistern water and potable water work. No excavation or open trench may be backfilled without first securing Health Department approval. If any piping, storm water/cistern water or potable, is installed prior to plan check approval and/or inspection, all or any portion of the system may be required to be exposed and corrected as necessary.

4. **SEPARATION** - In order to minimize construction accidents resulting in pipeline breaks, infiltration of storm water/cistern water from leaking water lines into domestic water lines, or accidental cross-connections between storm water/cistern water and potable water systems, maximum attainable separation of storm water/cistern water lines and potable water lines shall be practiced.

   i. Parallel construction: there shall be at least a four foot (4') separation, all distances measured from pipeline outside diameter.

   ii. Cross-Over construction: As perpendicular as possible; one foot (1') separation, with potable above storm water/cistern water; full pipe length centered over crossing.

   iii. Alternate Cross-Over construction (distance not maintained): Either the storm water/cistern water or non-potable water lines may be sleeved with the same class piping for one full pipe length (minimum four feet) centered over the cross-over.

   iv. The storm water/cistern water system shall be constructed in conformance with potable water system construction standards and in accordance with all other governing codes, rules and regulations.

   v. Unused or abandoned potable water lines are to be severed as close to water mains as practical, capped and a four-foot section of abandoned line removed and cemented under Health Department supervision.

   Existing On-site piping To the extent feasible, maximum separation of storm water/cistern water and potable water lines shall be practiced upon system addition or modification.

5. IDENTIFICATION: All storm water/cistern water lines (pressure/non-pressure), valve boxes, hydrants and appurtenances shall be identified to clearly distinguish between storm water/cistern water and potable water systems. Specific wording on identification tape shall be required. Evaluation shall be on a case-by-case basis, but with the understanding that the minimum requirement for pipeline identification is per the Uniform Plumbing Code.

   A. *POTABLE WATER* - All potable water lines shall be installed in accordance with the Uniform Plumbing Code and all other governing codes, rules and regulations. Buried potable water lines shall be identified by continuous lettering on three inch (3") minimum width blue or green tape with one inch black lettering bearing the continuous wording "Potable Water" permanently affixed at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping and hydrants.

29 MAY 2007

Identification tape is not necessary for extruded colored PVC with continuous wording **"Potable Water"** printed in contrasting lettering on opposite sides of the pipe.

B. *STORM WATER/CISTERN WATER* All storm water/cistern water lines (pressure/non-pressure) shall be identified by continuous lettering on three inch (3") minimum width green tape with one inch black lettering bearing the continuous wording **"Storm Water/Cistern Water Lines"** permanently affixed at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers.

C. *NON-POTABLE WATER* - All non-potable irrigation/industrial water lines (pressure/non-pressure) shall be identified by continuous lettering on three inch (3") minimum width yellow tape with one inch black lettering bearing the continuous wording **"Non-Potable Water"** permanently affixed at five foot intervals atop all horizontal piping, laterals and mains. Identification tape shall extend to all valve boxes and/or vaults, exposed piping, hydrants and quick couplers. Non-potable water is water supplied from the potable water system through an appropriate backflow preventer serving a non-potable use..

Exposed piping, valve boxes, vaults, control valves, quick coupling valves, outlets and related appurtenances shall be color coded and labeled or tagged to differentiate between storm-water/cistern water, potable water and non-potable water systems, i.e.,

i **"Caution storm water/cistern water Do Not Drink"** in black or white contrasting lettering on a green background.
ii. **"Potable Water"** in BLACK lettering on a blue or green background.
iii. **"Non-Potable Water - Do Not Drink"** black lettering on a yellow or green background.

Tags shall be identified with the appropriate wording on both sides. Tags identifying storm water/cistern water shall have the appropriate wording on one side and symbol on the opposite side.

6. Aquifers shall be protected against contamination by storm water/cistern water via deteriorated or inadequately protected water well casings by correcting these physical deficiencies.

7. An on-site water supervisor having the responsibility for the protection of the potable water system from cross-connections, shall be appointed as provided for under Title 17, Section 7586, California Code of Regulations. The water supervisor shall be responsible for installation, operation, and maintenance of the storm water/cistern water and potable water systems, prevention of potential hazards, implementing these guidelines and coordination with the cross-connection control program of the water purveyor and this Department. Authorizations for piping changes or additions to either the potable or recycled wastewater systems shall be subject to review and approval by the water supervisor. The name and position of this individual shall be reported to the water purveyor and the County of Los Angeles Department of Health Services.

8. As-built plans shall be prepared and updated as necessary by the user showing the location of storm water/cistern water and potable water system piping.

9. In areas of public access to storm water/cistern water systems, hose bibbs shall not be permitted in order to prevent the unauthorized use of storm water/cistern water. Quick-couplers are permissible in lieu of hose bibb outlets and shall only be connected to storm water/cistern water lines.

10. Irrigation shall be by means of either drip irrigation and/or bubblers. Misting, spraying into the air is not permitted.
    a. Storm water/cistern water reuse as irrigation water shall be subsurface or bubblers. Spray irrigation of storm water/cistern water is not permitted.
    b. Irrigation practice shall be controlled to prevent surface runoff of storm water/cistern water from lands owned or controlled by the user.

11. BACKFLOW PROTECTION
    a. No interconnections shall exist between the Potable Water System and the Storm water/Cistern water within the user's premises. Submit details for any backup supply.
    b. A pressure test must be utilized to confirm the physical separation of the storm water/cistern water and potable water systems. Said testing shall be performed in conjunction with the Water Purveyor and this Department and conducted before the introduction of storm water/cistern water.
    c. Contact the local water purveyor regarding required backflow protection at the potable water service connection(s) to storm water/cistern water use sites.

29 MAY 2007 Meeting

City of Camarillo

Department of Public Works – Water Division
601 Carmen Drive • P.O. Box 248 • Camarillo, CA 93011-0248

Phone: (805) 388-5373 • Fax: (805) 389-9524 • e-mail: waterdiv@ci.camarillo.ca.us

March 8, 2007

Kurt Souza, Regional Chief
California Department of Health Services
Drinking Water Field Operations Branch, Santa Barbara District
1180 Eugenia Place, Suite 200
Carpinteria, CA 93013-2000

Subject: **California Regional Water Quality Control Board – Los Angeles Region 12/27/2006 Draft Ventura County Municipal (MS4) NPDES Permit No. CAS004002**

Dear Mr. Souza,

The purpose of this letter is to make you aware of a concern the City of Camarillo has with the Los Angeles Regional Water Quality Control Board's (LARWQCB) proposed draft Waste Discharge Requirements for Storm Water Discharges from the Municipal Separate Storm Sewer System (MS4) within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities therein (NPDES Permit CAS004002) dated December 27, 2006.

Page 81& 82, Section 10 of the draft MS4 permit (section attached) imposes a limitation, among others, of 100,000 gallons per year as a maximum discharge into the storm drain system. Footnote 2, states that if the 100,000 gallons per year is exceeded, coverage under NPDES permit No. CAG674001 (attached), Discharges of Low Threat Hydrostatic Test Water to Surface Waters (hydrostatic permit), is required. We have contacted staff at the LARWQCB to get clarification on which permit our water main flushing falls under and have received mixed opinions from their office. Some feel that we will fall under the draft MS4 permit and others, in the same office, feel that we fall under the hydrostatic permit.

Under the current MS4 permit, the City's flushing program is allowed as long as the discharge does not contain any pollutants or visible sediment and the chlorine level/residual is below 0.1 ppm and pH is between 6.0 and 9.0. If any of those conditions cannot be met, water line flushing is still allowed as long as best management practices (BMPs) are implemented, such as dechlorination, pH increasers or decreasers, and storm drain inlet protection. Each of the BMP's listed is practical and has been adhered to.

Annually, the water division flushes the entire water distribution system over a two week period. Each of the City's 1,648 fire hydrants is used at an average flow rate of 1,000 gpm for an average duration of 5 minutes. The total amount of water utilized for flushing is estimated at 8.2 million gallons. In 2006, the total amount of water lost to flushing equated to 2 tenths of one percent of the 3.1 billion gallons produced during the year. The water loss during flushing is certainly a good trade-off considering the benefits we gain.

29 MAY 2007 Meeting

The City has always taken the position that annual flushing greatly contributes to our track record of high water quality and minimal water quality complaints from our customers. Flushing is the only feasible way to exchange water that has already entered a water distribution system. Additionally, flushing the distribution system on an annual basis controls bio-film build up on the water main interior walls and removes natural occurring mineral sediments that can be a hiding place for bacterial growth. The proposed restrictions imposed on flushing could have the potential to cause a public health hazard.

Flushing is a nationwide accepted practice and is one of the most widely used methods to insure high water quality in distribution systems. American Water Works Association supports flushing to the extent that they have developed operational manuals on the subject.

In addition to the water quality benefits, annual flushing allows our crews to identify fire hydrants that need maintenance or repairs. This is a great benefit to the safety of our citizens considering our County Fire Department does not have the man power to inspect each hydrant on an annual basis.

Under the current draft MS4 permit, we clearly exceed the 100,000 gallon per year limitation. Under the existing hydrostatic permit, we would be required to comply with the water effluent limitations found on page 12. In either case, the requirements under the draft MS4 permit or the existing hydrostatic permit are unrealistic, would be very expensive, cause unworkable delays and completely negate the benefits of flushing.

The comment period for the first draft has already passed; however, there will be an opportunity to provide verbal comments at an April 5, 2007 workshop (see attached schedule) and another opportunity to submit written comments on the revised permit draft that should be coming out in May sometime. In the mean time, I'd like to request that your office write a letter to the LARWQCB stating DHS' position on this matter.

The Draft MS4 Permit and Public Notice can be found on the following website:
http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/venturaMs4.html
The Hydrostatic Permit (order no. R4-2004-0109) can be found on the following website:
http://www.waterboards.ca.gov/losangeles/html/permits/general_permits.html

Please don't hesitate to call me at 805-388-5376 if you have any questions.

Sincerely,

Tom P. Smith
Water Superintendent

cc without attachments:
Rick Dierksen
Anita Kuhlman
Lucie McGovern
Debbie Schultz

From: "O'Keefe, Jeff (DHS-DDWEM)" <JOKeefe@dhs.ca.gov>
To: "Cajina, Stefan (DHS-DDWEM)" <SCajina@dhs.ca.gov>, "Souza, Kurt (DHS-DDWEM-DWFO)" <KSouza1@dhs.ca.gov>, "Carlos Urrunaga" <currunaga@waterboards.ca.gov>
Date: 5/29/2007 11:46:30 AM
Subject: RE: May 29th meeting with Drinking Water

Here is the Texas guidance that I mentioned today.

From: Cajina, Stefan (DHS-DDWEM)
Sent: Friday, May 25, 2007 5:40 PM
To: Souza, Kurt (DHS-DDWEM-DWFO); 'Carlos Urrunaga'
Cc: O'Keefe, Jeff (DHS-DDWEM); Williams, Paul (DHS-DDWEM); Orr, Shu-Fang (DHS-DDWEM)
Subject: RE: May 29th meeting with Drinking Water

For our discussion of on-site reuse of stormwater, attached is a draft guidance document that LA County Environmental Health is circulating. They are running into a lot of these projects and trying to gain some sort of control of the situation.

Stefan Cajina, P.E.
District Engineer, Central District
California Department of Health Services
Southern California Drinking Water Field Operations Branch
1449 West Temple Street, Room 202
Los Angeles, California 90026

Phone: 213.580.3127 Fax: 213.580.5711
E-mail: SCajina@dhs.ca.gov
Web: http://www.dhs.ca.gov/ps/ddwem

-----Original Message-----
From: Souza, Kurt (DHS-DDWEM-DWFO)
Sent: Friday, May 25, 2007 4:41 PM
To: 'Carlos Urrunaga'
Cc: Jeff O'Keefe (DHS-DDWEM) (E-mail); Paul Williams (DHS-DDWEM) (E-mail); Shu-Fang Orr (DHS) (E-mail); Stefan Cajina (DHS) (E-mail)
Subject: RE: May 29th meeting with Drinking Water

Carlos, I had my District Engineer's meeting this afternoon and we discussed our Tuesday meeting. Here is the list I promised you concerning what water systems do to maintain the distribution system or are required to do by our Dept that will require some kind of discharge to either a storm drain system or a sewer system. We can discuss them on Tuesday. The other item we would like to discuss is the on-site reuse or infiltration of storm water and the MS4 permits.

1. Flushing Mains, dead ends or other small areas
2. System wide distribution system flushing
3. Wells start-up or development
4. Treatment facility start-ups
5. Well rehabs
6. Pump to waste, automatic.
7. Pilot systems
8. Sample drain lines (most to sewers)
9. Backwash decanting
10. Reservoir maintenance and/or cleaning
11. Overflow of reservoir for maintenance/cleaning

See you Tuesday. Have a good weekend.

KURT

-----Original Message-----
From: Carlos Urrunaga [mailto:currunaga@waterboards.ca.gov]
Sent: Wednesday, May 23, 2007 3:32 PM
To: Souza, Kurt (DHS-DDWEM-DWFO)
Subject: Re: May 29th meeting with Drinking Water

Hi Kurt,

9am is fine. We'll see you then.

Carlos Urrunaga, Environmental Scientist
Calif Regional Water Quality Control Board - LA Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013
213-620-2083 phone
213-576-6640 fax
currunaga@waterboards.ca.gov

>>> "Souza, Kurt (DHS-DDWEM-DWFO)" <KSouza1@dhs.ca.gov> 5/23/2007 11:22 AM >>>

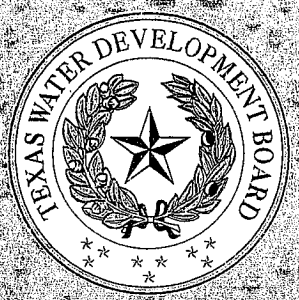
Carlos, I had a discussion with one of me staff concerning this meeting and we are hoping to start a little earlier to accommodate his schedule. He would have to leave at 11:00. Could we have the meeting from 9:00 to 11:00?

Thanks

> Kurt Souza, P.E., Chief
> Southern California Section
> State Department of Health Services
> Drinking Water Field Operations Branch
> 1180 Eugenia Place, Suite 200
> Carpinteria, CA 93013
> (805) 566-1326; (805) 745-8196 (fax)
>
> Conserve energy and water.
> Visit our web site at: www.dhs.ca.gov/ps/ddwem
>
>

CC: "Williams, Paul (DHS-DDWEM)" <PWillia2@dhs.ca.gov>, "Orr, Shu-Fang (DHS-DDWEM)" <SPeng@dhs.ca.gov>

The Texas Manual on Rainwater Harvesting



Texas Water Development Board

Third Edition

The Texas Manual on Rainwater Harvesting

Texas Water Development Board

in cooperation with
Chris Brown Consulting
Jan Gerston Consulting
Stephen Colley/Architecture

Dr. Hari J. Krishna, P.E., Contract Manager

Third Edition
2005
Austin, Texas

Acknowledgments

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Disclaimer

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Table of Contents

Chapter 1
Introduction

Rainwater harvesting is an ancient technique enjoying a revival in popularity due to the inherent quality of rainwater and interest in reducing consumption of treated water.

Rainwater is valued for its purity and softness. It has a nearly neutral pH, and is free from disinfection by-products, salts, minerals, and other natural and man-made contaminants. Plants thrive under irrigation with stored rainwater. Appliances last longer when free from the corrosive or scale effects of hard water. Users with potable systems prefer the superior taste and cleansing properties of rainwater.

Archeological evidence attests to the capture of rainwater as far back as 4,000 years ago, and the concept of rainwater harvesting in China may date back 6,000 years. Ruins of cisterns built as early as 2000 B.C. for storing runoff from hillsides for agricultural and domestic purposes are still standing in Israel (Gould and Nissen-Petersen, 1999).

Advantages and benefits of rainwater harvesting are numerous (Krishna, 2003).

- The water is free; the only cost is for collection and use.
- The end use of harvested water is located close to the source, eliminating the need for complex and costly distribution systems.
- Rainwater provides a water source when groundwater is unacceptable or unavailable, or it can augment limited groundwater supplies.
- The zero hardness of rainwater helps prevent scale on appliances, extending their use; rainwater eliminates the need for a water softener and the salts added during the softening process.
- Rainwater is sodium-free, important for persons on low-sodium diets.
- Rainwater is superior for landscape irrigation.
- Rainwater harvesting reduces flow to stormwater drains and also reduces non-point source pollution.
- Rainwater harvesting helps utilities reduce the summer demand peak and delay expansion of existing water treatment plants.
- Rainwater harvesting reduces consumers' utility bills.

Perhaps one of the most interesting aspects of rainwater harvesting is learning about the methods of capture, storage, and use of this natural resource at the place it occurs. This natural synergy excludes at least a portion of water use from the water distribution infrastructure: the centralized treatment facility, storage structures, pumps, mains, and laterals.

Rainwater harvesting also includes land-based systems with man-made landscape features to channel and concentrate rainwater in either storage basins or planted areas.

When assessing the health risks of drinking rainwater, consider the path taken by the raindrop through a watershed into a reservoir, through public drinking water treatment and distribution systems to the end user. Being the universal solvent, water absorbs contaminants and minerals on its

travels to the reservoir. While in residence in the reservoir, the water can come in contact with all kinds of foreign materials: oil, animal wastes, chemical and pharmaceutical wastes, organic compounds, industrial outflows, and trash. It is the job of the water treatment plant to remove harmful contaminants and to kill pathogens. Unfortunately, when chlorine is used for disinfection, it also degrades into disinfection by-products, notably trihalomethanes, which may pose health risks. In contrast, the raindrop harvested on site will travel down a roof via a gutter to a storage tank. Before it can be used for drinking, it will be treated by a relatively simple process with equipment that occupies about 9 cubic feet of space.

Rainwater harvesting can reduce the volume of storm water, thereby lessening the impact on erosion and decreasing the load on storm sewers. Decreasing storm water volume also helps keep potential storm water pollutants, such as pesticides, fertilizers, and petroleum products, out of rivers and groundwater.

But along with the independence of rainwater harvesting systems comes the inherent responsibility of operation and maintenance. For all systems, this responsibility includes purging the first-flush system, regularly cleaning roof washers and tanks, maintaining pumps, and filtering water. For potable systems, responsibilities include all of the above, and the owner must replace cartridge filters and maintain disinfection equipment on schedule, arrange to have water tested, and monitor tank levels. Rainwater used for drinking should be tested, at a minimum, for pathogens.

Rainwater harvesting, in its essence, is the collection, conveyance, and storage of rainwater. The scope, method, technologies, system complexity, purpose, and end uses vary from rain barrels for garden irrigation in urban areas, to large-scale collection of rainwater for all domestic uses. Some examples are summarized below:

- For supplemental irrigation water, the Wells Branch Municipal Utility District in North Austin captures rainwater, along with air conditioning condensate, from a new 10,000-square-foot recreation center into a 37,000-gallon tank to serve as irrigation water for a 12-acre municipal park with soccer fields and offices.
- The Lady Bird Johnson Wildflower Research Center in Austin, Texas, harvests 300,000 gallons of rainwater annually from almost 19,000 square feet of roof collection area for irrigation of its native plant landscapes. A 6,000-gallon stone cistern and its arching stone aqueduct form the distinctive entry to the research center.
- The Advanced Micro Devices semiconductor fabrication plant in Austin, Texas, does not use utility-supplied water for irrigation, saving $1.5 million per year by relying on captured rainwater and collected groundwater.
- Reynolds Metals in Ingleside, Texas, uses stormwater captured in containment basins as process water in its metal-processing plant, greatly offsetting the volume of purchased water.
- The city of Columbia, Nuevo León, Mexico, is in the planning stages of developing rainwater as the basis for the city's water supply for new

growth areas, with large industrial developments being plumbed for storage and catchment.

- On small volcanic or coral islands, rainwater harvesting is often the only option for public water supply, as watersheds are too small to create a major river, and groundwater is either nonexistent or contaminated with salt water. Bermuda, the U.S. Virgin Islands, and other Caribbean islands require cisterns to be included with all new construction.

In Central Texas, more than 400 full-scale rainwater harvesting systems have been installed by professional companies, and more than 6,000 rain barrels have been installed through the City of Austin's incentive program in the past decade. Countless "do-it-yourselfers" have installed systems over the same time period.

An estimated 100,000 residential rainwater harvesting systems are in use in the United States and its territories (Lye, 2002). More are being installed by the urban home gardener seeking healthier plants, the weekend cabin owner, and the homeowner intent upon the "green" building practices – all seeking a sustainable, high-quality water source. Rainwater harvesting is also recognized as an important water-conserving measure, and is best implemented in conjunction with other efficiency measures in and outside of the home.

Harvested rainwater may also help some Texas communities close the gap between supply and demand projected by the Texas Water Development Board (TWDB), as the state's population nearly doubles between 2000 and 2050 (Texas Water Development Board, 2002).

In fact, rainwater harvesting is encouraged by Austin and San Antonio water utilities as a means of conserving water. The State of Texas also offers financial incentives for rainwater harvesting systems. Senate Bill 2 of the 77th Legislature exempts rainwater harvesting equipment from sales tax, and allows local governments to exempt rainwater harvesting systems from ad valorem (property) taxes.

Rainwater harvesting systems can be as simple as a rain barrel for garden irrigation at the end of a downspout, or as complex as a domestic potable system or a multiple end-use system at a large corporate campus.

Rainwater harvesting is practical only when the volume and frequency of rainfall and size of the catchment surface can generate sufficient water for the intended purpose.

From a financial perspective, the installation and maintenance costs of a rainwater harvesting system for potable water cannot compete with water supplied by a central utility, but is often cost-competitive with installation of a well in rural settings.

With a very large catchment surface, such as that of big commercial building, the volume of rainwater, when captured and stored, can cost-effectively serve several end uses, such as landscape irrigation and toilet flushing.

Some commercial and industrial buildings augment rainwater with condensate from air conditioning systems. During hot, humid months, warm, moisture-laden air passing over the cooling coils of a residential air conditioner can produce 10 or more gallons per day of water. Industrial facilities produce thousands of gallons

per day of condensate. An advantage of condensate capture is that its maximum production occurs during the hottest month of the year, when irrigation need is greatest. Most systems pipe condensate into the rainwater cistern for storage.

The depletion of groundwater sources, the poor quality of some groundwater, high tap fees for isolated properties, the flexibility of rainwater harvesting systems, and modern methods of treatment provide excellent reasons to harvest rainwater for domestic use.

The scope of this manual is to serve as a primer in the basics of residential and small-scale commercial rainwater harvesting systems design. It is intended to serve as a first step in thinking about options for implementing rainwater harvesting systems, as well as advantages and constraints.

References

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Lye D. 2002. Health risks associated with consumption of untreated water from household roof catchment systems. Journal of the American Water Resources Association 38(5):1301-1306.

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Chapter 2
Rainwater Harvesting System Components

Rainwater harvesting is the capture, diversion, and storage of rainwater for a number of different purposes including landscape irrigation, drinking and domestic use, aquifer recharge, and stormwater abatement.

In a residential or small-scale application, rainwater harvesting can be as simple as channeling rain running off an unguttered roof to a planted landscape area via contoured landscape. To prevent erosion on sloped surfaces, a bermed concave holding area down slope can store water for direct use by turfgrass or plants (Waterfall, 1998). More complex systems include gutters, pipes, storage tanks or cisterns, filtering, pump(s), and water treatment for potable use.

This chapter focuses on residential or small-scale commercial systems, for both irrigation and potable use.

The local health department and city building code officer should be consulted concerning safe, sanitary operations and construction of these systems.

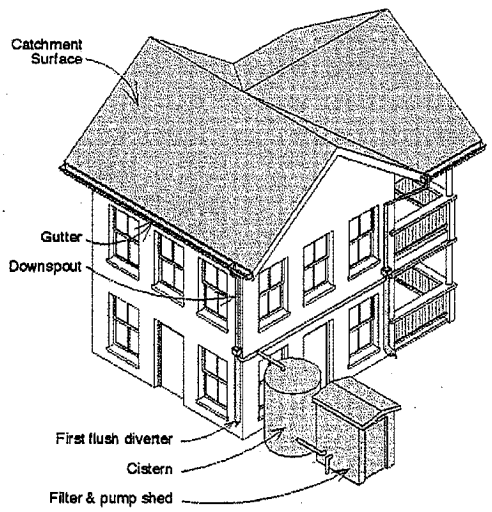

Figure 2-1. Typical rainwater harvesting installation

Basic Components

Regardless of the complexity of the system, the domestic rainwater harvesting system (Figure 2-1) comprises six basic components:

- Catchment surface: the collection surface from which rainfall runs off
- Gutters and downspouts: channel water from the roof to the tank
- Leaf screens, first-flush diverters, and roof washers: components which remove debris and dust from the captured rainwater before it goes to the tank
- One or more storage tanks, also called cisterns
- Delivery system: gravity-fed or pumped to the end use
- Treatment/purification: for potable systems, filters and other methods to make the water safe to drink

The Catchment Surface

The roof of a building or house is the obvious first choice for catchment. For additional capacity, an open-sided barn – called a rain barn or pole barn – can be built. Water tanks and other rainwater system equipment, such as pumps and filters, as well as vehicles, bicycles, and gardening tools, can be stored under the barn.

Water quality from different roof catchments is a function of the type of roof material, climatic conditions, and

the surrounding environment (Vasudevan, 2002).

Metal

The quantity of rainwater that can be collected from a roof is in part a function of the roof texture: the smoother the better. A commonly used roofing material for rainwater harvesting is sold under the trade name Galvalume®, a 55 percent aluminum/45 percent zinc alloy-coated sheet steel. Galvalume® is also available with a baked enamel coating, or it can be painted with epoxy paint.

Some caution should be exercised regarding roof components. Roofs with copper flashings can cause discoloration of porcelain fixtures.

Clay/concrete tile

Clay and concrete tiles are both porous. Easily available materials are suitable for potable or nonpotable systems, but may contribute to as much as a 10-percent loss due to texture, inefficient flow, or evaporation. To reduce water loss, tiles can be painted or coated with a sealant. There is some chance of toxins leaching from the tile sealant or paint, but this roof surface is safer when painted with a special sealant or paint to prevent bacterial growth on porous materials.

Composite or asphalt shingle

Due to leaching of toxins, composite shingles are not appropriate for potable systems, but can be used to collect water for irrigation. Composite roofs have an approximated 10-percent loss due to inefficient flow or evaporation (Radlet and Radlet, 2004).

Others

Wood shingle, tar, and gravel. These roofing materials are rare, and the water harvested is usually suitable only for irrigation due to leaching of compounds.

Slate. Slate's smoothness makes it ideal for a catchment surface for potable use, assuming no toxic sealant is used; however, cost considerations may preclude its use.

Gutters and Downspouts

Gutters are installed to capture rainwater running off the eaves of a building. Some gutter installers can provide continuous or seamless gutters.

For potable water systems, lead cannot be used as gutter solder, as is sometimes the case in older metal gutters. The slightly acidic quality of rain could dissolve lead and thus contaminate the water supply.

The most common materials for gutters and downspouts are half-round PVC, vinyl, pipe, seamless aluminum, and galvanized steel.

Seamless aluminum gutters are usually installed by professionals, and, therefore, are more expensive than other options.

Regardless of material, other necessary components in addition to the horizontal gutters are the drop outlet, which routes water from the gutters downward and at least two 45-degree elbows which allow the downspout pipe to snug to the side of the house. Additional components include the hardware, brackets, and straps to fasten the gutters and downspout to the fascia and the wall.

Gutter Sizing and Installation

When using the roof of a house as a catchment surface, it is important to consider that many roofs consist of one or more roof "valleys." A roof valley occurs where two roof planes meet. This is most common and easy to visualize

when considering a house plan with an "L" or "T" configuration. A roof valley concentrates rainfall runoff from two roof planes before the collected rain reaches a gutter. Depending on the size of roof areas terminating in a roof valley, the slope of the roofs, and the intensity of rainfall, the portion of gutter located where the valley water leaves the eave of the roof may not be able to capture all the water at that point, resulting in spillage or overrunning.

Besides the presence of one or more roof valleys, other factors that may result in overrunning of gutters include an inadequate number of downspouts, excessively long roof distances from ridge to eave, steep roof slopes, and inadequate gutter maintenance. Variables such as these make any gutter sizing rules of thumb difficult to apply. Consult you gutter supplier about your situation with special attention to determine where gutter overrunning areas may occur. At these points along an eave, apply strategies to minimize possible overrunning to improve catchment efficiency. Preventative strategies may include modifications to the size and configuration of gutters and addition of gutter boxes with downspouts and roof diverters near the eave edge.

Gutters should be installed with slope towards the downspout; also the outside face of the gutter should be lower than the inside face to encourage drainage away from the building wall.

Leaf Screens

To remove debris that gathers on the catchment surface, and ensure high quality water for either potable use or to work well without clogging irrigation emitters, a series of filters are necessary. Essentially, mesh screens remove debris both before and after the storage tank. The defense in keeping debris out of a rainwater harvesting system is some type of leaf screen along the gutter or in the downspout.

Depending upon the amount and type of tree litter and dust accumulation, the homeowner may have to experiment to find the method that works best. Leaf screens must be regularly cleaned to be effective. If not maintained, leaf screens can become clogged and prevent rainwater from flowing into a tank. Built-up debris can also harbor bacteria and the products of leaf decay.

Leaf guards are usually ¼-inch mesh screens in wire frames that fit along the length of the gutter. Leaf guards/screens are usually necessary only in locations with tree overhang. Guards with profiles conducive to allowing leaf litter to slide off are also available.

The **funnel-type downspout filter** is made of PVC or galvanized steel fitted with a stainless steel or brass screen. This type of filter offers the advantage of easy accessibility for cleaning. The funnel is cut into the downspout pipe at the same height or slightly higher than the highest water level in the storage tank.

Strainer baskets are spherical cage-like strainers that slip into the drop outlet of the downspout.

A cylinder of rolled screen inserted into the drop outlet serves as another method of filtering debris. The homeowner may need to experiment with various grid sizes, from insect screen to hardware cloth.

Filter socks of nylon mesh can be installed on the PVC pipe at the tank inflow.

First-Flush Diverters

A roof can be a natural collection surface for dust, leaves, blooms, twigs, insect bodies, animal feces, pesticides, and other airborne residues. The first-flush diverter routes the first flow of water from the catchment surface away from the storage tank. The flushed water can be routed to a planted area. While leaf screens remove the larger debris, such as leaves, twigs, and blooms that fall on the roof, the first-flush diverter gives the system a chance to rid itself of the smaller contaminants, such as dust, pollen, and bird and rodent feces.

The simplest first-flush diverter is a PVC standpipe (Figure 2-2). The standpipe fills with water first during a rainfall event; the balance of water is routed to the tank. The standpipe is drained continuously via a pinhole or by leaving the screw closure slightly loose. In any case, cleaning of the standpipe is accomplished by removing the PVC cover with a wrench and removing collected debris after each rainfall event.

There are several other types of first-flush diverters. The ball valve type consists of a floating ball that seals off the top of the diverter pipe (Figure 2-3) when the pipe files with water.

Opinions vary on the volume of rainwater to divert. The number of dry days, amount of debris, and roof surface are all variables to consider.

One rule of thumb for first-flush diversion is to divert a minimum of 10 gallons for every 1,000 square feet of collection surface. However, first-flush volumes vary with the amount of dust on the roof surface, which is a function of the number of dry days, the amount and type of debris, tree overhang, and season.

A preliminary study by Rain Water Harvesting and Waste Water Systems Pty Ltd., a rainwater harvesting component vendor in Australia, recommends that between 13 and 49 gallons be diverted per 1,000 square feet.

The primary reason for the wide variation in estimates is that there is no exact calculation to determine how much initial water needs to be diverted because there are many variables that would determine the effectiveness of washing the contaminants off the collection surface, just as there are many variables determining the make up of the contaminants themselves. For example, the slope and smoothness of the collection surface, the intensity of the rain event, the length of time between events (which adds to the amount of accumulated contaminants), and the nature of the contaminants themselves add to the difficulty of determining just how much rain should be diverted during first flush. In order to effectively wash a collection surface, a rain intensity of one-tenth of an inch of rain per hour is needed to wash a sloped roof. A flat or near-flat collection surface requires 0.18 inches of rain per hour for an effective washing of the surface.

The recommended diversion of first flush ranges from one to two gallons of first-flush diversion for each 100 square feet of collection area. If using a roof for a collection area that drains into gutters, calculate the amount of rainfall area that will be drained into every gutter feeding your system. Remember to calculate the horizontal equivalent of the "roof footprint" when calculating your catchment area. (Please refer to the Figure 4-1 in Chapter 4, Water Balance and System Sizing.) If a gutter receives the quantity of runoff that require multiple downspouts, first-flush

First-Flush Diverters

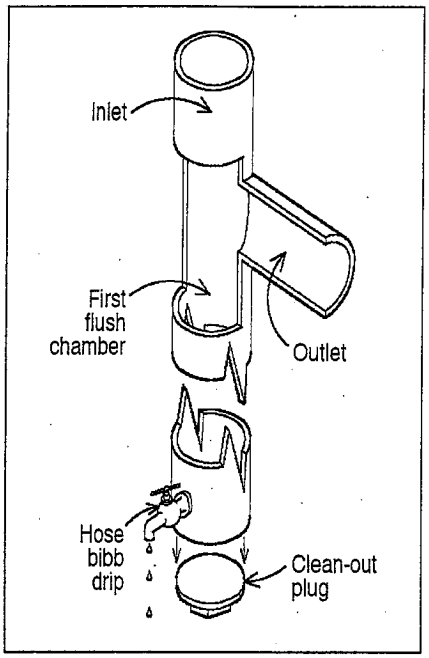

Figure 2-2. Standpipe first-flush diverter

Standpipe

The simplest first-flush diverter is a 6- or 8-inch PVC standpipe (Figure 2-2). The diverter fills with water first, backs up, and then allows water to flow into the main collection piping. These standpipes usually have a cleanout fitting at the bottom, and must be emptied and cleaned out after each rainfall event. The water from the standpipe may be routed to a planted area. A pinhole drilled at the bottom of the pipe or a hose bibb fixture left slightly open (shown) allows water to gradually leak out.

If you are using 3" diameter PVC or similar pipe, allow 33" length of pipe per gallon; 4" diameter pipe needs only 18" of length per gallon; and a little over 8" of 6" diameter pipe is needed to catch a gallon of water.

Standpipe with ball valve

The standpipe with ball valve is a variation of the standpipe filter. The cutaway drawing (Figure 2-3) shows the ball valve. As the chamber fills, the ball floats up and seals on the seat, trapping first-flush water and routing the balance of the water to the tank.

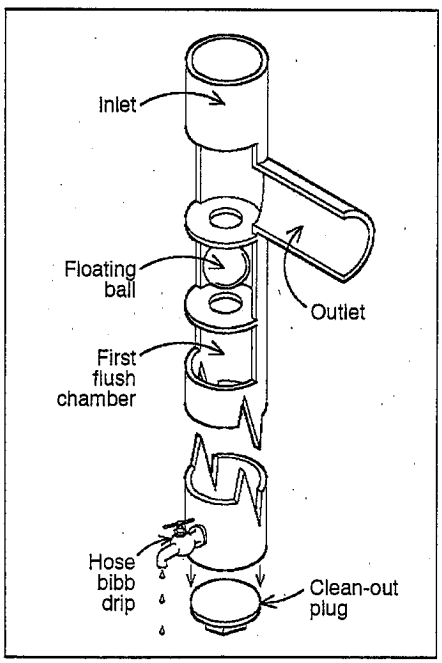

Figure 2-3. Standpipe with ball valve

diversion devices will be required for each downspout.

Roof Washers

The roof washer, placed just ahead of the storage tank, filters small debris for potable systems and also for systems using drip irrigation. Roof washers consist of a tank, usually between 30- and 50-gallon capacity, with leaf strainers and a filter (Figure 2-4). One commercially available roof washer has a 30-micron filter. (A micron, also called a micrometer, is one-millionth of a meter. A 30-micron filter has pores about one-third the diameter of a human hair.)

All roof washers must be cleaned. Without proper maintenance they not only become clogged and restrict the flow of rainwater, but may themselves become breeding grounds for pathogens.

The box roof washer (Figure 2-4) is a commercially available component consisting of a fiberglass box with one or two 30-micron canister filters (handling rainwater from 1,500- and 3,500-square-foot catchments, respectively). The box is placed atop a ladder-like stand beside the tank, from which the system owner accesses the box for cleaning via the ladder. In locations with limited drop, a filter with the canisters oriented horizontally is indicated, with the inlet and outlet of the filter being nearly parallel.

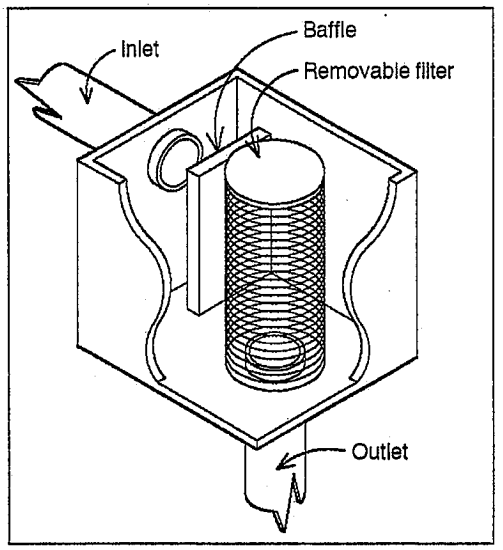

Figure 2-4. Box roof washer

Storage Tanks

The storage tank is the most expensive component of the rainwater harvesting system.

The size of storage tank or cistern is dictated by several variables: the rainwater supply (local precipitation), the demand, the projected length of dry spells without rain, the catchment surface area, aesthetics, personal preference, and budget.

A myriad of variations on storage tanks and cisterns have been used over the centuries and in different geographical regions: earthenware cisterns in pre-biblical times, large pottery containers in Africa, above-ground vinyl-lined swimming pools in Hawaii, concrete or brick cisterns in the central United States, and, common to old homesteads in Texas, galvanized steel tanks and attractive site-built stone-and-mortar cisterns.

For purposes of practicality, this manual will focus on the most common, easily installed, and readily available storage options in Texas, some still functional after a century of use.

Storage tank basics

- Storage tanks must be opaque, either upon purchase or painted later, to inhibit algae growth.

- For potable systems, storage tanks must never have been used to store toxic materials.
- Tanks must be covered and vents screened to discourage mosquito breeding.
- Tanks used for potable systems must be accessible for cleaning.

Storage tank siting

Tanks should be located as close to supply and demand points as possible to reduce the distance water is conveyed. Storage tanks should be protected from direct sunlight, if possible. To ease the load on the pump, tanks should be placed as high as practicable. Of course, the tank inlet must be lower than the lowest downspout from the catchment area. To compensate for friction losses in the trunk line, a difference of a couple of feet is preferable. When converting from well water, or if using a well backup, siting the tanks near the well house facilitates the use of existing plumbing.

Water runoff should not enter septic system drainfields, and any tank overflow and drainage should be routed so that it does not affect the foundation of the tanks or any other structures (Macomber, 2001).

Texas does not have specific rules concerning protection of rainwater systems from possible contamination sources; however, to ensure a safe water supply, underground tanks should be located at least 50 feet away from animal stables or above-ground application of treated wastewater. Also, runoff from tank overflow should not enter septic system drainfields. If supplemental hauled water might be needed, tank placement should also take into consideration accessibility by a water truck, preferably near a driveway or roadway.

Water weighs just over 8 pounds per gallon, so even a relatively small 1,500-gallon tank will weigh 12,400 pounds. A leaning tank may collapse; therefore, tanks should be placed on a stable, level pad. If the bed consists of a stable substrate, such as caliche, a load of sand or pea gravel covering the bed may be sufficient preparation. In some areas, sand or pea gravel over well-compacted soil may be sufficient for a small tank. Otherwise, a concrete pad should be constructed. When the condition of the soil is unknown, enlisting the services of a structural engineer may be in order to ensure the stability of the soil supporting the full cistern weight.

Another consideration is protecting the pad from being undermined by either normal erosion or from the tank overflow. The tank should be positioned such that runoff from other parts of the property or from the tank overflow will not undermine the pad. The pad or bed should be checked after intense rainfall events.

Fiberglass

Fiberglass tanks (Figure 2-5) are built in standard capacities from 50 gallons to 15,000 gallons and in both vertical

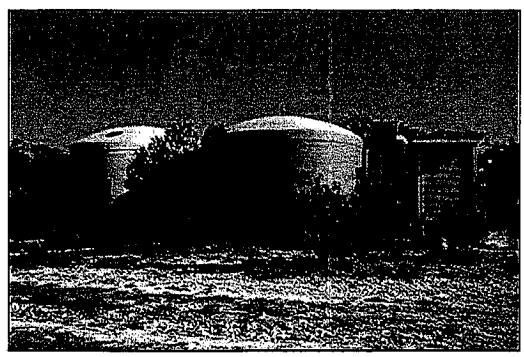

Figure 2-5. Two 10,000-gallon fiberglass tanks

cylinder and low-horizontal cylinder configurations.

Fiberglass tanks under 1,000 gallons are expensive for their capacity, so polypropylene might be preferred. Tanks for potable use should have a USDA-approved food-grade resin lining and the tank should be opaque to inhibit algae growth.

The durability of fiberglass tanks has been tested and proven, weathering the elements for years in Texas oil fields. They are easily repaired.

The fittings on fiberglass tanks are an integral part of the tank, eliminating the potential problem of leaking from an aftermarket fitting.

Polypropylene

Polypropylene tanks (Figure 2-6) are commonly sold at farm and ranch supply retailers for all manner of storage uses. Standard tanks must be installed above ground. For buried installation, specially reinforced tanks are necessary to withstand soil expansion and contraction. They are relatively inexpensive and durable, lightweight, and long lasting. Polypropylene tanks are available in capacities from 50 gallons to 10,000 gallons.

Figure 2-6. Low-profile 5,000-gallon polypropylene tanks

Polypropylene tanks do not retain paint well, so it is necessary to find off-the-shelf tanks manufactured with opaque plastic. The fittings of these tanks are aftermarket modifications. Although easy to plumb, the bulkhead fittings might be subject to leakage.

Wood

For aesthetic appeal, a wood tank (Figure 2-7) is often a highly desirable choice for urban and suburban rainwater harvesters.

Wood tanks, similar to wood water towers at railroad depots, were historically made of redwood. Modern wood tanks are usually of pine, cedar, or cypress wrapped with steel tension cables, and lined with plastic. For potable use, a food-grade liner must be used.

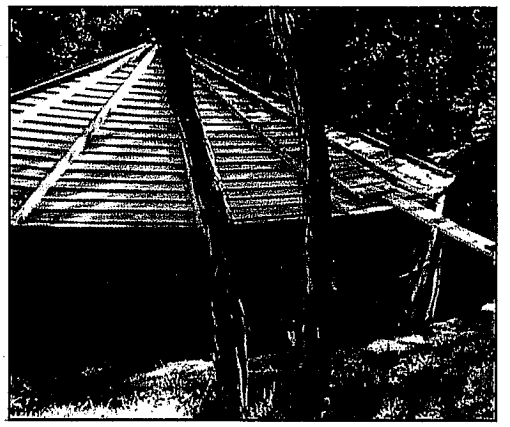

Figure 2-7. Installation of a 25,000-gallon Timbertank in Central Texas showing the aesthetic appeal of these wooden tanks

These tanks are available in capacities from 700 to 37,000 gallons, and are site-built by skilled technicians. They can be dismantled and reassembled at a different location.

Metal

Galvanized sheet metal tanks (Figure 2-8) are also an attractive option for the urban or suburban garden. They are available in sizes from 150 to 2,500 gallons, and are lightweight and easy to relocate. Tanks can be lined for potable use. Most tanks are corrugated galvanized steel dipped in hot zinc for corrosion resistance. They are lined with a food-grade liner, usually polyethylene or PVC, or coated on the inside with epoxy paint. The paint, which also extends the life of the metal, must be FDA- and NSF-approved for potability.

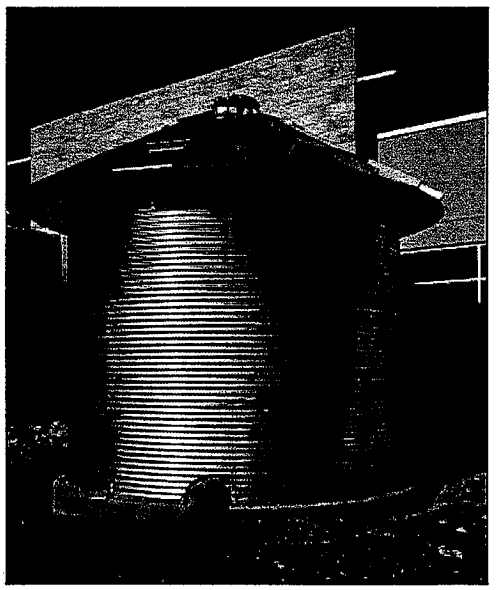

Figure 2-8. Galvanized sheet metal tanks are usually fitted with a food-grade plastic liner.

Concrete

Concrete tanks are either poured in place or prefabricated (Figure 2-9). They can be constructed above ground or below ground. Poured-in-place tanks can be integrated into new construction under a patio, or a basement, and their placement is considered permanent.

A type of concrete tank familiar to residents of the Texas Hill Country is constructed of stacked rings with sealant around the joints. Other types of prefabricated concrete tanks include new septic tanks, conduit stood on end, and concrete blocks. These tanks are fabricated off-site and dropped into place.

Concrete may be prone to cracking and leaking, especially in underground tanks in clay soil. Leaks can be easily repaired although the tank may need to be drained to make the repair. Involving the expertise of a structural engineer to determine the size and spacing of reinforcing steel to match the structural loads of a poured-in-place concrete cistern is highly recommended. A product that repairs leaks in concrete tanks, Xypex™, is now also available and approved for potable use.

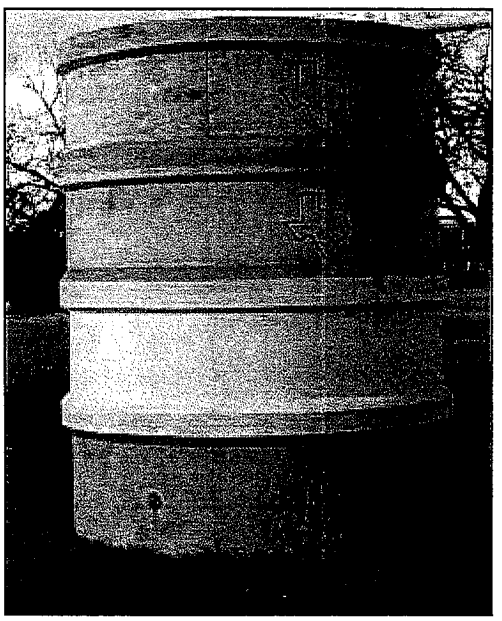

Figure 2-9. Concrete tank fabricated from stacking rings of concrete

One possible advantage of concrete tanks is a desirable taste imparted to the water by calcium in the concrete being dissolved by the slightly acidic

rainwater. For potable systems, it is essential that the interior of the tank be plastered with a high-quality material approved for potable use.

Ferrocement

Ferrocement is a low-cost steel and mortar composite material. For purposes of this manual, Gunite™ and Shotcrete™ type will be classified as ferrocements. Both involve application of the concrete and mortar under pressure from a gun. Gunite, the dry-gun spray method in which the dry mortar is mixed with water at the nozzle, is familiar for its use in swimming pool construction. Shotcrete uses a similar application, but the mixture is a prepared slurry. Both methods are cost-effective for larger storage tanks. Tanks made of Gunite and Shotcrete consist of an armature made from a grid of steel reinforcing rods tied together with wire around which is placed a wire form with closely spaced layers of mesh, such as expanded metal lath. A concrete-sand-water mixture is applied over the form and allowed to cure. It is important to ensure that the ferrocement mix does not contain any toxic constituents. Some sources recommend painting above-ground tanks white to reflect the sun's rays, reduce evaporation, and keep the water cool.

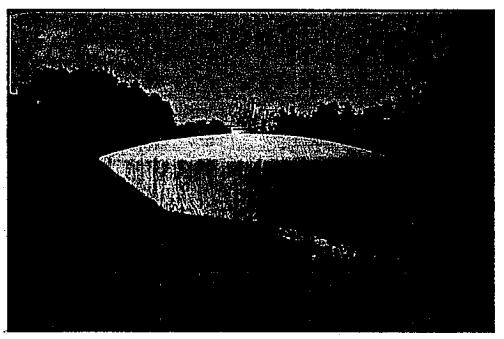

Figure 2-10. Ferrocement tanks, such as this one, are built in place using a metal armature and a sprayed-on cement.

Ferrocement structures (Figure 2-10) have commonly been used for water storage construction in developing countries due to low cost and availability of materials. Small cracks and leaks can easily be repaired with a mixture of cement and water, which is applied where wet spots appear on the tank's exterior. Because walls can be as thin as 1 inch, a ferrocement tank uses less material than concrete tanks, and thus can be less expensive. As with poured-in-place concrete construction, assistance from a structural engineer is encouraged.

In-ground polypropylene

In-ground tanks are more costly to install for two reasons: the cost of excavation and the cost of a more heavily reinforced tank needed if the tank is to be buried more than 2-feet deep in well-drained soils. Burying a tank in clay is not recommended because of the expansion/contraction cycles of clay soil. For deeper installation, the walls of poly tanks must be manufactured thicker and sometimes an interior bracing structure must be added. Tanks are buried for aesthetic or space-saving reasons.

Table 2-1 provides some values to assist in planning an appropriate-sized pad and cistern to meet your water needs and your available space. Many owners of rainwater harvesting systems use multiple smaller tanks in sequence to meet their storage capacity needs. This has the advantage of allowing the owner to empty a tank in order to perform maintenance on one tank at a time without losing all water in storage.

A summary of cistern materials, their features, and some words of caution are provided in Table 2-2 to assist the prospective harvester in choosing the

appropriate cistern type. Prior to making your final selection, consulting with an architect, engineer, or professional rainwater installer is recommended to ensure the right choice for your situation.

Table 2-1. Round Cistern Capacity (Gallons)

Height (feet)	6-foot Diameter	12-foot Diameter	18-foot Diameter
6	1,269	5,076	11,421
8	1,692	6,768	15,227
10	2,115	8,460	19,034
12	2,538	10,152	22,841
14	2,961	11,844	26,648
16	3,384	13,535	30,455
18	3,807	15,227	34,262
20	4,230	16,919	38,069

Rain barrel

One of the simplest rainwater installations, and a practical choice for urban dwellers, is the 50- to 75-gallon drum used as a rain barrel for irrigation of plant beds. Some commercially available rain barrels are manufactured with overflow ports linking the primary barrel to a second barrel. A screen trap at the water entry point discourages mosquito breeding. A food-grade plastic barrel used for bulk liquid storage in restaurants and grocery stores can be fitted with a bulkhead fitting and spigot for garden watering. Other options include a submersible pump or jet pump.

Table 2-2. Cistern Types

MATERIAL	FEATURES	CAUTION
Plastics		
Trash cans (20-50 gallon)	commercially available; inexpensive	use only new cans
Fiberglass	commercially available; alterable and moveable	must be sited on smooth, solid, level footing
Polyethylene/polypropylene	commercially available; alterable and moveable	UV-degradable, must be painted or tinted
Metals		
Steel drums (55-gallon)	commercially available; alterable and moveable	verify prior to use for toxics; prone to corrosion an rust;
Galvanized steel tanks	commercially available; alterable and moveable	possibly corrosion and rust; must be lined for potable use
Concrete and Masonry		
Ferrocement	durable and immoveable	potential to crack and fail
Stone, concrete block	durable and immoveable	difficult to maintain
Monolithic/Poured-in-place	durable and immoveable	potential to crack
Wood		
Redwood, fir, cypress	attractive, durable, can be disassembled and moved	expensive

Adapted from *Texas Guide to Rainwater Harvesting, Second Edition*, Texas Water Development Board, 1997.

Pressure Tanks and Pumps

The laws of physics and the topography of most homesteads usually demand a pump and pressure tank between water storage and treatment, and the house or end use. Standard municipal water pressure is 40 pounds per square inch (psi) to 60 psi. Many home appliances – clothes washers, dishwashers, hot-water-on-demand water heaters – require 20–30 psi for proper operation. Even some drip irrigation system need 20 psi for proper irrigation. Water gains 1 psi of pressure for every 2.31 feet of vertical rise. So for gravity flow through a 1-inch pipe at 40 psi, the storage tanks would

have to be more than 90 feet above the house.

Since this elevation separation is rarely practical or even desirable, two ways to achieve proper household water pressure are (1) a pump, pressure tank, pressure switch, and check valve (familiar to well owners), or (2) an on-demand pump.

Pumps are designed to push water rather than to pull it. Therefore, the system should be designed with the pumps at the same level and as close to the storage tanks as possible.

Pump systems draw water from the storage tanks, pressurize it, and store it in a pressure tank until needed. The typical pump-and-pressure tank arrangement consists of a ¾- or 1-horsepower pump, usually a shallow well jet pump or a multistage centrifugal pump, the check valve, and pressure switch. A one-way check valve between the storage tank and the pump prevents pressurized water from being returned to the tank. The pressure switch regulates operation of the pressure tank. The pressure tank, with a typical capacity of 40 gallons, maintains pressure throughout the system. When the pressure tank reaches a preset threshold, the pressure switch cuts off power to the pump. When there is demand from the household, the pressure switch detects the drop in pressure in the tank and activates the pump, drawing more water into the pressure tank.

The cistern float filter (Figure 2-11) allows the pump to draw water from the storage tank from between 10 and 16 inches below the surface. Water at this level is cleaner and fresher than water closer to the bottom of the tank. The device has a 60-micron filter. An external suction pump, connected via a flexible hose, draws water through the filter.

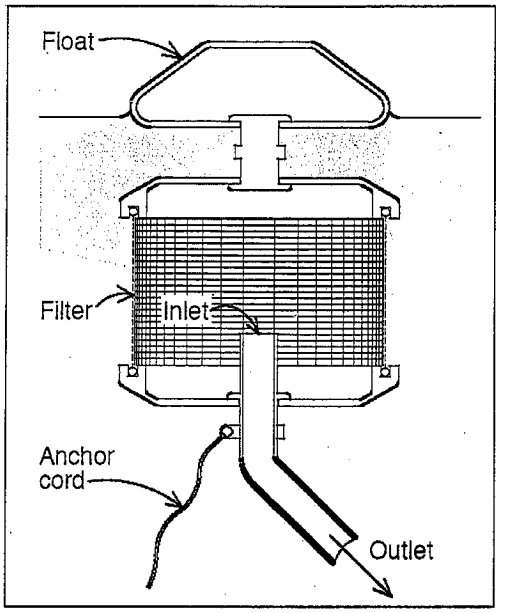

Figure 2-11. Cistern float filter

On-demand pump

The new on-demand pumps eliminate the need for a pressure tank. These pumps combine a pump, motor, controller, check valve, and pressure tank function all in one unit. They are self-priming and are built with a check valve incorporated into the suction port. Figure 2-12 shows a typical installation of an on-demand pump and a 5-micron fiber filter, 3-micron activated charcoal filter, and an ultraviolet lamp. Unlike conventional pumps, on-demand pumps are designed to activate in response to a demand, eliminating the need, cost, and space of a pressure tank. In addition, some on-demand pumps are specifically designed to be used with rainwater.

Treatment and Disinfection Equipment

For a nonpotable system used for hose irrigation, if tree overhang is present, leaf screens on gutters and a roof washer

diverting 10 gallons for every 1,000 square feet of roof is sufficient. If drip irrigation is planned, however, sediment filtration may be necessary to prevent clogging of emitters. As standards differ, the drip irrigation manufacturer or vendor should be contacted regarding filtering of water.

For potable water systems, treatment beyond the leaf screen and roof washer is necessary to remove sediment and disease-causing pathogens from stored water. Treatment generally consists of filtration and disinfection processes in series before distribution to ensure health and safety.

Cartridge Filters and Ultraviolet (UV) Light

The most popular disinfection array in Texas is two in-line sediment filters – the 5-micron fiber cartridge filter followed by the 3-micron activated charcoal cartridge filter – followed by ultraviolet light. This disinfection set-up is placed after the pressure tank or after the on-demand pump.

It is important to note that cartridge filters must be replaced regularly. Otherwise, the filters can actually harbor bacteria and their food supply. The 5-micron filter mechanically removes suspended particles and dust. The 3-micron filter mechanically traps microscopic particles while smaller organic molecules are absorbed by the activated surface. In theory, activated charcoal can absorb objectionable odors and tastes, and even some protozoa and cysts (Macomber, 2001).

Filters can be arrayed in parallel for greater water flow. In other words, two 5-micron fiber filters can be stacked in one large cartridge followed by two 3-micron activated charcoal filters in another cartridge. The ultraviolet (UV) light must be rated to accommodate the increased flow.

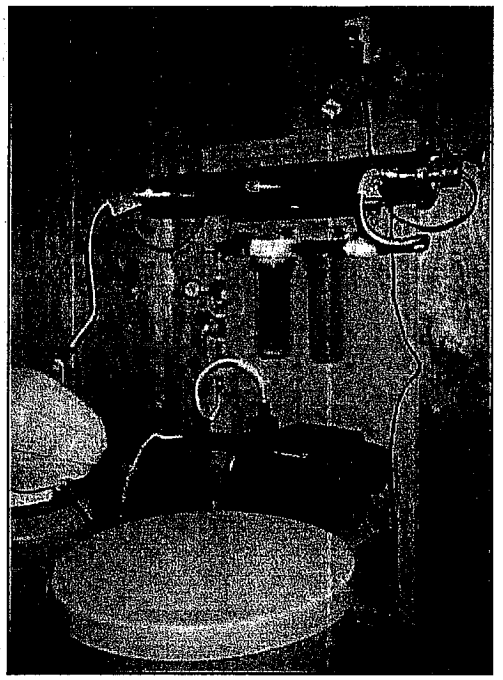

Figure 2-12. Typical treatment installation of an on-demand pump, 5-micron fiber filter, 3-micron activated charcoal filter, and an ultraviolet lamp (top).

NSF International (National Sanitation Foundation) is an independent testing and certification organization. Filter performance can be researched using a simple search feature by model or manufacturer on the NSF website. (See References.) It is best to purchase NSF-certified equipment.

Maintenance of the UV light involves cleaning of the quartz sleeve. Many UV lights are designed with an integral wiper unit. Manual cleaning of the sleeve is not recommended due to the possibility of breakage.

UV lamps are rated in gallons per minute. For single 5-micron and 3-micron in-line filters, a UV light rated at 12 gallons per minute is sufficient. For

filters in parallel installation, a UV light rated for a higher flow is needed. In-line flow restrictors can match flow to the UV light rating.

UV lights must be replaced after a maximum of 10,000 hours of operation. Some lights come with alarms warning of diminished intensity.

Ozone

Chemically, ozone is O_3: essentially a more reactive form of molecular oxygen made up of three atoms of oxygen. Ozone acts as a powerful oxidizing agent to reduce color, to eliminate foul odors, and to reduce total organic carbon in water. For disinfection purposes, an ozone generator forces ozone into storage tanks through rings or a diffuser stone. Ozone is unstable and reacts quickly to revert to O_2 and dissipates through the atmosphere within 15 minutes.

A rainwater harvesting system owner in Fort Worth uses an ozone generator to keep the water in his 25,000 gallons of storage "fresh" by circulating ozone through the five tanks at night. A standard sprinkler controller switches the ozone feed from tank to tank.

Membrane Filtration (Reverse Osmosis and Nanofiltration)

Membrane filtration, such as reverse osmosis and nanofiltration work by forcing water under high pressure through a semipermeable membrane to filter dissolved solids and salts, both of which are in very low concentrations in rainwater. Membrane processes, however, have been known empirically to produce "sweeter" water, perhaps by filtering out dissolved metals from plumbing.

A certain amount of feed water is lost in any membrane filtration process. Reject water, referred to as "brine," containing a concentrate of the contaminants filtered from the feed water, is discharged. The amount of reject water, however, is directly proportional to the purity of the feed water. Rainwater, as a purer water source to begin with, would generate less brine. Reverse osmosis membranes must be changed before they are fouled by contaminants.

Reverse osmosis (RO) equipment for household use is commercially available from home improvement stores such as Lowe's and Home Depot.

Chlorination

For those choosing to disinfect with chlorine, automatic self-dosing systems are available. A chlorine pump injects chlorine into the water as it enters the house. In this system, appropriate contact time is critical to kill bacteria. A practical chlorine contact time is usually from 2 minutes to 5 minutes with a free chlorine residual of 2 parts per million (ppm). The time length is based on water pH, temperature, and amount of bacteria. Contact time increases with pH and decreases with temperature. K values (contact times) are shown in Table 3-3.

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Chapter 3
Water Quality and Treatment

The raindrop as it falls from the cloud is soft, and is among the cleanest of water sources. Use of captured rainwater offers several advantages.

Rainwater is sodium-free, a benefit for persons on restricted sodium diets.

Irrigation with captured rainwater promotes healthy plant growth. Also, being soft water, rainwater extends the life of appliances as it does not form scale or mineral deposits.

The environment, the catchment surface, and the storage tanks affect the quality of harvested rainwater. With minimal treatment and adequate care of the system, however, rainfall can be used as potable water, as well as for irrigation.

The falling raindrop acquires slight acidity as it dissolves carbon dioxide and nitrogen. Contaminants captured by the rain from the catchment surface and storage tanks are of concern for those intending to use rainwater as their potable water source. The catchment area may have dust, dirt, fecal matter from birds and small animals, and plant debris such as leaves and twigs. Rainwater intended for domestic potable use must be treated using appropriate filtration and disinfection equipment, discussed in Chapter 2, Rainwater Harvesting System Components.

Total dissolved solids (TDS) in rainwater, originating from particulate matter suspended in the atmosphere, range from 2 milligrams per liter (mg/l or ppm)[1] to 20 mg/l across Texas, compared with municipal water TDS ranges of 100 ppm to more than 800 ppm.

The sodium content of some municipal water ranges from 10 parts per million (ppm) to as high as 250 ppm. Rainwater intended solely for outdoor irrigation may need no treatment at all except for a screen between the catchment surface and downspout to keep debris out of the tank, and, if the tank is to supply a drip irrigation system, a small-pore filter at the tank outlet to keep emitters from clogging.

Considerations for the Rainwater Harvesting System Owner

It is worth noting that owners of rainwater harvesting systems who supply all domestic needs essentially become owners of their "water supply systems," responsible for routine maintenance, including filter and lamp replacement, leak repair, monitoring of water quality, and system upgrades.

The rainwater harvesting system owner is responsible for both water supply and water quality. Maintenance of a rainwater harvesting system is an ongoing periodic duty, to include:

- monitoring tank levels,
- cleaning gutters and first-flush devices,
- repairing leaks,
- repairing and maintaining the system, and
- adopting efficient water use practices.

In addition, owners of potable systems must adopt a regimen of:

- changing out filters regularly,

[1] For dilute aqueous solutions mg/l is approximately equal to ppm because a liter of water weighs one kilogram.

- maintaining disinfection equipment, such as cleaning and replacing ultraviolet lamps, and
- regularly testing water quality.

Water Quality Standards

No federal or state standards exist currently for harvested rainwater quality, although state standards may be developed in 2006.

The latest list of drinking water requirements can be found on the United States Environmental Protection Agency's website. (See References.) The next section discusses the potential vectors by which contaminants get into rainwater. For those intending to harvest rainwater for potable use, the microbiological contaminants *E. coli*, *Cryptosporidium*, *Giardia lamblia*, total coliforms, legionella, fecal coliforms, and viruses, are probably of greatest concern, and rainwater should be tested to ensure that none of them are found (Lye, 2002). County health department and city building code staff should also be consulted concerning safe, sanitary operations and construction of rainwater harvesting systems.

Factors Affecting Water Quality

pH (acidity/alkalinity)

As a raindrop falls and comes in contact with the atmosphere, it dissolves naturally occurring carbon dioxide to form a weak acid. The resultant pH is about 5.7, whereas a pH of 7.0 is neutral. (A slight buffering using 1 tablespoon of baking soda to 100 gallons of water in the tank will neutralize the acid, if desired. Also, a concrete storage tank will impart a slight alkalinity to the water.) While Northeast Texas tends to experience an even lower pH (more acidic) rainwater than in other parts of the state, acid rain is not considered a serious concern in Texas.

Particulate matter

Particulate matter refers to smoke, dust, and soot suspended in the air. Fine particulates can be emitted by industrial and residential combustion, vehicle exhaust, agricultural controlled burns, and sandstorms. As rainwater falls through the atmosphere, it can incorporate these contaminants.

Particulate matter is generally not a concern for rainwater harvesting in Texas. However, if you wish, geographic data on particulate matter can be accessed at the Air Quality Monitoring web page of the Texas Commission on Environmental Quality (TCEQ). (See References.)

Chemical compounds

Information on chemical constituents can also be found on the TCEQ Air Quality website. (See References.)

In agricultural areas, rainwater could have a higher concentration of nitrates due to fertilizer residue in the atmosphere (Thomas and Grenne, 1993). Pesticide residues from crop dusting in agricultural areas may also be present.

Also, dust derived from calcium-rich soils in Central and West Texas can add 1 mg/l to 2 mg/l of hardness to the water. Hard water has a high mineral content, usually consisting of calcium and magnesium in the form of carbonates.

In industrial areas, rainwater samples can have slightly higher values of suspended solids concentration and turbidity due to the greater amount of particulate matter in the air (Thomas and Grenne, 1993).

Catchment surface

When rainwater comes in contact with a catchment surface, it can wash bacteria, molds, algae, fecal matter, other organic matter, and/or dust into storage tanks. The longer the span of continuous number of dry days (days without rainfall), the more catchment debris is washed off the roof by a rainfall event (Thomas and Grenne, 1993; Vasudevan, 2002).

Tanks

The more filtering of rainwater prior to the storage tanks, the less sedimentation and introduction of organic matter will occur within the tanks. Gutter screens, first-flush diverters, roof washers, and other types of pre-tank filters are discussed in Chapter 2. Sedimentation reduces the capacity of tanks, and the breakdown of plant and animal matter may affect the color and taste of water, in addition to providing nutrients for microorganisms.

Most storage tanks are equipped with manholes to allow access for cleaning. Sediment and sludge can be pumped out or siphoned out using hose with an inverted funnel at one end without draining the tank annually.

Multiple linked tanks allow one tank to be taken off line for cleaning by closing the valve on the linking pipe between tanks.

Water Treatment

The cleanliness of the roof in a rainwater harvesting system most directly affects the quality of the captured water. The cleaner the roof, the less strain is placed on the treatment equipment. It is advisable that overhanging branches be cut away both to avoid tree litter and to deny access to the roof by rodents and lizards.

For potable systems, a plain galvanized roof or a metal roof with epoxy or latex paint is recommended. Composite or asphalt shingles are not advisable, as toxic components can be leached out by rainwater. See Chapter 2 for more information on roofing material.

To improve water quality, several treatment methods are discussed. It is the responsibility of the individual installer or homeowner to weigh the advantages and disadvantages of each method for appropriateness for the individual situation. A synopsis of treatment techniques is shown in Table 3-1. A discussion of the equipment is included in Chapter 2.

Table 3-1. Treatment Techniques

METHOD	LOCATION	RESULT
Treatment		
Screening		
Leaf screens and strainers	gutters and downspouts	prevent leaves and other debris from entering tank
Settling		
Sedimentation	within tank	settles out particulate matter
Activated charcoal	before tap	removes chlorine*
Filtering		
Roof washer	before tank	eliminates suspended material
In-line/multi-cartridge	after pump	sieves sediment
Activated charcoal	after sediment filter	removes chlorine, improves taste
Slow sand	separate tank	traps particulate matter
Microbiological treatment /Disinfection		
Boiling/distilling	before use	kills microorganisms
Chemical treatments (Chlorine or Iodine)	within tank or at pump (liquid, tablet, or granular)	kills microorganisms
	before activated charcoal filter	
Ultraviolet light	after activated charcoal filter, before tap	kills microorganisms
Ozonation	after activated charcoal filter, before tap	kills microorganisms
Nanofiltration	before use; polymer membrane	removes molecules
	(pores 10^{-3} to 10^{-6} inch)	
Reverse osmosis	before use: polymer membrane (pores 10^{-9} inch)	removes ions (contaminants and microorganisms)
*Should be used if chlorine has been used as a disinfectant.		

Adapted from *Texas Guide to Rainwater Harvesting, Second Edition*, Texas Water Development Board, 1997.

Chlorination

Chlorination is mentioned here more for its historical value than for practical application. Chlorine has been used to disinfect public drinking water since 1908, and it is still used extensively by rainwater harvesters in Hawaii, the U.S. Virgin Islands, and in older rainwater harvesting systems in Kentucky and Ohio. Chlorine must be present in a concentration of 1 ppm to achieve disinfection. Liquid chlorine, in the form of laundry bleach, usually has 6 percent available sodium hypochlorite. For disinfection purposes, 2 fluid ounces (¼ cup) must be added per 1,000 gallons of rainwater. Household bleach products, however, are not labeled for use in water treatment by the Food and Drug Administration. A purer form of chlorine, which comes in solid form for swimming pool disinfection, is calcium hypochlorite, usually with 75 percent available chlorine. At that strength, 0.85 ounces by weight in 1,000 gallons of water would result in a level of 1 ppm. In either case, it is a good idea to carefully dilute the chlorine source in a bucket of water, and then stir with a clean paddle to hasten mixing (Macomber, 2001). Chlorine contact times are show in Table 3-2.

The use of chlorine for disinfection presents a few drawbacks. Chlorine combines with decaying organic matter in water to form trihalomethanes. This disinfection by-product has been found to cause cancer in laboratory rats. Also, some users may find the taste and smell of chlorine objectionable. To address this concern, an activated carbon filter may be used to help remove chlorine.

Chlorine does not kill *Giardia* or *Cryptosporidium*, which are cysts protected by their outer shells. Persons with weakened or compromised immune systems are particularly susceptible to these maladies. To filter out *Giardia* and *Cryptosporidum* cysts, an absolute 1-micron filter, certified by the NSF, is needed (Macomber, 2001).

Table 3-2. Contact Time with Chlorine

Water pH	Water temperature		
	50 F or warmer	45 F	40 F or colder
	Contact time in minutes		
6.0	3	4	5
6.5	4	5	6
7.0	8	10	12
7.5	12	15	18
8.0	16	20	24

UV Light

UV light has been used in Europe for disinfection of water since the early 1900s, and its use has now become common practice in U.S. utilities. Bacteria, virus, and cysts are killed by exposure to UV light. The water must go

through sediment filtration before the ultraviolet light treatment because pathogens can be shadowed from the UV light by suspended particles in the water. In water with very high bacterial counts, some bacteria will be shielded by the bodies of other bacteria cells.

UV lights are benign: they disinfect without leaving behind any disinfection by-products. They use minimal power for operation. One should follow manufacturer's recommendations for replacement of bulbs.

Testing

Harvested rainwater should be tested before drinking and periodically thereafter. Harvested rainwater should be tested both before and after treatment to ensure treatment is working. It is advisable to test water quarterly at a minimum, if used for drinking.

Harvested rainwater can be tested by a commercial analytical laboratory, the county health departments of many Texas counties, or the Texas Department of Health.

Before capturing rainwater samples for testing, contact the testing entity first to become informed of requirements for container type and cleanliness, sample volume, number of samples needed, and time constraints for return of the sample.

For instance, for total coliform testing, water must usually be captured in a sterile container issued by the testing entity and returned within a maximum of 30 to 36 hours. Testing for pH, performed by commercial analytical laboratories must be done on site; other tests are less time-critical.

A list of county health departments that will test for total and fecal coliform can be found on the Texas Department of State Health Services (TDSHS) website. (See References.) The testing fee is usually between $15 and $25. Homeowners should contact the health department prior to sample collection to procure a collection kit and to learn the proper methods for a grab sample or a faucet sample.

Texas Department of State Health Services will test for fecal coliforms for a fee of $20 per sample. (See References.) A collection kit can be ordered from TDSHS at (512) 458-7598.

Commercial laboratories are listed in telephone Yellow Pages under Laboratories–Analytical & Testing. For a fee, the lab will test water for pathogens. For an additional fee, labs will test for other contaminants, such as metals and pesticides.

References

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Chapter 4
Water Balance and System Sizing

The basic rule for sizing any rainwater harvesting system is that the volume of water that can be captured and stored (the supply) must equal or exceed the volume of water used (the demand).

The variables of rainfall and water demand determine the relationship between required catchment area and storage capacity. In some cases, it may be necessary to increase catchment surface area by addition of a rain barn or outbuilding to capture enough rainwater to meet demand. Cistern capacity must be sufficient to store enough water to see the system and its users through the longest expected interval without rain.

The following sections describe ways to determine the amount of rainfall, the estimated demand, and how much storage capacity is needed to provide an adequate water supply.

Intended End Use

The first decision in rainwater harvesting system design is the intended use of the water. If rainwater is to be used only for irrigation, a rough estimate of demand, supply, and storage capacity may be sufficient. On the other hand, if rainwater is intended to be the sole source of water for all indoor and outdoor domestic end uses, a more precise reckoning is necessary to ensure adequate supply.

How Much Water Can Be Captured?

In theory, approximately 0.62 gallons per square foot of collection surface per inch of rainfall can be collected. In practice, however, some rainwater is lost to first flush, evaporation, splash-out or overshoot from the gutters in hard rains, and possibly leaks. Rough collection surfaces are less efficient at conveying water, as water captured in pore spaces tends to be lost to evaporation.

Also impacting achievable efficiency is the inability of the system to capture all water during intense rainfall events. For instance, if the flow-through capacity of a filter-type roof washer is exceeded, spillage may occur. Additionally, after storage tanks are full, rainwater can be lost as overflow.

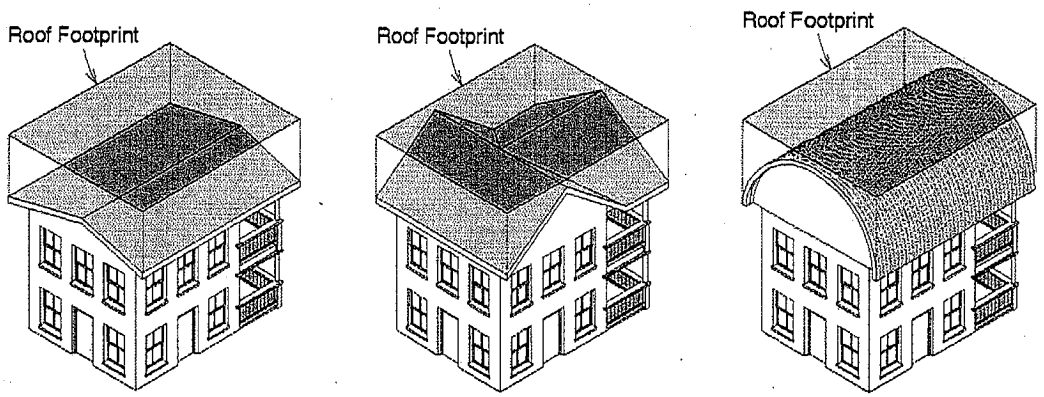

Figure 4-1. Catchment areas of three different roofs

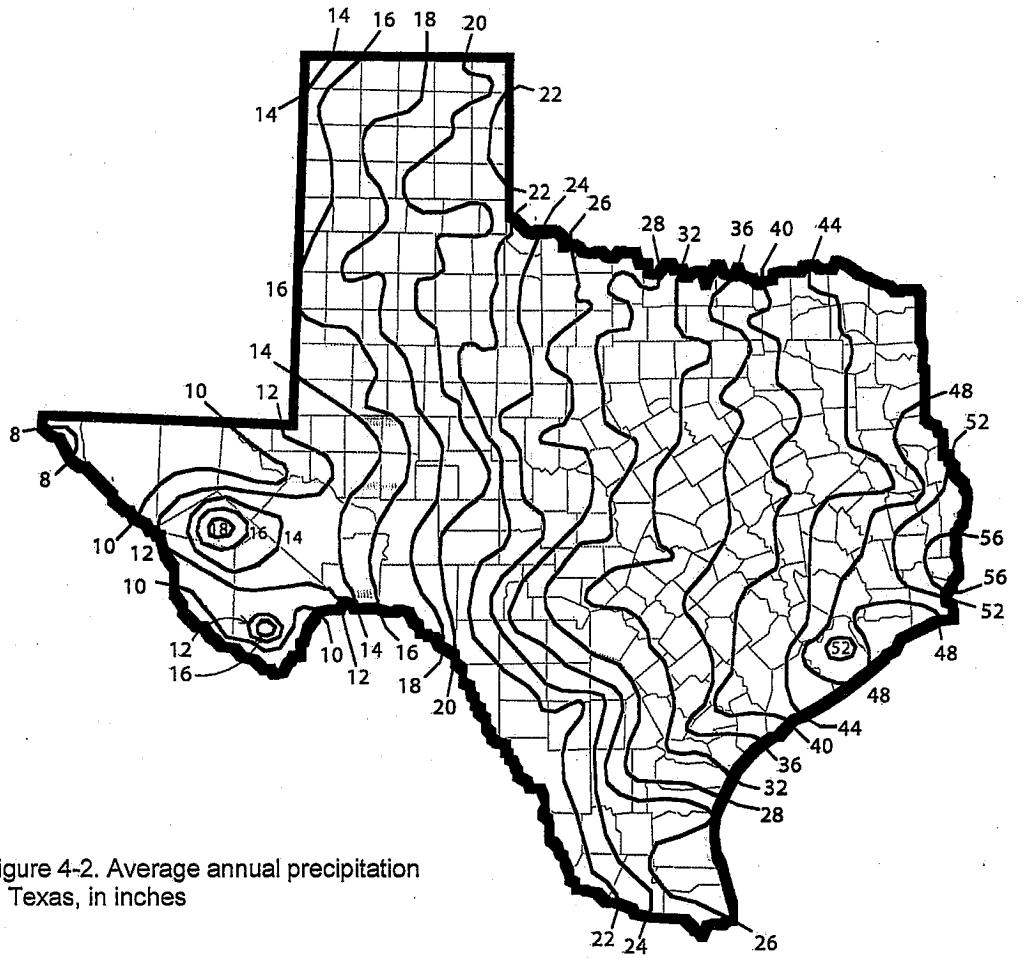

Figure 4-2. Average annual precipitation in Texas, in inches

For planning purposes, therefore, these inherent inefficiencies of the system need to be factored into the water supply calculation. Most installers assume an efficiency of 75 percent to 90 percent.

In most Texas locations, rainfall occurs seasonally, requiring a storage capacity sufficient to store water collected during rainy times to last through the dry spells. In West Texas, total annual rainfall might not be sufficient to allow a residence with a moderate-sized collection surface to capture sufficient water for all domestic use. Some residences might be constrained by the area of the collection surfaces or the volume of storage capacity that can be installed.

Collection Surface

The collection surface is the "footprint" of the roof (Figure 4-1). In other words, regardless of the pitch of the roof, the effective collection surface is the area covered by collection surface (length times width of the roof from eave to eave and front to rear). Obviously if only one side of the structure is guttered, only the area drained by the gutters is used in the calculation.

Rainfall Distribution

In Texas, average annual rainfall decreases roughly 1 inch every 15 miles,

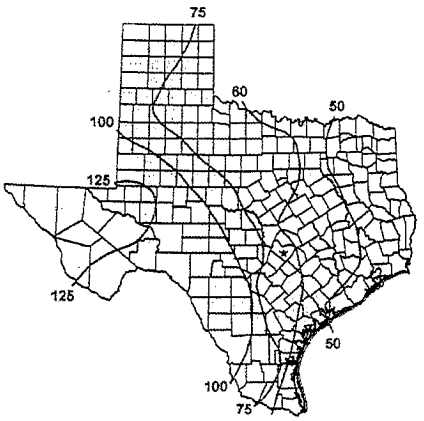

Figure 4-3. Maximum number of dry days (Krishna, 2003)

as you go from east to west (Figure 4-2), from 56 inches per year in Beaumont to less than 8 inches per year in El Paso. As one moves westward across the state, the prevalence and severity of droughts must also be considered.

To ensure a year-round water supply, the catchment area and storage capacity must be sized to meet water demand through the longest expected interval without rain. For instance, in West Texas, the historic longest span of continuous dry days has exceeded three months. For reference purposes, a contour map of historical maximum number of dry days in Texas is shown in Figure 4-3 (Krishna, 2003). If the rainwater harvesting system is intended to be the sole water source for a household, the designer must size the system to accommodate the longest anticipated time without rain, or otherwise plan for another water source, such as a well backup or hauled water.

Also, rainfall from high-intensity, short-duration rainfall events may be lost to overflow from storage tanks or splash-out from the gutters. Although these intense rainfall events are considered part of the cumulative annual rainfall, the total available volume of such an event is rarely captured.

Another consideration is that most rainfall occurs seasonally; annual rainfall is not evenly distributed throughout the 12 months of the year. The monthly distribution of rainfall is an important factor to consider for sizing a system. Monthly rainfall data for selected Texas cities is given in Appendix B.

Monthly Rainfall

Two different estimators of monthly rainfall are commonly used: average rainfall and median rainfall. Average annual rainfall is calculated by taking the sum of historical rainfall and dividing by the number of years of recorded data. This information is available from numerous public sources, including the National Climate Data Center website. (See References.) Median rainfall is the amount of rainfall that occurs in the midpoint of all historic rainfall totals for any given month. In other words, historically for the month in question, half of the time the rainfall was less than the median and half of the time rainfall was more than the median. Median values and average rainfall values for representative Texas cities are provided in Appendix B.

Median rainfall provides for a more conservative calculation of system sizing than average rainfall. The median value for rainfall is usually lower than the average value since large rainfall events tend to drive the average value higher. In other words, the sum of monthly medians is lower than the annual average due to the fact that the arithmetic average is skewed by high-intensity rainfall events. For planning purposes, median monthly rainfall can be used to estimate water availability to a

reasonable degree of certainty (Krishna, 2001).

For example, in the sample calculations at the end of this chapter, the average annual rainfall for Dallas is about 35.0 inches, but the sum of the monthly medians is only 29.3 inches.

Calculating Storage Capacity

Once the median or average potential for rainfall capture is known from rainfall data and catchment area, it will be necessary to calculate storage capacity. The decision of whether rainwater will be used for irrigation, potable and domestic use, or both, will dictate water demand, and therefore, capacity.

A simple method of roughly estimating storage capacity popular among professional installers is to size the storage capacity to meet quarterly demand. The system is sized to meet estimated demand for a three-month period without rain. Annual estimated demand is divided by four to yield necessary storage capacity using this approach. This approach, however, may result in a more expensive system due to higher storage costs.

If a rainwater harvesting system is to be the sole water supply, overbuilding ensures a safety margin. As with many things in life, it helps to hope for the best but plan for the worst. Even when budget constraints may not allow the user to install as much storage capacity as a sizing method may indicate, it is important to provide for an area where additional tanks or cisterns can be installed at a later date when finances permit.

The Water Balance Method Using Monthly Demand and Supply

One method of determining the feasibility of a proposed system is the monthly water balance method. This method of calculation is similar to maintaining a monthly checkbook balance. Starting with an assumed volume of water already in the tanks, the volume captured each month is added to the previous balance and the demand is subtracted. The initial volume of water in the tanks would be provided by hauling or capturing water prior to withdrawing water from the system. An example is presented at the end of this chapter.

Data and calculations can be entered on an electronic spreadsheet to enable the user to compare different variables of catchment area and storage. It is suggested that homeowners experiment with different variables of storage capacity and, if applicable, catchment surface to find individual levels of comfort and affordability for catchment size and storage capacity.

As mentioned above:

- catchment area and rainfall determine supply, and
- demand dictates required storage capacity.

A commitment to conserving water with water-saving fixtures, appliances, practices indoors, and low-water-use landscaping outdoors is an essential component of any rainwater harvesting system design. Not only is conservation good stewardship of natural resources, it also reduces the costs for storage capacity and related system components.

If the amount of rainwater that can be captured – calculated from roof area and rainfall – is adequate or more than

adequate to meet estimated demand, and meets the physical constraints of the building design, then storage capacity can be sized to meet estimated demand. If the monthly amount of water that can be captured, accounting for dry spells, is less than monthly estimated demand, then additional catchment area or supplemental supplies of water (such as groundwater from a well) will need to be considered.

In drier areas, no matter how large the storage capacity, catchment area may need to be increased with a rain barn or additional roof area to meet demand.

At the end of this chapter, an example of a water balance calculation is shown for the City of Dallas.

Estimating Demand

A water-conserving household will use between 25 and 50 gallons per person per day. (Note that total gallons per capita per day figures published for municipalities divide all the water distributed by the population, yielding a much larger amount per capita than actual domestic consumption.)

Households served previously by a water utility can read monthly demand from their meter or water bill to find monthly demand for purposes of building a new rainwater harvesting system. Divide the monthly total by the number of people in the house, and the days in the month to get a daily per capita demand number.

Water conservation is covered later in this chapter. Households solely dependent upon rainwater should adopt efficient water use practices both indoors and outdoors.

Estimating indoor water demand

Indoor water demand is largely unaffected by changes in weather, although changes in household occupancy rates depending upon seasons and ages of household members, more water use during the hot summer months, and very minor changes in consumption of water due to increases in temperature may be worth factoring in some instances. The results of a study of 1,200 single-family homes by the American Water Works Association (AWWA) in 1999 found that the average water conserving households used approximately 49.6 gallons per person per day (American Water Works Association, 1999).

Table 4-1 can be used to calculate indoor water demand. Many households use less than the average of 49.6 gallons per person found in the 1999 report by the AWWA, *Residential End Uses of Water*. The water volumes shown in the table assume a water-conserving household, with water-conserving fixtures and good practices, such as shutting off the water while brushing teeth or shaving. Overall demand in showers, baths, and faucet uses is a function of both time of use and rate of flow. Many people do not open the flow rate as high as it could be finding low or moderate flow rates more comfortable. In estimating demand, measuring flow rates and consumption in the household may be worth the effort to get more accurate estimates.

Table 4-1. Estimating Indoor Daily Domestic Demand

	A. Water consumption using conserving fixtures	B. Assumptions from AWWA Residential End-Use Study	C. Adjustments to assumptions (adjust up or down according to actual use)	D. Number of persons in household	E. Household monthly demand A x (B or C)x D x 30
Toilets (use only appropriate type)					
ULFT	1.6 gal/flush	6 flushes/ person/day			
Dual Flush	1 gal/flush liquids 1.6 gal/flush solids	6 flushes/ person/day			
Baths & showers					
Showerhead	2.2 gal/min	5 minutes/ person/day			
Bath	50 gal/bath	NA			
Faucets (personal hygiene, cooking, and cleaning of surfaces)	2.2 gal/faucet/min	5 minutes/ person/day			
Appliances or uses which are measured on a per-use basis (not a per-person basis):					
Clothes washer Front-loading (horizontal-axis)	18–25 gal/load	2.6 loads/week			
Dishwasher	8 gal/cycle	0.7 cycles/day			
Miscellaneous other					
Total					

One can use Table 4-1 if the designer prefers to incorporate known or expected behavioral habits into the water demand estimates. The values in the first column are to be multiplied by variables reflecting your own household water use patterns. The average values in the second column are offered for information, but as with all averages, are subject to wide variation based upon actual circumstances. An example is dual flush toilets – multiply three flushes

per day liquid only (1 gpf), and add three flushes per day for solids (1.6 gpf), (3x1) + (3x1.6) = 7.8 gallons multiplied by 3 persons = 23.4 gpd household demand x 30 days = 702 gallons per month. The authors recommend verifying any assumptions against the records of historical use from a municipal water bill if available.

Indoor water conservation

Indoor domestic water conservation can be achieved by a combination of fixtures, appliances, and water-conserving practices. The advantage of water-conserving appliances is that they require no change in household routine. Some water-conserving practices need user action, such as turning off the water while brushing teeth or shaving; washing vegetables in a pan rather than under a stream; washing only full loads of laundry and dishes; and keeping a pitcher of water in the refrigerator, rather than waiting for cold water to arrive from a faucet.

Water conservation appliances include:

- **Ultralow flush toilets (ULFTs).** Since 1993, only ULFTs with 1.6 gallons per flush may be sold in the United States. Older toilets should be replaced with the more efficient models. Some of the ULFTs require special early closing flappers to maintain their low-flow rates, so care should be taken in purchasing the correct replacement flapper for leaking toilets. If purchasing a new toilet, those that do not use early closure flappers are recommended. Dual-flush toilets (using less volume for liquid wastes) are also a good choice for a water-wise household.
- **Faucet aerators and efficient showerheads.** These fixtures are designed to use 2.2 gallons per minute at 60 psi, or 2.5 gpm at 80 psi (Table 4-1). Studies have shown that most people feel comfortable at less than full flow rates, so using the new fixtures (which are the only ones sold in the United States since 1992) should provide you with an efficient and comfortable experience.
- **Hot water on demand.** These wall-mounted units heat water just prior to use, eliminating the waste of waiting for hot water from the water heater while cold water is allowed to flow down the drain. Hot water loop systems keep hot water continuously circulating to achieve the same goal, but can use more energy. Another on-demand unit heats water quickly only when activated by a pushbutton, rather than circulating water through a loop, saving both water and energy. A rebate from San Antonio Water System (SAWS) is available for installation of this type of on-demand circulation system.
- **Horizontal-axis (front-loading) clothes washers.** Because clothes are tumbled through a small volume of water in the bottom of the drum (rather than washed in a full tub of water), this appliance can save up to half the water of a traditional clothes washer. It is also as much as 42 percent more energy efficient. A list of front-loading, horizontal-axis clothes washers is maintained by the Consortium for Energy Efficiency online. (See References.) Several municipal utilities in Texas, including City of Austin, SAWS, and Bexar Met, offer rebates for the purchase of these energy- and water-efficient appliances.

Estimating outdoor water demand

Outdoor water demand peaks in hot, dry summer. In fact, as much as 60 percent of municipal water demand in the summer is attributable to irrigation.

The water demands of a large turfgrass area almost always preclude the sole use of harvested rainwater for irrigation.

Many urban dwellers capture rainwater for irrigation of vegetable and ornamental gardens. Because it is free of salts and minerals, rainwater promotes healthy plant growth. In urban areas, rainwater harvesters may reduce their water bill by substituting harvested rainwater for municipal water for garden irrigation.

For both the health of landscape plants and water use-efficiency, the best way to water plants is according to their needs. For most plants adapted to Texas' climate, water stress is visually evident well before plant death. Signs of water stress include a gray blue tint to leaves, leaf rolling, and in the case of turfgrass, a footprint that does not spring back. Watering infrequently and deeply has been shown to promote plant health, waiting until plants need the water helps the water user to be sure that they are growing a healthy landscape.

For planning purposes, historical evapotranspiration can be used to project potential water demands. Evapotranspiration is the term for water use by plants, the combination of evaporation from the soil and transpiration from the plant leaves. An estimated value called potential evapotranspiration is available on the Texas Evapotranspiration website, or can be calculated from weather-related data. (See References.)

A recommended general reference for water-wise landscaping is *Xeriscape: Landscape Water Conservation*, publication B-1584, available online. (See References.) Other plant lists and resources are available at the Texas Master Gardeners' website. (See References.) Many municipal water utilities, including those in the cites of El Paso, Houston, Austin, San Antonio, and the Metroplex area have published water-wise landscaping information tailored to local climate and soil conditions

It is recommended that rainwater harvesting families install landscapes of native and adapted plants, and also ascribe to the seven principles of Xeriscaping. A water-wise landscape can be quite attractive, while conserving water and demanding less care than a garden of non-native or non-adapted plants.

Principles of Water-Wise Landscaping

1. Plan and design for water conservation.
2. Create practical turf areas.
3. Group plants of similar water needs together.
4. Use soil amendments like compost to allow the soil to retain more water.
5. Use mulches, especially in high and moderate watering zones, to lessen soil evaporation.
6. Irrigate efficiently by applying the right amount of water at the right time.
7. Maintain the landscape appropriately by fertilizing, mowing, and pruning.

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National Climate Data Center, www.ncdc.noaa.gov

Texas Evapotranspiration Network, texaset.tamu.edu

Texas Master Gardeners, aggiehorticulture.tamu.edu/mastergd/mg.html

Xeriscape: Landscape Water Conservation, publication B-1584, tcebookstore.org

Rainwater Harvesting System Sizing
Sample Water Balance Calculations for Dallas, Texas

Two methods of determining system sizing are shown below. In the first example, monthly average rainfall data are used, and in the second example, monthly median rainfall data are used for calculations. Monthly rainfall data for several locations in Texas are provided in Appendix B.

Keep in mind that the basic monthly water balance calculation is
Water available (gallons) = Initial volume in storage (gallons) + gallons captured – gallons used.
In an especially wet month, gallons in storage + gallons captured may exceed storage capacity; storage capacity could become a limiting factor, or a slightly larger cistern may be considered.

Assumptions

- Demand of 3,000 gallons/month
- Collection efficiency of 85 percent
- 0.62 gallons per square foot of roof area per inch of rain
- 10,000-gallon storage capacity
- 1,000 gallons in storage on January 1 to start out. (The water may have been collected between the time of system completion and new home occupancy, or it may be hauled water; systems designed for irrigation use only should be completed in the fall to collect rainwater during the slow-/non-growth season.)
- Irrigation volume is estimated based upon a small ornamental landscape, and limited supplemental irrigation, since this example is used for potable supply.

Calculations using Monthly Average Rainfall Data

First calculate the number of gallons collected in January. Using the average value of 1.91 inches of rain for January in Dallas (from Appendix B), the number of gallons of rainwater that can be expected to be stored in January from a 2,500-square-foot roof assuming 85% collection efficiency is determined from the equation:

Rainfall (inches) x roof area x 0.62 gal/sq ft /in. rain x collection efficiency

In this example:

$$1.97_{\text{in. rainfall}} \times 2{,}500_{\text{sq. ft. catchment}} \times 0.62_{\text{gallons/in. rain/sq. ft.}} \times 0.85_{\text{collection efficiency}} = 2{,}595 \text{ gallons}$$

To calculate gallons in storage at the end of each month, add the volume of water already in storage (1,000 gallons in this example) to the gallons collected and subtract the monthly demand.

1,000 + 2,595 – 3,000 = 595 gallons available in storage at the end of January

This calculation is repeated for each month. To help you follow Table 4-2, please read below:

The value in Column E is added to Column F from preceding row and then A is subtracted. If calculated storage amount is zero or less, use zero for the next month. Rainfall exceeding storage capacity is ignored (water lost). The table shows that a collection surface of 2,500 square feet is adequate to meet expected demand (Column F should be more than zero at all times, if not the collection area needs to be increased or the monthly demand should be reduced).

Calculations using Monthly Median Rainfall Data

Table 4-3 shows the results of using monthly median rainfall (Column D), and performing the same calculations as before. Using monthly median rainfall data is a more conservative method, and is likely to provide a higher reliability than using average rainfall data for system sizing.

Homeowners can easily try different values for collection surface and storage capacity using an electronic spreadsheet, downloadable in Excel format from the Texas Water Development Board www.twdb.state.tx.us/assistance/conservation/alternative_technologies/rainwater_harvesting/rain.asp

Table 4-2. Sample Water Balance Calculations for Dallas, Texas (Using Average Rainfall and a 2,500-square-foot collection surface)

Month	A. Water demand	B. Irrigation demand (watering by hose or bucket)	C. Total demand (gallons)	D. Average rainfall (inches)	E. Rainfall collected (gallons)	F. End-of-month storage (1,000 gal. to start)
January	3,000	0	3,000	1.97	2,596	595
February	3,000	0	3,000	2.40	3,162	757
March	3,000	150	3,150	2.91	3,834	1,441
April	3,000	150	3,150	3.81	5,020	3,311
May	3,000	150	3,150	5.01	6,601	6,762
June	3,000	150	3,150	3.12	4,111	7,723
July	3,000	150	3,150	2.04	2,688	7,261
August	3,000	150	3,150	2.07	2,727	6,838
September	3,000	150	3,150	2.67	3,518	7,206
October	3,000	150	3,150	3.76	4,954	9,010
November	3,000	0	3,000	2.70	3,557	9,567
December	3,000	0	3,000	2.64	3,478	10,000*

* Note that there were 44 gallons of overflow in December in this example. A 10,000-gallon cistern appears to be appropriate under the given assumptions.

Table 4-3. Sample Water Balance Calculations for Dallas, Texas (Using Median Rainfall and a 2,500-square-foot collection surface)

Month	A. Water demand	B. Irrigation demand (watering by hose or bucket)	C. Total demand (gallons)	D. Median rainfall	E. Rainfall collected	F. End-of-month storage (1,000 gal. to start)
January	3,000	0	3,000	1.80	2,372	372
February	3,000	0	3,000	2.11	2,780	151
March	3,000	150	3,150	2.36	3,109	111
April	3,000	150	3,150	2.98	3,926	887
May	3,000	150	3,150	4.27	5,626	3,363
June	3,000	150	3,150	2.85	3,755	3,968
July	3,000	150	3,150	1.60	2,108	2,926
August	3,000	150	3,150	1.74	2,292	2,068
September	3,000	150	3,150	2.50	3,294	2,212
October	3,000	150	3,150	2.94	3,873	2,935
November	3,000	0	3,000	2.00	2,635	2,570
December	3,000	0	3,000	2.10	2,767	2,337

This table shows that it is critical to start with an initial storage (1,000 gallons), otherwise the cistern may run out of water in February/March, under the given assumptions.

The graph below (Figure 4-4) illustrates the information from Tables 4-2 and 4-3, previous page. The area under the curves represents the amount of water in storage at the end of each month. The assumptions from the example on the previous page are: a Dallas family of three using 33 gallons per person per day for indoor use, plus irrigation demand as shown in the examples, a collection efficiency of 85 percent, and a roof area of 2,500 square feet. The upper curve denotes water availability using average monthly rainfall data, and the lower curve is based on the monthly median rainfall. A 10,000-gallon cistern is planned in this example for storage of rainwater.

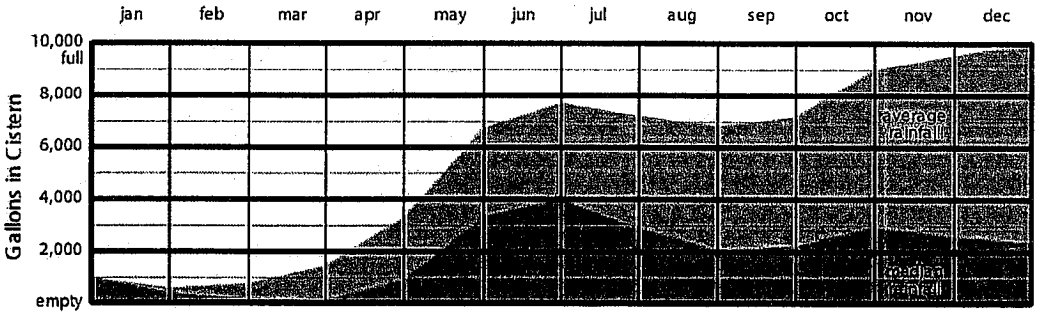

Figure 4-4. Volume of water in storage, using average rainfall data and median rainfall data for Dallas, Texas

Chapter 5
Rainwater Harvesting Guidelines

No national standards exist for rainwater harvesting systems. As a result, efforts abound to give assistance to those considering using rainwater as a water supply at state and local levels. In Texas the voluntary approach has been the hallmark of water conservation efforts, and a Water Conservation Best Management Practices (BMP) Guide produced by the Texas Water Development Board (TWDB) in 2004 included a section on Rainwater Harvesting and Condensate Reuse for use by water providers. (See References.) Guidance in other parts of the country ranges from voluntary guidelines such as BMPs to codes and ordinances stipulating minimum standards for various aspects of rainwater harvesting. The wide variety in approaches is summarized in this chapter by sharing a few key examples of the initiatives that are available to assist the planner of a rainwater harvesting system.

RWH Best Management Practices

Water Conservation Implementation Task Force Guidelines. In 2003 a statewide Water Conservation Implementation Task Force was appointed by the TWDB under a legislative mandate to develop recommendations for water conservation for the state of Texas. Best management practices reached by a consensus of the Task Force address rainwater harvesting and air conditioner condensate in the Task Force Water Conservation Best Management Practices Guide (TWDB, 2004).

American Rainwater Catchment Systems Association. The American Rainwater Catchment Systems Association (ARCSA) is in the process of publishing guidelines for potable and nonpotable rainwater harvesting systems. The guidelines will be available on the ARCSA website at www.arcsa-usa.org.

Other Voluntary Guidelines

A number of University-level programs have published guidelines that are helpful to rainwater designers and planners. Included among them are Texas Cooperative Extension's guidelines and the University of Arizona's "Harvesting Rainwater for Landscape Use," both of which focus on capturing rainwater for outdoor irrigation. The University of Hawaii College of Tropical Agriculture and Human Resources in Hawaii produced "Guidelines on Rainwater Catchment Systems in Hawaii," which has information for people using rainwater for potable consumption. (See References.)

These guidelines for potable systems recommend that storage tanks be constructed of non-toxic material such as steel, fiberglass, redwood, or concrete. Liners used in storage tanks should be smooth and of food-grade material approved by the U.S. Food and Drug Administration (Macomber, 2001).

Building Codes

In addition to voluntary effort, some states and municipalities are choosing to establish rules. Ohio, Kentucky, Hawaii, Arizona, New Mexico, Washington, West Virginia, Texas, and the U.S. Virgin Islands are considering or have developed rules related to rainwater harvesting.

Rules, ordinances, building codes, and homeowner association covenants nationwide run the gamut from requiring rainwater harvesting systems on new construction to prohibiting tanks as an eyesore.

In Texas, HB 645, passed by the 78th Legislature in 2003, prevents homeowners associations from implementing new covenants banning outdoor water-conserving measures such as composting, water-efficient landscapes, drip irrigation, and rainwater harvesting installations. The legislation allows homeowners associations to require screening or shielding to obscure view of the tanks.

The State of Ohio has the most extensive rules on rainwater harvesting in the United States, with code on cistern size and material, manhole openings, outlet drains, overflow pipes, fittings, couplings, and even roof washers. Ohio's rules also address disinfection of private water systems. (See References.)

Cistern Design, Construction, and Capacity

Cistern design is covered by rules in some states, often embedded in the rules for hauled water storage tanks. In Ohio, cisterns and stored water storage tanks must have a smooth interior surface, and concrete tanks must be constructed in accordance with ASTM C913, *Standard Specification for Precast Concrete Water and Wastewater Structures.* Plastic and fiberglass tank materials and all joints, connections, and sealant must meet NSF/ANSI Standard 61, *Drinking Water System Components.*

In the U.S. Virgin Islands, Bermuda, and other Caribbean islands (islands without large reservoirs or adequate groundwater reserves), all new construction and even building expansion must have a provision for a self-sustaining water supply system, either a well or a rainwater collection area and cistern.

The rules for private water systems in the U.S. Virgin Islands state that new cisterns must have a minimum capacity of 2,500 gallons per dwelling (Virgin Islands Code, Title 29, Public Planning and Development).

The U.S. Virgin Islands specifies that cisterns for hotels or multi-family dwellings have a minimum capacity of 10 gallons per square foot of roof area for buildings of one story, and 15 gallons per square foot of roof area for multi-story buildings, although the requirement is waived for buildings with access to centralized potable water systems.

The City of Portland, Oregon, requires a minimum cistern capacity of 1,500 gallons capable of being filled with harvested rainwater or municipal water, with a reduced pressure backflow prevention device and an air gap protecting the municipal supply from cross-connection (City of Portland, 2000).

Backflow Prevention and Dual-Use Systems

The option of "dual-supply" systems within a residence – potable harvested rainwater supplemented with water from a public water system with appropriate backflow prevention – is an option that might be explored for residences which cannot collect enough rainwater.

In most Texas locations, rainfall occurs seasonally, requiring a large storage capacity to hold enough water collected during rain events to last through the dry spells.

Allowing for a connection to the public water supply system could serve to promote harvested rainwater as a supplemental water source to customers already connected to the public water supply infrastructure.

This "conjunctive" use would require an appropriate backflow prevention device to keep rainwater from entering the public water supply due to a drop in pressure in the utility's distribution system.

The City of Portland has approved supplemental use of public utility water at a residence since 1996. The code includes specific guidance for design and installation of the system. It also limits rainwater to nonpotable uses. The Portland Office of Planning and Development publishes a RWH Code Guide which includes FAQ and the relevant code sections (City of Portland, 2000).

The State of Washington Building Codes Council in 2002 developed guidelines for installation of rainwater harvesting systems at commercial facilities. They are similar to the City of Portland guidelines mentioned above, but require a larger cistern size, determined by the size of the catchment area, which is limited to roof areas. In 2003, the Washington State Legislature approved a 10 percent reduction in stormwater fees for any commercial facility that installed a rainwater harvesting system in compliance with the guidelines (Washington State Legislature, 2003).

Required Rainwater Harvesting Systems

Perhaps the most supportive ordinances are those requiring rainwater harvesting in new construction.

For instance, Santa Fe County, New Mexico, passed the precedent-setting regulation requiring rainwater harvesting systems on new residential or commercial structures of 2,500 square feet and larger. A bill requiring rainwater harvesting systems on all new construction narrowly missed passage in the New Mexico legislature (Darilek, 2004; Vitale, 2004)

The City of Tucson, Arizona, has instituted requirements for water harvesting in its land use code as a means of providing supplemental water for on-site irrigation. In fact, "storm water and runoff harvesting to supplement drip irrigation are required elements of the irrigation system for both new plantings and preserved vegetation" (City of Tucson Code, Chapter 23).

Water harvesting in Tucson is also intended to help in meeting code requirements for floodplain and erosion hazard management (City of Tucson Code, Chapter 26).

2005 Rainwater Harvesting Legislation

The Texas Legislature passed House Bill (HB) 2430 in May 2005, establishing a rainwater harvesting evaluation committee to recommend minimum water quality guidelines and standards for potable and nonpotable indoor uses of rainwater. The committee will also recommend treatment methods for indoor uses of rainwater, methods by which rainwater harvesting systems could be used in conjunction with existing municipal water systems, and ways in which that the state can further promote rainwater harvesting. The committee consists of representatives from the Texas Water Development Board, Texas Commission on

Environmental Quality, Department of State Health Services, and the Texas Section of the American Water Works Association. The committee will provide its recommendations to the Legislature by December 2006.

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Chapter 6
Cost Estimation

Developing a budget for a rainwater harvesting system may be as simple as adding up the prices for each of the components and deciding what one can afford. For households without access to reliable groundwater or surface water, and too remotely located to hook up to the existing potable supply infrastructure, the information in this chapter will assist in determining how large a system can be installed for a set budget, and the range of costs for an ideal system. For some, the opportunity to provide for all or a portion of their water needs with rainwater is an exercise in comparing the costs with other options to determine which is most cost-effective. This chapter provides some information on cost ranges for standard components of rainwater systems for both potable use and for irrigation. It also has a brief section on comparing costs with other types of water supply.

The single largest expense is the storage tank, and the cost of the tank is based upon the size and the material. Table 6-1 shows a range of potential tank materials and costs per gallon of storage. The size of storage needed (see Chapter 4, Water Balance and System Sizing) and the intended end use of the water will dictate which of the materials are most appropriate. Costs range from a low of about $0.50 per gallon for large fiberglass tanks to up to $4.00 per gallon for welded steel tanks.

As tank sizes increase, unit costs per gallon of storage decreases.

Table 6-1. Storage Tank

	Cost	Size	Comments
Fiberglass	$0.50–2.00/gallon	500–20,000 gallons	Can last for decades w/out deterioration; easily repaired; can be painted
Concrete	$0.30–1.25/gallon	Usually 10,000 gallons or more	Risks of cracks and leaks but these are easily repaired; immobile; smell and taste of water sometimes affected but the tank can be retrofitted with a plastic liner
Metal	$0.50–1.50/gallon	150–2,500 gallons	Lightweight and easily transported; rusting and leaching of zinc can pose a problem but this can be mitigated with a potable-approved liner
Polypropylene	$0.35–1.00/gallon	300–10,000 gallons	Durable and lightweight; black tanks result in warmer water if tank is exposed to sunlight; clear/translucent tanks foster algae growth
Wood	$2.00/gallon	700–50,000 gallons	Esthetically pleasing, sometimes preferable in public areas and residential neighborhoods
Polyethylene	$0.74–1.67/gallon	300–5,000 gallons	
Welded Steel	$0.80–$4.00/gallon	30,000–1 million gallons	
Rain Barrel	$100	55–100 gallons	Avoid barrels that contain toxic materials; add screens for mosquitoes

Gutters and downspouts (Table 6-2) are needed to collect the water and route it to the tank. Two types of gutters are available for the "do-it-yourselfers": vinyl and plastic, which are available for approximately the same cost. For those desiring professionally installed materials, costs range from $3.50 to $12 per foot of gutter, including materials and installation, in 2004.

Table 6-2. Gutters

	Cost	Comments
Vinyl	$.30/foot	Easy to install and attach to PVC trunk lines
Plastic	$.30/foot	Leaking, warping and breaking are common problems
Aluminum	$3.50-6.25/foot	Must be professionally installed
Galvalume	$9-12/foot	Mixture of aluminum and galvanized steel; must be professionally installed

Some method of discarding the first flush of rain from the roof is necessary to remove debris. The simplest method is a vertical PVC standpipe, which fills with the first flush of water from the roof, then routes the balance of water to the tank.

The roof washer, placed just ahead of the storage tank, usually consists of a tank with leaf strainers and a filter. A commercially available model has a series of baffles and a 30-micron filter.

Table 6-3. Roof Washers

	Cost	Maintenance	Comments
Box Washer	$400-800	Clean the filter after every substantial rain	Neglecting to clean the filter will result in restricted or blocked water flow and may become a source or contamination
Post Filtering w/ Sand Filter	$150-500	Occasionally backwash the filter	Susceptible to freezing; a larger filter is best
Smart-Valve Rainwater Diverter Kit	$50 for kit	Occasional cleaning	Device installed in a diversion pipe to make it self-flushing and prevent debris contamination; resets automatically

Roof washers consist of a tank, usually between 30- and 50-gallon capacity, with leaf strainers and a filter. A roof washer is a critical component of potable systems and is also needed to filter small particles to avoid clogging drip irrigation emitters. A wide range of equipment is available with different flow capacity and maintenance requirements. In Table 6-3 a list of different equipment used to intercept and pre-filter the water shows a range of costs from $50 to more than $800. It is important that the rainwater harvester pick a roof washer that is adequate for the size of collection area.

Table 6-4 shows the ranges for pump costs including pressure tanks. Demand-activated pumps such as Grundfos may not require a pressure tank, and can often provide enough water to meet a home's demand for instantaneous flow. Careful thought should be given to the possibility of multiple simultaneous demands upon the system in determining the appropriate size pump. The range for pump costs runs from $385 for the low-end tankless pump, to more than $1,000 for the combined price of a high-end pump and pressure tank.

Table 6-4. Pumps and Pressure Tanks

	Cost	Comments
Grundfos MQ Water Supply System	$385-600	Does not require a separate pressure tank
Shallow Well Jet Pump or Multi-Stage Centrifugal Pump	$300-600	These require a separate pressure tank
Pressure Tank	$200-500	Galvanized tanks are cheaper than bladder tanks but often become waterlogged, and this will wear out the pump more rapidly

For those planning a potable system, or if a drip irrigation system is used, some sort of filtration is necessary. Rainwater harvesting suppliers can assist the end user in purchasing the right equipment for his/her needs and the expected demand.

It is important for the end user intending to use rainwater for potable supply to include disinfection among the water treatment components. The costs vary widely depending upon intended end-use, the desired water quality, and preferences of the user. As shown in Table 6-5, combined filtration/ disinfection costs can cost up to $1,000 or more. Chapter 2, Rainwater Harvesting System Components, will assist you in choosing the right filtration and/or disinfection equipment for your system.

Table 6-5. Filtering/Disinfection

	Cost	Maintenance	Effectiveness	Comments
Cartridge Filter	$20-60	Filter must be changed regularly	Removes particles >3 microns	A disinfection treatment is also recommended
Reverse Osmosis Filter	$400-1500	Change filter when clogged (depends on the turbidity)	Removes particles >0.001 microns	A disinfection treatment is also recommended
UV Light Disinfection	$350-1000; $80 to replace UV bulb	Change UV bulb every 10,000 hours or 14 months; the protective cover must be cleaned regularly	Disinfects filtered water provided there are <1,000 coliforms per 100 milliliter	Water must be filtered prior to exposure for maximum effectiveness
Ozone Disinfection	$700-2600	Effectiveness must be monitored with frequent testing or an in-line monitor ($1,200 or more)	Less effective in high turbidity, can be improved with pre-filtering	Requires a pump to circulate the ozone molecules
Chlorine Disinfection	$1/month manual dose or a $600-$3000 automatic self-dosing system	Monthly dose applied manually	High turbidity requires a higher concentration or prolonged exposure but this can be mitigated by pre-filtering	Excessive chlorination may be linked to negative health impacts.

Operating Costs

There are also operating costs that should be considered as you prepare your budget. As with any water treatment system, the cleaner the water needs to be, the greater the effort required to maintain the system.

Fortunately, with filter cartridges, this just means regular replacement of the cartridges, and with the disinfection system, following the manufacturers' recommendations for regular maintenance. But proper operation and maintenance of the system does add to total costs.

Filter cartridges should be replaced per manufacturer's specifications, based upon the rate of water use.

Some of the operating costs and time expenditures necessary for system maintenance are regularly cleaning gutters and roof washers, checking the

system for leaks by monitoring water levels, and paying close attention to water use rates to determine if an invisible leak has sprung. Although the "do-it-yourselfers" can handle all of these tasks with little added financial burden, the time for regular maintenance and operation must be set aside to operate a successful system.

Comparing to Other Sources of Water

In some areas of Texas the cost of drilling a well can be as high as $20,000 with no guarantee of hitting a reliable source of water. The deeper the well, the more expensive the effort will be. Also, well water can have very high TDS levels in some aquifers, resulting in "hard" water. Rainwater is naturally soft and has become a preferred option in some parts of rural central Texas with costs lower than or equal to those of drilling a well, and reliability high enough to justify reliance on weather patterns, rather than on an aquifer's water quality and quantity.

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Chapter 7
Financial and Other Incentives

Financial incentives and tax exemptions encourage the installation of rainwater harvesting systems. The Texas Legislature has passed bills, and some local taxing entities have adopted rules that provide tax exemptions for rainwater harvesting systems. A few public utilities have implemented rebate programs and rain barrel distribution events that encourage rainwater harvesting by residential, commercial, and industrial customers. In addition to financial incentives, performance contracting provisions in state code can be used to encourage installation of rainwater harvesting systems. This chapter includes a brief description of methods for determining the appropriate size of an incentive by local governments.

In addition to financial incentives, administrative contracting rules for state and local governments encourage the use of rainwater harvesting as an alternative water source in Texas.

Tax Exemptions

Property tax exemption for commercial installations (State-wide exemption)

A constitutional amendment passed as Proposition 2 by Texas voters in November 1993 exempted pollution control equipment, including water-conserving equipment at nonresidential buildings, from property taxes. Rainwater harvesting equipment at commercial installations is considered water-conserving equipment. The intent of this amendment to Article VIII of the Texas Constitution was to ensure that capital expenditures undertaken to comply with environmental rules and regulations did not raise a facility's property taxes, by adding Section 11.31 to Chapter 11, and Section 26.045 to Chapter 26 of the Texas Tax Code.

The Texas Commission on Environmental Quality (TCEQ) established procedures and mechanisms for use determination under Texas Administrative Code (TAC) Title 30, Chapter 17.

To qualify for the property tax exemption, (1) a facility must first receive a determination from the TCEQ that the property is used for pollution control purposes, and (2) the applicant then submits this use determination to the local tax appraisal district to obtain the property tax exemption.

The Application and Instructions for Use Determination for Pollution Control Property and Predetermined Equipment List, as well as instructions for applying for Property Tax Exemptions for Pollution Control Property, are downloadable from the TCEQ website. (See References.)

Property tax exemptions extended (State-wide)

Passed in 2001 by the 77th Texas Legislature, Senate Bill 2 amended Section 11.32 of the Texas Tax Code to allow taxing units of government the option to exempt from taxation all or part of the assessed value of the property on which water conservation modifications have been made. The taxing entity designates by ordinance or law the list of eligible water conservation initiatives, which may include rainwater harvesting systems.

County property tax exemptions

Homeowners planning to install rainwater harvesting systems should check with their respective county appraisal districts for guidance on exemption from county property taxes. Links to some county appraisal districts, as well as the Office of the State Comptroller's Application for Water Conservation Initiatives Property Tax Exemption, can be found online. (See References.)

Hays County is one of the fastest-growing counties in Texas, and is also the county with the most rapidly increasing number of new rainwater harvesting installations in the state. Hays County encourages rainwater harvesting with a $100 rebate on the development application fee.

For rainwater harvesting systems serving as the sole source of water for a residence, Hays County grants a property tax exemption from county taxes for the value of the rainwater harvesting system. Guidelines for rainwater harvesting benefits and qualification can be found at the Hays County website. (See References.)

Homeowners in other parts of the state should consider approaching their local government to see if such a property tax exemption could be passed in their locale.

Sales Tax Exemption (State-wide)

Senate Bill 2 exempts rainwater harvesting equipment and supplies from sales tax. Senate Bill 2 amended Subchapter H of the Tax Code by adding Section 151.355, which states:

> "Water-related exemptions. The following are exempted from taxes imposed by this chapter: (1) rainwater harvesting equipment or supplies, water recycling and reuse equipment or supplies, or other equipment."

An application for sales tax exemption is included as Appendix D, or can be downloaded from the Office of the State Comptroller. (See References.)

Municipal Incentives

In addition to tax exemptions, two Texas cities offer financial incentives in the form of rebates and discounts to their customers who install rainwater harvesting and condensate recovery systems.

City of Austin Rainwater Harvesting Programs

The City of Austin Water Conservation Department promotes both residential and commercial/industrial rainwater harvesting. (See References.) The City of Austin sells 75-gallon polyethylene rain barrels to its customers below cost, at $60 each, up to four rain barrels per customer. City of Austin customers who purchase their own rain barrels are eligible for a $30 rebate.

Customers may also receive a rebate of up to $500 on the cost of installing a pre-approved rainwater harvesting system. The rebate application includes a formula to calculate optimum tank size and a list of area suppliers and installation contractors. (See References.)

Commercial entities may be eligible for as much as a $40,000 rebate against the cost of installing new equipment and processes to save water under the Commercial Incentive Program. (See References.)

New commercial or industrial sites that develop capacity to store sufficient water

on-site for landscape irrigation may be able to receive an exemption from installing an irrigation meter.

San Antonio Water System Large-Scale Retrofit

Rainwater harvesting projects are eligible for up to a 50-percent rebate under San Antonio Water System's (SAWS) Large-Scale Retrofit Rebate Program. (See References.) SAWS will rebate up to 50 percent of the installed cost of new water-saving equipment, including rainwater harvesting systems, to its commercial, industrial, and institutional customers. Rebates are calculated by multiplying acre-feet of water conserved by a set value of $200/acre-foot. Equipment and projects must remain in service for 10 years. The water savings project is sub-metered, and water use data before and after the retrofit are submitted to SAWS to determine if conservation goals are met. To qualify for the rebate, an engineering proposal and the results of a professional water audit showing expected savings are submitted.

The rebate shortens the return on investment period, giving an incentive to industry to undertake water-conserving projects.

Determining How Much of a Financial Incentive a Utility May Wish to Offer

To determine whether a municipal utility should consider offering a rebate or financial incentive to stimulate the use of rainwater harvesting, benefits and costs must be presented on an economic basis. This is most easily accomplished by condensing the factors into terms of dollars per acre-foot ($/AF) and comparing that to the cost of building a new water supply project. The spreadsheet included in the TWDB's Report No. 362, Water Conservation Best Management Practices Guide (p. 118 to 130), gives an example and the steps in calculating the net present value of conserved water.

This approach requires the utility to estimate the potential for water savings due to rainwater harvesting systems installed and the likely number of participants in a program.

Rainwater Harvesting at State Facilities

In 2003, the 78th Texas Legislature, second session, passed HB9, which encourages rainwater harvesting and water recycling at state facilities. The bill requires that the Texas Building and Procurement Commission appoint a task force charged with developing design recommendations to encourage rainwater harvesting and water recycling at state facilities built with appropriated money.

The intent of HB9 is to promote the conservation of energy and water at state buildings. The bill requires that before a state agency may use appropriated money to make a capital expenditure for a state building, the state agency must determine whether the expenditure could be financed with money generated by a utility cost-savings contract.

If it is determined to be not practicable to finance construction with utility cost savings, rainwater harvesting and water recycling are encouraged by HB9.

In addition the Texas Education Code (Section 61.0591) provides an incentive to institutes of higher education for achieving goals set by the Texas Higher Education Coordinating Board (THECB) including:

"energy conservation and water conservation, rainwater harvesting, and water reuse."

The code states that not less than 10 percent of THECB total base funding will be devoted to incentive funding.

Performance Contracting

Another means of encouraging the installation of water- or energy-efficient equipment is to pay for the equipment through the savings in utility bills. This method of financing water conservation has been used by commercial and industrial consumers, and is written into state code for government buildings in several locations.

The Texas Education Code (Chapter 44.901 and Chapter 51.927), the Texas Local Government Code (Chapter 302.004), and the State Government Code (Chapter 2166.406) allow public schools, institutes of higher education, state building facilities, and local governments to enter into performance contracts. Performance contracting allows a facility to finance water- and energy-saving retrofits with money saved by the reduced utility expenditures made possible by the retrofit. In other words, the water- and energy-conserving measures pay for themselves within the contracted period. More information on performance contracting can be found on the State Energy Conservation Office website. (See References.)

Following are descriptions of alternative water sources that are eligible for performance contracts:

"landscaping measures that reduce watering demands and capture and hold applied water and rainfall, including: (a) landscape contouring, including the use of berms, swales, and terraces; and (b) the use of soil amendments that increase the water-holding capacity of the soil, including compost."

"rainwater harvesting equipment and equipment to make use of water collected as part of a stormwater system installed for water quality control."

"equipment needed to capture water from nonconventional, alternate sources, including air-conditioning condensate or graywater, for nonpotable uses, and metering equipment needed to segregate water use in order to identify water conservation opportunities or verify water savings."

Performance contracts serve as a win-win opportunity for school districts and institutes of higher education to effect improvements on facilities for water- and energy-conservation without incurring net construction costs.

The State Energy Conservation Office, in Suggested Water Efficiency Guidelines for Buildings and Equipment at Texas State Facilities, recommends that use of alterative water sources be explored for landscape irrigation use. (See References.) Suggested water sources include captured stormwater or rainwater, air-conditioner condensate, water from basement sump pump discharge, and other sources, in accordance with local plumbing codes.

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Appendix B
Rainfall Data

The following data are provided for representative Texas cities in various geographical areas to assist in assessing the optimal storage size for a particular rainwater harvesting system. Each rainwater harvesting system designer should assess the variables of water demand, rainfall, catchment surface area, storage capacity, and risk tolerance when designing a rainwater harvesting system, especially one intended to be the sole water source.

Abilene

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Maximum	4.35	3.60	5.16	6.80	13.17	9.60	7.52	8.18	11.03	10.68	4.60	6.28	
Median	0.81	0.73	0.90	1.88	2.47	2.30	1.69	1.62	2.25	2.09	0.94	0.77	
Average	1.00	1.05	1.17	2.05	3.22	2.90	2.03	2.40	2.71	2.56	1.24	1.03	
Average annual rainfall													**23.36**

Amarillo

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.00	0.00	0.00	0.04	0.01	0.10	0.28	0.03	0.00	0.00	0.00	
Maximum	2.33	1.83	4.01	5.84	9.81	10.73	7.59	7.55	5.02	6.34	2.26	4.52	
Median	0.33	0.42	0.58	0.86	2.45	3.08	2.59	2.79	1.61	0.97	0.43	0.35	
Average	0.52	0.55	0.93	1.18	2.67	3.40	2.80	2.93	1.84	1.44	0.59	0.53	
Average annual rainfall													**19.39**

Austin

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	
Maximum	9.21	6.56	6.03	9.93	9.98	14.96	10.54	8.90	7.44	12.31	7.95	14.16	
Median	1.27	2.30	1.73	2.20	3.68	2.89	1.15	1.27	2.98	2.82	1.88	1.42	
Average	1.77	2.37	1.90	2.83	4.33	3.54	1.73	2.18	3.17	3.63	2.25	2.26	
Average annual rainfall													**31.96**

Brady

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.10	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Maximum	6.40	5.30	4.30	6.02	8.00	7.70	13.55	11.30	9.45	7.04	10.40	7.90	
Median	0.60	1.26	0.90	1.78	3.10	1.87	0.85	1.34	2.40	1.70	1.10	0.70	
Average	1.03	1.50	1.26	2.07	3.40	2.40	1.80	2.01	2.86	2.34	1.43	1.28	
Average annual rainfall													**23.38**

Brownsville

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.34	0.01	0.00	
Maximum	4.79	10.25	5.72	10.35	9.12	8.52	9.43	9.56	20.18	17.12	7.69	3.98	
Median	0.77	0.84	0.41	0.84	1.86	2.22	0.96	2.45	4.69	2.92	0.90	0.78	
Average	1.31	1.38	0.80	1.62	2.39	2.55	1.50	2.69	5.19	3.62	1.55	1.10	
Average annual rainfall													**25.70**

College Station

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.22	0.1	0.29	0.08	0.23	0.09	0	0	0.32	0	0.19	0.23	
Maximum	15.6	9.82	6.07	12.5	11.38	12.63	7.06	10.63	12.13	12.91	8.33	10.72	
Median	2.205	2.72	2.12	3.75	4.515	2.895	1.97	1.84	4.12	3.18	2.92	2.635	
Average	2.87	2.88	2.5	3.77	4.73	3.79	2.24	2.43	4.3	3.64	3.07	3.15	
Average annual rainfall													**38.75**

Corpus Christi

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.10	0.49	0.00	0.00	0.01	
Maximum	10.78	8.11	4.89	8.04	9.38	13.35	11.92	14.79	20.33	11.88	5.24	9.80	
Median	0.99	1.36	0.78	1.39	2.70	2.43	1.04	2.64	4.00	2.60	1.34	0.90	
Average	1.54	1.85	1.36	2.03	3.12	3.16	1.80	3.28	5.21	3.50	1.57	1.59	
Average annual rainfall													**30.00**

Dallas

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.13	
Maximum	8.46	7.60	8.70	15.40	13.74	10.30	7.34	5.12	10.67	14.00	7.54	8.90	
Median	1.80	2.11	2.36	2.98	4.27	2.85	1.60	1.74	2.50	2.94	2.00	2.10	
Average	1.97	2.40	2.91	3.81	5.01	3.12	2.04	2.07	2.67	3.76	2.70	2.64	
Average annual rainfall													**35.10**

El Paso

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	
Maximum	2.23	1.69	2.26	1.42	4.22	3.18	5.53	5.57	6.68	3.12	1.63	3.29	
Median	0.29	0.34	0.18	0.09	0.10	0.36	1.18	1.06	0.96	0.55	0.24	0.42	
Average	0.42	0.40	0.30	0.21	0.32	0.70	1.57	1.45	1.38	0.71	0.36	0.61	
Average annual rainfall													**8.43**

Houston

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.36	0.38	0.11	0.43	0.04	0.26	0.45	0.31	0.80	0.05	0.41	0.64	
Maximum	9.78	5.99	8.52	10.92	14.39	16.28	8.10	9.42	11.35	16.05	10.07	9.34	
Median	2.82	2.63	3.19	2.59	5.02	3.55	2.69	3.52	3.92	3.79	3.27	3.41	
Average	3.68	2.95	3.40	3.54	5.36	5.07	3.05	3.69	4.31	4.63	4.09	3.54	
Average annual rainfall													**48.45**

Lubbock

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Maximum	4.05	2.51	3.34	5.63	13.38	8.43	7.20	8.85	8.55	10.80	2.67	2.24	
Median	0.33	0.39	0.63	1.08	2.23	2.37	2.07	1.78	1.87	0.98	0.45	0.42	
Average	0.52	0.62	0.90	1.24	2.64	2.95	2.16	2.15	2.49	1.81	0.67	0.56	
Average annual rainfall													**18.49**

San Angelo

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.01	0.00	0.00	0.26	0.05	0.00	0.00	0.00	0.00	0.00	0.00	
Maximum	3.65	4.47	5.00	5.10	11.24	6.01	7.21	8.13	11.00	8.68	3.55	3.98	
Median	0.58	0.62	0.65	1.29	2.32	2.09	0.70	1.38	2.38	1.90	0.68	0.33	
Average	0.79	1.04	0.92	1.66	2.78	2.20	1.10	1.75	2.83	2.24	0.98	0.76	
Average annual rainfall													**19.12**

San Antonio

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.00	0.01	0.03	0.02	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.03	
Maximum	8.52	6.43	6.12	9.32	12.85	11.95	8.29	11.14	13.09	17.96	8.51	13.96	
Median	1.10	1.85	1.27	1.94	3.04	2.70	1.21	2.00	2.24	2.75	1.93	1.09	
Average	1.59	1.92	1.66	2.52	3.97	3.61	1.82	2.45	3.08	3.42	2.24	1.69	
Average annual rainfall													**29.96**

Waco

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Minimum	0.03	0.00	0.04	0.12	0.52	0.27	0.00	0.00	0.00	0.00	0.13	0.04	
Maximum	5.92	7.69	5.56	13.37	15.00	12.06	8.58	8.91	7.29	10.51	7.03	9.72	
Median	1.55	2.00	2.22	2.76	3.87	2.34	0.82	0.96	2.57	2.37	2.29	1.94	
Average	1.83	2.28	2.25	3.30	4.49	2.98	1.82	1.76	3.02	3.12	2.40	2.31	
Average annual rainfall													**31.68**

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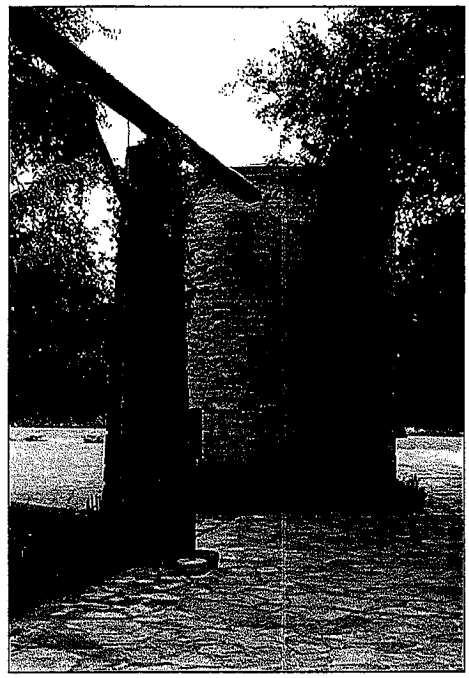
Appendix C
Case Studies

Lady Bird Johnson Wildflower Center
Austin

4801 La Crosse Avenue
Austin, Texas 78739
(512) 292-4100
http://www.wildflower.org

Capacity:	70,000 gallons
Catchment area:	17,000 square feet
Demand:	Gardens and landscaping



The entry cistern at the Lady Bird Johnson Wildflower Research Center is reminiscent of the stone-and-mortar cisterns used by Hill Country settlers. Water from a 1,200-square-foot roof area is conveyed to the entry cistern via an aqueduct.

Harvested rainwater from three separate catchment areas provides 10 to 15 percent of the garden and landscaping irrigation of the Lady Bird Johnson National Wildflower Research Center in Austin. An integral part of its architecture, the Center's rainwater harvesting system serves to not only conserve water, but also as a public education tool. The Center collects water from 17,000 square feet of roof space and can store more than 70,000 gallons in on-site cisterns.

One of the most prominent features of the center is the 43-foot native-stone-façade tower cistern, which is built around a 5,000-gallon storage tank. Metal rooftops totaling an area of 17,000 square feet drain into the tower cistern and two 25,000-gallon tanks collect a total of about 300,000 gallons in an average rainfall year. A pressurized distribution system delivers water from the large tanks to an irrigation system. The municipal water supply is linked to the systems with backflow prevention devices to prevent water contamination.

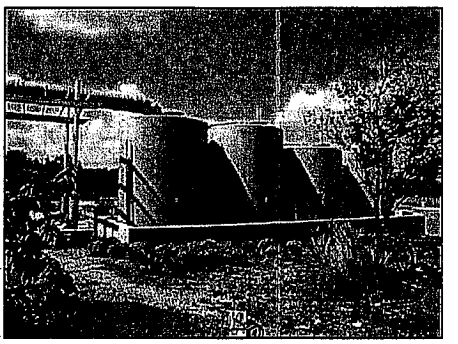
The 3,000-gallon entry cistern, fed by an elevated stone-faced aqueduct draining just less than 1,200 square feet of roof area, is reminiscent of rainwater cisterns used by original Hill Country settlers. The Little House cistern captures rainwater from a roof area of about 700 square feet in the Children's Area.

In addition, the Wetland Pond, the Commons Well, and the Balcony Spring together collect 2,500 gallons per inch of rain from the roofs, although water from these features is not used for irrigation.

H-E-B
Austin

6900 Brodie Lane
(corner William Cannon Blvd. and Brodie Lane)
Austin, Texas 78745

Capacity:	28,000 gallons
Catchment area:	50,000 square feet
Demand:	Native and adapted plant landscape



The H-E-B at the corner of Brodie Lane and William Cannon Blvd. in south central Austin irrigates an adjacent landscape of water-thrifty plants with rainwater stored in four painted steel tanks totaling 28,000 gallons. A 24-inch-diameter pipe conveys water from the roof to the tanks.

Two 8,000-gallon and two 6,000-gallon painted steel tanks are fed from a 24-inch-diameter collection pipe draining the 50,000-square-foot roof. Using efficient drip irrigation, captured rainwater irrigates an adjacent water-thrifty landscape of native and adapted trees and ornamentals. Walkways and plant labels enhance the attractiveness of the site.

The four tanks are connected with 6-inch PVC pipes and valves, allowing a tank to be taken off-line to be drained and cleaned.

H-E-B, based in San Antonio, prides itself on environmental stewardship in the communities where its supermarkets conduct business. H-E-B saves 6.2 million gallons of water annually by recycling condensation from manufacturing steam equipment.

Tanks are linked with 6-inch PVC pipe. Valves allow taking one or more tank off-line for draining or cleaning.

Sunset Canyon Pottery
Dripping Springs

4002 E. Highway 290
Dripping Springs, Texas 78620
(512) 894-0938

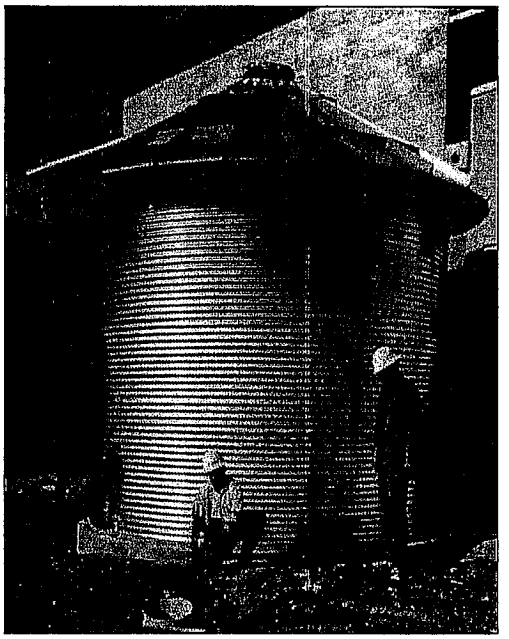
Sunset Canyon Pottery supplies all its potable and pottery works water demand with water stored in a 46,000-gallon ferrocement tank. When visiting this site on private property, please first request permission from Sunset Canyon Pottery staff.

The ferrocement tank at Sunset Canyon Pottery supplies process water for pottery works, as well as potable water for the straw-bale studio and gift shop. The tank was constructed first by forming an armature of steel reinforcement bars, then spraying on a cement-like material similar to that used for in-ground swimming pools.

New Braunfels Municipal Utility District
New Braunfels

New Braunfels Utilities Service Center
355 FM 306
New Braunfels, Texas 78130

The New Braunfels Utilities Service Center, completed in 2004, captures rainwater in four 1,000-gallon plastic-lined galvanized steel tanks, one located at each building wing. Water is used to irrigate the landscape of native and adapted plants. The metal tanks form both a practical and aesthetic feature of the architecture of this public building.

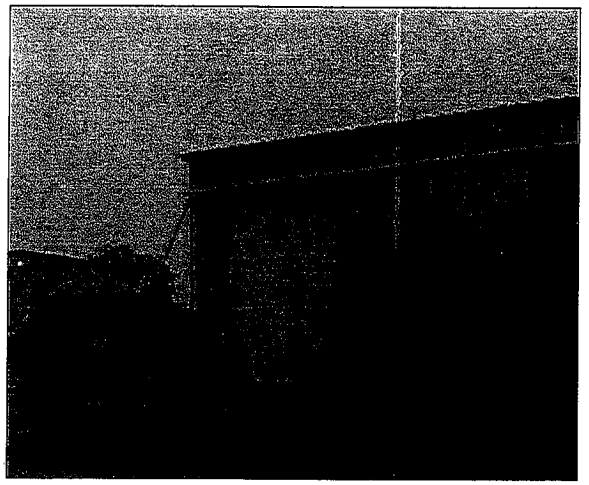


Four lined, galvanized steel tanks will capture water for irrigation of native and adapted plants.

Hays County Cooperative Extension Office
San Marcos

1253 Civic Center Loop
San Marcos, Texas 78666
(512) 393-2120

Capacity:	750-gallon galvanized metal tank 1,600 polyethylene tank
Catchment area:	2,500 square feet
Demand:	Demonstration garden
Cost:	$1,125



As a demonstration project, a 750-gallon galvanized steel tank captures rainwater from the 5,000-square-foot roof of the Hays County Extension Office.

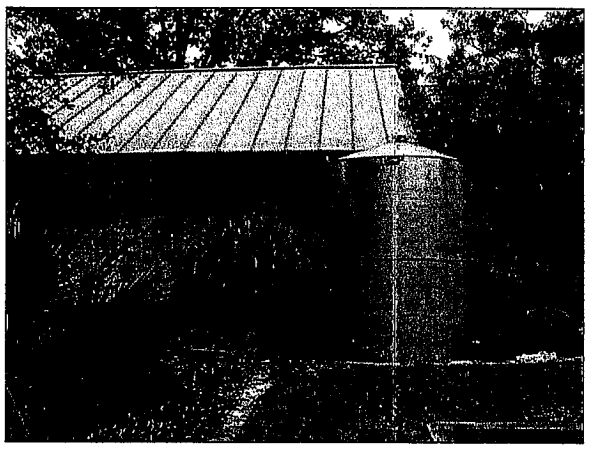
The Hays County Extension Office captures rainwater from half the roof area of its 5,000-square-foot building in two tanks: a 750-gallon galvanized steel tank and a 1,600-gallon black polypropylene tank using existing guttering and downspouts. Plans are in the works for water to be gravity-fed to an adjacent Master Gardener demonstration garden.

Edwards Aquifer Authority
San Antonio

1615 N. St. Mary's Street
San Antonio, TX 78215
(210) 222-2204

Capacity: 2,500 gallons
Catchment area: 1,135 square feet
Demand: Landscaping

The Edwards Aquifer Authority collects rainwater from a catchment area of 1,135 square feet in two cisterns. Water is delivered through gravity flow into a 500-gallon polypropylene tank in the courtyard area. The second cistern, a 2,000-gallon ranch-style metal cistern, is located on the front lawn, visible from the street. Harvested rainwater is used to irrigate the 266-square-foot courtyard, and 2,700-square-foot lawn.

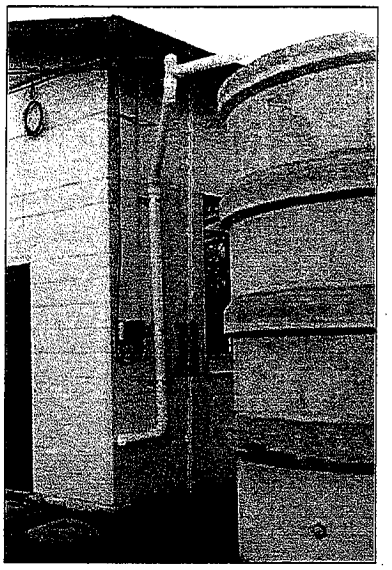


A 2,000-gallon, ranch-style metal cistern is one of two tanks that capture rainwater for landscaping at the Edwards Aquifer Authority building. (Photo courtesy: Lara Stuart)

J.M. Auld Lifetime Learning Center
Kerrville

1121 Second Street
Kerrville, Texas 72028
(830) 257-2218

Capacity:	6,600 gallons (Two 3,300-gallon stacked concrete ring tanks)
Catchment area:	5,000 square feet
Demand:	Adjacent gardens Pondless waterfall
Total Cost:	$10,500
Breakdown:	Two 3,300 concrete tanks, $4,766 Plumbing supplies, $520 Pump, pressure tank, switch, $1,535 Gutter work, $541 Electrical supplies, $160 Trencher rental, $175 In-kind labor, Kerrville ISD, $2,800



Stacked concrete ring 3,000-gallon tank at the Auld Center, Kerrville, showing first flush diverter and cistern.

The Auld Lifelong Learning Center of Kerrville Independent School District is a community education facility operated by Kerrville Independent School District. Installed in 2003, two 3,300-gallon stacked concrete-ring tanks collect rainwater from a 5,000-square-foot roof. Tanks are located at the back corners of the building, with a transverse 3-inch PVC pipe conveying the rainwater drained from the front half of the roof. Five-gallon first flush diverters at each corner capture the dust and debris of the initial runoff of each rainfall event.

Tanks are fitted with unique water-level sight gages. Vertical rods the same length as the tank height are suspended on floating platforms within the tank. The length of rod protruding from the tops of tanks indicates water level.

Captured rainwater will irrigate several adjacent themed gardens. In addition, a unique water feature, a recirculating waterfall, adds aesthetic interest.

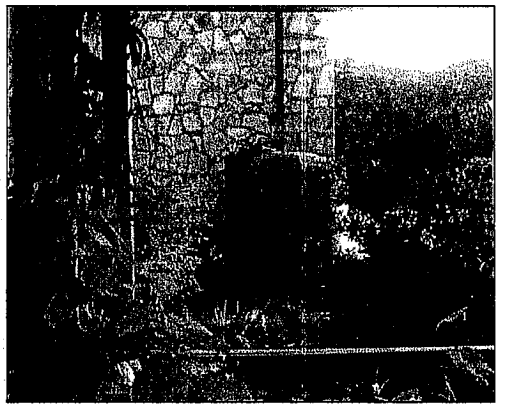
Menard ISD Elementary School
Menard

200 Gay St.
Menard, Texas 76859

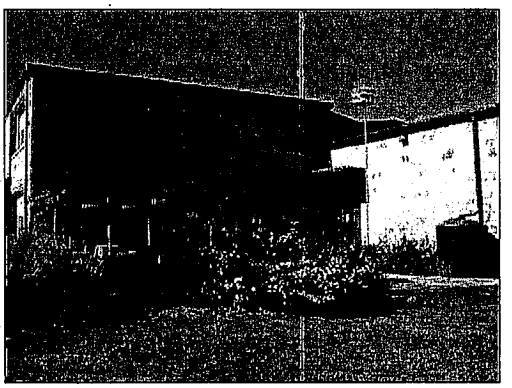
Container garden and landscape-plant irrigation

Capacity:	1,000-gallon green polyethylene tank
Catchment area:	600 square feet
Demand:	50 emitters: 20 landscape plants, 30 container garden emitters
Total cost:	$475
Breakdown:	Tank, $400 Connections and valves/roofwasher, $35 Black poly pipe and emitters, $40

The rainwater harvesting system serves multiple purposes of education, beauty, and habitat improvement at Menard Independent School District Elementary School. The wildscape provides the requirements of food, water, and shelter for native animals. The demonstration site aids in teaching students about healthful wildlife habitats and container and landscape gardening. The water features, gazebo, and rock walkway enhance the outdoor esthetics of the school. A backyard wildscape at Menard Elementary School demonstrates the requirements of food, water, and shelter for rangeland maintenance conducive to supporting wildlife. Using existing gutters and downspouts from the roof of Menard Elementary School, rainwater is diverted into two 1,000-gallon green polypropylene tanks. One tank supplies a birdbath made of rocks with natural cavities and a prefabricated pond. Both water features are supplied with water conveyed by gravity pressure through 3/4-inch PVC pipe and drip emitters. Native plants provide a food source and cover for wildlife.



Using existing gutters and downspouts, rainwater harvesting techniques were used to create a backyard wildscape. The principles of wildscape construction can be transferred to large wildlife management programs.

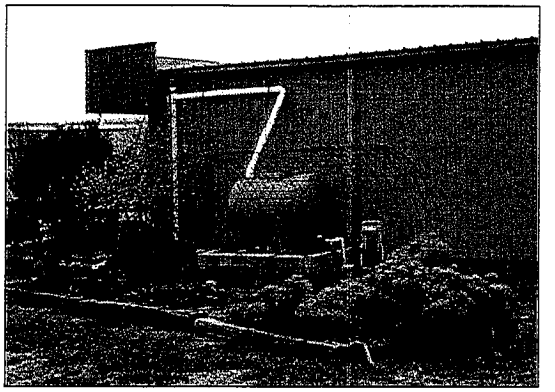


Menard Elementary School rainwater harvesting installation showing downspout, 1,000-gallon poly tank, and gazebo (left) surrounded by native and adapted landscape plants. In this very attractive installation, harvested rainwater (using existing gutter and downspouts) furnishes water not only to the landscape, but also to a watering pond, birdbath, and wildlife guzzler. (Photo courtesy: Billy Kniffen)

Walker County Cooperative Extension Office
Huntsville

102 Tam Road
Huntsville, Texas 77320
(936) 435-2426

Capacity:	550-gallon polyethylene tank
Catchment area:	1,500 square feet
Demand:	Master Gardener demonstration plot
Total cost:	Total: $230
Breakdown:	Used 550-gallon tank, $150 Plumbing supplies and fittings, $70 Glue, thinner, and paint, $10



Rainwater captured from the 1,500-square-foot roof of the Walker County Extension office is stored in a 550-gallon polypropylene tank, a type readily available at ranch supply retailers. The 10-gallon flush diverter is the vertical standpipe visible to the left of the tank. Captured rainwater irrigates an adjacent Master Gardener demonstration garden, foreground.

The Walker County Master Gardeners and staff of Texas Cooperative Extension, supervised by agricultural county agent Reginald Lepley, installed a rainwater harvesting system at the Walker County Extension office for a cost of less than $250. A used white 550-gallon polypropylene tank was thoroughly cleaned and pressure-washed, and painted with brown latex paint to discourage algae growth. Raising the tank on concrete blocks allows gravity flow to a 10-foot by 25-foot Master Gardener demonstration garden. A detailed parts list, instructions and tips for rainwater harvesting in general, and more information on this installation can be found at

urbantaex.tamu.edu/D9/Walker/AG/HomeHort/WCMG/hortdemo/Waterdemo/index

AMD/Spansion FAB25
Austin

5204 E. Ben White Blvd.
Austin, Texas 78741

Rainwater drained from the facility's roofs and groundwater from the building perimeter drains furnish all the water needed for landscape irrigation on AMD's Spansion site in east Austin. Water is collected and stored in a 10,000-gallon fiberglass tank, and then pressurized through the site irrigation loop using surplus pumps. The water savings has been verified at about 4.75 million gallons per year using online flow meters. In-house engineers designed the system and facilities tradespersons installed the tank, pump, piping, and electricity. The irrigation reclaim system has a three-year return on investment.

The plant also has segregated drains that allow the reuse and recycling of rinse water from the wafer manufacturing process for cooling tower and Ultra-pure treatment plant makeup drastically reducing city-supplied water. The water savings from the rinse water reuse system is approximately 210 million gallons per year and had a return on investment of less than one year.

J.J. Pickle Elementary School/St. John Community Center Austin

Corner of Blessing and Wheatley Avenues
Austin, Texas

A model of sustainable design and building, the J.J. Pickle Elementary and St. John Community Center in northeast Austin is a joint project of Austin Independent School District and the City of Austin. Water from a portion of the 116,200-square-foot facility drains into three tanks, which provide cooling water to the air-conditioning system.

For energy savings, the classrooms, gym, dining area, and City library use sunlight rather than electric lights during the day. The complex opened in January 2002, with operational and maintenance cost savings of $100,000 expected each year.

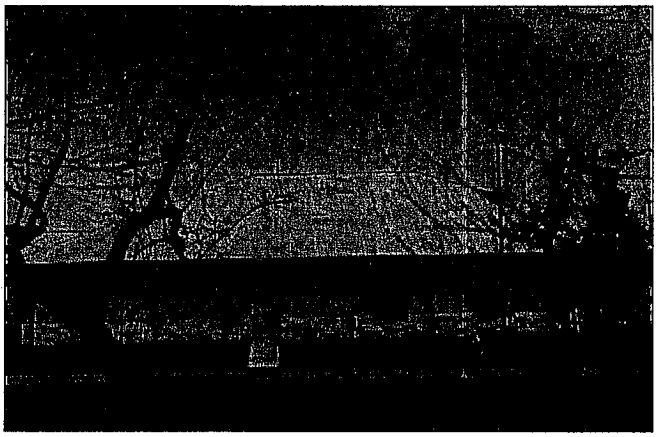
The complex includes a public elementary school, shared gymnasium, a health center, public and school libraries, and a community policing office. The cost of construction is $13.6 million, with the AISD funding about $8.3 million and the City of Austin funding about $5.3 million. The money came from a 1996 School District bond election and a City 1998 bond package.

Water collected from the roof of the J.J. Pickle Elementary School and St. John Community Center is stored in three large tanks behind the building and used as cooling water for the complex's air-conditioning system.

Feather & Fur Animal Hospital
Austin

9125 Manchaca Road
Austin, Texas 78748

Captured water from the roof, parking lot, and condensate from the air conditioners is the sole source irrigation water for a 1-acre turf landscape at the Feather & Fur Animal Hospital in South Austin. Dr. Howard Blatt first explored ways to make use of an existing hand-dug 18,000-gallon underground cistern. The project has since been expanded to take advantage of other rainwater sources.

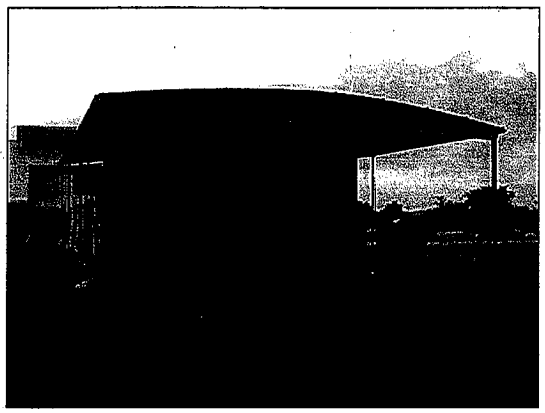


The Feather & Fur Animal Hospital in South Austin features a standing-seam metal roof for rainwater harvesting.

Rainwater collected from a standing-seam metal roof gravity flows into the cistern. Then water from the parking lot flows through a water quality pond with gabion for sedimentation and filtration treatment. From the pond, water flows via a 6-inch pipe to catch basin. A small sump pump empties to a 12,500-gallon fiberglass tank. Additionally, the primary condensation line from the air handlers also drains into the gutter and downspout system, which services the roof.

Pomerening/Dunford Residence
Bexar County

The Pomerening/Dunford family lives on the western edge of Bexar County and uses rainwater harvesting for all of their potable needs. The four-year-old installation features two 10,000-gallon cisterns that store captured water from a 2,400-square-foot collection area.



Two 10,000-gallon cisterns collect rainwater at the Pomerening/Dunford residence in Bexar County.

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Appendix D
Tax Exemption Application Form

01-339(Back) (Rev.6-04/5)

TEXAS SALES AND USE TAX EXEMPTION CERTIFICATION

Name of purchaser, firm or agency	
Address *(Street & number, P.O. Box or Route number)*	Phone *(Area code and number)*
City, State, ZIP code	

I, the purchaser named above, claim an exemption from payment of sales and use taxes (for the purchase of taxable items described below or on the attached order or invoice) from:

Seller: _____

Street address: _____ City, State, ZIP code: _____

Description of items to be purchased or on the attached order or invoice:

Purchaser claims this exemption for the following reason:

I understand that I will be liable for payment of sales or use taxes which may become due for failure to comply with the provisions of the Tax Code: Limited Sales, Excise, and Use Tax Act; Municipal Sales and Use Tax Act; Sales and Use Taxes for Special Purpose Taxing Authorities; County Sales and Use Tax Act; County Health Services Sales and Use Tax; The Texas Health and Safety Code; Special Provisions Relating to Hospital Districts, Emergency Services Districts, and Emergency Services Districts in counties with a population of 125,000 or less.

I understand that it is a criminal offense to give an exemption certificate to the seller for taxable items that I know, at the time of purchase, will be used in a manner other than that expressed in this certificate and, depending on the amount of tax evaded, the offense may range from a Class C misdemeanor to a felony of the second degree.

Purchaser	Title	Date
sign here ▶		

NOTE: This certificate cannot be issued for the purchase, lease, or rental of a motor vehicle.
THIS CERTIFICATE DOES NOT REQUIRE A NUMBER TO BE VALID.
Sales and Use Tax "Exemption Numbers" or "Tax Exempt" Numbers do not exist.

This certificate should be furnished to the supplier. Do **not** send the completed certificate to the Comptroller of Public Accounts.

California Regional Water Quality Control Board
Los Angeles Region
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.waterboards.ca.gov/losangeles

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

Meeting Attendance Sheet

Subject of the Meeting: .

Issues:

Meeting Location: LARWQCB, W. 4th St., Suite 200, Los Angeles

Time and Date:

Print Name	Agency / Division / Designation	Telephone Number
1. Xavier Swamikannu.	RWQCB - LA	(213) 620-2094
2. DAN RADULESCU	— " —	(213) 576-6760
3. Geof Brosseau	CASOA	650-365-8620
4. Tracy Woods	RWQCB-LA	213/620-2095
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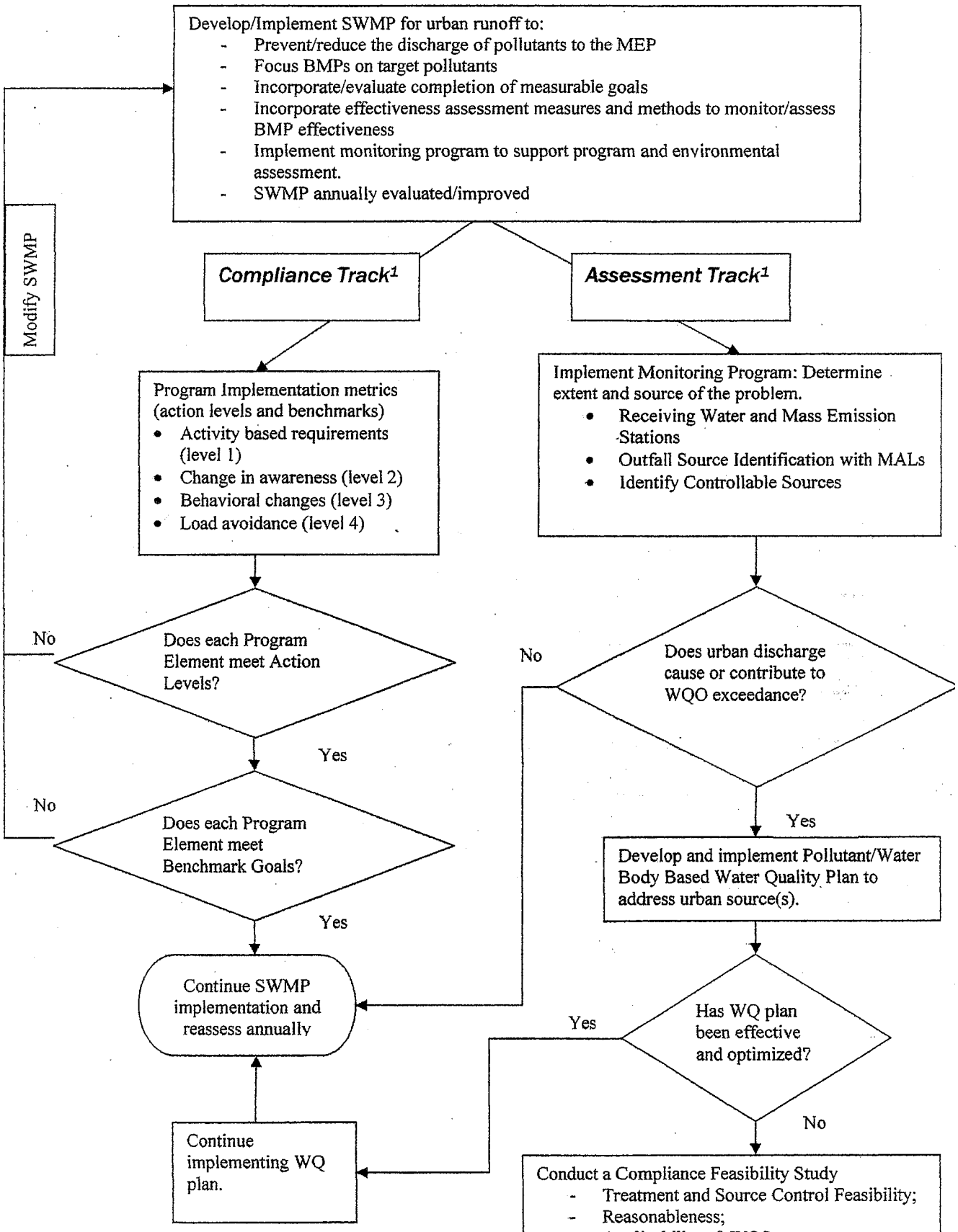

1. Based on CASQA Progressive Approach, Option 2.

Quantifiable Measures - / 1 Levels / Benchmarks

Program Element	Effectiveness Assessment Outcome Level	Goal	Options for Defining Quantifiable Measure *	Action Level *	Benchmark *
Construction	1 – Documenting Activities	Provide frequent inspection of construction sites	% of all construction sites are inspected according to specified schedule during wet season	90	100
	3 – Changing Behavior	Increase the number of construction sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of construction sites in significant compliance with local construction stormwater requirements (75% >1 ac. / 50% < 1 ac)	75	100
			% of state permitted sites that have a SWPPP completed and availabe for each site (document during inspection)	80	100
Illegal Discharges / Illicit Connections	3 – Changing Behavior	Respond rapidly and efficiently to illicit discharges	% of illicit discharges impacting human health responded to within 24 hours of upon receiving notification	80	100
		Eliminate all illegal connections	% of illegal connections eliminated or permitted once detected	80	100
Industrial / Commercial	1 – Documenting Activities	Provide frequent inspection of industrial sites	% of state permitted industrial sites are inspected according to specified schedule	90	100
	3 – Changing Behavior	Increase the number of industrial sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of industrial sites in significant compliance with local stormwater requirements	75	100
			% of state permitted sites that have a SWPPP completed and availabe for each site (document during inspection)	75	100
Municipal Operations	2 - Raising Awareness	Raise a target audience's awareness and understanding of an issue	% of employees to which requirement is applicable have attended training and taken test	90	100
	3 – Changing Behavior	Implement BMPs at vehicle maintenance facilities	% of City owned vehicle maintenance facilities that have developed, implemented, and kept current SWPPP (General Permit) or SWPCP (non-General Permit)	80	100
		Decrease use of pesticides	% of permittee landscaping under IPM	30	70
		Optimize use of fertilizers	% of permittee landscaping with site specific nutrient management plans	30	70
New Development	3 – Changing Behavior	Change a target audience's behavior which results in the implementation of recommended BMPs	**Upon first review**, percentage of projects that are incorporating LID concepts and adequate source controls as required by performance standards	80	100
			Upon first review, percentage of projects requiring treatment that are incorporating adequate treatment controls as required by performance standards	80	100
Public Education	2 - Raising Awareness	Raise public awareness and understanding of an issue	Percent of general public who know difference between sewer and storm drain	25	50
		Increase awareness of target audience	Percent of target audience who know not to dump in storm drain	50	75

Working Definitions:
Action Level: The level of implementation or performance where if below the action level the municipality's effort is inadequate and immediate action must be taken to correct.

Benchmark: The level of implementation or performance that reflects an adequately managed and comprehensive stormwater program. Ultimately all municipalities should attain the benchmarks.

* Multiple versions of Action Level and Benchmark values for the same Outcome Level are NOT meant to be equivalent. Values are made up and shown for discussion purposes only.

Effectiveness Assessment Outcome Levels
1 – Documenting Activities
2 – Raising Awareness
3 – Changing Behavior
4 – Reducing Loads from Sources
5 – Improving Runoff Quality
6 – Protecting Receiving Water Quality

For Discu[illegible] Purposes Only
Do Not Cite or Quote

runoff management agencies (collectively, "source category") including, but not limited to, Caltrans roadway and non-roadway facilities and rights-of-way, atmospheric deposition, public facilities, properties proximate to stream banks, industrial facilities, and construction sites.

The allocations for this source category should be achieved within 20 years, and, as a way to measure progress, an interim loading milestone of 120 kg/yr, halfway between the current load and the allocation, should be achieved within ten years. If the interim loading milestone is not achieved, NPDES-permitted entities shall demonstrate reasonable and measurable progress toward achieving the 10-year loading milestone.

The NPDES permits for urban runoff management agencies shall require the implementation of best management practices and control measures designed to achieve the allocations or accomplish the load reductions derived from the allocations. In addition to controlling mercury loads, best management practices or control measures shall include actions to reduce mercury-related risks to humans and wildlife. Requirements in each permit issued or reissued and applicable for the term of the permit shall be based on an updated assessment of control measures intended to reduce pollutants in stormwater runoff to the maximum extent practicable and remain consistent with the section of this chapter titled "Surface Water Protection and Management—Point Source Control—Stormwater Discharges". The following additional requirements are or shall be incorporated into NPDES permits issued or reissued by the Water Board for urban runoff management agencies.

i) Evaluate and report on the spatial extent, magnitude, and cause of contamination for locations where elevated mercury concentrations exist;

ii) Develop and implement a mercury source control program;

iii) Develop and implement a monitoring system to quantify either mercury loads or loads reduced through treatment, source control, and other management efforts;

iv) Monitor levels of methylmercury in discharges;

~~iv~~v) Conduct or cause to be conducted studies aimed at better understanding mercury fate, transport, and biological uptake in San Francisco Bay and tidal areas;

~~v~~vi) Develop an equitable allocation-sharing scheme in consultation with Caltrans (see below) to address Caltrans roadway and non-roadway facilities in the program area, and report the details to the Water Board;

vii) Prepare an annual report that documents compliance with the above requirements and documents either mercury loads discharged, or loads reduced through ongoing pollution prevention and control activities; and

viii) Demonstrate progress toward (a) the interim loading milestone, or (b) attainment of the allocations shown in Table 4-w, by using one of the following methods:

1) Quantify the annual average mercury load reduced by implementing (a) pollution prevention activities, and (b) source and treatment controls. The benefit of efforts to reduce mercury-related risk to wildlife and humans should also be quantified. The Water Board will recognize such efforts as progress toward achieving the interim milestone and the mercury-related water quality

standards upon which the allocations and corresponding load reductions are based. Loads reduced as a result of actions implemented after 2001 (or earlier if actions taken are not reflected in the 2001 load estimate) may be used to estimate load reductions.

2) Quantify the mercury load as a rolling five-year annual average using data on flow and water column mercury concentrations.

3) Quantitatively demonstrate that the mercury concentration of suspended sediment that best represents sediment discharged with urban runoff is below the suspended sediment target.

An urban runoff management agency that complies with these permit requirements shall be deemed to be in compliance with receiving water limitations relative to mercury. Once the Water Board accepts that a requirement has been completed by an urban runoff management agency, it need not be included in subsequent permits for that agency. These requirements apply to municipalities covered by the statewide municipal stormwater general permit (issued by the State Water Resources Control Board) five years after the effective date of this Mercury TMDL.

Urban runoff management agencies have a responsibility to oversee various discharges within the agencies' geographic boundaries. However, if it is determined that a source is substantially contributing to mercury loads to the Bay or is outside the jurisdiction or authority of an agency the Water Board will consider a request from an urban runoff management agency which may include an allocation, load reduction, and/or other regulatory requirements for the source in question.

Within the jurisdiction of each urban runoff management agency, Caltrans is responsible for discharges associated with roadways and non-roadway facilities. Consequently, Caltrans shall be required to implement the following actions:

i) Develop and implement a system to quantify mercury loads or loads reduced through control actions;

ii) Prepare an annual report that documents mercury loads or loads reduced through control actions; and

iii) Develop an equitable allocation-sharing scheme that reflects Caltrans load reduction responsibility in consultation with the urban runoff management agencies, and report the details to the Water Board. Alternatively, Caltrans may choose to implement load reduction actions on a watershed or regionwide basis in lieu of sharing a portion of an urban runoff management agency's allocation. In such a case, the Water Board will consider a separate allocation for Caltrans for which they may demonstrate progress toward attaining an allocation or load reduction in the same manner mentioned previously for municipal programs.

Guadalupe River Watershed (Mining Legacy)

In the near term, the effort underway to develop the Guadalupe River Watershed Mercury TMDL will be the mechanism used to implement and track progress toward achieving the load allocation. Ultimately, the Water Board expects the implementation plan for the Guadalupe River Watershed Mercury TMDL to integrate implementation efforts relative

MAY 8, 2007

DRAFT STORMWATER PERMIT DISCUSSION

NAME	AFFILIATION	EMAIL
Debi Mcalpine	WPD	debi.mcalpine@ventura.org
Richard Bradley	City of Ventura	RBRADLEY@CI.VENTURA.CA.US
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MACK WALKER	Larry Walker Assc.	mackw@lwa.com
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TERI DAVIS	CITY OF MOORPARK	ci.moorpark.ca.us
MARK PUMFORD	City of Oxnard	mark.pumford@ci.oxnard.ca.us
Vicki Musgrove	City of Ventura	Vmusgrove@ci.ventura.ca.us
Anita Kuhlman	City of Camarillo	akuhlman@ci.camarillo.ca.us
Xavier Swamikarma	WQCB - LA	
Deb Smith	RWQCB	dsmith@waterboards.ca.gov
Tracy Woods	RWQCB-LA	twoods@waterboards.ca.gov
Kevin Gieschen	City of Simi	KGiesche@simivalley.org
CARRIE MATTINGLY	CITY OF PORT HUENEME	cmattingly@ci.port-hueneme.ca.us
Via Teleconference - Michael Levy	RWQCB-LA Senior Staff Counsel	MLevy@waterboards.ca.gov

Ventura Countywide Storm Water Quality Program

Draft Stormwater Permit Meeting and Discussion with RWQCB

1st Session

May 8, 2007 – 1:30 to 4 PM

Location: **RWQCB-LA Office**

----- Agenda -----

1. *Introductions*	*All*	*15 minutes*
2. *Draft Permit Timeline: Meeting & Workshop Schedule. Revised Draft Released?*	*RWQCB*	*15 minutes*
3. *Ventura Countywide SW Program's Alternative Approach to Municipal Action Levels (MALs)*	*Mac Walker/LWA*	*30 minutes*
4. *Ventura Countywide SW Program's Proposed Conceptual Framework for Stormwater Monitoring*	*VCWPD Principal SW Program Staff*	*30 minutes*
5. *Language & Requirement Changes Made in the Interim?*	*RWQCB*	*30 minutes*
6. *Future Meeting Topics of Discussion*	*All*	*30 minutes*
Adjourn at 4 pm		

Ventura Countywide Issue Paper - MALs and Permit Implementation and Compliance

Issue: The Draft Permit proposes to use municipal action levels (MALs) expressed as numeric values to assess compliance with the Permit. Outfalls greater than 36 inches are subject to MALs. If MALs are exceeded more than twice then the Permittees are judged to be out of compliance with the MEP standard (and out of compliance with the Permit). If MALs are exceeded then the Permittees must augment control measures to reduce the discharge of pollutants to not violate the MEP standard.

Ventura Countywide Alternative Approach

The Ventura Countywide Program proposes an alternative to the "MAL equal MEP" approach used in the Permit. The fundamental difference between the Regional Board and the Countywide approach is in the use (and definition) of MALs. The Countywide approach proposes to use MALs as an assessment tool (1) to identify "bad actors" or catchments (through outfall monitoring) and (2) to identify inadequate levels of program implementation (through annual program evaluation). In the first case numeric values will be developed using local monitoring data and be applied to land use outfalls. In the second case the action levels will be developed by the Permittees and Regional Board and be applied to all Permittees. MALs would not be used as a compliance tool as currently proposed in the draft Permit.

Our approach is summarized below and shown graphically in the attached flow chart:

1. Basic Assumptions - Definitions:
   - Action Level – The level of implementation or performance where, if below the action level, the municipality's effort is inadequate and immediate action must be taken to correct.
   - Benchmark – The level of implementation or performance that reflects an adequately managed and comprehensive stormwater program. Ultimately the goal of all municipalities is to attain benchmarks.
   - Compliance determination – Dischargers must reduce pollutants to the maximum extent practicable, meet water quality standards through the iterative process, and comply with all other provisions of the Permit.

2. Monitoring program will primarily be based on the southern California model stormwater monitoring program. As such the initial monitoring will focus on determining the extent of the water quality issues in the receiving water[1]. The water quality issues will be as previously identified by the Countywide program and TMDLs.
3. Municipal pollutant concentration action levels will be developed from local monitoring data for pollutants of concern. MALs will be based on the mean plus two standard deviations. The MALs will be used as an assessment tool not a compliance metric. Tentatively, MALs would be developed for the following:

[1] Previous monitoring conducted under the Ventura Countywide monitoring program has identified the problematic constituents in the lower part of the three major watersheds.

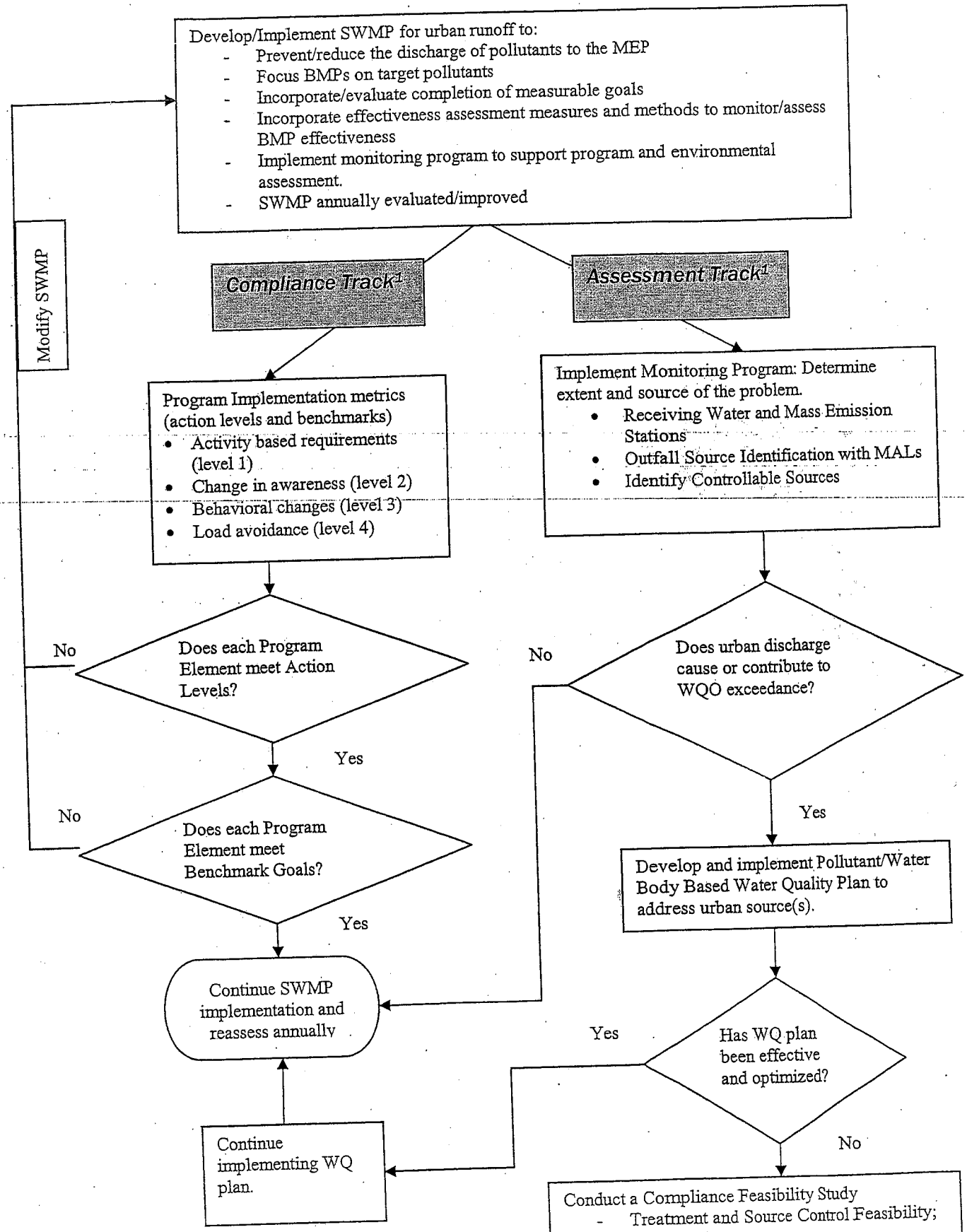
Wet Weather

- E. Coli
- Fecal Coliform
- Dissolved Copper
- Dissolved Zinc
- Total Selenium
- Total Mercury
- Nitrate as N

Dry Weather

- E. Coli
- Fecal Coliform
- TDS or electrical conductivity
- Nitrate as N

4. Pending the results of item 2 above the Dischargers will focus outfall monitoring on the problematic constituents and in the geographical areas identified as potential sources.
5. Municipalities must conduct follow up investigation and develop and implement a corrective action plan for outfalls exceeding MALs.
6. Permittees will develop performance metrics (action levels and benchmarks) for program implementation. There will be a permit provision requiring that when an action level is not met, then the Permittee must take immediate actions (within a specified time period) and address the source or inadequate level of performance. Permittees will strive through the iterative process to meet benchmarks levels. A tentative list of performance metrics are provided in the attached table.



1. Based on CASQA Progressive Approach, Option 2.

Program Element	Effectiveness Assessment Outcome Level	Goal	Options for Defining Quantifiable Measure	Action Level *	Benchmark *
Construction	1 – Documenting Activities	Provide frequent inspection of construction sites	% of all construction sites are inspected according to specified schedule during wet season	90	100
	3 – Changing Behavior	Increase the number of construction sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of construction sites in significant compliance with local construction stormwater requirements (75% >1 ac. / 50% < 1 ac)	for >1 ac., 75% <1ac. 50%	100
			% of state permitted sites have completed and available SWPPPs for each site (document during inspection)	80	100
Illegal Discharges / It Connections	3 – Changing Behavior	Respond rapidly and efficiently to illicit discharges	% of illicit discharges impacting human health responded to within 24 hours of upon receiving notification	80	100
		Eliminate all illegal connections	% of illegal connections eliminated or permitted once detected	80	100
ıstrial / ımercial	1 – Documenting Activities	Provide frequent inspection of industrial sites	% of state permitted industrial sites are inspected according to specified schedule	90	100
	3 – Changing Behavior	Increase the number of industrial sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, percentage of industrial sites in significant compliance with local stormwater requirements	75	100
			% of state permitted sites have a completed and available SWPPP for each site (document during inspection)	75	100
Municipal Operations	2 - Raising Awareness	Raise a target audience's awareness and understanding of an issue	% of employees to which requirement is applicable have attended training and taken test	90	100
	3 – Changing Behavior	Implement BMPs at vehicle maintenance facilities	% of City owned vehicle maintenance facilities that have developed, implemented, and kept current SWPPP (General Permit) or SWPCP (non-General Permit)	80	100
		Decrease use of pesticides	% of permittee landscaping under IPM	30	70
		Optimize use of fertilizers	% of permittee landscaping with site specific nutrient management plans	30	70
New Development	3 – Changing Behavior	Change a target audience's behavior which results in the implementation of recommended BMPs	Upon first review, percentage of projects that are incorporating LID concepts and adequate source controls as required by performance standards	80	100
			Upon first review, percentage of projects requiring treatment that are incorporating adequate treatment controls as required by performance standards	80	100
Public Education	2 - Raising Awareness	Raise public awareness and understanding of an issue	Percent of general public who know difference between sewer and storm drain	25	50
		Increase awareness of target audience	Percent of target audience who know not to dump in storm drain	50	75

Working Definitions:

Action Le· The level of implementation or performance where if below the action level the municip· · effort is inadequate and immediate action must be taken to correct.

Benchmark: The level of implementation or performance that reflects an adequately managed and com·· ehensive stormwater program. Ultimately the goal of all municipalities is to attain the be· ·arks.

Ventura Countywide Stormwater Monitoring Data

Site ID	Constituent	Count	Mean	STDEV	Mean + 2 STDEV
R-1 and I-2	Total Selenium (µg/L)	51	1.3	2.6	6.5
R-1 and I-2	Total Mercury (ng/L)	49	109.6	239.6	588.8
R-1 and I-2	Nitrate as N (mg/L)	50	1.4	2.8	6.9
R-1 and I-2	Dissolved Copper (µg/L)	46	24.8	44.2	113.3
R-1 and I-2	Total Zinc (µg/L)	53	186.7	134.0	454.7
R-1 and I-2	Total Lead (µg/L)	53	19.9	18.2	56.3

ISSUE PAPER

Ventura Countywide Stormwater Program's Proposed Conceptual Framework for Stormwater Monitoring

Proposed Alternative Approach to Requirements in Draft Permit: This proposed monitoring conceptual framework is based on the 2004 Model Monitoring Program for Municipal Separate Storm Sewers Systems in Southern California (Model Program) from the Stormwater Monitoring Coalition, 2004. This document states that it "serves as the starting point for negotiating a monitoring and reporting program", and included input from both the LARWQCB and Heal the Bay.

The Model Program presents five management questions that, when addressed, use adaptive triggers to expand a monitoring program in a logical and resource-protective way to move from assessment monitoring to source identification. Unlike the static program that the Ventura Countywide program currently has, the results of monitoring efforts are used in this process to initiate more monitoring if an impact is observed, or a reduction in monitoring effort if no impact (or potential for impact) was found. The tools described in the Model Program include "triggers for toxicity identification evaluations, upstream source tracking, a prioritization scheme for special studies, and statistical evaluations for estimating sample size based on statistical power to detect trends."

Management Questions:

1. "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?
2. "What is the extent and magnitude of the current or potential receiving water problems?"
3. "What is the relative urban runoff contribution to the receiving water problems?"
4. "What are the sources to urban runoff that contribute to receiving water problems?"
5. "Are conditions in the receiving waters getting better or worse?"

This framework aims to address each of these questions and provide the additional steps to be taken as information about the extent of receiving water quality problems are identified.

Management Question No. 1:
"Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?

Proposed Actions:

- Begin pyrethroid monitoring in lower watersheds.
- Compile countywide data that is available for analysis.
- Verify or perform statistical analysis on available data.
- Identify data gaps and modify mass emission monitoring accordingly.

Mass Emission monitoring has been conducted near the base of each watershed for four wet events a year since 2000. The Model Program suggests this monitoring be performed for three wet events a year for three years and then to modify per results of a power analysis. The Countywide program is at the stage where these monitoring data should be compiled to establish the statistical baseline.

Additionally, Federal regulation [(40 CFR § 130.7(b)(5)] states that "Each State shall assemble and evaluate all existing and readily available water quality-related data and information to develop the list required by §§ 130.7(b)(1) and 130.7(b)(2)." These lists describe the conditions of the receiving waters in the State (305(b) Report) and the list of impaired waterbodies (303(d) listing). The "existing and readily available water quality–related data" include NPDES monitoring from stormwater programs, NPDES monitoring from Publicly Owned Treatment Works (POTW), industrial discharge monitoring, Total Maximum Daily Load (TMDL) monitoring programs, and special studies performed by the municipalities and other agencies (e.g., Surface Water Assessment and Monitoring Program (SWAMP) and Southern California Coastal Water Research Project (SCCWRP).

Almost all of this monitoring has been done in the compliance approach determining if a constituent is above or below a threshold. This approach should be used in conjunction with an assessment approach. The assessment approach is based on a weight of evidence in which chemical, biological and toxicity data (Triad approach) are used to assess impacts. This has not been done on all the Ventura County watersheds by the Stormwater Program, though much of that information may be available through SWAMP or other sources.

To avoid redundancy with other monitoring programs and misusing resources, all available data should be used to answer this question. Any identified gaps in the information should be addressed by incorporating the Triad approach at appropriate watershed sites. Since there is much information in Ventura County on the current impacts to beneficial uses, any additional monitoring to answer this will support answers to other management questions as well.

Management Question No. 2:
"What is the extent and magnitude of the current or potential receiving water problems?"

Proposed Actions:

- Intense two year watershed monitoring studies of three wet and two dry events to determine spatial extent of water quality problems.
- Add monitoring points downstream of major urban areas in the Santa Clara and Ventura River watersheds.
- Bioassessment coordination with watershed chemical and toxicity analysis for eight of evidence Triad approach.
- Identify water quality problems likely associated with urban areas.

The next step is to expand on the information known about the receiving water problems by including spatial and temporal monitoring throughout the watershed. In some cases the extent of impairment is apparent from the tabular and graphic 303(d) information and from years of monitoring history on the watersheds; however, research will be needed to identify the gaps in available data. Receiving water problems that do not have sufficient information on their extent and magnitude will require additional monitoring.

The Model Program describes this monitoring "usually as shorter-term studies that are conducted once or perhaps periodically when there is reason to believe the scale of the problem has changed." This lends itself to a rotating schedule similar to the Tributary Monitoring written in the draft order. The final schedule of rotation would depend on the data gaps discovered and the severity of the problem.

The design of a monitoring plan to provide the needed information will depend on what information is already available; but for the purposes of the Countywide program it will generally reflect receiving water monitoring above and below Permittee's discharge points (see figure 1). Ideally the development of multiple lines of evidence (e.g. Triad method) to more thoroughly characterize the extent of the water quality problem.

This information should provide evidence as to whether the discharge from a Permittee is contributing to the receiving water problem. Additional monitoring will be triggered if there is a significant change in the receiving water below the Permittee's discharge outlets. The Model Program does not define what a significant change is because it depends upon the habitat and human health factors at risk and the severity of the problem as well as the relative certainty of the estimates. Each constituent and sample point will need to be evaluated individually with a t-test statistical analysis of the upstream and downstream locations to determine if there is a statistical difference between the sites.

Management Question No. 3:
"What is the relative urban runoff contribution to the receiving water problems?"

Proposed Actions:

- Direct monitoring of urban area discharge points for pollutants in the downstream station that are higher than upstream for comparison to MALs.
- Monitor urban runoff of select sites to refine and calibrate model for countywide use.
- Evaluate data from intensive watershed monitoring for likeliness of urban discharge contributing to water quality problems.
- Use modeling software and historic land use data to evaluate urban runoff proportions of receiving water problems.

While questions 1 and 2 are working upstream to provide information, the Countywide Monitoring program does not need to wait for that information to begin answering question 3. The aim of this question is to "determine when additional, more detailed and extensive, upstream source identification efforts should be conducted by a municipality, with the goal of ensuring that the full burden of source identification work not be shifted to the MS4 Permittees where action by them would not solve the larger problem."

Data made available through this process could trigger the Permittees to develop and implement pollutant/water body based water quality plans. If the municipalities are discovered to be only a small contributor to a larger problem (e.g.: DDT) then the burden of that problem should be lifted. Conversely, according to the Model Program further source identification studies at greater resolution would be required if an urban source is discovered to contribute significantly to the receiving water problem.

The Model Program states that initially only minimal resolution is needed and that in many situations aggregate estimates may be adequate. It goes on to suggest that data for this may already be available from previous characterization and monitoring studies.

Early in its development, the Ventura Municipal Stormwater Program evaluated the urban runoff component more directly by using a model (Watershed Management Model, CDM) to determine flow and pollutant contributions from drainage- and sub drainage-basins to the watersheds. This information was useful not only in answering Management Question No. 3,

but also in determining appropriate best management practices for sub basins as their land uses were converted. The Countywide program proposes using the years of land use data that have been collected and updating the Watershed Management Model to determine proportional contribution of urban runoff (based on land use types, e.g. residential, industrial, etc.) The results of low resolution modeling will be used to determine where increased resolution is needed. As needed, resolution can be enhanced by increasing the complexity of the model and eventually by calibrating it with urban runoff data from discrete drainage areas. This work can begin immediately since it is initially not dependant on gathering a new data set or results from anticipated monitoring.

Data from the spatial extent and magnitude study may show a statistical likelihood of problem constituents in a receiving water below an MS4 discharge. This would be examined by monitoring urban outfalls for comparison to Municipal Action Levels. The exact outfall to monitor would be identified through the Watershed Management Model as a storm drain systems with high potential for pollutant sources.

The maps presented show detailed drainage areas for each Permittee, including urbanized areas of the unincorporated County. Selection of which drainage area to monitor will be based on the likely source of the constituent and the predominant land use of the drainage area.

Management Question No. 4:
"What are the sources to urban runoff that contribute to receiving water problems?"

Proposed Actions:

- Implementation of pollutant/water body plans by Permittees exceeding MALs.
- Conveyance system monitoring for hot spots
- Illicit discharge and illicit connection screening.

If urban runoff is identified as, or likely to be, a source to specific receiving water problems an increased focus on sources will be made. Information obtained from answering the first three questions will then be used in identifying which urban areas are shown to be contributing to receiving water problems.

Answering question 4 requires "more thorough source identification studies intended to provide information about the nature, location and quantity of inputs to the receiving water". Once a drainage area is identified as exceeding MALs (contributing to a receiving water problem) the discharger shall develop and implement a pollutant/water body based water quality plan to address the urban sources. This may have already been accomplished through a TMDL implementation plan. Permittees will use this plan to narrow the focus on sources and it could include conveyance system monitoring for hot spots and field screening for illicit discharges and connections.

Management Question No. 5:
"Are conditions in the receiving waters getting better or worse?"

Proposed Actions:

- Statistical trends analysis after each intensive watershed monitoring study.

- Development of Study Plan for areas downstream of urbanization that score *Poor* on an appropriate Index of Biological Integrity for bioassessments.
- Identification of additional POCs.
- Development of Action Plan for discernable increasing trends in POCs.

As stated earlier there are 7 years of mass emission data and many other data sources to draw from to answer this management question. Trends analysis will be performed on all constituents to determine if there are significant increases or decreases in water quality problems.

To detect if current program efforts are effective is more difficult. The Model Program acknowledges that "changes in receiving water conditions are likely to occur over several years (at the least)".

Periodic statistical analysis of program data is important to determine not only if trends are occurring, but also if the monitoring program is sufficiently robust, or if it is even possible to detect a certain change within the timeframe decision makers need information to detect trends.

Proposed Monitoring Program Timeline

Below is a proposed draft framework. The final monitoring plan will be subject to the results discovered through the data analysis phase. Presented here is a rough estimate of what monitoring is likely to occur in the first three years of revised Monitoring Program. Actual monitoring is dependent on the information made available as the monitoring program progresses through the flow chart in Figure 2.

Year One

- Continue flow weighted composite monitoring of Mass Emission for three wet and two dry events at three sites;
- Pyrethroid sediment monitoring at base of main watersheds;
- Spring bioassessment on Santa Clara River, select sites from existing SWAMP bioassessment sites;
- Begin spatial extent and magnitude studies in Santa Clara River with sites below contributions from urbanized areas to determine if a significant contribution of pollutants is likely from urbanized areas. Match sites as closely to bioassessment sites as possible;
- Monitor every 0.5" storm for TSS, concurrently monitor for turbidity;
- Analyze existing countywide data to determine whether quality, quantity, representativeness, and completeness are sufficient to answer management questions Nos. 1 and 2. Identify existing data gaps and prioritize according to severity of the problem, potential for heath risk, and biological resources at issue;
- Begin evaluation of urban runoff contributions to water quality problems by modeling analytical land use data with current land use practices in urbanized areas.

Year Two

- Monitor outfalls of urbanized areas identified through spatial extent studies as likely to be contributing to a receiving water problem;
- Continue spatial extent and magnitude studies and bioassessment monitoring for Triad approach on a watershed basis in accordance with results of data analysis;
- Expand pyrethroid monitoring to additional upstream locations if results from previous monitoring indicate a problem;
- Monitor every 0.5" storm for TSS, complete study evaluating predictive nature of TSS for other pollutant loadings, and a study evaluating turbidity as surrogate for TSS. Amend TSS monitoring as appropriate;
- Increase resolution of urban runoff contributions model if necessary by higher resolution of land use data or calibration monitoring.

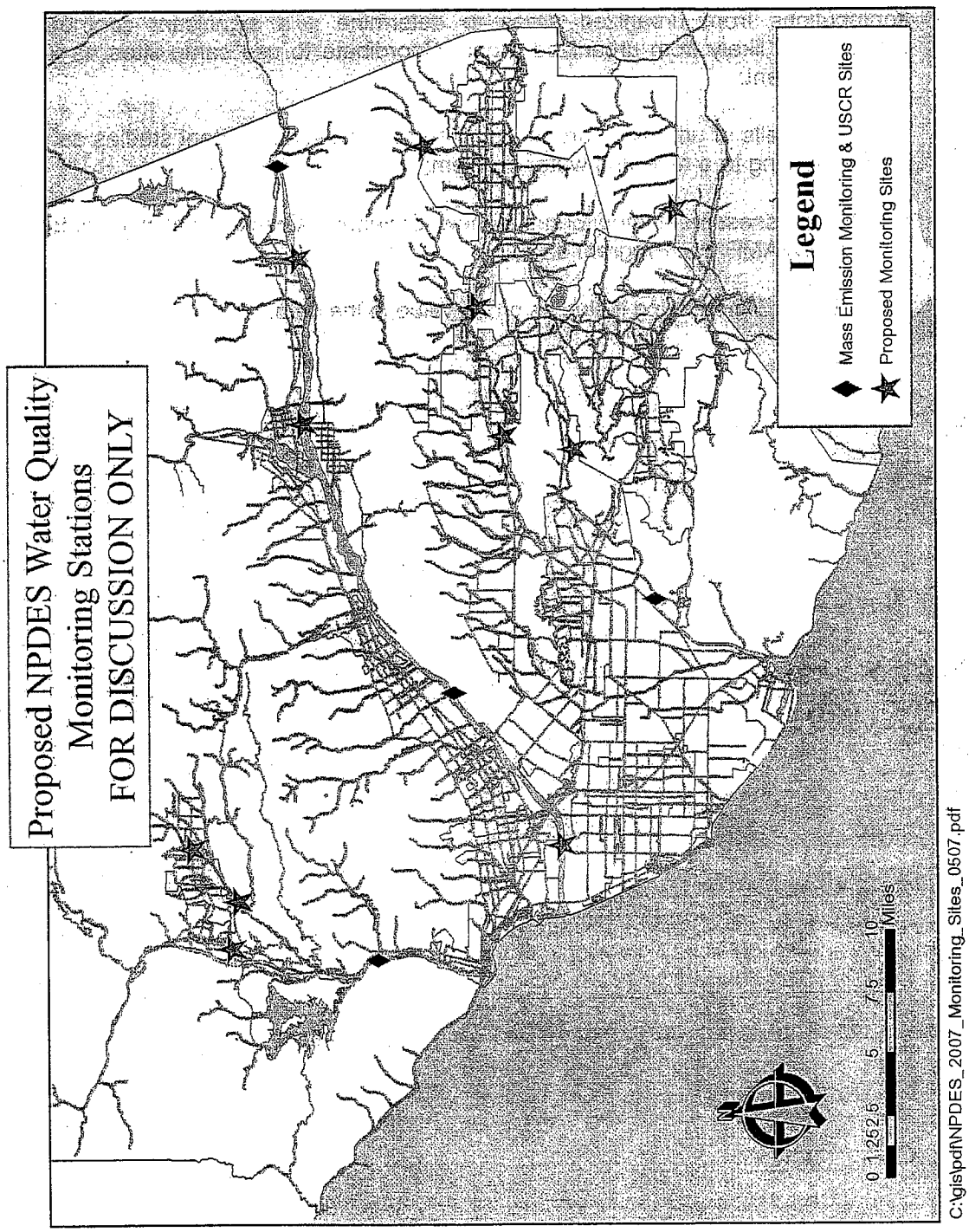
Year Three

- Begin spatial extent and magnitude studies in Calleguas Creek with sites below contributions from urbanized areas to determine if a significant contribution of pollutants is likely from urbanized areas. Coordinate to use same sites as SWAMP bioassessment;

- Monitor outfalls of urbanized areas identified through spatial extent studies as likely to be contributing to a receiving water problem;

- Rotate bioassessment monitoring to new Calleguas Creek if baseline established through SWAMP and Program data;

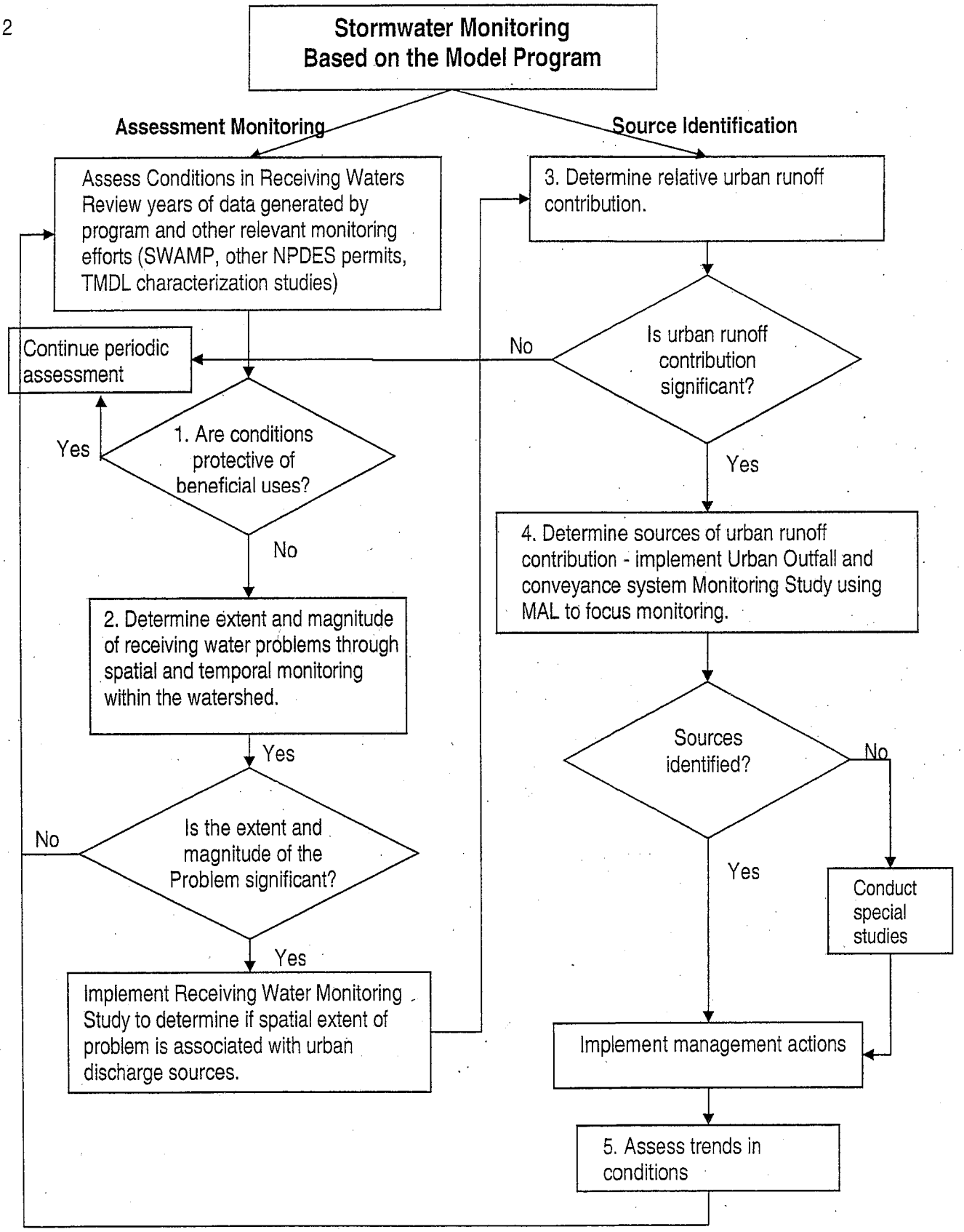
- Continue TSS monitoring if studies prove value in the data.



For Discussion Purposes Only

Figure 1

Figure 2



For Discussion Purposes Only

Comparison of Monitoring Plan based on Model Monitoring Program to requirements in Draft Order

Monitoring Requirements	Draft Permit	Proposed Plan Based on Model Monitoring Program
Mass Emissions		
Objectives	Estimate mass emissions from MS4s, asses trends over time, determine if MS4 is contributing to exceedences of WQO	Determine if conditions in the receiving waters are protective, or likely to be protective, of beneficial uses. Assess trends over time.
Sites	3 stations, plus 60% Ventura and Oxnard drainage to Santa Clara River until SCR moved. May be 5 or 6 stations	3 stations, one on each watershed. Propose composite of grab samples downstream of urban areas on Ventura and Santa Clara rivers.
Events	5 total: 3 Wet, 2 Dry (May, June and August, Sept), First Flush, 0.25 inch rain.	Model Program suggests 3 wet events for three years then to modify per results of a power analysis. High likelihood that some constituents will require continued monitoring.
Constituents	Traditional ME	Initial Pyrethroid study the rest dependant on power analysis suggested by Model Program and.
TSS Monitoring	All Storms 0.25" storms	Not addressed in Model Program as a valid measure to estimate loading. Suggest evaluation after two years on the ability of this data to predict loading, and if a translator for turbidity can be used as a surrogate. Also suggest every 0.5" storm, natural bottom channels, vast open space and agriculture areas are pervious surfaces that create little increase in runoff in a 0.25" storm.
Toxicity		
Sites	3 mass emission stations and rotating tributary stations	Used as part of the Triad approach in locating the extent and magnitude of receiving water problem. See

		fig XXX for potential sites.
Test Organisms	Marine and freshwater test organisms at Mass Emission, freshwater at Tributary Sites	Freshwater
TIE	All sites: 90% or more in first year. 20% or second year.	Same 90% or more in first year. 20% or second year.
TRE	If same class in 50% in 2 samples per location	If same class in 50% in 2 samples per location and urban sources likely.
Tributary		
Objectives	Determine if MS4 is contributing to exceedences of WQO	Determine what the extent and magnitude of the current or potential receiving water problems and if urban sources are likely the cause.
Sites	2 VC, 3 SCR, 2 CC, and Malibu coordinated w/ Malibu Creek TMDL Monitoring. One watershed every two years	Dependant on information obtained in Mass Emission monitoring and historical watershed data available. Possibly six or more sites per watershed.
Sampling	First storm plus 2 others	Model Program defines as "shorter-term studies that are conducted once or perhaps periodically"
Analytes	Same as ME for first flush, 2nd all downstream 303(d) and POCs	Only constituents when "receiving water problems related to urban runoff are found or predicted"
WQO exceedences	Identify source in sub watershed, corrective action plan in 90 days	Initiate urban outfall source identification monitoring.
TMDLs	Above and beyond TMDL compliance monitoring plans	Not an appropriate part of this plan - refer to TMDL compliance monitoring plans.
Bioassessment		
Objective	Determine the need for Ecological Restoration Plans	Use with Triad method to determine if conditions in the receiving waters are protective, or likely to be protective, of beneficial uses and the extent and magnitude of the current or potential receiving water problems.
Sites	Ventura, SCR, Calleguas: rotate each year.	Selected from existing SWAMP sites in conjunction with needs analysis. Rotate each year.
event	Monitor in spring	Monitor in spring

Trash Study		
Object	Identify area impaired	Identify urban sources of trash
Areas	5 coastal waters, 6 beaches	Areas identified where urban sources likely to be source.
Pyrethroids/ Sediments		
Sites	2-6 sites in main stream of tributaries. 2 -3 sites on secondary tributaries that enter each main tributary (originate at outfall of stormdrain). Potential 30 -40 sites.	Begin at Mass Emission stations, expand monitoring as required by adaptive triggers in the Model Monitoring Program.
Sampling	Top 1cm of sediment in first storm plus 2 others, Chemical and toxicity.	Dry weather sediment only.
Receiving Water Limitations		
Monitoring Points	End-of-pipe compliance points for MAL are at pipes 36 inch or greater or default to Mass emission stations. Letter requests 60% of flows to each watershed management area.	Permittee MS4 outfalls identified as, or likely to be, a source to specific receiving water problems.
Revised Monitoring Program	If discharge is causing or contributing to exceedences of water quality, RWL Compliance Report submitted to RB. Report may require additional monitoring - compliance and investigative.	If discharge is found or suspected of exceeding MALs responsible Permittee is to develop and implement Pollutant/Water Body Based Water Quality Plan to address urban source(s).

Ventura Countywide Draft Monitoring Program Based on Model Monitoring Program for Municipal Separate Storm Systems

Arne Anselm
V.C.W.P.D.
May 8, 2007

Model Monitoring Program

"This document serves as the starting point for negotiating a monitoring and reporting program"

Model Monitoring Program

- Written by Southern California Stormwater Monitoring Coalition, 2004
- Partially funded by SWRCB
- Developed for Southern California region.

Model Monitoring Program

- Content developed by technical committee including:
  - Regulated Community
  - Regulatory Agencies
  - Environmental Groups
  - Research Organizations
- Specific contributors:
  - Xavier Swamikannu, LARWQCB
  - Michael Yang, LARWQCB
  - Mitzy Taggart, Health the Bay
  - Ken Schiff, SCCWRP

What should we be asking?

Five Monitoring Management Questions

- 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?

What should we be asking?

Monitoring Management Questions

- 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- 2: What is the extent and magnitude of the current or potential receiving water problems?

What should we be asking?

Monitoring Management Questions

- 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- 2: What is the extent and magnitude of the current or potential receiving water problems?
- 3: What is the relative urban runoff contribution to the receiving water problems?

What should we be asking?

Monitoring Management Questions

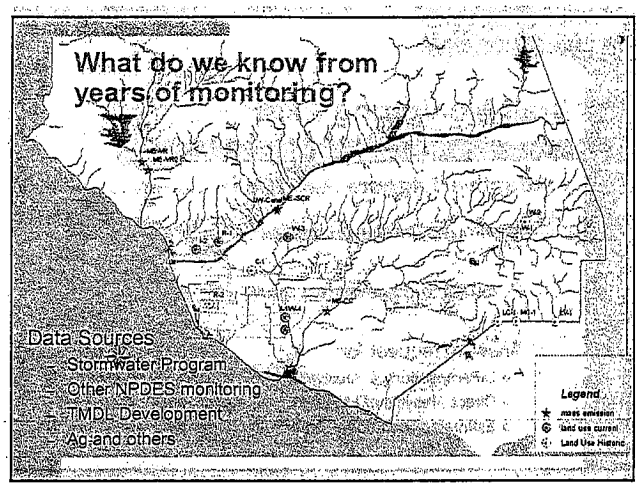
- 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- 2: What is the extent and magnitude of the current or potential receiving water problems?
- 3: What is the relative urban runoff contribution to the receiving water problem(s)?
- 4: What are the sources to urban runoff that contribute to receiving water problems?

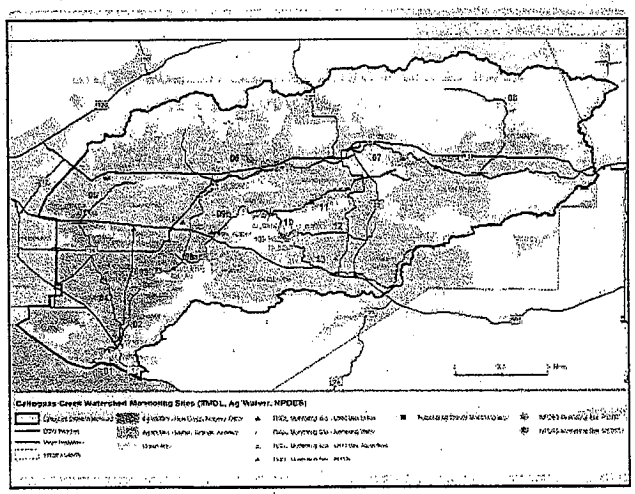
What should we be asking?

Monitoring Management Questions

- 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- 2: What is the extent and magnitude of the current or potential receiving water problems?
- 3: What is the relative urban runoff contribution to the receiving water problem(s)?
- 4: What are the sources to urban runoff that contribute to receiving water problem(s)?
- **5: Are conditions in receiving waters getting better or worse?**

What do we know from years of monitoring?





What do we know from years of monitoring?

- Constituents that are not a problem
  - How much needed to verify?
- Constituents that are always a problem
  - Are sources identified?
- Other constituents
  - Is there a problem?
  - Compare to 303 (d) listing policy

Draft Monitoring Plan

- **Adaptive Triggers Approach**– SMC MM 4.3.2
  - Maximizes limited resources
  - Potential to discover hot spots
  - Answers request for:
    - Differentiation of Sources from Permittees' MS4s
    - Direct Analysis of Urbanized Areas
    - Estimates Mass Emissions from Urbanized Areas

Draft Monitoring Plan

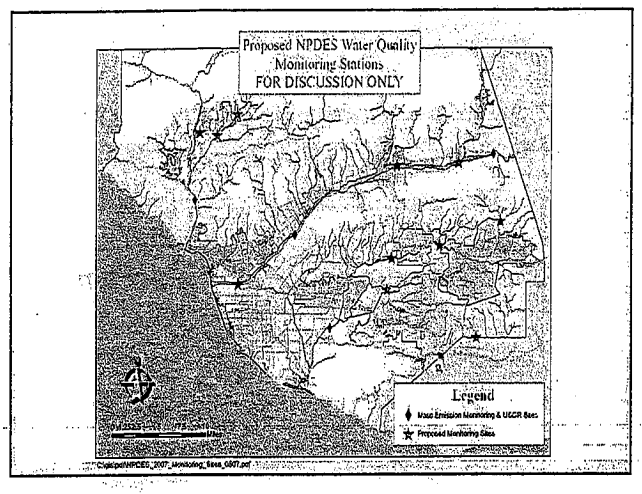
- **Adaptive Triggers Approach**– SMC MM 4.3.2
  - Identify problems in waters bodies
  - Determine extent and magnitude of problem
  - Evaluate if urban discharge significantly contributes to problem
  - Monitor urban discharge
    - Compare to MALs
    - Implement programs as necessary

1: "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?

- **Proposed Actions:**
  - Begin pyrethroid monitoring in lower watersheds.
  - Compile countywide data available for analysis.
  - Verify or perform statistical analysis on available data.
  - Identify data gaps.

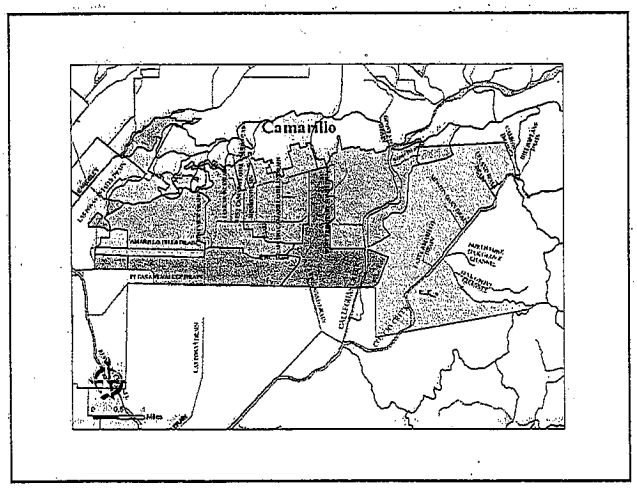
2: "What is the extent and magnitude of the current or potential receiving water problems?"

- **Proposed Actions:**
  - Intense two year watershed monitoring studies of three wet and two dry events to determine spatial extent of water quality problems.
  - Add monitoring points downstream of major urban areas in the Santa Clara and Ventura River watersheds.
  - Bioassessment coordination with watershed chemical and toxicity analysis for weight of evidence Triad approach.
  - Identify water quality problems likely associated with urban areas.



3: "What is the relative urban runoff contribution to the receiving water problems?"

- **Proposed Actions:**
  - Use modeling software and historic land use data to evaluate urban runoff proportions of receiving water problems.
  - Monitor urban runoff of select sites to refine and calibrate model for countywide use.
  - Evaluate data from intensive watershed monitoring for likeliness of urban discharge contributing to water quality problems.
  - Direct monitoring of urban area discharge points for pollutants in the downstream station that are higher than upstream for comparison to MALs.



4: "What are the sources to urban runoff that contribute to receiving water problems?"

- **Proposed Actions:**
  - Implement pollutant/water body plans for pollutants exceeding MALs
  - Conveyance system monitoring for hot spots.
  - Illicit discharge and illicit connection screening.

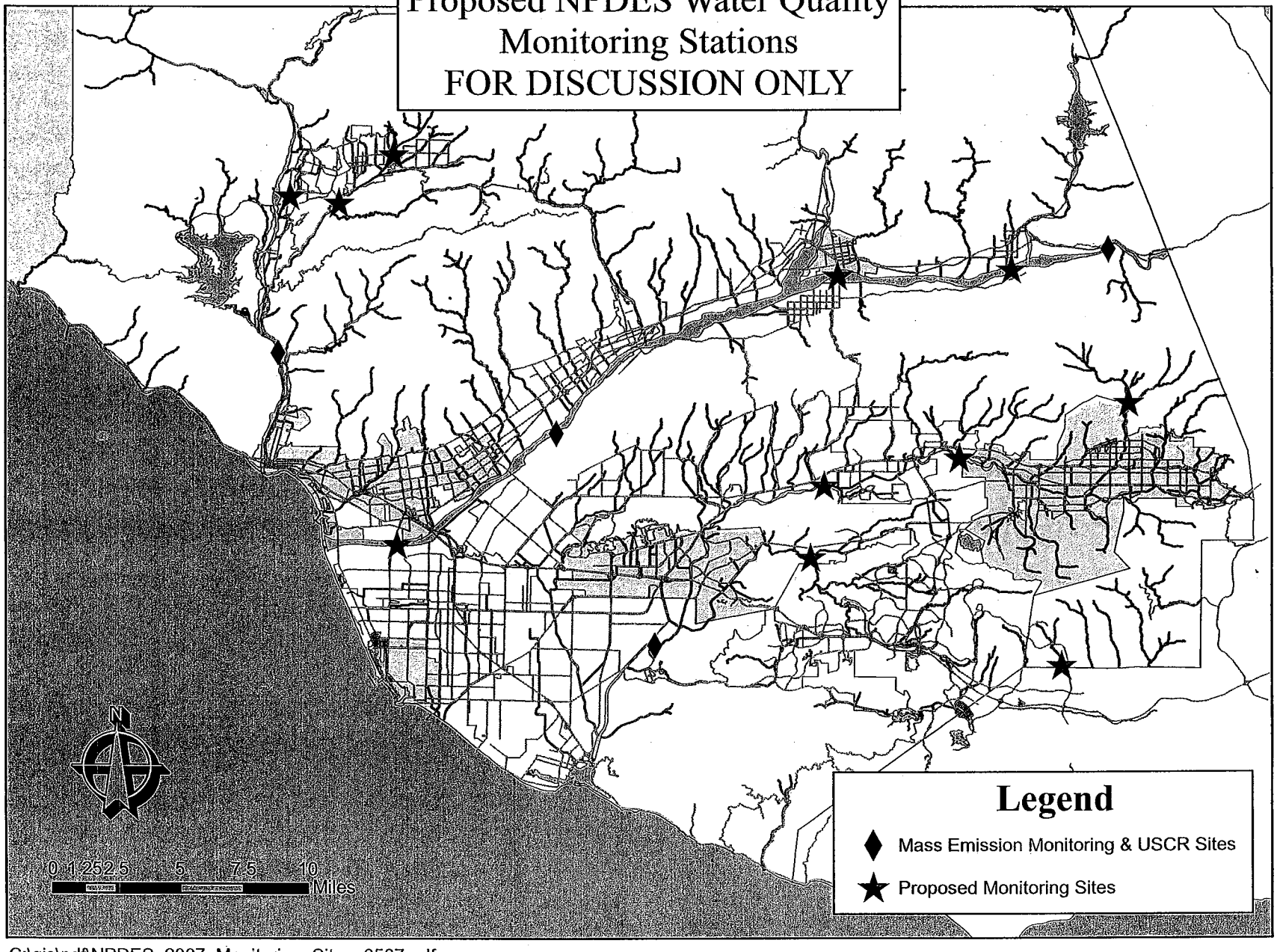
5: "Are conditions in the receiving waters getting better or worse?"

- **Proposed Actions:**
  - Statistical trends analysis after each intensive watershed monitoring study.
  - Development of Study Plan for areas downstream of urbanization that score *Poor* on an appropriate Index of Biological Integrity for bioassessments.
  - Identification of additional POCs.
  - Development of Action Plan for discernable increasing trends in POCs.

Model Monitoring Program

"This document serves as the starting point for negotiating a monitoring and reporting program"

Proposed NPDES Water Quality Monitoring Stations FOR DISCUSSION ONLY



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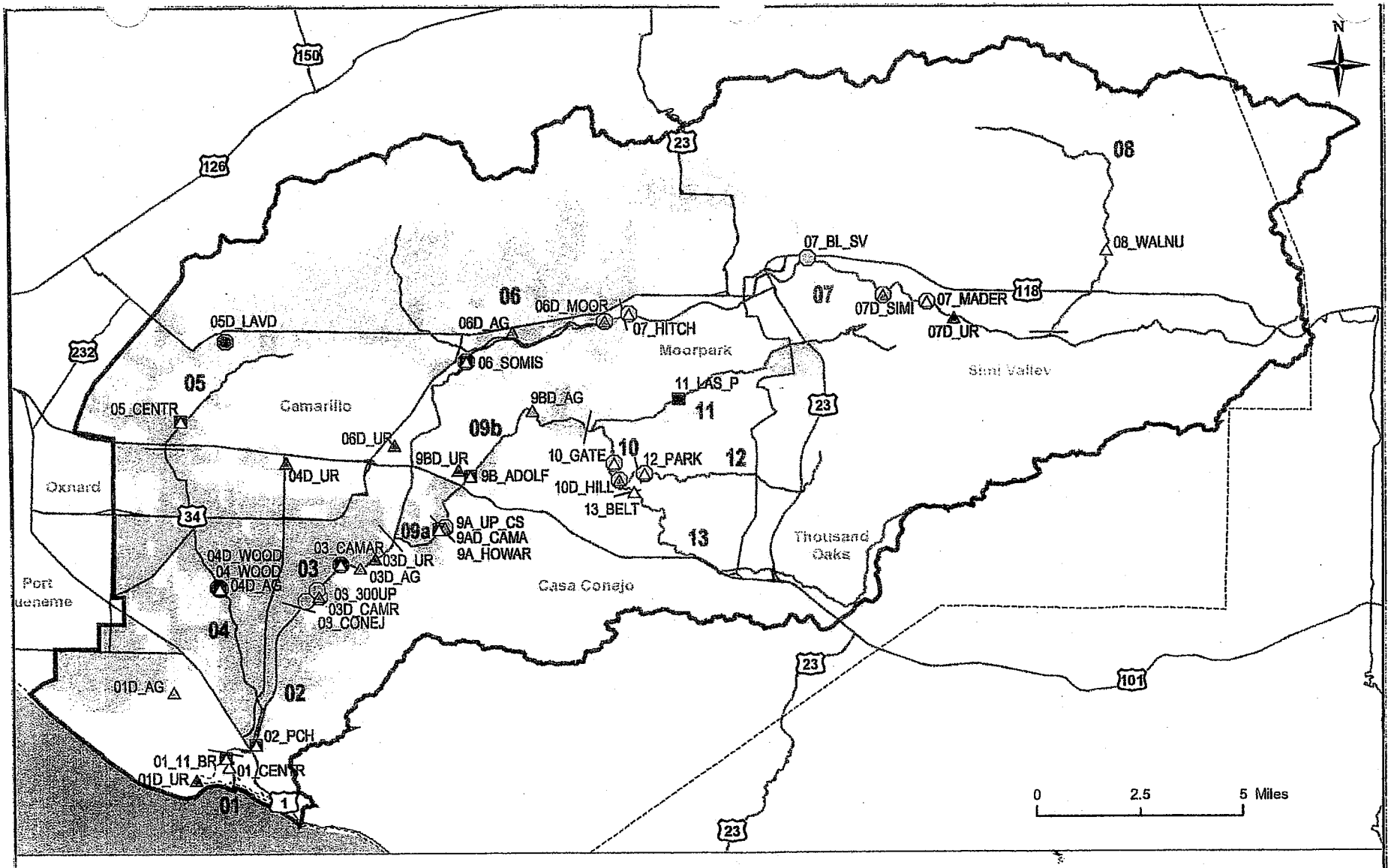

Calleguas Creek Watershed Monitoring Sites - TMDL, Conditional Ag Waiver, NPDES (All Sites)

- Calleguas Creek Watershed
- CCW Reaches
- Major Roadways
- Ventura County
- Agriculture - Row Crops, Nursery, Other
- Agriculture - Lemon, Orange, Avocado
- Urban Area
- TMDL Monitoring Site - Land Use, Urban
- TMDL Monitoring Site - Receiving Water
- TMDL Monitoring Site - Land Use, Agriculture
- TMDL Monitoring Site - POTW
- Potential Ag Waiver Monitoring Sites
- NPDES Monitoring Site, POTW
- NPDES Monitoring Site, VCWPD

Larry Walker Associates -- June 6, 2005

B091657

Wet Weather Toxicity Sub-Committee Meeting

April 25, 2007 – 9:30 to 12:30

Location: Los Angeles Regional Water Quality Control Board - Library Room

----- Agenda -----

The objective of the subcommittee is to develop standard procedures and guidance for conducting storm water toxicity testing for MS4 and industrial storm water permits in the Los Angeles Region.

Introduction	Steve Bay /Guangyu Wang	5 minutes
Overview of Objective	Xavier Swamikannu	10 minutes
Background – Wet Weather Toxicity Testing under Storm Water Permits	Ken Schiff/Xavier Swamikannu	30 minutes
Discussion - Identification of major issues - Scope of Sub-Committee Activities - Next Steps/Timeline	Steve Bay	2 hrs. 15 minutes
- Date for Next Meeting		
- Adjournment		

Wet Weather TAC Mtg 4-25-07

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DRAFT VENTURA COUNTY MS4 PERMIT

BIA GLA/VC, CICWQ, AND LARWQCB MEETING

April 3, 2007

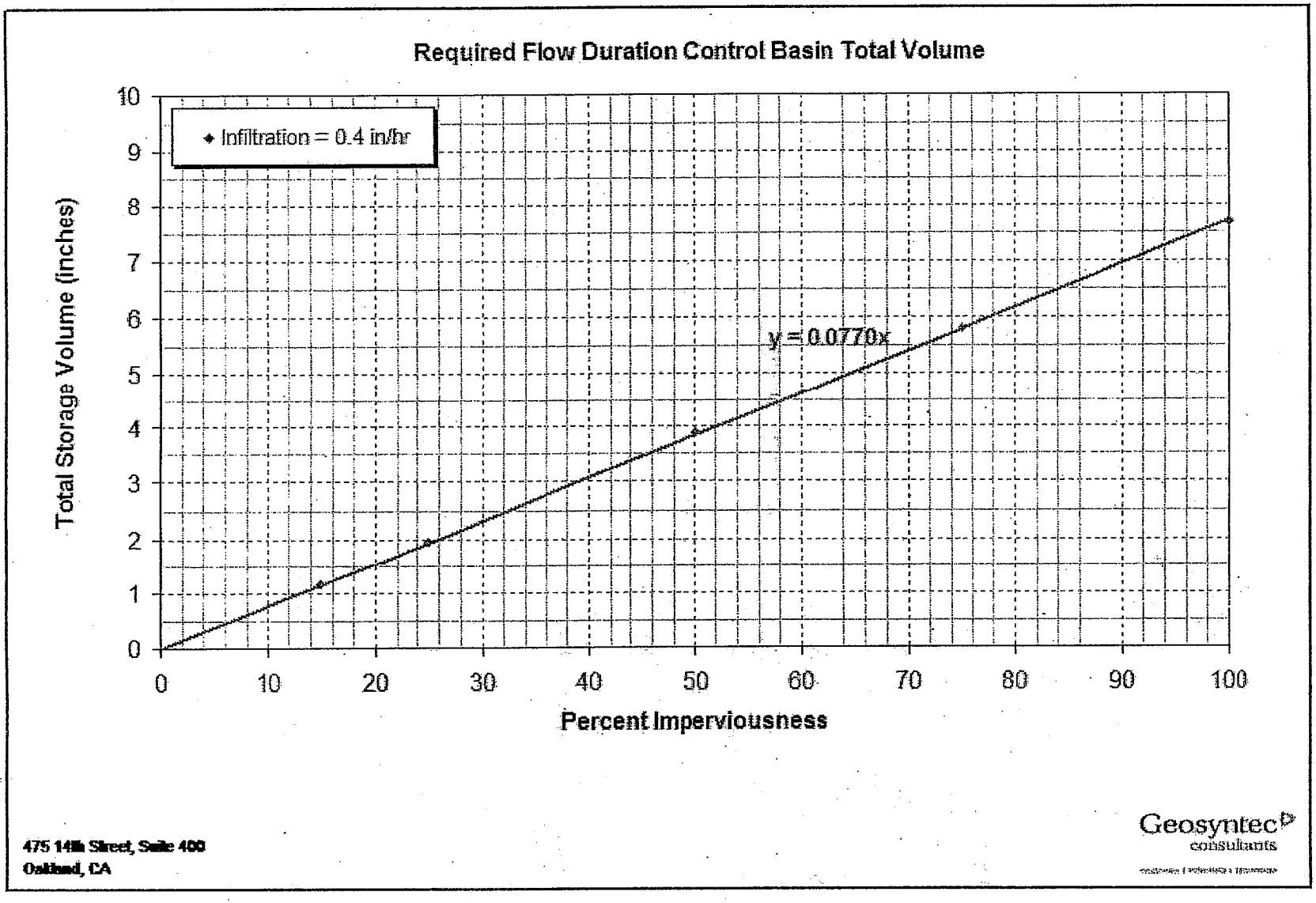
Agenda

1. Opening
    a. Introductions
    b. BIA/CICWQ Statement of Purpose

2. Statement of Joint Objectives
    a. Protection of Beneficial Uses and Water Quality
    b. Permit implementability
    c. Limit need for local interpretation
    d. Consistency of approach

3. Discussion of Specific Issues
    a. MALs
    b. LID and Imperviousness
    c. Hydromodification Controls

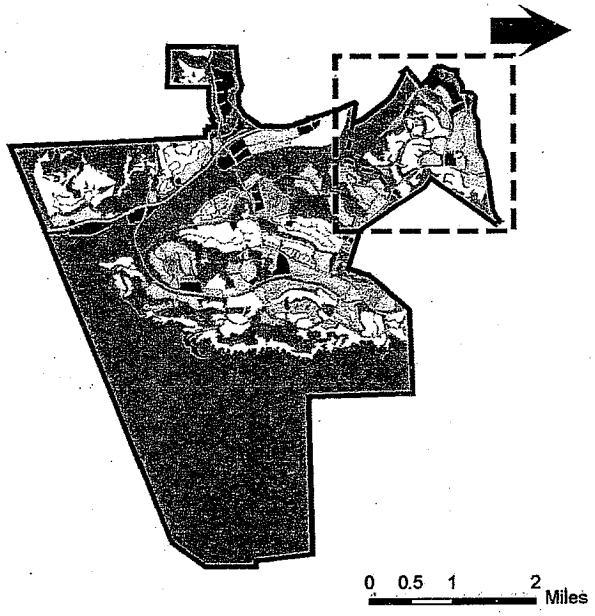
4. Final Comments and Wrap-up



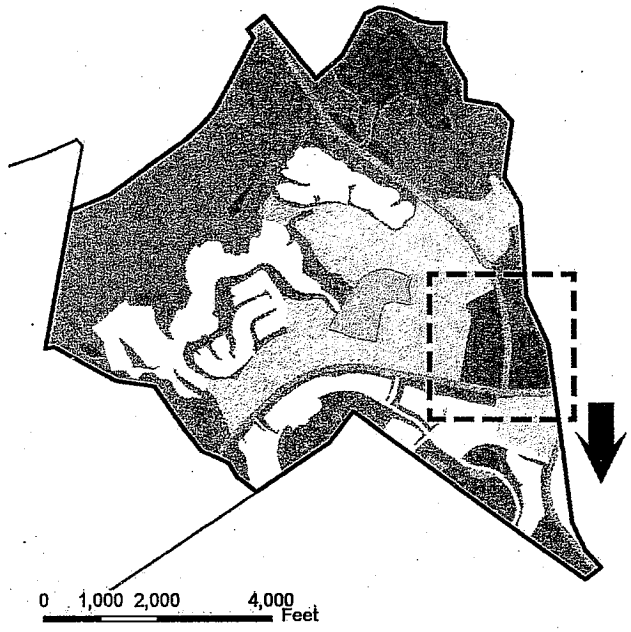
Example nomograph for computing hydromodification control volume requirements

	Proposed Hydromodification Control Criteria			
Item	Requirement	Concerns	Notes	Proposal
1	All projects shall maintain pre-development stormwater runoff flow rates and durations	a. No allowance for in-stream or regional controls	Watershed-scale planning, incorporating a combination of on-site, regional and in-stream controls/restoration, is most protective of beneficial uses	Allow for appropriate combination of control approaches, as determined by watershed planning
		b. Stream susceptibility considerations are partially accounted for, but not developed fully or linked to project control requirements	While specification of "natural drainage systems" appears to eliminate requirements for projects discharging to fully hardened channels, there are additional receiving water considerations which may justify an alternate standard	Further specify application of susceptibility mapping to final standard.
				Allow for exceptions based on site-specific stream susceptibility analysis
2	All projects in natural drainage systems must meet Ep = 1	a. Stream susceptibility considerations (see comment above)	Same comments as above	Same comments as above
		b. Ep = 1 does not account for changes in sediment supply	Reduction in sediment supply has similar impact to increased runoff and can be accounted for by reducing target Ep proportionally	
		c. Lack of "tolerance" or "goodness of fit" standard creates practical difficulties for BMP design and construction	A probability curve relating Ep to likelihood of stream instability has been generated based on California streams	Establish allowable deviation from 1.0 for Ep value using risk-based approach
3	All projects must keep EIA <5%	a. Use of single measure of project to characterize impact	Studies showing EIA link to stream degradation were based on sites with no runoff treatment or control	Remove %EIA requirement
		b. Use of "effective" impervious area with no standard for "ineffective"	With no specified ratio of pervious receiving area - to - impervious drainage area, requirement can be circumvented without providing channel protection benefit	
		c. Mandates one of many tools to achieve numeric Ep standard (and is redundant with numeric Ep standard)	See comments above regarding watershed-level planning	
4	Interim Standard - match 2-yr, 24-hr hydrograph	Where on-site controls are necessary, this is not protective of streams	Studies have shown that hydrograph matching the 2-yr discrete event can result in Ep=3-4	Replace interim 2-yr hydrograph match with a local implementation tool based on Ep method (nomographs)
5	The permit does not specify Qc	The method for determining the critical threshold for sediment transport (Qc) must be specified in order to provide a lower boundary for flow duration analysis using the Ep method	If no Qc is identified, the ability to release stored volumes at a level below the sediment transport threshold would be lost, reducing BMP design flexibility and unnecessarily increasing size and cost	For interim standard, specify Qc = 10% of Q2. Develop regional or watershed-specific value for use in final standard. In all cases, allow site-specific study to develop alternate value

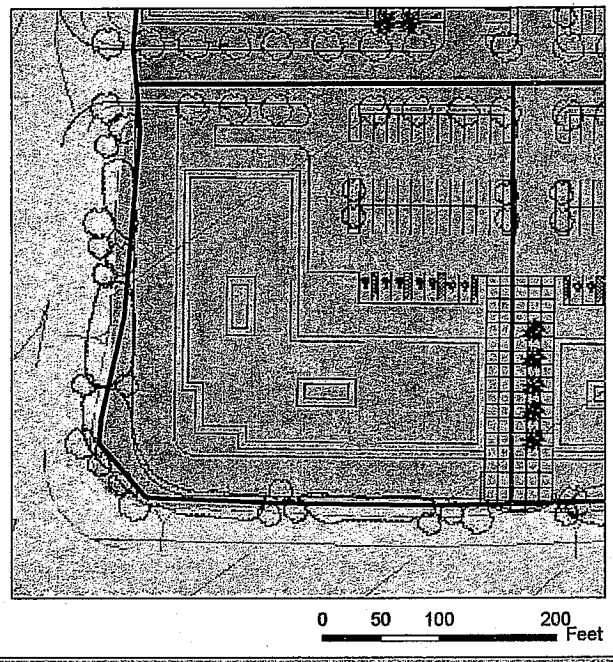
Specific Plan Scale



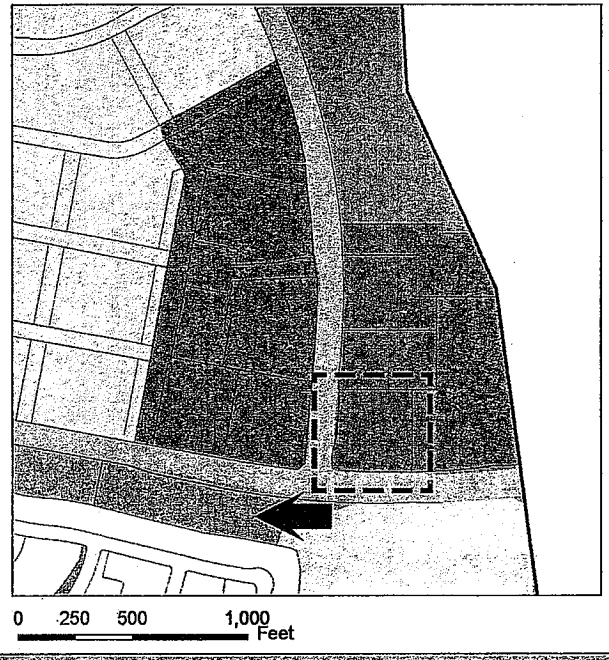
Tract Map Scale



Lot Scale



Planning Area Scale



Meeting Sign-in Sheet

Date: 29 March 2007 **Location: CRWQCB – Los Angeles Region**
320 West 4th Street, Suite 200, Los Angeles, CA 90013

Subject: Discussion of Potable Water Discharges

	Name	Agency/ Company/ Resident	Mailing and Email Address	Telephone	FAX #
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2	Katherine Rubin	LADWP	111 N. Hope St., LA, 90012 Rm 1213 krubin@ladwp.com	213-367-0436	213-367-3297
3	Dan Kenoyer	CALLEGUAS	2100 OLSEN ROAD, THOUSAND OAKS	805 579-7113	805 522-5230
4	Daniel Gallegos	MWD	700 No. Alameda St, LA 90012	213 217-5507	213 217-6700
5	Bryan Schwecktert	LADWP	BRYAN.SCHWECKERT@LADWP.COM	367-4944	
6	CARLOS URUNAGA	CRWQCB-LA	Curunaga@waterboards.ca.gov	213 620 2083	213 576 6640
7	Xavier Swamikannu	" "	"	213 620-2094	
8	Deb Smith	"			
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13					
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199599

Meeting at Los Angeles Regional Water Quality Control Board With LADWP, MWD, and Calleguas Water District March 29, 2007

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Ventura County TMDL Draft
Feb 09, 2007

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CASQA
California Stormwater Quality Association™
Dedicated to the Advancement of Stormwater Quality Management, Science and Regulation

August 15, 2007

Xavier Swamikannu
Chief – Stormwater Permitting
Regional Water Quality Control Board, Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Re: Draft CASQA White Paper – Quantifiable Approach to Municipal Stormwater Program Implementation and Permit Compliance Determination

Dear Dr. Swamikannu:

On behalf of CASQA, I would like to formally thank you and your staff for meeting recently with Richard Boon (Chair – CASQA Policy and Permitting Subcommittee), Mack Walker (CASQA regulatory consultant), and myself to discuss CASQA's approach to providing a comprehensive strategy for managing stormwater quality and how it relates to the Ventura municipal stormwater permit. The enclosed draft White Paper presents a description of that comprehensive strategy.

This draft White Paper combines the concepts of effectiveness assessment (e.g., measurable goals), quantifiable measures (e.g., Action Levels), and CASQA's *Progressive Approach* with standard regulatory options for National Pollutant Discharge Elimination System (NPDES) permitting and total maximum daily load (TMDL) implementation. The draft White Paper also includes a frequently asked questions (FAQs) section that provides answers to specific questions raised about the *Progressive Approach*, Effectiveness Assessment, and quantifiable measures.

It is worth noting that the concept presented in the White Paper has been shared with the Ventura Countywide Stormwater Quality Management Program. Although the quantifiable measures shown in Table 1 were developed independently of the Ventura Program and only serve as examples for the purposes of this White Paper, the Ventura MS4s have indicated their support to develop quantifiable measurements for their program that are similar in nature to the ones presented in this White Paper.

Thank you for considering our approach and as always please contact me with any questions or comments. We look forward to continuing to work with you.

Sincerely,

Geoff Brosseau, Executive Director

enclosure: Draft White Paper

P.O. Box 2105 Menlo Park CA 94026-2105 650.366.1042 www.casqa.org info@casqa.org

This paper was written to advance the science and regulation of stormwater quality management. It presents a quantitative approach to municipal stormwater program implementation and permit compliance determination developed by the California Stormwater Quality Association.

Introduction

Section 402(p) (3) (B) of the federal Clean Water Act (CWA) provides that "permits for discharges from municipal storm sewers ... shall require controls to reduce the discharge of pollutants to the maximum extent practicable ...." While the CWA does not specifically define MEP, USEPA has described MEP as a flexible, site-specific standard. (National Pollutant Discharge Elimination System—Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges, 64 Fed. Regs. 68722, 68732, 68754 (Dec. 8, 1999).) "The pollutant reductions that represent MEP may be different for each [municipal stormwater discharger] given the unique local hydrological and geological concerns that may exist and the differing possible pollutant control strategies." (*Id.* At 68754.)

California also has not specifically defined MEP for its permitting purposes. However, the State has relied upon other federal programs to guide its understanding of MEP. In particular, the State relied upon the term as used in Superfund legislation and CERCLA. (SWRCB Order No. 2000-11 at p. 20.) Using these statutes, the State concluded "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." (*Id.* at p. 20.). However, this approach has proven to be a contentious basis for permitting. For example, the first Phase I permits issued by the San Francisco and Los Angles Regional Water Boards in 1990 were appealed to the State Water Board for their absence of numeric limits. Although the appeal was denied on the grounds of technical infeasibility, the action served notice of environmental non-governmental organizations' (NGO) dissatisfaction with an approach that they perceived as providing inadequate permittee accountability.

In addition, stormwater permits in California include requirements that the discharges of stormwater pollutants will not cause or contribute to an exceedance of a water quality standard. Compliance with this requirement is based on an iterative planning process that provides for the implementation of best management practices (BMPs) and subsequent refinement if an exceedance is identified. This approach is consistent with USEPA guidance[1] to states regarding approaches to developing permit conditions. This guidance notes the use of BMPs in stormwater permits and expanded or better-tailored BMPs in subsequent permits as necessary to provide for the attainment of water quality standards.

Thus, for permitting purposes (including MS4 (municipal separate storm sewer system) permits) USEPA and the State have interpreted the term "maximum extent practicable (MEP)" to be flexible and relative to the local conditions, and supported the iterative approach for addressing exceedances of water quality standards. In spite of this approach, there has been increasing

[1] R. Perciasepe, USEPA Assistant Administrator, 08/01/96 Memorandum regarding Interim Permitting Approach for Water Quality Based effluent limitations in Storm Water Permits.

pressure (from the permitting agencies) on municipalities to demonstrate the effectiveness of their stormwater management programs to protect water quality. Regulators have also been considering more obvious ways to assess whether a stormwater management program is meeting its NPDES permit requirements and achieving the MEP standard. Finally, environmental NGOs insist that stormwater programs have not made enough progress to improve and protect water quality, and fault the current permitting approach[2]. Indeed, the State Water Board's Blue-Ribbon Panel on Numeric Limits characterized the current state of permitting as commonly perceived to be "... overly complex, and that it is extremely difficult, if not impossible to objectively determine if a facility, operation or municipality is in compliance with its permit requirements."

CASQA believes there are several ways to show the effectiveness of a stormwater program, ranging from showing an improvement in the runoff quality, to showing an increase in public knowledge about stormwater pollution, to demonstrating that construction sites have implemented BMPs consistent with their stormwater pollution prevention plans. This paper presents a quantitative approach to municipal stormwater program implementation and permit compliance determination. The proposed quantitative approach will provide better regulatory accountability for stormwater programs, and facilitate water quality protection in an iterative, cost-effective manner.

Background

Although there have been various efforts in the last few years to develop quantifiable measures for assessing stormwater program effectiveness and defining MEP, there are a number of recent efforts that have accelerated the need to address this issue. First, the State Water Board in September 2005 convened a panel of stormwater experts (Blue-Ribbon Panel) to address the following question:

> "Is it technically feasible to establish numeric effluent limitations or some other quantifiable limit for inclusion in storm water permits?"

The logic in posing this question is that the effectiveness of a stormwater program and compliance with the permit might be evaluated by comparing runoff with a numeric value. However, the Blue-Ribbon Panel's report, issued in June 2006 (BRP Report), unequivocally states that numeric limits for municipal stormwater discharges can not be set at this time. Specifically, the BRP Report states, in the "Municipal Recommendations" Section:

> *"It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges.....*
>
> *For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an "upset" value, which is clearly above the normal observed variability, may be an interim approach which would allow "bad actor" catchments to receive additional attention. For the purposes of this*

[2] Coastkeeper/NRDC's Presentation to State Water Board, 9/14/05.

document, we are calling this "upset" value an ***Action Level*** *because the water quality discharge from such locations are enough of a concern that most all could agree that some action should be taken ... ..."* Underline added. (Page 8)

The BRP Report did not fully address "other quantifiable limits for inclusion in stormwater permits." Although the Blue-Ribbon Panel conceived of the concept of Action Levels, the BRP Report did not address the details of their implementation or enforcement.

Second, prior to and during the development of the BRP Report, CASQA undertook the development of an overall strategy for stormwater permitting in California. At that time CASQA suggested that the BRP Report recommendations were best considered within a comprehensive approach or context for stormwater management in California. Although the BRP was not specifically directed to address the overall stormwater context, the appropriateness of any recommendation depended in part on compatibility with the existing permitting system. Thus, in articulating the needed context, CASQA developed a *Progressive Approach for Regulating Stormwater* and permit strategies for the upcoming renewals of the general industrial and general construction stormwater permits as well as future municipal permits (herein collectively referred to as the CASQA *Progressive Approach*). The CASQA *Progressive Approach* is shown graphically in Figure 1. Essentially, CASQA proposed a logical sequence of standard options to regulate stormwater discharges. These options (see Figure 1) included:

- Option 1 – Iterative Process and Benchmark

  Status – Currently used in USEPA multi-sector general permit (industrial) and in California stormwater permits.

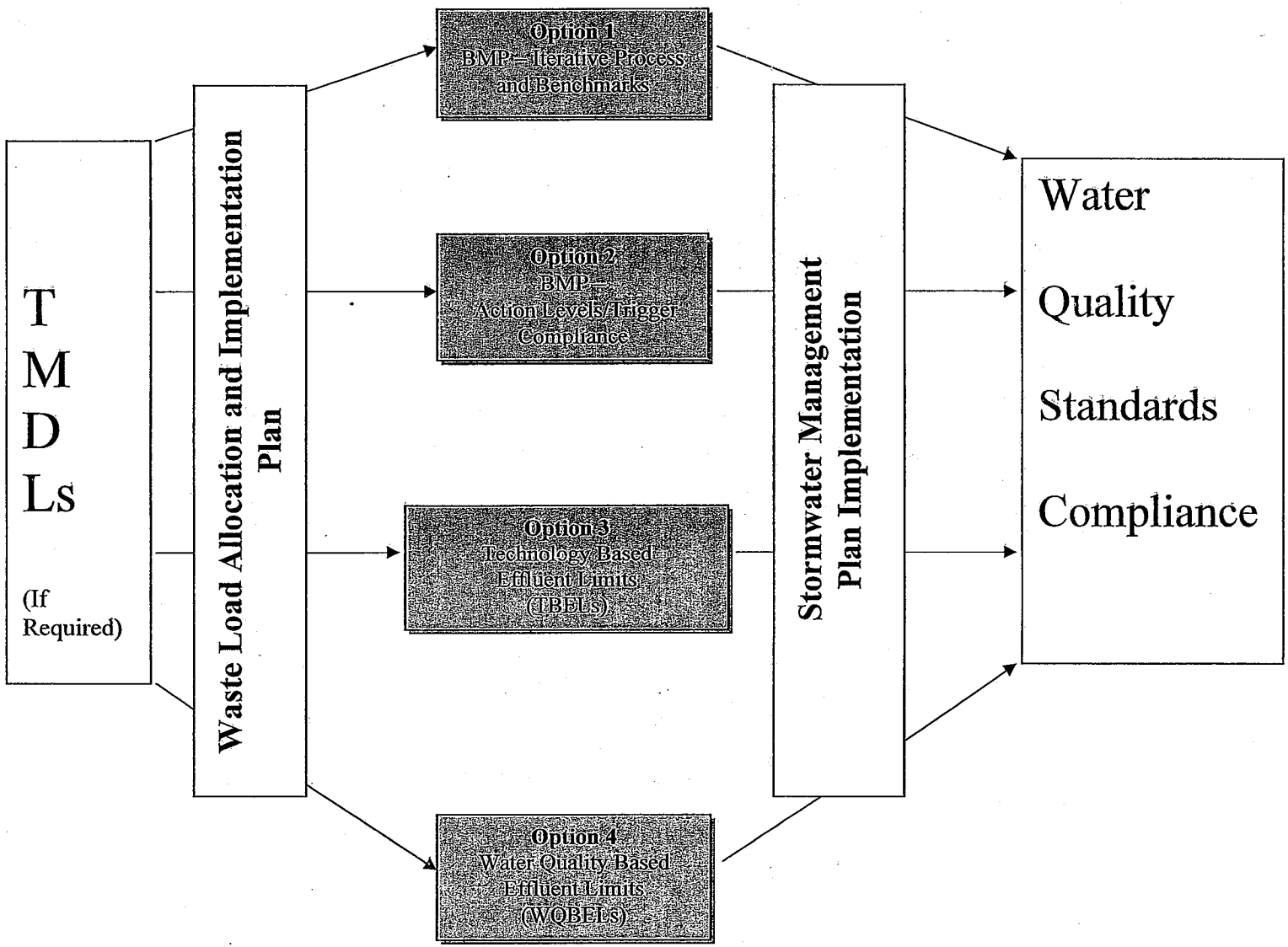
  Compliance Strategy – 1) Stormwater Management or Pollution Prevention Plan developed and implemented; 2) Effectiveness assessments conducted; 3) Analytical monitoring results compared to water quality standards and/or Benchmarks; 4) Iterative process used to focus BMPs on problematic pollutants. Compliance based on implementing iterative process (municipal) and annual compliance assessment (industrial/construction).

- Option 2 – Action Levels/Trigger Compliance

  Status – Not currently used for municipal and construction stormwater permits; however, State of Washington model exists for industrial.

  Compliance Strategy – 1) Stormwater Management or Pollution Prevention Plan developed and implemented; 2) Effectiveness assessments conducted (e.g., inspections, analytical) – comparison to adaptive management indicators (Action Levels) dictates compliance response; 3) Iterative process used to focus BMPs, potentially problematic permittees are required to establish and implement corrective action plans; 4) Compliance based on meeting Action Levels and for potentially problematic permittees, developing and implementing corrective action plans.

Figure 1. CASQA Progressive Approach for Regulating Stormwater



- Option 3 – Numeric Based Technology Based Effluent Limits (TBELs)

  Status – Currently is being used by USEPA in limited cases (e.g., meat and poultry industry). USEPA has established procedures to develop TBELs (primarily for wastewater discharges). Development of effluent limitations based on treatment controls available to minimize the pollutants and considers site conditions, activities, return period, constituents, treatment effectiveness, and costs.

  Compliance Strategy – Permittee required to implement treatment and source controls to meet numeric effluent limitations. Monitoring required to confirm performance and assess compliance.

- Option 4 – Water Quality Based Effluent Limits (WQBELs)

  Status – WQBELs have not been used to date as a compliance tool except through the implementation of the TMDL program. Used in some situations inappropriately. WQBEL based on protection of beneficial uses of the receiving water. Currently USEPA does not have a procedure in place for developing WQBELs for stormwater.

  Compliance Strategy – Discharge required to comply with numeric effluent limitations. Derivation of effluent limits based on compliance with water quality objectives. Monitoring is required to confirm compliance.

This paper presents an approach under Option 2 for municipal permittees.

Third, the draft Ventura Countywide stormwater NPDES permit, issued by the Los Angeles Regional Water Board in December 2006, proposed municipal Action Levels (MALs). These MALs were expressed as numeric values for selected constituents, applied to 36-inch or greater outfalls, and perhaps most significantly, were used to define the MEP standard. This approach is not consistent with the concept of "Action Levels" as envisioned by the Blue-Ribbon Panel and instead defines the technology based effluent limit (option 3 in CASQA *Progressive Approach*) with a statistically-derived effluent limit.

Fourth, the Model Monitoring Program for Municipal Separate Storm Sewers Systems in Southern California (Model Program) developed by the Stormwater Monitoring Coalition in 2004, addresses the development of a stormwater monitoring program that supports permit compliance and stormwater management program implementation. The Model Program presents five management questions that, when addressed, use adaptive triggers to expand a monitoring program in a logical and resource-protective way to move from assessment monitoring to source identification. The five management questions posed in the Model Program are:

1. "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?
2. "What is the extent and magnitude of the current or potential receiving water problems?"
3. "What is the relative urban runoff contribution to the receiving water problems?"

4. "What are the sources to urban runoff that contribute to receiving water problems?"
5. "Are conditions in the receiving waters getting better or worse?"

Fifth, starting in 2004, CASQA started to develop its Effectiveness Assessment method – releasing the white paper *An Introduction to Stormwater Program Effectiveness Assessment* in August 2005. This white paper was followed-up by the recently issued *Municipal Stormwater Program Effectiveness Assessment Guidance* (CASQA, 2007). The guidance provides detailed direction to stormwater managers/regulators in designing and conducting an assessment to determine the effectiveness of a stormwater management program.

Critical to the use of the guidance is an understanding of how a stormwater program may be evaluated. There are six outcome levels that are used to assess the effectiveness of a stormwater program. These six levels are summarized as follows and shown in Figure 2:

	Outcome levels
1	Documenting activities
2	Raising awareness
3	Changing behavior
4	Reducing loads from sources
5	Improving runoff quality
6	Protecting receiving water quality

The concept behind the outcome levels is that while the ultimate goal of a stormwater program is to protect receiving waters, stormwater program managers will need, at times, to rely on programmatic or implementation evaluations as a surrogate measure of the effectiveness of their programs. This is due to the inherent difficulties in measuring statistically valid changes in stormwater environmental data. It is difficult to detect measurable changes in water quality on a short-term basis, and if detected, to link those changes to the implementation of the stormwater program. Thus managers must document activities consistent with their permits and raise awareness of the public and employees regarding the importance of stormwater quality so that they may change their behavior to protect water quality. These behavioral changes will lead to reducing loads at the sources and a corresponding improvement in runoff quality. And finally this will lead to the protection of the receiving water quality. To date most program and corresponding NPDES permit have relied almost exclusively on level 1 – documenting activities to evaluate the level of implementation of required stormwater program elements and permit compliance. Ultimate program effectiveness in protecting and improving receiving water quality may not be readily measurable and should be an ongoing cooperative effort between regulators and the regulated community.

Finally, under section 303(d) of the 1972 Clean Water Act, a state is required to develop lists of water bodies that do not meet water quality standards and therefore are impaired. The state must establish priority rankings for waters on the lists and develop total maximum daily loads (TMDLs) for these waters. Each TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. The allocation of the loads will depend upon the TMDL as some TMDLs have sufficient data to allocate the pollutant loadings

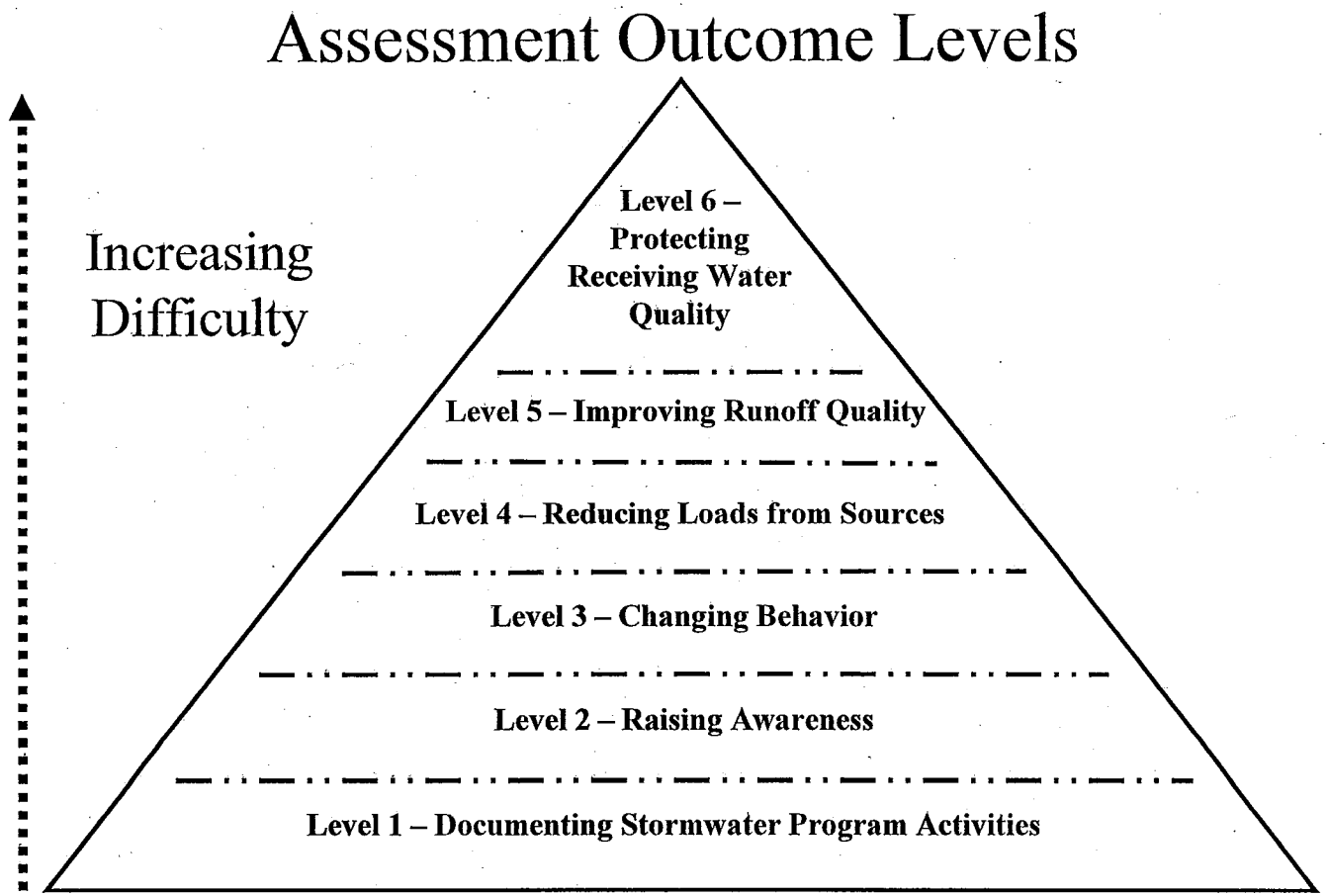


Figure 2. Classification of Outcome Levels

among point and non-point pollutant sources while other TMDLs assign the loading to the receiving water with follow-up allocations being developed when sufficient data are available. The TMDLs must be approved by the State Water Board and USEPA.

Once approved the TMDLs are incorporated into NPDES permits according to the schedules and requirements identified in the approved TMDLs. The TMDL program essentially serves as the safety net for water quality protection should the implementation of the non-point and point source control program (i.e., NPDES permits with technology based effluent limits) be inadequate to protect receiving water quality. The TMDL load allocations are in essence water quality based effluent limits. The limit may be expressed as a numeric value or by a narrative description of BMPs, thus the TMDL program may be incorporated into the CASQA *Progressive Approach* at any one of the compliance options and is pollutant and waterbody specific.

Approach

In the following paragraphs CASQA presents an approach that addresses and integrates the issues and efforts discussed above. The approach expands on earlier CASQA efforts to characterize Option 2 of the *Progressive Approach* and may be used as an approach to determine compliance for upcoming municipal stormwater NPDES permits. The objectives of the CASQA approach are to:

1. Develop quantifiable measures for assessing stormwater program implementation and integrating these quantifiable measures into a NPDES permit for compliance determination purposes.
2. Establish an assessment process (including the use of numeric Action Levels applied to outfalls) for identifying water quality issues relevant to stormwater discharges and prioritizing follow-up action for identifying the sources and implementing additional control measures.
3. Integrate at a conceptual level the TMDL program into the stormwater program and NPDES permit to ensure consistency and to avoid redundancy.

Ultimately this approach may be used to establish permit conditions and compliance requirements. Compliance would be determined by the permittee's efforts to meet the permit conditions and protect water quality.

The approach consists of two parallel tracks (see Figure 3): a Program Implementation track and a Source Identification, Assessment, and Control track. The Program Implementation track reflects the development and implementation of the stormwater management plan. The permittees, in consultation with the Regional Water Board, would develop quantifiable measures for establishing the level of program implementation. The quantifiable measures would focus on the first four outcomes levels identified in the CASQA effectiveness assessment guidance manual. As an example, CASQA members have developed various quantifiable measures for each of the stormwater program elements. These quantifiable measures are shown in Table 1. Further development is warranted and is expected to be conducted on a permit-by-permit basis to reflect local conditions and water quality concerns and program resources.

Figure 3. Proposed Option 2 Permit Structure

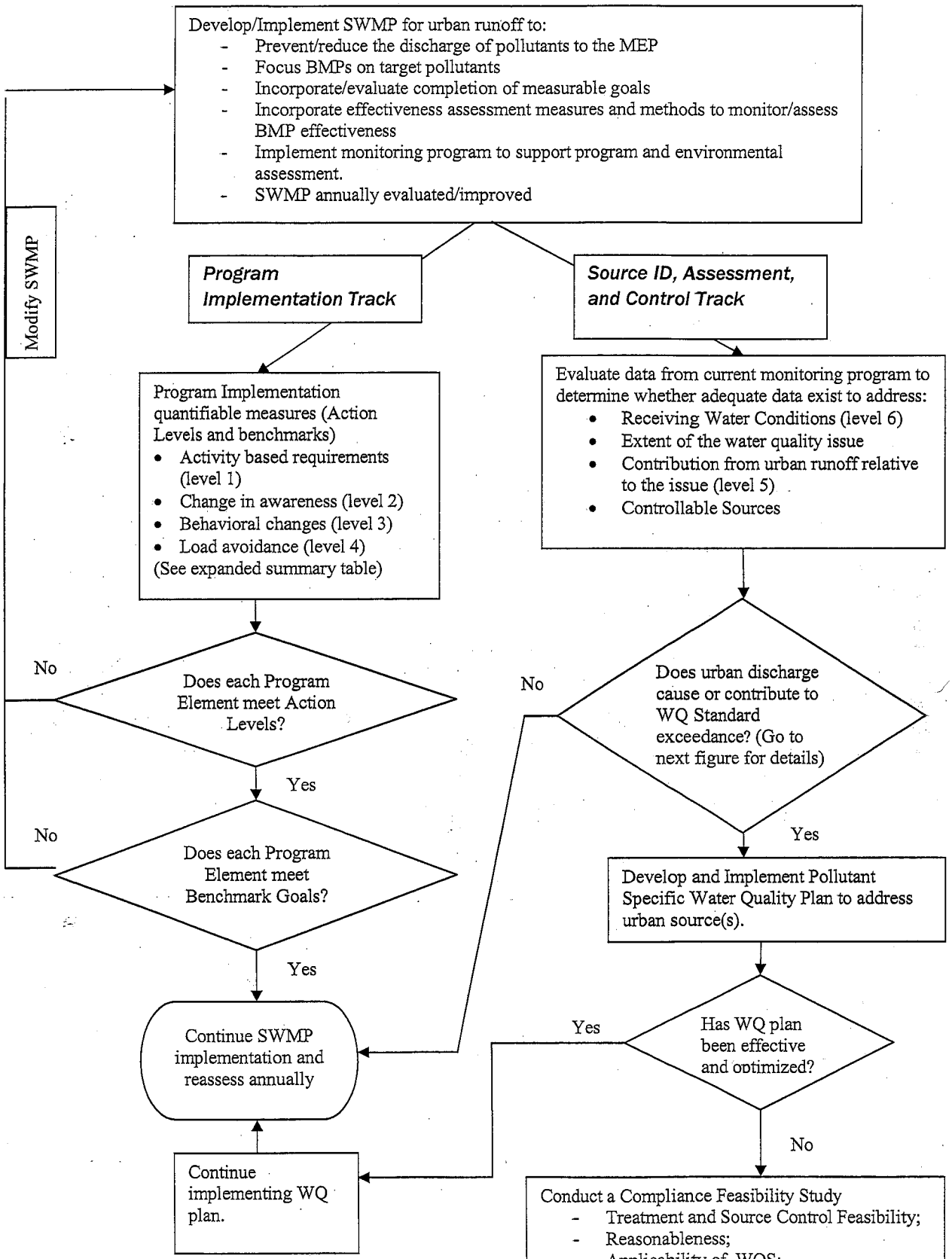


Table 1. Quantifiable Measures for Assessing Permit Compliance*

Program Element	Effectiveness Assessment Outcome Level	Goal	Expressions for Defining Quantifiable Measure	Action Level[3]	Benchmark[4]
Construction	1- Documenting Activities	Provide frequent inspection of construction sites	% of all construction sites are inspected according to specified schedule during wet season	90	100
	3 – Changing Behavior	Increase the number of construction sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, % of construction sites in significant compliance with local construction stormwater requirements	for >1 ac., 75% <1ac. 50%	100
			% of state permitted sites have completed and available SWPPPs for each site (document during inspection)	80	100
Illegal Discharges / Illicit Connections	3 – Changing Behavior	Respond rapidly and efficiently to illicit discharges	% of illicit discharges impacting human health responded to within 24 hours of upon receiving notification	80	100
		Eliminate all illegal connections	% of illegal connections eliminated or permitted once detected	80	100
Industrial / Commercial	1- Documenting Activities	Provide frequent inspection of industrial sites	% of state permitted industrial sites are inspected according to specified schedule	90	100
	3 – Changing Behavior	Increase the number of industrial sites in compliance with BMP implementation and local stormwater requirements	Upon first inspection, % of industrial sites in significant compliance with local stormwater requirements	75	100
			% of state permitted sites have a completed and available SWPPP for each site (document during inspection)	75	100

* The expressions and numeric values are necessarily generic since they are meant to be generally applicable statewide. Further development is warranted and is expected to be conducted on a permit-by-permit basis to reflect local conditions and water quality concerns and program resources.

[3] Action Level is an "upset" value that is clearly above the normal observed variability and identifies atypical results. If the level of implementation or performance exceeds the Action Level then immediate corrective action must be taken. This approach allows "bad actor" catchments or problem areas to receive additional attention. Action Levels are not effluent limitations and should not be interpreted as such (based on the *Storm Water Panel Recommendations to the California State Water Resources Control Board, June 2006*).

[4] Benchmarks are values that are set at levels that represent typical or average results and assist in determining whether a stormwater management plan is successfully implemented. Benchmarks are not effluent limitations and should not be interpreted as such.

Program Element	Effectiveness Assessment Outcome Level	Goal	Expressions for Defining Quantifiable Measure	Action Level[3]	Benchmark[4]
Municipal Operations	2 - Raising Awareness	Raise a target audience's awareness and understanding of an issue	% of employees to which requirement is applicable have attended training and taken test	90	100
	3 – Changing Behavior	Implement BMPs at vehicle maintenance facilities	% of City owned vehicle maintenance facilities that have developed, implemented, and kept current SWPPP (General Permit) or SWPCP (non-General Permit)	80	100
		Decrease use of pesticides	% of permittee landscaping under IPM	30	70
		Optimize use of fertilizers	% of permittee landscaping with site specific nutrient management plans	30	70
New Development	3 – Changing Behavior	Change a target audience's behavior which results in the implementation of recommended BMPs	**Upon first review**, % of projects that are incorporating LID concepts and adequate source controls as required by performance standards	80	100
			Upon first review, % of projects requiring treatment that are incorporating adequate treatment controls as required by performance standards	80	100
	4 – Load Reduction	Ensure adequate maintenance of post construction BMPs	% of post construction BMPs with adequate maintenance (based on inspection); quantify load reductions.	70	100
Public Education	2 - Raising Awareness	Raise public awareness and understanding of an issue	% of general public who know difference between sewer and storm drain	25	50
		Increase awareness of target audience	% of target audience who know not to dump in storm drain	50	75

Effectiveness Assessment Outcome Levels

1 – Documenting Activities
2 – Raising Awareness
3 – Changing Behavior
4 – Reducing Loads from Sources
5 – Improving Runoff Quality
6 – Protecting Receiving Water Quality

Once the quantifiable measures are identified and incorporated in the NPDES permit, the municipality would be required to implement the program. Documentation would be required to support the determination of whether the quantifiable measures are being met. If the quantifiable measures are not met the municipality would be required to modify their stormwater program to support the implementation needed to meet the quantifiable measures.

There are two levels of quantifiable measures, one called an Action Level and one called a Benchmark. The Action Level quantifiable measure reflects the level of implementation or performance where, if below the Action Level, the municipality's effort is inadequate and immediate action must be taken to correct. Permit compliance would be determined by whether the municipality takes immediate corrective action and meets the Action Level. The Benchmark level is a level of implementation or performance that reflects an adequately managed and comprehensive stormwater program. Ultimately all municipalities should attain the Benchmarks.

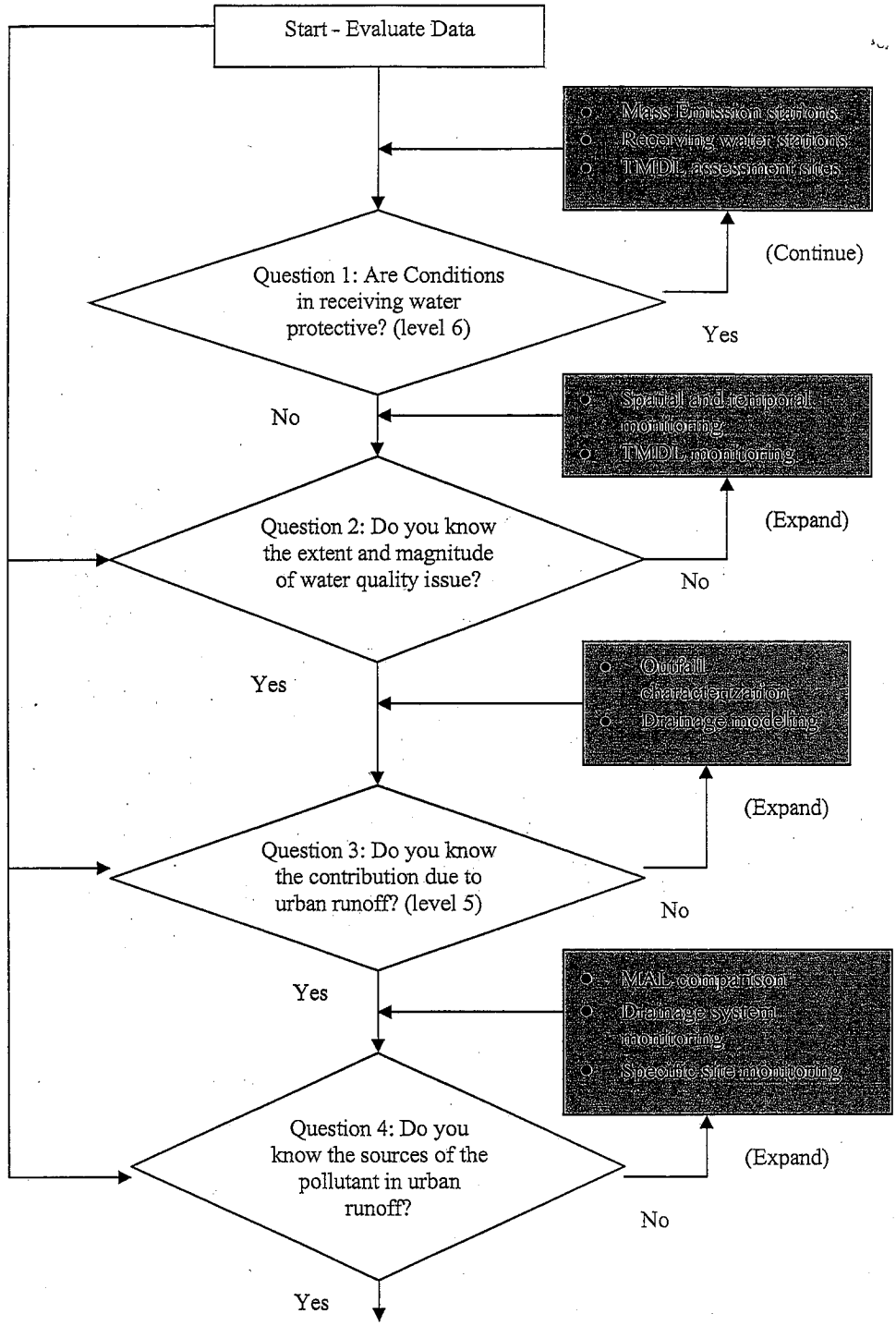
Ultimately the goal of all municipalities is the protection of water quality through the implementation of a comprehensive stormwater program. The critical difference between the approach described above and the current iterative process used in existing permits is that the quantifiable measures are actually tied to performance. They reflect a measurement of an effective program and not just "bean counting" quantifiable measures that dominate current permits. They also move the program to a higher outcome level from just documenting that an action took place (e.g., inspect construction sites twice during the wet season and once during the dry season) to one that shows a change in behavior or reduction in loads (e.g., construction contractors are in compliance with local erosion control requirements). It also establishes a systematic approach to move the program forward towards level 6 and water quality protection.

In parallel and in conjunction with the Program Implementation track is the Source Identification, Assessment, and Control track. This track is structured after the Model Program and supports the overall stormwater program by addressing the management questions noted previously. The monitoring program is a logical and resource-protective way to move from assessment monitoring to source identification and focused control measures.

Because of the various approaches and permit requirements used to-date in monitoring, different municipalities are at difference stages of the Model (monitoring) Program. Thus, the first step (see Figure 4) is to evaluate the data collected to-date including all point and non-point source monitoring as well as other environmental programs that could be used to answer the management questions. These other environmental programs include wastewater point source, TMDLs, Surface Water Ambient Monitoring Program (SWAMP), Bight and others. Depending on the completeness of the data, the permittees may enter the flow diagram at different stages. But assuming a municipality is starting with the initial question of whether current conditions are protective of beneficial uses (Question 1, Figure 4) then every effort should be made to use ongoing environmental monitoring efforts and where appropriate augment the monitoring effort to provide the data to answer the question.

Once a water quality issue is identified then the municipality is required to determine the extent and magnitude of the problem (Question 2, Figure 4). This is accomplished through a broader

Figure 4. Expanded Monitoring Flow chart – Does Urban Discharge Cause or Contribute to Water Quality Standard Exceedances? (1)



(Return to previous figure box: Develop and Implement Pollutant Specific Water Quality Plan to address urban source(s)

(1) Highlighted boxes reflect current or proposed monitoring efforts (function of MS4 program)

temporal and spatial monitoring effort, including upstream and downstream monitoring of urban areas.

Next the permittees are required to determine the relative contribution from urban runoff to the receiving water problem (Question 3, Figure 4). This effort can reflect minimal resolution and in many cases an estimate based on typical outfall runoff characteristics for difference land uses applied to typical runoff quantities for corresponding land uses may suffice. This estimate serves as starting point and is refined as more data is collected.

The next question pertains to identifying the sources to urban runoff that contribute to the receiving water problem (Question 4, Figure 4). Using the outfall characterization data (both wet and dry weather data) the permittee may develop municipal Action Levels that are used to identify the catchments with the most likely sources of the pollutant in question. As suggested by the Blue-Ribbon Panel Action Levels would be established to identify the "bad actors" thus an appropriate outlier number would be established (e.g., mean plus two standard deviations). Outfalls would be monitored for the problematic pollutants and compared with the Action Levels. This would in turn allow the permittees to focus on catchments for subsequent drainage system monitoring and source identification work.

Assuming that the municipality has determined that its urban discharge is causing or contributing to a water quality standard exceedance (Figure 3, 1st decision diamond), the municipality must develop and implement a pollutant specific water quality control plan. Such a plan would include identification of the controllable sources of the pollutants and proposed control measures/BMPs to mitigate the sources. A time schedule with milestone dates would be established. In situations where there is TMDL, the plan could be equivalent to a TMDL Implementation Plan.

As noted previously, the TMDL program serves as the regulatory safety net for water bodies that have become impaired in spite of efforts to implement BMPs for point and non-point sources of pollutants. The TMDL may be incorporated into any of the four options identified in the *Progressive Approach* (see Figure 1). As such the load allocation developed in the TMDL is incorporated into a permit and may be applied at the point of discharge (level 5 outcome) or in the receiving water (level 6 outcome). In addition and if sufficient data exists the permits may require the implementation of BMPs and control measures to achieve the allocations. Alternatively the permit may establish requirements to demonstrate that the load reductions are being met (level 4 outcome). The permit may also require additional special studies to further support the TMDL.

In the case of a TMDL, to answer the question posed in the 2nd decision diamond in Figure 3: "Has WQ plan been effective and optimized?, municipalities will implement control measures and studies to both assess the allocation as well as to gauge progress toward the allocation. For example, in the case of progress measures, they might be expressed as:

- Outcome level 4 – Reducing loads from sources: annual average load reduction resulting from implementing pollution prevention activities, and source and treatment control measures

- Outcome level 5 – Improving runoff quality: rolling multi-year annual average load relative to allocation, or concentration relative to receiving water target

Monitoring would be ongoing and if, after fully implementing the pollutant specific water quality control plan (Figure 3, 2nd decision diamond), there is improvement in the runoff or receiving water then the municipality would continue the implementation of the plan. If on the other hand, there is no change in water quality then the municipality would be required to prepare a compliance feasibility study. This study is critical critique of the water quality issue and a through evaluation of the options to address the issue. Included in this evaluation is a review of the applicability of the water quality standard to the water body in question, a technical and financial evaluation of the BMP options (including source control and treatment control BMPs), and identification of regulatory options for addressing the water quality issue. Ultimately the municipality would recommend an approach to address the water quality issue either through BMPs, regulatory opportunities, or some combination of the two. The compliance feasibility study would serve as the basis for the renewal of the permit.

Conclusion

CASQA has incorporated the Action Level concept, recommended by the State Water Board's Blue-Ribbon Panel, with CASQA's Effectiveness Assessment method, and standard regulatory options for NPDES permitting and TMDL implementation into a comprehensive strategy for managing stormwater quality. CASQA has also introduced two significant enhancements to compliance determination: 1) triggers and 2) measures of achievement. And for the triggers, CASQA has fleshed out written expressions and numeric values suitable for refinement and pilot testing. These enhancements will take compliance determination from a subjective and difficult process to a more objective and transparent task, while also making compliance determination relevant and meaningful for water quality protection. CASQA believes the proposed quantitative approach advances the science of stormwater quality management. As a result, the approach will provide better regulatory accountability for stormwater programs and facilitate water quality protection in a cost-effective manner.

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Frequently Asked Questions

What is the CASQA draft White Paper?
The draft White Paper presents a comprehensive strategy for managing stormwater quality. It is derived from lessons learned in a critical review of the still-developing field of stormwater quality management. It uses those lessons learned to lay out a strategy for regulating, implementing, and evaluating stormwater quality programs. The strategy combines the concepts of effectiveness assessment, quantifiable measures, and CASQA's *Progressive Approach* with standard regulatory options for National Pollutant Discharge Elimination System (NPDES) permitting and total maximum daily load (TMDL) implementation. The draft White Paper presents a viable approach for regulating, implementing, and measuring the effectiveness of stormwater program implementation and demonstrating progress towards water quality protection.

What is the basis for the CASQA draft White Paper?
The draft White Paper is based on several regulatory and non-regulatory references, including:

- USEPA Effluent Guidelines
- Section 402(p)(3)(B) Clean Water Act (CWA)
- NPDES stormwater regulations
- USEPA Memorandum regarding Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits
- California State Water Board Blue-Ribbon Panel report
- CASQA *Progressive Approach*
- CASQA Municipal Stormwater Program Effectiveness Assessment Guidance

How does the CASQA *Progressive Approach* portion (Figures 1-3) work?
Essentially, the *Progressive Approach* is a logical sequence of the following options to regulate stormwater quality:

- Iterative Process and Benchmarks
- Action Levels/Trigger Compliance
- Technology Based Effluent Limits (TBELs)
- Water Quality Based Effluent Limits (WQBELs)

The *Progressive Approach* identifies when it is appropriate to shift from an iterative BMP-based approach to technology-based effluent limits and/or water quality-based effluent limits, as well as the process that should be followed in order to derive appropriate and scientifically sound numeric limitations.

Each of the four regulatory options is based on the system of adaptive management, where in general, decisions are made and actions taken, that are then evaluated for their effectiveness, and the results of the effectiveness assessment are used to make more informed decisions and to take more effective actions. The differences between the four regulatory options are based on:

- the level of scientific understanding of the water quality issues, their causes and effects;

- the level of potential controllability of the causes, including the performance of best management practices;
- which types of quantifiable measures (e.g., Action Levels, Benchmarks, numeric effluent limitations) are appropriate for assessing effectiveness; and
- the basis of triggers (e.g., technology, water quality) for modifying decisions and actions.

How does the CASQA *Progressive Approach* differ from the iterative approach that has been the basis for stormwater permits to-date?
The current form of the iterative approach is recognized and incorporated into the *Progressive Approach* as one of the four options for regulating stormwater quality. By virtue of having three other options, the *Progressive Approach* takes the potential basis for stormwater permitting well beyond the current iterative approach.

How does the CASQA *Progressive Approach* and TMDL program relate to each other?
TMDLs have become one of the major regulatory drivers behind the scope of stormwater quality permits and programs. The *Progressive Approach* recognizes and incorporates this regulatory standing in several places. Figure 1 (Overview) shows that when a TMDL is in place, its resulting Implementation Plan and Waste Load Allocations (WLAs) drive the scope and focus of the Stormwater Management Plan (SWMP). Regardless of the regulatory option in place, the SWMP is based on the TMDL Implementation Plan and is designed to achieve Waste Load Allocations protective of water quality standards.

In Option 2 (Action Levels/Trigger Compliance) of the *Progressive Approach*, how does one ensure a rigorous means to determine compliance with the permit?
Although the concepts of effectiveness assessment and quantifiable measures have been used in Option 1 (Iterative Process and Benchmarks); their use has historically been relatively limited. In its Municipal Stormwater Program Effectiveness Assessment Guidance CASQA has fleshed out the concepts of effectiveness assessment and quantifiable measures into methods and details and these have been incorporated into Option 2. The key difference in Option 2 from the status quo of Option 1 is that the results of effectiveness assessments are compared to adaptive management indicators (e.g., Action Levels), which when triggered, dictate a compliance response.

How is effectiveness assessment incorporated into Option 2?
CASQA's Effectiveness Assessment method includes the following 6 levels of outcomes for evaluating stormwater program effectiveness:

	Outcome Level	Outcome Type	Assessment Type
1	Documenting activities	Effort	Implementation
2	Raising awareness	Achievement	Implementation
3	Changing behavior	Achievement	Implementation
4	Reducing loads from sources	Achievement	Implementation
5	Improving runoff quality	Achievement	Water Quality
6	Protecting receiving water quality	Achievement	Water Quality

Outcome levels 1-4 are incorporated into the Program Implementation track and outcome levels 5-6 are incorporated into the Source Identification, Assessment, and Control track. Effectiveness of a stormwater management program is measured at these levels using a variety of methods (as described in CASQA's Municipal Stormwater Program Effectiveness Assessment Guidance) and the resulting outcomes are used in the adaptive management loop represented in Option 2.

How does one establish Action Levels, how are they measured, and how does one know that the Action Levels are meaningful?
CASQA has incorporated the Action Level concept, recommended by the State Water Board's Blue-Ribbon Panel, into the draft White Paper by combining the Action Level concept with the Effectiveness Assessment method. The concept of an Action Level is that it is a level implementation or performance where, if below the Action Level, a municipality's effort is inadequate and immediate action must be taken to correct. Implementation or performance below an Action level is defined as atypical.

A working list of Action Levels have been developed for standard stormwater program elements (e.g., Construction, Industrial / Commercial) for several implementation outcome levels (e.g., 2 – Raising awareness, 3 – Changing behavior) and quantifiable measures (e.g., % of illegal connections eliminated or permitted once detected). The Action Levels were developed through analysis of stormwater program evaluations and discussions with municipal stormwater program managers. Quantifiable measures were chosen and written to be as objective as possible. The actual numeric values of the Action Levels are set to identify atypical implementation or performance. In the best professional judgment of the managers, the working list of Action Levels represents meaningful indicators of municipal stormwater program performance.

Action Levels are used in Option 2 of the *Progressive Approach* in both the Program Implementation and the Source Identification, Assessment, and Control tracks. In the latter track, it is expected that Action Levels may be developed to assess water quality at outcome levels 5 – Improving runoff quality and 6 – Protecting receiving water quality. For example, a permittee may develop Action Levels that are used to identify catchments with the most likely sources of a pollutant.

The expressions of the quantifiable measures and Action Levels are necessarily generic in the draft White Paper – how will more detail and definition be provided?
The expressions and numeric values are necessarily generic since they are meant to be generally applicable statewide. The expressions may often need to be tailored to local stormwater program characteristics. To make further progress on this, CASQA suggests that the MS4s initiate development of specific quantifiable measures for their respective programs. The measures may be identified in their stormwater management plans or Reports of Waste Discharge that would subsequently be refined with the Regional Water Boards in the tentative and final NPDES permits. This approach allows the MS4s the opportunity to closely review their programs and align their measures with their water quality issues, public interest, and fiscal and personnel resources. The level of detail would have to be sufficient enough to ensure the measures are properly quantified to avoid misunderstandings during the permit compliance assessment.

The level of detail in the flow charts in the CASQA *Progressive Approach* could connote that the *Progressive Approach* is a lengthy process – is it?
Time is not a design feature of the *Progressive Approach*. The approach is silent on timelines and schedules because the times it takes to implement the approach are dependent on several factors, including extent and level of understanding of the water quality issue, pollutant causing the issue, level of knowledge of pollutant sources and their controllability, and current level of BMP implementation and ability to increase it. For some pollutants and sources, the time to implement the approach could be relatively short while for others, significant time may be needed. Although not explicitly designed around the scientific method, the *Progressive Approach* does incorporate some of its basic principles (e.g., objectivity, inquiry beginning with a state of uncertainty and moving toward a state of certainty – sufficient at least to terminate the inquiry for the time being), as well as the principles of adaptive management.

How does the strategy articulated in the CASQA draft White Paper simplify compliance determination over the current Annual Reporting process?
Determination of compliance under the current Annual Reporting process is based primarily on narrative descriptions of programs, activities, and BMPs; with some quantitative reporting of levels of effort expended – all of which are subjectively compared against a standard of maximum extent practicable. The draft White Paper introduces two significant enhancements to compliance determination: 1) triggers and 2) measures of achievement. These enhancements will take compliance determination from a subjective and difficult process to a more objective and transparent task, while also making compliance determination relevant and meaningful for water quality protection.

VENTURA COUNTYWIDE STORMWATER MANAGEMENT PROGRAM
SMALL COMMUNITIES TIERED PERMIT APPROACH
DRAFT FOR DISCUSSION
August 15, 2007

There are currently six small, incorporated communities listed as co-permittees in the Ventura Countywide Stormwater NPDES permit. Based on the most recent census data, the City of Ojai has 8,156 citizens. Fillmore has 15,400; Port Hueneme, 21,845; Santa Paula, 29,400; Moorpark, 36,150; and Camarillo, 62,739. These urban areas are significantly smaller than the population threshold trigger of 100,000 for Phase I requirements. Additionally, Ojai, Santa Paula, and Fillmore are not contiguous with the remainder of the urban areas of Ventura County.

The U.S. EPA established Phase I regulations with the understanding that discharges from larger communities MS4's have the potential to have greater water quality impacts than those from smaller communities. Phase II regulations were implemented with the knowledge that the Phase II programs would not necessarily conform to the programs implemented by Phase I entities based upon the understanding that the potential of water quality impacts from the smaller communities were not as significant. The Phase II regulations wisely allow smaller communities to learn from the successes and failures of the Phase I programs and use the information as a guide in developing their programs.

Catch Basin Excluders – The small communities support the "Trash Management" option outlined in the issue paper titled "Alternative Language for Permit Requirements" submitted on June 13, 2007 to regional board staff by the Ventura Countywide Stormwater Quality Program. Due to the minimal resources available to smaller communities we request that smaller communities be required only to implement the second option of a "Trash Management Program". This will allow for a better use of those limited resources in making a difference in water quality. This meets the intent of the draft permit to reduce trash entering the receiving waters by using proven techniques already in use. Water bodies impaired for trash are addressed through the TMDL process.

Meeting Frequency – Attendance at management committee meetings is mandatory and will be attended 100% of the time. Subcommittee attendance is required at a minimum of 50% of meetings for communities with a population of 50,000 to 100,000; 30% for smaller communities. Because of limited staff, small communities usually have only one or two persons who can devote a portion of their time to the program. Mandatory attendance at all subcommittee meetings is infeasible with small communities' limited staffing resources. An update of key subcommittee activities is received at management committee meetings so co-permittees consistently stay informed. Small communities will make a good effort to attend as many subcommittee meetings as possible.

Public Outreach –The small communities support the Ventura Countywide Program's alternative approach for public outreach activities that was provided to regional board staff in the "Principal Permittee Activities" issue paper on June 27, 2007. Smaller cities lack the resources required to provide a monetary contribution to a Statewide Environmental Education Account and hereby request they not be required to participate in that endeavor. The recommended approach in the aforementioned issue paper would allow small communities to focus limited resources on the most effective outreach tools and continue to participate in delivering a consistent, countywide stormwater message.

Time Frames – Modify program timelines for small communities as follows:

1. Modification of stormwater programs, protocols, practices, municipal codes – 3 years
2. Obtain coverage under Construction Activities Stormwater General Permit – 90 days from Order adoption
3. Order shall serve as NPDES permit and take effect 90 days from Order adoption
4. GIS Stormdrain pipe – exempt small communities from this requirement and therefore eliminate this timeline. There is no water quality benefit to this requirement. Many of the small communities do not have such a program and do not plan on purchasing such a program, nor do they have the technical staff and equipment to support such a system.

All other timeframes set forth in draft permit to be amended based on overall Countywide program comments already submitted.

Special Studies and Plans – The scope of work for the special studies will not be extended to the communities that have a population of less than 50,000.

As stated in the second paragraph, the U.S. EPA Phase II provision wisely allows smaller communities to learn from the successes and failures of the Phase I programs and use the information as a guide in developing their programs.

Electronic Tracking – Exempt small communities from electronic tracking requirements. Many of the small communities do not have such a program nor do they have the technical staff and equipment to support such a system. There is no water quality benefit to this requirement. Limited resources for the stormwater program should be maximized to benefit water quality.

Public Construction Activities Management – Exempt small communities from participating in public construction activities management program. Small communities typically have to schedule public construction projects based on very limited budgets. The budgets come from grant programs and other sources.

For example, road projects are funded from gas taxes that do not sufficiently meet the needs of road rehabilitation. This requirement would add 15 to 20% to the project costs crippling an already struggling system.

From: "Paul Tantet" <Paul.Tantet@ventura.org>
To: <twoods@waterboards.ca.gov>
Date: 7/31/2007 9:25:53 AM
Subject: Ventura County Non-Urban Areas

Tracy:

As discussed this morning, attached is a brief explanation of the system of policies and regulations that confine "urban" development to within the ten cities in Ventura County. Any areas that are already classified as "urban" in unincorporated County are considered grand-fathered prior to adoption of guidelines, and are known as "existing communities" by our planning department. No new areas such as these can be added without following the current over-arching document for development in unincorporated Ventura County, Guidelines for Orderly Development.

Also attached are some maps illustrating our seven greenbelts, the areas where SOAR/CURB measures do/don't require voter approval for urban development (one with, and one without the National Forest Boundaries) and a final one showing the areas under LCA/FSZA contract.
Additionally, I will mail you a printed copy of the Guidelines For Orderly Development, referenced above and in the attached explanation.

If you have any questions, please call. Also, I will follow-up in the next couple of days to ensure that you have received the mailed documents or have additional questions or concerns.

Thanks!

Paul Tantet
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Development Patterns in Ventura County

Development patterns in Ventura County are significantly different than in other counties. Only Ventura County restricts urban development to within cities and their spheres of influence, while the areas between the cities are reserved for agriculture and open space. This pattern is enforced by a series of policies, regulations, and citizen initiatives, described below. These policies are deliberately designed to preserve the County's agricultural land and confine urban development to the cities.

1. **Guidelines for Orderly Development**. This ground-breaking policy agreement between the ten cities and the County specifically limits urban development to within the existing cities and their spheres of influence, and some small unincorporated "Existing Communities" such as Piru. It was originally adopted in 1969, and since that time the cities and the County have used it to guide urban development into the cities and their spheres, avoiding the agricultural and open space areas between the cities. The Guidelines are based on the principle that urban services should be provided by the cities, and that the County is not in the business of providing such services. Ventura's Local Agency Formation Commission (LAFCO) has adopted the Guidelines and incorporated its policies, by reference, in its Policies and Procedures (Section 2.5.2).

2. **Greenbelts.** The second layer of protection is Ventura's Greenbelt system, originally intended to preserve agricultural land, and subsequently expanded to preserve open space land as well. In Ventura County, a greenbelt is an agreement between the County and the city or cities adjacent to the greenbelt, not to annex property within the greenbelt into the city(s). Given the Guidelines for Orderly Development, this effectively prohibits urban development within the greenbelts. Ventura's LAFCO formally endorses the greenbelts, and Section 2.5.3 of its Policies and Procedures state that "LAFCO will not approve a proposal from a city (to annex property) that is in conflict with any Greenbelt Agreement unless exceptional circumstances are shown to exist."

   The County has seven greenbelts. Please see the attached map depicting these greenbelts.

3. **SOAR/CURB measures.** The next layer of protection is the County's series of SOAR/CURB measures[1]. These measures, initiated and passed by the voters in eight of the ten cities as well as the county, require voter approval before the affected property can be developed with urban uses. These measures add considerable power to the Guidelines for Orderly Development and the greenbelt restrictions. Please see the attached map for an illustration of the areas where development must have voter approval.
   A. SOAR. Two jurisdictions have SOAR measures; the County of Ventura, and the City of Ventura. SOAR measures require voter approval before a jurisdiction can change specified General Plan designations. For example, Ventura County's SOAR measure prohibits the Board of Supervisors from changing any land designated Agricultural, Open Space or Rural; effectively, any property with one of these designations must remain in that use unless a majority of the

[1] SOAR = Save Our open space and Agricultural Resources; CURB = City Urban Restriction Boundary.

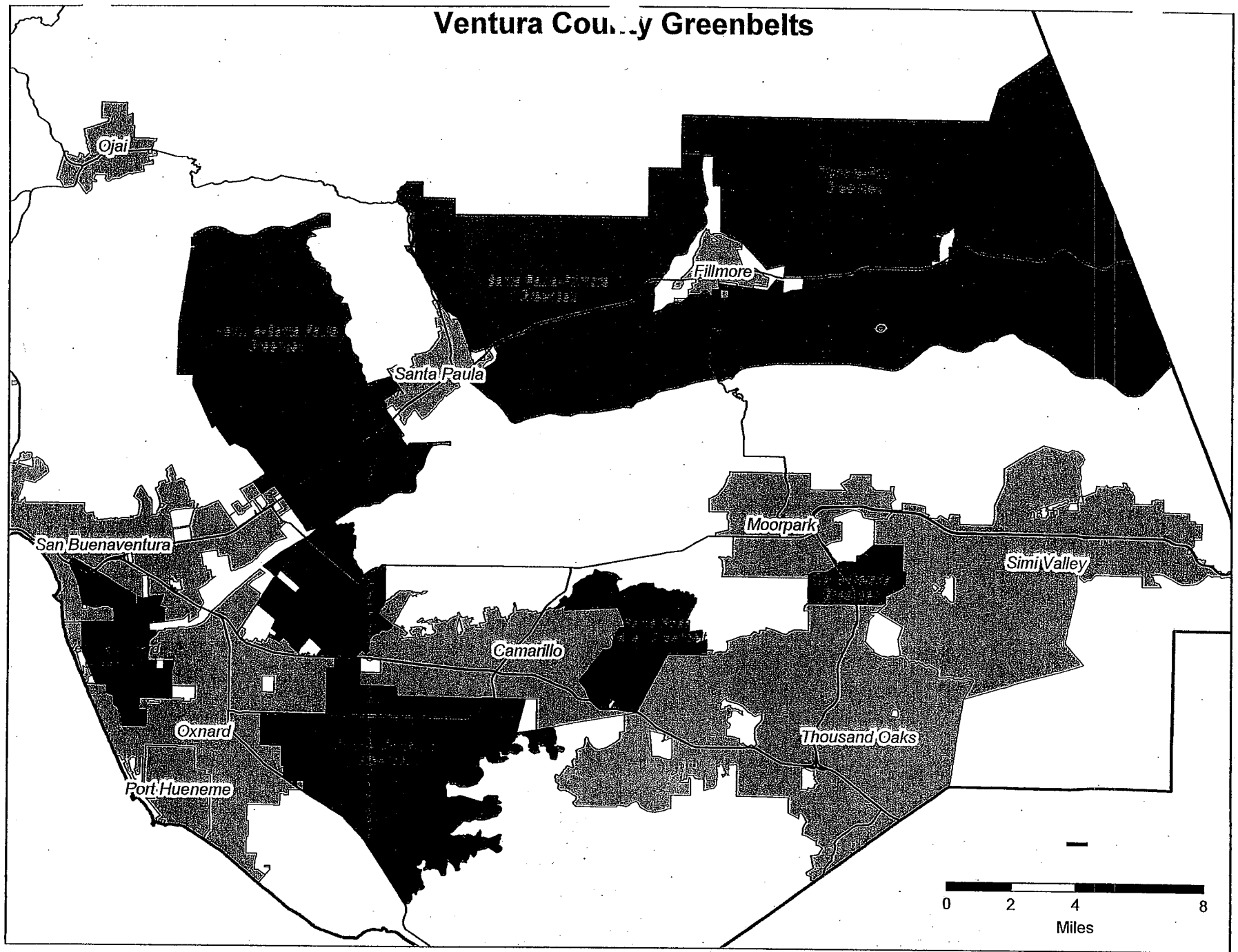
County's voters agree to change it. The City of Ventura's SOAR measure covers only the Agricultural designation (the city has no Open Space or Rural designations).

B. CURB. CURB measures draw a line around a city, and require voter approval of any development outside the CURB line. The eight cities that have CURB measures are Camarillo, Fillmore, Moorpark, Oxnard, Santa Paula, Simi Valley, Thousand Oaks, and Ventura (in addition to its original SOAR measure, Ventura's voters later adopted a "reverse" CURB measure requiring voter approval of any development *within* its designated Hillside Area).

Two cities do not have SOAR/CURB measures. Port Hueneme is surrounded on three sides by the City of Oxnard, and bordered on the fourth by the Pacific Ocean. Growth in the City of Ojai is restricted by air quality and water quantity limitations.

4. Land Conservation Act Contracts. The fourth and final program that affects the preservation of the County's agricultural lands is the Land Conservation Act (Williamson Act) Program. Unlike the previous regulations, this is not unique to Ventura County. Under this program, property owners agree to maintain their land in agriculture for a period of 10 (Land Conservation Act) or 20 (Farmland Security Zone Act) years. Development on land that is within an LCA or FSZA contract is strictly regulated by the State. The County has an active LCA/FSZA program; please see the attached map for an illustration of lands under LCA/FSZA contracts.

The collective effect of the Guidelines for Orderly Development, the greenbelts, the SOAR/CURB measures, and LCA/FSZA contracts has been to confine urban growth to the cities and to leave the areas outside the cities in an undeveloped agriculture or open space. The fact that the County's agricultural land is not broken up with scattered suburban development, but remains in large contiguous blocks enhances the economic viability of its agricultural industry. The strength of the agricultural industry in Ventura County is reflected in the most recent crop report issued by the Agricultural Commissioners Office, which showed that the County's agricultural industry generated a record $1.5 billion in 2006. This represents some 96,000 acres of irrigated agricultural land, and there is additional unirrigated grazing land. Preservation of agricultural land has always been a key goal for the County and its residents, and the policies, programs, and regulations put in place to accomplish this are not expected to change in the foreseeable future.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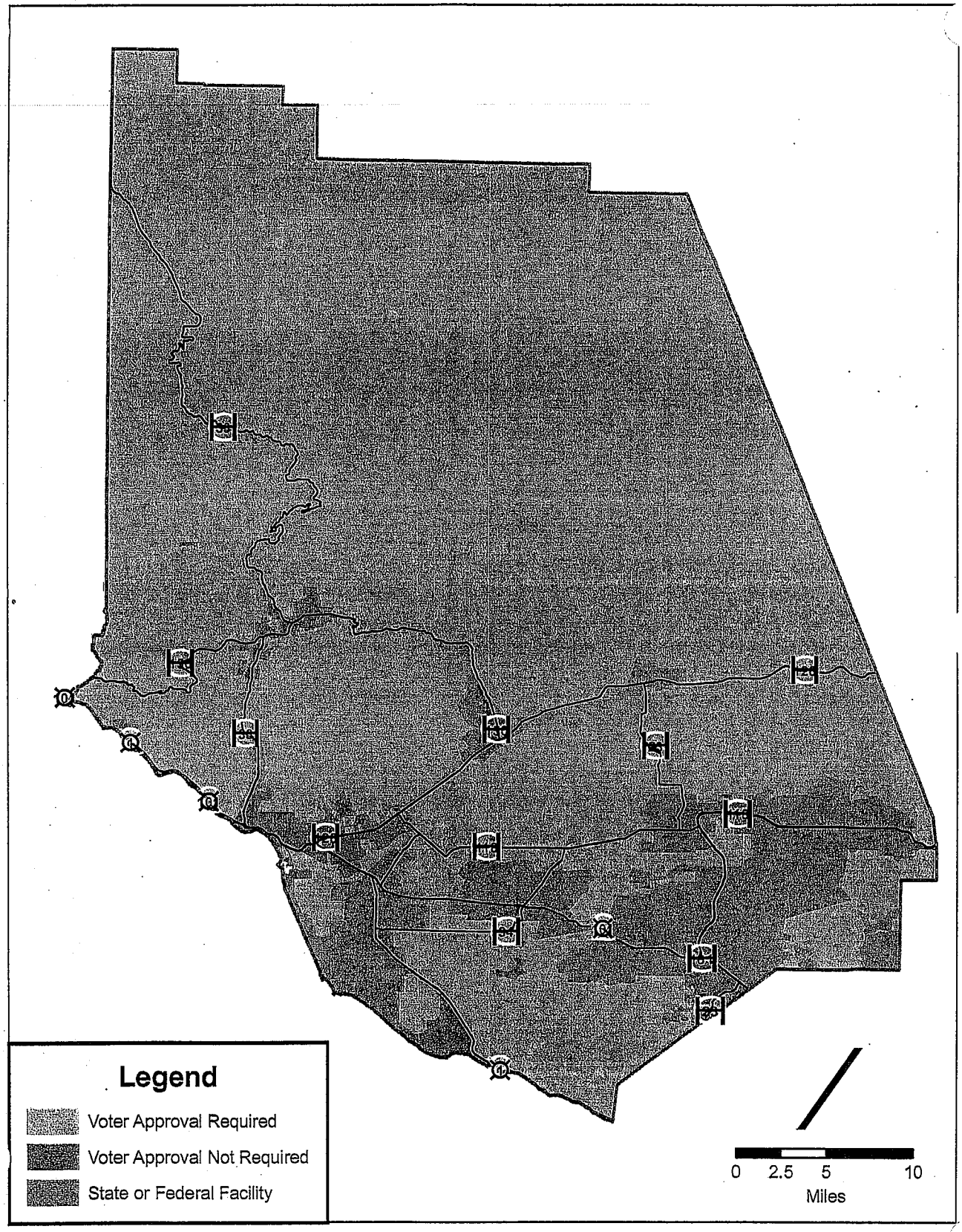
City & County CURB/SOAR Measures



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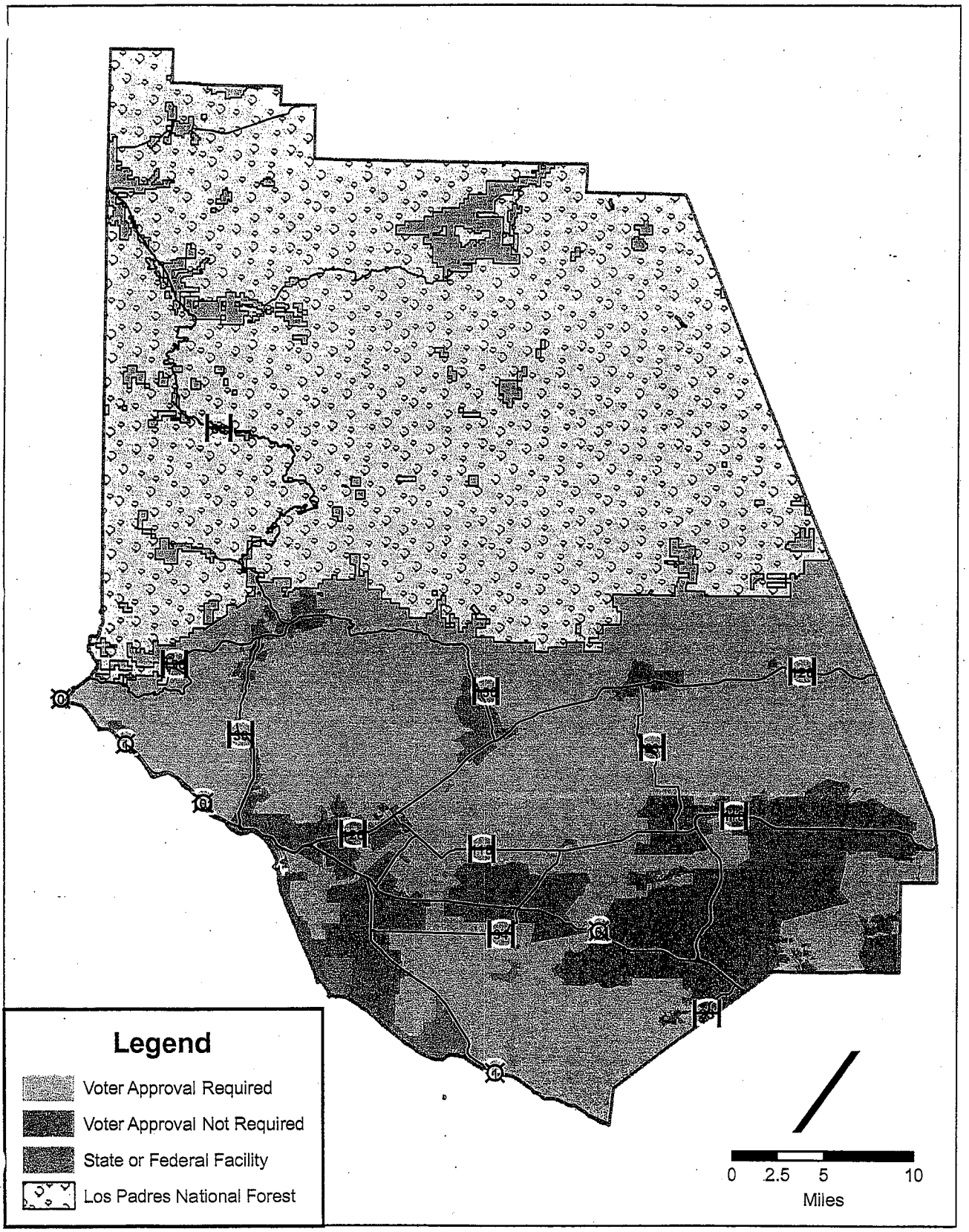
City & County CURB/SOAR Measures



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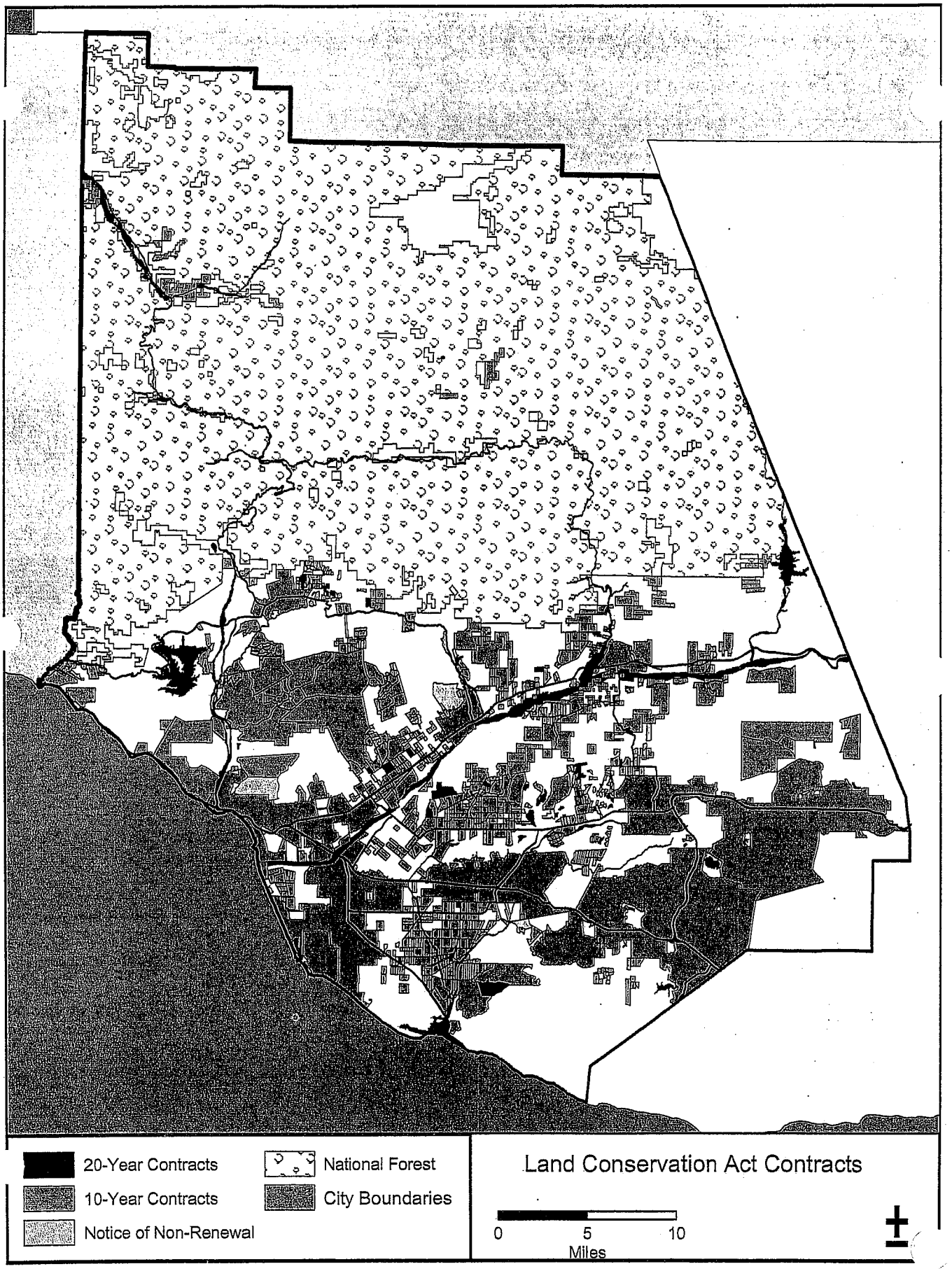
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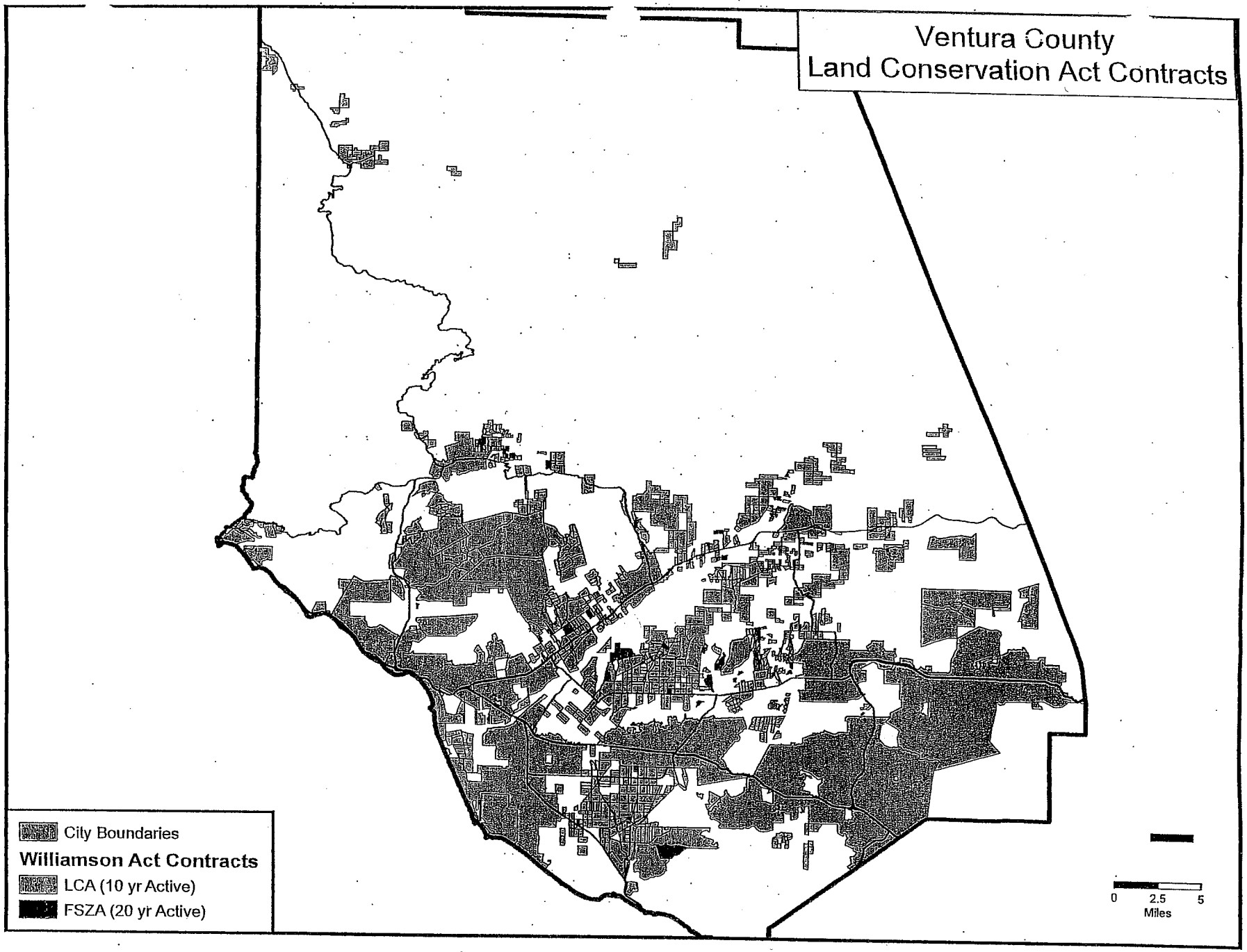
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From: "Gerhardt Hubner" <Gerhardt.Hubner@ventura.org>
To: "Tracy Woods" <twoods@waterboards.ca.gov>
Date: 7/23/2007 3:57:09 PM
Subject: Transmittal of Planning & Land Development Program, Section E of Draft Permit

Tracy

Attached is the Ventura Countywide Program's language changes to Section E, the Planning and Land Development Program. The Program utilized BIA's previously transmitted template and organizational structure, and placed our proposed changes/revisions within the document.

Let me know if you have any questions, or can't access the attachment.

Gerhardt

CC: <Dsmith@waterboards.ca.gov>, "Xavier Swamikannu" <Xswamikannu@waterboards.ca.gov>

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STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 07-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

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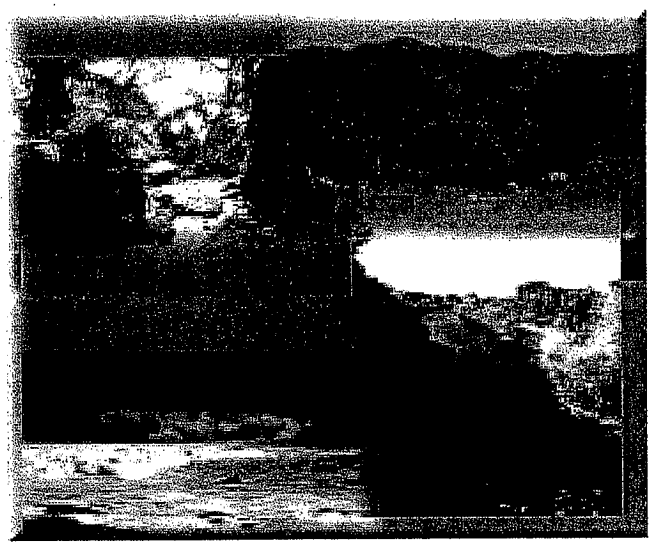

December 27, 2006

E. Planning and Land Development Program

1. Post-Construction Storm Water Planning and Land Development Program Purposes. The Permittees shall implement a Planning and Land Development Program to satisfy the following purposes:

(a) Minimize substantial adverse impacts from urban runoff on the uses of water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.

(b) Minimize pollutant loading from impervious surfaces, such as roof-tops, parking lots, and roadways, through the use of source controls and on-site controls (including low impact development strategies) to reduce the percentage of Effective Impervious Area[1], and treatment controls.

(c) Minimize adverse water quality affects from imperious surface for projects discharging into Natural Drainage Systems, through the use of hydromodification controls.

(d) Properly select, design and maintain treatment control to address those pollutants of concern identified for particular projects to assure proper function for long-term pollutant removal and to avoid the breeding of vectors.[2]

---

[1] Effective Impervious Area means that portion of the impervious area that drains directly to a receiving surface water body via a hardened storm drain conveyance system without first draining to a pervious area with some opportunity for filtration evapotranspiration, infiltration; whereas impervious surfaces that drain through pervious or vegetated areas or infiltration facilities prior to discharge into a receiving surface water are considered "disconnected" and are not part of Effective Impervious Area. Pursuant to this Order, New Development and Significant Redevelopment shall incorporate LID strategies to the maximum extent practicable (MEP). The goal of the Planning and Land Development Program is to limit Effective Impervious Area to no more than 3% to 10% of watershed area, depending upon local conditions, but this goal may not be achievable through the implementation of control strategies and BMPs that constitute MEP.

[2] Treatment controls that are designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors. Treatment control BMPs that are designed to have standing pools of water, such as treatment wetlands and wet ponds, shall include adequate vector control measures.

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2. Post-Construction Storm Water Planning and Land Development Program Project Applicability.

(a) Single Family Hillside. To the extent that a Permittee may lawfully impose conditions, mitigation measures or other requirements on the development or construction of a single-family home in a hillside area as defined in the applicable Permittee's Zoning and Building Codes, each Permittee shall require that during the construction of a single-family hillside home, the following measures to be implemented:

(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 geotechnical instability; and

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

(b) New Development SQUIMP Applicability. Each Permittee shall require that the following New Development projects be subject to conditioning and approval for implementation of Storm Water Quality Urban Impact Mitigation Plan (SQUIMP) requirements incorporating technically feasible and appropriate controls and BMPs pursuant to Section 4.E.3:

(1) All new development projects disturbing one acre or greater and adding 5,000 square feet or more of impervious area;

(2) Projects discharging directly to an Environmentally Sensitive Area (ESA), where the development will:

i. Discharge storm water runoff that is likely to adversely impact a sensitive biological species or habitat and related beneficial uses; and

ii. Create 2,500 square feet or more of impervious surface area.

(c) Significant Redevelopment SQUIMP Applicability. Each Permittee shall require, in addition, that Significant Redevelopment projects be subject to conditioning and approval for implementation of SQUIMP requirements incorporating technically feasible and appropriate post-construction controls and BMPs pursuant to Section 4.E.3.

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(1) Significant Redevelopment projects are projects involving 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.

(2) Where Significant Redevelopment results in an increase of more than fifty percent of the total existing impervious surface of a previously existing development that was not subject to post development storm water quality control requirements, and the valuation of proposed improvements (including interior improvements) exceeds fifty percent of the assessed value of the existing site improvements, then the entire project must be mitigated.

(3) Where Significant Redevelopment results in an increase of less than fifty percent of impervious surfaces of a previously existing development, then only the addition must be mitigated, and not the entire development.

(4) Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, or original purpose of facility, or emergency activities required to protect public health and safety.

(5) Existing single-family structures are exempt from the Significant Redevelopment requirements unless such projects disturb one acre or greater and add 5,000 square feet or more of impervious surface.

(d) The following road maintenance practices shall be exempted from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/re-grading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

(e) The following publicly owned or maintained underground utility projects shall be exempted from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: utility maintenance or refurbishment projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

(f) Where feasible, the Permittees shall utilize the update periods specified in this Order for preparation and implementation of new SQUIMP requirements to ensure that projects undergoing approval processes include application of the new, updated SQUIMP requirements in their plans. Notwithstanding the foregoing, the New Development and Significant Redevelopment shall exclude, and the new SQUIMP requirements contained in this Order, including Section 4.E.3 of this Order below,

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shall not apply to projects or project phases that, prior to the effective date of the new SQUIMP requirement, meet any one of the following conditions:

(1) The project or phase has received tentative tract map and SQUIMP approvals; or

(2) The project or phase has begun grading or construction activities; or

(3) A Permittee determines that lawful prior approval rights for a project or project phase exist, whereby application of a new SQUIMP requirement to the project is practically or legally infeasible.

3. SQUIMP Requirements.

(a) General Contents of SQUIMP.

(1) Each Permittee shall require applicants seeking approvals for the New Development and Significant Redevelopment projects (as specified in Section 4.E.2. above) to prepare a site and activity specific SQUIMP that employs an integrated water resources management approach to mitigate storm water pollution by utilizing the following suite of technically feasible controls that are appropriate for the project to remove storm water pollutants, reduce post-development storm water runoff volume, velocity and duration, and beneficially reuse storm water:

i. Source control.

ii. On-site Controls (including Low Impact Development strategies).

iii. Hydromodification control.

iv. Treatment control.

(2) Permittees may allow SQUIMPs to substitute the following types of control measures and BMPs for site control measures required in SQUIMPs by Section 4.E.3(a)(1) above.

i. In any SQUIMP, the Permittees may allow the implementation of subregional or regional LID, hydromodification control, and/or treatment control measures and BMPs, provided that the regional or subregional measures and BMPs provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the SQUIMP.

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ii. In SQUIMPs for Significant Redevelopment and infill development, the Permittees may allow the hydromodification control and treatment control requirements of this Section 4.E.3 for all or a portion of the project area to be met by controlling a substitute area that drains to the same receiving water so long as the substitute area has equivalent flow and pollutant characteristics to the project area.

iii. In SQUIMPs for Significant Redevelopment and infill development, the Permittees may allow the payment of fees toward installation, implementation , maintenance and operation of approved subregional and regional hydromodification, control and/or treatment control BMPs, provided that the subregional or regional measures and BMPs: are funded and implemented in a period of time sufficient to mitigate post-construction adverse water quality impacts, provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the SQUIMP.

(b) Specific SQUIMP Requirements--Source Control BMPs.

(1) Each Permittee shall require source control BMPs based on planned activities and uses for New Development and Significant Redevelopment projects where 1 or more of the following project characteristics exist:

i. Vehicle or equipment fueling areas;
ii. Vehicle or equipment maintenance areas, including washing
iii. and repair;
iv. Commercial or industrial waste handling or storage;
v. Outdoor handling or storage of hazardous materials;
vi. Outdoor manufacturing areas;
vii. Outdoor food handling or processing;
viii. Outdoor animal care, confinement, or slaughter; or
ix. Outdoor horticulture activities.

(c) Specific SQUIMP Requirements—On-site Controls (Low Impact Development).

(1) SQUIMPs prepared for New Development and Significant Redevelopment projects shall require site controls including Low Impact Development (LID) strategies into project design to infiltrate, disperse, and retain runoff onsite to the extent technically feasible and appropriate, as further defined by the LID guidance required by section 4.E.3.(c)(3) below, taking into account existing groundwater conditions, floodplain management and flood control, hydrology, geotechnical, and channel stability goals and constraints. In determining the which on-site controls must be or have been implemented, it is appropriate for Permittees to consider the scale of development, site planning BMPs employed, and volume

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and flow controls achieved by other BMPs and measures implemented for a project area, including, regional, subregional and source control, on-site controls, treatment control, hydromodification controls. One or a combination of the following LID strategies shall be implemented unless shown to be infeasible or inappropriate given applicable goals and constraints.

(2) Pursuant to Section 4.E.3(c)(3) below, the Permittees shall work with other stakeholders to adopt revisions to the Technical Guidance Manual for Stormwater Quality Control Measures to incorporate guidance for integration of LID strategies into New Development and Significant Redevelopment no later than 12 months from the Order's adoption date for use by land planners and developers. The revisions shall include objectives and specifications for integration of LID strategies in the areas of:

i. Site Assessment.

ii. Site Planning and Layout.

iii. Vegetative Protection, Revegetation and Maintenance.

iv. LID Practices.

v. LID Credits, which explain the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(3) The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with information regarding LID objectives and specifications contained in the revised adopted Technical Guidance Manual for Stormwater Quality Control Measures through a training program. The LID training program will include the following:

i. LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.

ii. A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.

iii. Materials and data from LID pilot projects and demonstration projects including case studies.

iv. Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.

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v. Availability of the guidance regarding integration of LID strategies into project planning and SQUIMPs in the revised adopted Technical Guidance Manual for Stormwater Quality Control Measures.

vi. Guidance regarding the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(d) Specific SQUIMP Requirements--Hydromodification Control

(1) Hydromodification Control Measures.

i. Unless a hydromodification control exemption applies pursuant to section 4.E.3.(d)(2) below, Permittees shall require SQUIMPs to specify hydromodification controls consistent with the requirements, including numeric hydrologic control criteria, of Section 4.E.3.(d)(3), to minimize and mitigate substantial adverse post-development impacts due to increases in runoff rates, velocities and duration to the physical structure and stability, water quality and/or biological integrity of Natural Drainage Systems as necessary to protect their beneficial uses.

ii. Hydromodification controls may include one, or a combination of on-site, regional or subregional LID strategies and hydromodification controls, as well as in-stream controls. Regional and subregional controls shall be implemented prior to discharge of project runoff into the Natural Drainage System. When existing natural conditions and beneficial uses within a Natural Drainage System have not been adversely affected prior to a proposed New Development or Significant Redevelopment project, preference must be given in preparing the SQUIMP to regional, subregional, and on-site hydromodification controls over in-stream controls as necessary to protect existing beneficial uses. SQUIMPs incorporating in-stream controls shall demonstrate that the in-stream controls do not significantly adversely affect existing beneficial uses within the Natural Drainage System.

iii. In determining compliance with the numeric hydrologic control criteria of Section 4.E.3(b)(3) below, peak, volume and duration reductions achieved by all BMPs and control measures cumulatively, including, without limitation, those achieved by LID strategies, treatment control BMPs, and hydromodification control BMPs, shall be considered.

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iv. Natural Drainage Systems means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways, including tributaries, located in the following watersheds:

a. Ventura River.

b. Santa Clara River.

c. Calleguas Creek.

d. Miscellaneous Ventura Coastal.

(2) Hydromodification Control Exemptions.

i. Permittees may exempt the following New Development and Significant Redevelopment projects from implementation of SQUIMP requirements mandating inclusion of hydromodification controls (but not LID strategies):

a. Projects within a natural watershed where a geomorphically-based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present or where in-stream controls have been identified as the best course of action.

b. Significant Redevelopment Projects that do not do not increase impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

c. Projects that discharge directly or via a storm drain to a sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

d. Projects that discharge directly or via a storm drain into concrete or significantly hardened channels (e.g., rip rap, sackcretec, etc.), which, in turn, discharge into a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

e. Single-family residential projects that disturb less than one acre or add less than 10,000 ft^2 of new impervious area.

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¶
(d) . The Southern California Storm Water Monitoring Coalition (SMC) is expected to initiate a study to develop a regional methodology to eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management tools.[4] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS): ¶
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f. Projects for which a geomorphically-based study shows that there is no potential at the subwatershed or watershed scale for significant hydromodification impact downstream.

g. Projects for which planned hydrologic control measures include sufficient, subregional, regional, or in-stream runoff control measures, or a combination thereof.

h. Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility, storm drain and transportation system network.

i. Projects that are part of Permittee's storm drain and new transportation system network, and less than 10,000 linear feet.

(3) Numeric Hydrologic Control Criteria

Interim Hydromodification Criteria.

VC Program Recommendation - No Interim Hydrologic Control Criteria until SCCWRP completes their HCS Study and results included in Final HMP. Rationale - Subject is very complex and difficult to implement, as noted by the number of needed exemptions and other criteria. Interim Hydrologic Control Criteria has the potential to do more harm than waiting for completion of SCCWRP's HMP.

Or

Interim hydromodification control standards are required for the protection of Natural Drainage Systems until the completion by the Permittees of the Hydromodification Management Plan (HMP) required in Section 4.E.3.(ii)b. below.

a. Unless a hydromodification control exemption applies, Permittees shall require SQUIMPs for the following New Development and Significant Redevelopment Project categories discharging to Natural Drainage Systems to specify and require implementation of hydromodification controls:

1. New Development and Significant Redevelopment projects less than 50 acres.

(A) Until the Permittees develop the HMP, these projects shall implement LID, treatment and/or hydromodification controls such that peak flow and

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Development of a numeric model to predict stream-bed/stream bank enlargement and evaluate the effectiveness of mitigation strategies.
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(1) . Projects disturbing land area of less than fifty acres¶
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volume of the 2-year, 24-hour storm event post-development hydrograph will match within 10 percent the peak flow and volume of the 2-year, 24-hour storm event pre-project hydrograph.

(B) Alternatively, these projects may elect to develop and implement a Hydromodification Analysis Study (HAS) or implementation tool pursuant to the following subsection 2.

2. New Development and Significant Redevelopment Projects less than 50 acres.

(A) Until the completion of the HMP, these projects shall complete and implement a Hydromodification Analysis Study (HAS) that demonstrates that post development conditions are not expected to alter the duration of sediment transporting flows in receiving waters. The HAS must demonstrate that the selected hydromodification controls will maintain an Erosion Potential (Ep) value shown to be protective of Natural Drainage Systems from hydromodification impacts.

(B) Alternatively, these projects may elect to develop an implementation tool in accordance with the following methodology. The implementation tool shall be based on flow duration control in the form of nomographs relating planned impervious area and local soil type (infiltration rates) to determine hydromodification control BMP volume and land area requirements for the proposed project. The nomographs shall be derived from continuous simulation modeling using Ventura County specific rain gauge records and local soils types. The model shall be calibrated using data from a local undeveloped gauged watershed.

i. Final Hydromodification Criteria. The Permittees shall prepare a HMP that includes final hydromodification control standards for the protection of Natural Drainage Systems.

a. The Permittees shall participate in the Southern California Coastal Water Research Project (SCCWRP) Hydromodification Control Study (HCS).

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(g) Hydromodification Control Plan

b. No later than one year after completion of the HCS, the Permittees shall develop and implement a Hydromodification Management Plan (HMP) taking into account local watershed conditions. The HMP shall identify stream classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will maintain the Erosion Potential (Ep) value shown to be protective of the Natural Drainage Systems addressed by the HMP.

c. The HMP shall contain the following elements:

1. Final Hydromodification Management Standards.
2. Natural Drainage Areas and Hydromodification Management Control Areas.
3. The New Development and Significant Redevelopment projects subject to the HMP.
4. Description of authorized Hydromodification controls.
5. Hydromodification Control design criteria.
6. For flow duration control methods, the range of flows to control and goodness of fit criteria (by way of example only, appropriate criteria may be to approximate the pre-project flows and durations for the continuous range of flows from the critical flow, Qc, to the 10-year return period flow, based on long-term rainfall records. Within this range, the post-project flow duration curve shall not deviate above the pre-project flow duration curve flows by more than 10 percent, and shall not deviate above the pre-project flow duration curve flows over more than 10 percent of the length of the curve).
7. Applicable low critical flow, Qc, which initiates sediment transport.
8. Description of the approved Hydromodification Model.
9. Any alternate Hydromodification Management Model and Design.
10. In-stream controls design criteria.

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11. Monitoring and Effectiveness Assessment.

12. Record Keeping.

(e) Specific SQUIMP Requirements—Treatment Controls

(1) Numeric Water Quality Design Criteria. SQUIMPs prepared for the following categories of New Development and Significant Redevelopment projects shall incorporate treatment control that are designed in accordance with the following volumetric and/or (flow based) treatment control design standards, which are consistent with the objectives stated in Part 4. E.1.

i. Projects less than 200 acres

a. Volumetric Treatment Control BMP Sizing Criteria

1. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, using a 48-hour draw down time, 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 the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

b. Flow Based Treatment Control BMP Sizing Criteria

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 2 times the 85th percentile hourly rainfall intensity as determined from the local rainfall record; or

3. Ten percent of the 50-year storm design flow rate as determined from the methodology presented in the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

ii. Projects 50 acres or greater

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1. Projects disturbing land area of 200 acres or greater shall implement treatment controls that are sized to capture and treat 80 percent of the average annual runoff volume, using an appropriate public domain continuous flow model (such as Storm Water Management Model (SWMM) or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-HSPF) and the local rainfall record.

4. Maintenance Agreement and Transfer.

(a) Each Permittee shall require that all New Development and Significant Redevelopment projects subject to post-construction BMP requirements provide verification of enforceable maintenance provisions for structural source controls, treatment controls, and hydromodification controls BMPs, including but not limited to final map conditions, legal agreements, covenants, conditions or restrictions, CEQA mitigation requirements, conditional use permits, and/or other legally binding maintenance requirements.

(1) Verification at a minimum shall include the developer's signed statement accepting responsibility for maintenance of the BMPs until the responsibility is legally transferred and either:

i. A signed statement from the public entity assuming responsibility for structural BMP maintenance; or

ii. Written conditions in the sales or lease agreement, which require the property owner or tenant to assume responsibility for structural BMP maintenance and agreeing to conduct a maintenance inspection at least once a year; or

iii. Written text in project conditions, covenants and restrictions (CCRs) assigning structural BMP maintenance responsibilities to the Home Owners Association (HOA; or

iv. Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of structural

v. BMPs.

5. Development Planning Coordination and Enforcement.

(a) No later than one year from the date of this Order's adoption, each Permittee shall revise its inspection and enforcement program for New Development and Significant Redevelopment post-construction BMPs as set forth in this subsection 4.E.3.

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(b) Each Permittee shall inspect, with trained staff or consultants, all development sites upon completion of construction and prior to final approval/occupancy to ensure proper installation of permanent erosion controls, LID strategies, and source control, treatment control, and hydromodification control. Enforcement shall be taken as necessary based on inspection results. This inspection may be combined with other inspections, provided that it is performed by trained staff or consultants.

(c) Each Permittee shall develop and implement an electronic system for tracking projects with structural control BMPs. The electronic system, at a minimum, should contain the following information:

(1) Municipal Project ID,

(2) State WDID No.,

(3) Project Acreage,

(4) BMP Type and Description,

(5) BMP Location (coordinates),

(6) Date of Acceptance,

(7) Date of O&M Certification,

(8) Maintenance Records,

(9) Inspection Date and Summary,

(10) Corrective Action,

(11) Date Certificate of Occupancy Issued,

(12) Replacement or Repair Date,

(d) Each Permittee shall develop and implement a program to verify proper maintenance and operation of post-construction structural site, source, treatment and hydromodification control BMPs previously approved. The inspection program shall incorporate the following elements:

(1) Inspection at least once every 2 years, beginning 1 year after the Order's adoption, of post-construction structural site, source, treatment, and hydromodification control BMPs assess operational conditions with particular attention to:

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i. For nonproprietary BMPs – hydraulic function, invasive vegetation, vector risk, fugitive material, sediment clogging, and improper modifications.

ii. For proprietary BMPs – solids removal, pump-out, blockage and drawdown drainage.

(2) Criteria and procedures for Treatment and hydromodification control BMP repair, replacement, or re-vegetation.

(e) The State Water Resources Control Board and U.S. EPA have the authority provided by law to enforce the post-construction BMP provisions of the Statewide General NPDES for Stormwater Discharges Associated with Construction Activities (GCP), or individual storm water construction permits.

6. Regional and Redevelopment Area Storm Water Mitigation.

(a) A Permittee, a coalition of Permittees, or another entity or person responsible for complying with municipal requirements adopted pursuant to this Order, may apply to the Executive Officer for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for the SQUIMP requirements of this Order. The Executive Officer may consider for approval such a program if its implementation will:

(1) Result in equivalent or improved storm water quality as provided for in the SQUIMP requirements of this Order.

(2) Promote cooperative problem solving by diverse interests.

(3) Be fiscally sustainable and have secure funding.

(4) For New Development projects, will result in construction of regional or subregional treatment control or hydromodification control facilities prior to discharge of runoff from the region or subregion served by the facilities.

(5) For Significant Redevelopment and infill development, will result in construction of regional or subregional treatment control or hydromodification control facilities in a period of time sufficient to mitigate post-construction adverse water quality impacts.

(b) The Executive Officer shall approve or disapprove of such a regional storm water mitigation program within 180 days of receipt of an application pursuant to this section.

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(c) A Permittee, a coalition of Permittees or another entity or person responsible for compliance with municipal requirements adopted pursuant to this Order, may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. The Regional Water Board may consider for approval such a program if its implementation will result in improved storm water quality.

(1) Redevelopment Project Areas include: (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the Executive Officer.

(d) Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, except as expressly approved in this Order.

7. Mitigation Funding.

(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to fund regional or subregional solutions to storm water pollution, where any of the following situations occur:

(1) A waiver for impracticability is granted;

(2) Funds become available;

(3) Off-site mitigation is required because of loss of environmental habitat; or

(4) An approved watershed management plan, an integrated water resources management plan, a regional or subregional storm water mitigation plan, a wetlands recovery plan, or similar plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.

8. Developer Technical Guidance and Information.

(a) The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include, at a minimum, the following:

(1) Hydromodification control criteria described in this Order, including the numeric criteria.

(2) Expected treatment control pollutant removal performance including effluent quality and removal efficiency ranges from the ASCE/EPA International BMP Database, CASQA New Development BMP Handbook, technical reports

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or the scientific literature, as well as data on observed local effectiveness and performance of implemented BMPs.

(3) Selection of appropriate treatment control for stormwater pollutants of concern.

(4) BMP maintenance considerations.

(5) Criteria in the selection of BMPs to facilitate integrated water resources planning and management, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits.

(6) LID principles and specifications.

9. Project Review and Inter Department Coordination.

(a) Each Permittee shall facilitate a process for effective approval of post-construction control measures. The process shall include:

(1) Detailed BMP review including BMP sizing calculations, BMP pollutant removal effectiveness, and municipal approval.

(2) An established structure for communication and delineated authority between and among municipal departments that have jurisdiction over project review, plan approval, and project construction through memoranda of understanding (MOU) or an equivalent mechanism.

10. California Environmental Quality Act (CEQA) Document Update.

(a) Each Permittee shall, within six months of the adoption of this Order, incorporate into its CEQA process those additional procedures, if any, that are necessary 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:

(1) Potential impact of project construction on storm water runoff.

(2) Potential impact of project post-construction activity on storm water runoff.

(3) 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.

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Potential for discharge of storm water to cause significant harm to or to impair the beneficial uses of the receiving

(4) Potential for significant changes in the flow velocity or volume of storm water runoff to cause significant harm to or to impair the beneficial uses of the receiving waters in Natural Drainage Systems.

11. General Plan Update.

(a) Each Permittee shall amend, revise or update its General Plan to include appropriate watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended:

(1) Land Use.

(2) Housing.

(3) Conservation.

(4) Open Space.

(b) Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 et seq.

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(5) . Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies.
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development-planning program that will require		
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in accordance with and pursuant to this Section 4.E., for all New Development and Significant Redevelopment projects tosubject to this Order		
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biological integrity of Natural Drainage Systems andbeneficial		
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(b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[1] to less than 5 percent of total project area.

(c) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.

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(d) Minimize pollution emanating

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to the maximum extent practicable

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and other substantial adverse water quality affects

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I would suggest that we be more consistent with terminology throughout the permit. My delineation would be:
1. source controls
2. On-site controls (including LID)
3. Treatment controls
4. Hydromofications controls.

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[1] ~~Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales (native vegetation) using approved dispersion techniques.~~

I've edited the section along these classifications.

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properly designed, technically appropriate Source Controls (source control BMPs (including good housekeeping practices), Low Impact Development Strategies, and Treatment Control that

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and, for projects discharging

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Treatment Control BMPs (in order		
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Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.		
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surface

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Seems like all these catergories should be based on impervious area not "surface area". See definition of industrial park which uses impervious surface.

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Industrial park adding 5,000 square feet or more of impervious surface area;

Commercial development adding 5,000 square feet or more of

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impervious area;

Restaurant (SIC 5812) adding 5,000 square feet or more of

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impervious area;

Parking lot adding 5,000 square feet or more of

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impervious area or with 25 or more parking spaces;

Streets, roads, highways, and freeway construction of

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impervious area;

Retail gasoline outlet adding 5,000 square feet or more of

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impervious area;

Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) adding 5,000 square feet or more of

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impervious area; or

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Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity[MSOffice1].

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deemed New Development or Significant Redevelopment, and are otherwise

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Are the Ventura County MS4s comfortable with this alternative approach? Seems like the MS4s will need to establish the criteria by which to determine whether a project qualifies.

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I. Low Impact Development

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1. All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.

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(d) Techniques to Minimize Land Disturbance.

(e) Integrated Water Resources Management Practices.

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(a) Each Permittees shall require all new development and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration. This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations.

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(c) Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (E_p) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat.[3]

(d) The Southern California Storm Water Monitoring Coalition (SMC) is expected to initiate a study to develop a regional methodology to

[3] ~~See Attachment "E" – Determination of Erosion Potential.~~

eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management tools.[4] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS):

(1) Establishment of a stream classification for Southern California streams.

Development of a deterministic or predictive relationship between changes in watershed impervious cover and stream-bed/stream bank enlargement. H

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[4] ~~Coleman, D., C. MacRae, and E. Stein. 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. Southern California Coastal Water Research Project. 70 pp.~~

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to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are:

(1) Projects disturbing land area of less than fifty acres

Hydrologic control for projects in this size category shall involve matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24 hour storm event (not exceeding the pre-development flows)..

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the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.

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(f) The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to identify effective mitigation strategies. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than (18 months from the Order's adoption).

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(1) On completion of the HCS (SMC HCS or Permittee HCS), the

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Watershed Hydromodification Control Plans (HCPs), no later than 6 months after the completion of the HCS. The HCP shall identify tributary

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natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries

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Standard: Storm water discharges from applicable new development and redevelopment projects shall not cause an increase in the erosion potential of the receiving creek over the pre-project (existing) condition

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(C) Projects subject to Controls including

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Management Controls

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(F) Range of flows to control namely matching post development discharge rates and durations from critical flow on up to the
pre-development 10-year peak flow (or equivalent alternative criteria).

(G) Goodness of fit criteria.

(H) Allowable low flow rate.

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(K) In-Stream Measures Design Criteria.

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III. Post-Construction Storm Water Mitigation Criteria

1. Post-Construction Storm Water BMP Program and Project Applicability

(a) Each Permittee shall require that during the construction of a single-family hillside home, measures be taken to:
   (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 all development projects equal to 1 acre or greater of disturbed area be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution.

(c) Each Permittee shall require, in addition, that the following development projects be subject to conditioning and approval for the

design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution:

(1) Industrial park 5,000 square feet or more of surface area;
(2) Commercial strip mall 5,000 square feet or more of surface area;
(3) Retail gasoline outlet 5,000 square feet or more of surface area;
(4) Restaurant (SIC 5812) 5,000 square feet or more of surface area;
(5) Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces;
(6) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;
(7) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; and
(8) Redevelopment projects in subject categories that meet Redevelopment thresholds (identified below in section III.4).

(d) Each Permittee shall require, in addition, that post-construction BMPs be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution at development projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will:

(1) Discharge storm water runoff that is likely to impact a sensitive biological species or habitat.
(2) Create 2,500 square feet or more of impervious surface area.

2. Tiered Numeric Water Quality Design Criteria

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(a) Projects disturbing land areas less than 50 acres

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Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a

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and as identified below to mitigate (infiltrate, filter or treat) storm water:

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, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998);

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(Ventura County Technical Manual); or

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(C) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system;[6] and/or

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[6] ~~This option is not available for construction projects that disturb land area 5 acres or greater.~~

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disturbing land area of 50 acres or greater200 acres or greater

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Each Permittee shall require that post-construction treatment control BMPs be:

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; and incorporate the following:)

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(A). Rainfall intensity based on hourly rainfall records;
(B) An adjustment factor for within hour rainfall variability; and
(C) Hydraulics of BMP Performance.

(2) Satisfy the objectives identified for storm water quality management identified in Part 4. E.1.

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3. Site Specific Mitigation

(a) Each Permittee shall require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment projects not identified in Parts 4. E. III.1(b), III.1(c), and III.1(d), but which may potentially have adverse impacts on
post-development storm water quality, where 1 or more of 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.

4. Redevelopment Projects

(a) Each Permittee shall apply the post-construction BMP requirements, or site specific requirements including post-construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories.

(b) 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.
(1) 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.
(2) 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 alteration must be mitigated, and not the entire development.

(c) Redevelopment does not include routine maintenance 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. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

(d) Existing single-family structures are exempt from the Redevelopment requirements.

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and that it meets all local agency design standards

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) for maintenance of the Structural and Treatment Control BMPs

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(E) 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

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post-construction Structural or Treatment Control

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that have been conditioned for post-construction construction structural source, treatment and hydromodification

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Prior to approving and signing off for occupancy and issuing the Certificate of Occupancy for all new development and redevelopment projects subject to post-construction control BMPs, each Permittee shall inspect the constructed site design, Structural control and Treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.

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may undertake the following actions for coordination with

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State construction activity storm water general permit

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(1) Absence of Post-Construction BMPs

(A) If the State/U.S. EPA inspection does not readily identify the implementation of post-construction control BMPs at the site, the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.

(B) Failure to implement post-construction control BMPs, or implementing ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT).

(2) Inadequate or Ineffective Post-Construction BMPs

(A) If the State/U.S. EPA inspection identifies the implementation of post-construction BMPs, but they are determined to be inadequate or ineffective (e.g. undersized, or non-specific to pollutants of concern, or poorly maintained), the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.

(B) Implementation of inadequate or ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT) for the project.

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Confusing sentence because aren't the MS4s the only one subject to the municipal requirements of this Order. Third party are not responsible for the municipal requirements.

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. Upon review and a determination by the Regional Water Board

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that the proposal is technically valid and appropriate, the Regional Water Board

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Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, theT

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It seems to me that mitigation funding should go under section 4.E.6. Adequate funding should be a requirement for regional storm water mitigation.

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9. Inspection and Tracking System for Post-Construction Treatment Control BMPs

(a) Each Permittee shall develop and implement no later than (6 months from this Order's adoption) the following:

(1) A GIS or other electronic system for tracking projects that have been conditioned for post-construction treatment control BMPs. The electronic system, at a minimum, should contain the following information:

(A) Municipal Project ID.
(B) State WDID No.
(C) Project Acreage.
(D) BMP Type and Description.
(E) BMP Location (coordinates).
(F) Date of Acceptance.
(G) Date of O&M Certification.
(H) Maintenance Records.
(I) Inspection Date and Summary.
(J) Corrective Action.
(K) Date Certificate of Occupancy Issued.
(L) Replacement or Repair Date.

(2) A post-construction treatment control BMP inspection program to verify proper maintenance and operation of post-construction treatment control BMPs previously approved. The inspection program, at a minimum shall consist of the following elements:

(A) Post-construction treatment control BMP acceptance inspection to ensure proper installation.
(B) Post-construction treatment control BMP Inspection check list.
(C) Inspection at least once every 2 years, beginning (1 year after the Order's adoption), of post-construction treatment control BMPs to ensure treatment effectiveness, hydraulic function, and vector risk minimization, with particular attention to:
(i) Conventional Treatment BMPs - failure, invasive species vegetation, fugitive material, sediment clogging, and improper modifications.
(ii) Non-Proprietary Treatment Control BMPs – solids removal, pump-out, blockage and drawdown drainage;
(D) Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.

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From: "Poole, Melissa A" <MPoole@Nossaman.com>
To: <xswamikannu@waterboards.ca.gov>, "Tracy Woods" <twoods@waterboards.ca.gov>
Date: 7/20/2007 2:51:18 PM
Subject: Draft Ventura County MS4 Permit

Attached please find a red-line of the Draft Ventura County MS4 Permit (including Attachments B and F) submitted on behalf of the Building Industry Association of Southern California (BIASC), the Building Industry Association of Southern California/Greater Los Angeles Ventura Chapter (BIAGLAV) and the Construction Industry Coalition on Water Quality (CICWQ). Please let us know if you have trouble opening the attached documents.

Below is a table setting forth the edits:

Insertion

Deletion

Moved from

Moved to

Thank you,

Melissa

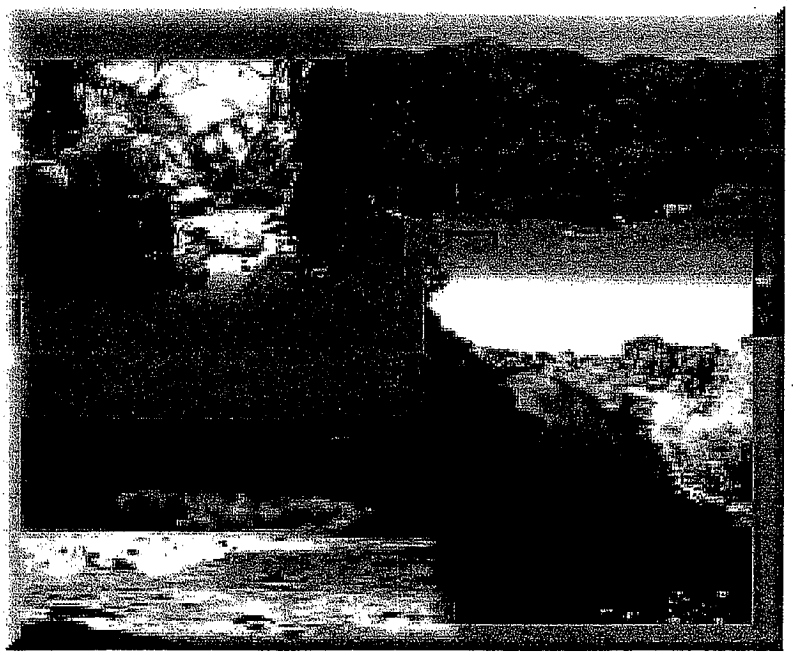
Melissa Poole
Nossaman Guthner Knox & Elliott LLP
445 S. Figueroa, Floor 31
Los Angeles, CA 90071
(213)612-7870
mpoole@nossaman.com

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 07-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

Xxxxx xx, 200x



December 27, 2006

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Waste Discharge Requirements

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Waste Discharge Requirements

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Waste Discharge Requirements

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 06-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter called Regional Water Board), finds that:

A. Permit Parties and History

1. Ventura County Watershed Protection District (Principal Permittee), County of Ventura, Cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventrura, Santa Paula, Simi Valley and Thousand Oaks (hereinafter referred to separately as Permittees) have joined together to form the Ventura Countywide Storm Water Quality Management Program to discharge wastes. The Permittees discharge or contribute to discharges of storm water from municipal separate storm sewer systems (MS4s), also called storm drain systems, into the Watershed Management Areas of Ventura River, Santa Clara River, Calleguas Creek, Malibu Creek and Miscellaneous Ventura Coastal all within Ventura County and Los Angeles County (see Attachment "A").

2. Storm water discharges from the Ventura County MS4 are covered under countywide waste discharge requirements contained in Order No. 00-108, adopted by the California Water Quality Control Board, Los Angeles Region (Regional Water Board) on July 27, 2000, which replaced Order No. 94-082, adopted by the Regional Water Board on August 22, 1994. Order No. 00-108 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

3. The Regional Water Board may require a separate NPDES permit for any entity that discharges storm water into the watersheds of Ventura County. Such an entity can be any State or Federal facility, special district or other public or private party.

B. Nature of Discharge

1. Storm water discharges consist of surface water runoff ~~generated~~ from various land uses in all the hydrologic drainage basins, which discharge into Waters of the State. The quality of these discharges varies and is affected by geology, land use, season, hydrology, and sequence and duration of hydrologic events. Based on the Ventura Countywide Storm Water Monitoring Program's Water Quality Monitoring Reports which were required under Order No. 00-108, the wet weather Pollutants of Concern (POC) include bacteria, conventional pollutants, metals, nutrients, organic compounds, and pesticides. The POC are identified in Attachment "B" of this Order.

2. Common pollutants in storm water and their respective sources are: bacteria from animal droppings; Polycyclic Aromatic Hydrocarbons (PAHs) from the products of internal combustion engine operation, atmospheric deposition, spills, industrial discharges and parking lot sealants wash off; nitrates from fertilizer application and atmospheric deposition; pesticides from pest mitigating applications; herbicides from plant mitigating applications; bis (2-ethylhexyl) phthalate from the break down of plastic products; mercury from atmospheric fallout and improper disposal of mercury switches; lead from fuels, paints, automotive parts; copper from brake pad wear and roofing materials, zinc from tire wear and galvanized sheeting and fencing; sediment from land disturbance and erosion; and dioxins as products of combustion.

3. The implementation of the measures set forth in this Order are reasonably expected to reduce the discharge of pollutants via storm water runoff into receiving waters, and to meet the Waste Load Allocations (WLAs) for municipal storm water adopted by the Regional Water Board.

4. In general, the substances that are found in municipal storm water runoff can harm human health and aquatic ecosystems. In addition, the ~~high~~increased volumes and ~~high velocities~~flow duration of storm water discharged from MS4s into natural watercourses without management or mitigation can adversely impact aquatic ecosystems and stream habitat and cause stream bank erosion and physical modifications collectively termed hydromodification. Municipal ~~point source~~ discharges from urbanized areas remain a ~~leading~~ cause of impairment of surface waters in California (2002 National Assessment Database, http://www.epa.gov/waters/305b/index.html and State Water Resources Control Board (State Board) 2002 CWA § 305(b) Report http://www.waterboards.ca.gov/tmdl/305b.html).

5. Water quality assessments conducted by the Regional Water Board identified impairments, or threatened impairments, of beneficial uses of water bodies in the Ventura Watersheds. These impairments include many of the POC identified by the

Ventura Countywide Storm Water Monitoring Program. These impairments are identified on the Federal Clean Water Act (CWA) § 303(d) list of impaired water bodies.

6. Studies and research conducted by other Regional agencies, and academic institutions have also identified uncontrolled (without management or mitigation) storm water urban runoff as a significant ~~sourcess~~source 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 and 2004*, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999, 2004); *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. Novle et al. (2001); *Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001); Receiving Water Impacts Associated with Urban Runoff, Pitt, R.(2002).]

7. Development and urbanization can increase pollutant loads, volume, duration, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces (paved) such as highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, impervious surfaces (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 may 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 (ESAs) designated by the State include:

   (a) Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use; and

(b) California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

8. Studies and research conducted in California and nationwide on many of the types of treatment control BMPs that are likely to be implemented in Ventura County as a result of this Order show that these BMPs are effective in improving runoff water quality. The International Stormwater BMP Database (ASCE/EPA, 2004) is a robust, peer reviewed database that contains a wide range of BMP effectiveness studies that are reflective of runoff treatment from diverse land uses. The database has been under development since 1994 under a USEPA grant project with the Urban Water Resources Research Council (UWRRC) of ASCE (Urbonas, 1994). The project has included the development of recommended protocols for BMP performance (Urbonas, 1994 and Strecker 1994), a compilation of existing BMP information and loading of suitable data into a specially designed database, and assessments of the data contained in the database (Strecker et. al., 2001; Strecker et. al.; 2004). These studies and other scientific literature demonstrate that treatment control BMPs can and do improve urban runoff water quality.

9. ~~8.~~ Ventura County has several stream segments listed on the CWA § 303(d) list of impaired water bodies for various pollutants/stressors. The California Stream Bioassessment Procedure (CSBP) is a cost-effective tool and standard protocol for assessing the biological and physical/habitat conditions of stream segments for evaluation of the overall health of the watershed. [References: Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling, 1999. *Rapid Bioassessment Protocols for use in Streams and Rivers: Periphyton, Benthic, Macroinvertebrates, and Fish.* 2nd Edition. EPA 841-B-99-002. U.S. Environmental Protection Agency; Office of Water; Washington, D.C., California State Water Resources Control Board - Division of Water Quality, (2003). *The Status and Future of Biological Assessment for California Streams.* Southern CA Coastal Water Research Project, CA Department of Fish and Game, (2005*). Bioassessment In Low Gradient Streams Quality Assurance Project Plan.* California Department of Fish and Game, (2005*). California Stream Bioassessment Procedure (CSBP) for Measuring Basic Characterization of Stream Habitat and Sampling Benthic Macroinvertebrates.* Ode, P. et al, (2005). *A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams.*] This Order includes requirements to conduct bioassessments of natural streams and waterways.

10. ~~9.~~ The Ventura Watershed stream segments listed on the CWA § 303(d) list of impaired water bodies have polluted and/or disturbed ecosystems that can be assessed to evaluate their potential for ~~ecological~~ restoration of beneficial uses. The purpose of restoration is to reestablish insofar as possible the ecological integrity of degraded aquatic ecosystems as necessary to protect beneficial uses. Ecological integrity refers

to the condition of an ecosystem, particularly the structure, composition, and natural processes of its biotic communities and physical environment. Restoration strives for the greatest progress toward ecological integrity achievable within the current limits of the watershed. [References: U.S. EPA, 2000. *Principles for the Ecological Restoration of Aquatic Resources*. EPA841-F-00-003. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC. 4 pp., the Federal Interagency Stream Restoration Working Group, (2001). *Stream Corridor Restoration: Principles, Processes, and Practices*.] This Order includes requirements to conduct planning for restoration ~~planning~~of beneficial uses.

11. Available storm water quality data from the County of Ventura indicate that runoff water quality from undeveloped, natural watersheds in Ventura County is highly variable. For example, flow-weighted mean Total Suspended Solids (TSS) concentrations in storm water runoff in Sespe Creek (an undeveloped watershed) range up to 52,000 mg/L (Stein and Yoon, 2007). Similarly, variability in metals concentrations in storm flows from undeveloped natural watersheds in southern California is large, with coefficients of variation (CV) ranging as high as 30 for Cadmium, 14.8 for Lead, 10.6 for Nickel, 6.4 for Chromium, 4.7 for Copper, and 1.44 for Zinc (Stein and Yoon, 2007).

12. Storm water monitoring data collected by the Ventura County Watershed Protection Division also indicate a high degree of variability in storm flows. For example, the mean concentration of TSS from 217 data points is 890 mg/L, and the maximum observed TSS concentration is 20,000 mg/L. Similarly, these data show that variability in metals concentrations is large, with CV values ranging from 1.54 to 3.05 for the same metals discussed in Finding 11.

13. ~~10.~~ 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 uncontrolled (without management or mitigation) 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 3-10 percent conversion from natural to uncontrolled impervious surfaces. Percentage uncontrolled impervious cover is ~~a reliable~~an indicator and predictor of potential water quality degradation expected from new development. [References: *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 Bulletin, 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 steams 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 In Rhodes*, D.P. and Williams, G.P. *Adjustments to the Fluvial System* p. 333-350, (1979); Dubuque, Iowa, Kendall/Hunt, Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness*: Watershed Protection Techniques, 1(3), Schueler T. (1994); *Managing Runoff to Protect Natural Streams, The Latest Development and Investigation of Hydromodification in California*, Stein, E.D., and Zaleski, S. (2005); *Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams*, Coleman, D, MacRae, C, Stein, E.D. (2005); and *Urbanization and Channel Stability Assessment In The Arroyo Simi Watershed of Ventura County*, Final Report, (2004).]

14. ~~11.~~ The industries and businesses listed in this Order that are to be inspected by Permittees have the potential to discharge contaminated runoff into the MS4, this runoff is an environmental threat because it can adversely impact public health and safety, and the quality of receiving waters. For example, pretreatment program compliance inspections and audits performed in the Los Angeles and Ventura Counties indicate that automotive service and food service facilities sometimes discharge-polluted runoff to the MS4s. The POCs in such wash waters include oil and grease, toxic chemicals, and food waste. Spills from clogged sanitary sewer lines have a high likelihood to reach the receiving waters via MS4s. Overall, the most common POC identified in runoff discharging to the MS4s are: (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 (*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 Water Board in July 1997; *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 Water Board in July 1997). Municipal storm water monitoring data and industrial storm water monitoring data indicate that industrial and commercial sites continue to contribute significant quantities of pollutants in storm water runoff. [References: Ventura County Monitoring Program Report, (2005-2006), *Storm Water Industrial Activities Sampling Program Evaluation in California,* M. Stenstrom and H. Lee, January 2005, http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/lams4Docume

nts.html, *Evaluation of Urban Non-Point Source Runoff of Hazardous Metals Entering Santa Monica Bay, California,* M.S. Buffleben et all, in *Water Science and Technology 2002.* Other studies performed in California also point to the threat of pollution created by nonstorm water discharges to storm drains including discharges of washwaters during dry and wet weather (*Water Quality Concerns and Regulatory Controls for Nonstorm Water Discharges to Storm Drains*, L.D. Duke and M.M. Kihara, Journal of the American Water Resources Association, June 1998.]

15. ~~12.~~ Rising groundwater and swimming pool water have been found to be sources of pollutants such as salts. Salts increase the salinity of otherwise freshwater systems and disrupt physiological processes. This Regional Water Board has adopted Basin Plan amendments to include TMDLs for salts and this Order includes provisions to control the discharges from these activities in order to directly or indirectly reduce or eliminate the discharge of salts to fresh water systems where salts may impair water quality and beneficial uses.

16. ~~13.~~ Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as: strip malls, parking lots, commercial business parks, and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of POC in storm water. [References: Pitt et al., *Urban Storm Water Toxic Pollutants:* Action Plan Demonstration Project, *Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States Petroleum Institute, (1994); *Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Industrial Storm Water Pollution Prevention: Effectiveness and Limitations of Source Controls in the Transportation Industry*, L. Donald Duke and Y. Jae Chung, Waste Management, Vol. 15, No. 8, pp. 543-558 (1996); Source Characterization, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000); Technomic Press, Field, R et al. Editors; *First Flush Storm Water Runoff from Highways,* M.K. Stenstrom et al. (2000); *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, L.L. Tiefenthaler et at. Technical Report 343, Southern California Coastal Water Research Project (2001); California Storm Water BMP Handbook Municipal, (January 2003); Kayhanian K. Singh A., Suverkropp C., Borroum S., (November 2003). *Impact of Annual Average Daly Traffic On Highway Runoff Pollutant Concentrations*. J.Envir. Engrg., Volume 129, Issue 11, pp. 975-990. *Metals and PAHs Adsorbed to Street Particles,* Sim-Lin Lau and Michael K. Stenstrom (2005).]

17. ~~14.~~ Retail Gasoline Outlets (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.

[References: *The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban*, MD, Schueler T. and Shepp D. (1992), and *Concentration of Selected Constituents in Runoff from Impervious Surfaces in Four Urban Catchments of Different Landuse*, Ranabal, F.I. and T.J. Bizzard (1995). In Proceedings of the Fourth Biennial Storm Water Research Conference, Florida, pp. 42-52].*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001); *Supplement to Retail Gasoline Outlet Report* (December 2001); *Review of Storm Water Quality Task Force BMP Guide for Retail Gasoline Outlets* (November 2001).]

18. ~~15.~~ The Regional Water Board adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R4-2005-0080) on November 3, 2005. The objective of the program is to monitor runoff from, and prepare runoff management plans for irrigated agriculture facilities in the coastal watersheds of Los Angeles and Ventura Counties. The Regional Water Board's Basin Plan, which designates beneficial uses and establishes water quality objectives for the Region, recognizes that agricultural activities can generate pollutants such as sediment, pesticides, herbicides, and nutrients that upon discharge to receiving water, can degrade water quality and impair beneficial uses. A category identified by the Conditional Waiver as a source of pollutants is nursery operations. This Order includes requirements for the municipal operator to ~~insure~~support the implementation of pollutant reduction and control measures ~~at~~by nursery ~~operations~~operators, with the objective of reducing pollutants in storm water runoff within their jurisdiction.

19. ~~16.~~ Research conducted on the contribution of aerial deposition of trace heavy metals in Los Angeles County watersheds indicates that dry indirect deposition, which is beyond the control of the Permittees, may account for a significant load of pollutants into surface waters. Similar patterns of aerial deposition likely occur in Ventura County. Of the atmospherically deposited pollutants on the watersheds, ten to twenty percent may account for the total load for copper, zinc, nickel, lead, and chromium to the water bodies. Land reservoirs and sequestration may account for the remaining ninety to eighty percent of the atmospherically deposited pollutants on the watersheds, but these sequestered pollutants may be available for washoff during large storm events. Emissions of semi-volatile organics such as polycyclic aromatic hydrocarbons (PAHs) and pesticides and their subsequent deposition may contribute to the contamination of receiving waters but appear to be less significant (*Atmospheric Dry Deposition of Trace Metals in the Los Angeles Coastal Region*, L.D. Sabine et al (2005) SCCWRP AR pp. 50-60; *Atmospheric Concentration of PAH, Pesticides, and other Semi-volatile Organic Compounds in the Los Angeles Coastal Region*, L.D. Sabin et al (2005) pp. 61-72; *Contribution of Trace Metals from Atmospheric Deposition to Stormwater Runoff in a Small Impervious Urban Catchment*, Sabin et al., Water Research 39 (2005) 3929-3937; *Measuring and*

Modeling of Atmospheric Deposition on Santa Monica Bay and the Santa Monica Bay Watershed, K.D. Stolzenbach et al. (2001). The Los Angeles Regional Water Board will coordinate with the South Coast Air Quality Management Districts, the California Air Resources Board, and other governmental agencies to address multimedia sources of pollution that may contribute to pollution of surface waters.

20. ~~17.~~ Trash and debris are pervasive pollutants which accumulate in streams, rivers, bays, and ocean beaches throughout Southern California. It poses a serious threat to our oceans and coasts, navigation, biological resources, recreation, human health and safety, aesthetics and economies.
[References: Moore, S.L., Gregorio D., Carreon, M., Weisberg, S.B., and Leecaster, M.K., (2001). *Composition and Distribution of Beach Debris in Orange County, California.* Marine Pollution Bulletin, 42(3), pp. 241-245. *Los Angeles River Watershed Total Maximum Daily Loads for Trash*, Staff Report, (2001). (September, 2005). *2005 Plastic Debris, Rivers to Sea Conference.*]

21. ~~18.~~ Nitrite and nitrate (NH3) are biostimulatory substances that can cause or contribute to eutrophic effects such as low dissolved oxygen and algae growth impairing warm freshwater and wildlife habitats. NH3 is highly toxic to fish and other aquatic life. Excessive ammonia can cause aquatic life toxicity. [References: *California 2002 303(d) list of water quality limited segments*, (February 4, 2003); *Santa Clara River Total Maximum Daily Loads for Nitrogen Compounds*, Staff Report (2003).]

22. ~~19.~~ Pesticides are substances used to prevent, destroy, repel or mitigate any pest ranging from insects, animals and weeds to microorganisms. Their effects can be direct (e.g. fish die from a pesticide entering waterways, or birds do not reproduce after ingesting contaminated fish), or indirect (a hawk becomes sick from eating a mouse dying from pesticide poisoning). Pesticide categories include: Organochlorine, Organophosphorus, Organophosphate, and Pyrethroid. [References: *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*; Weston, D.P., Holmes, R.W., You, J., Lydy, M.J. Environ. Sci. Technol.; (Article); 39(24); pp. 9778-9784 (2005); Bioavailability of Pyrethroids in Surface Aquatic Systems; Gan, J., Yang,W., Bondarenko,S., Spurlock,F. (Presentation at CA Department of Pesticide Regulation) (2005); *Pesticides in the Nation's Streams and Ground Water, 1992-2001*; Gilliom, R.J.; Barbash J.E.; Crawford C.G.; Hamilton, P.A.; Martin, J.D.; Nakagaki, N.; Nowell, L.H.; Scott, J.C., Stackelberg, P.E.; Thelin, G.P.; Wolock, D.M. USGS Circular 129; 2006; *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Organochlorine (OC) Pesticides, Polychlorinated Byphenyls (PCB) and Siltation*, Staff Report, (2006); *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Toxicity, Chlorpyrifos and*

Diazinon, Staff Report, (2006); U.S. EPA, *Permethrin, Resmethrin, Sumithrin: Synthetic Pyrethroids For Mosquito Control*,
URL: http://www.epa.gov/ pesticides/health/mosquitoes/pyrethroids4 mosquitoes.htm; U.S. EPA, *Chlorpyrifos Summary*,
URL: http://www.epa.gov/ oppsrrd1/op/chlorpyrifos/summary.htm;
U.S. EPA, *Diazinon Summary*,
URL: http://www.epa.gov/ pesticides/op/diazinon/ summary.htm.]

23. ~~20.~~ Polychlorinated Byphenyls (PCBs) are a subset of the synthetic organic chemicals known as chlorinated hydrocarbons. Concern over PCBs toxicity, persistence (chemical stability) in the environment and that they have been shown to bioconcentrate significantly in aquatic organisms has led to prohibitions on PCBs. [References: *Calleguas Creek, its Tributaries and Mugu Lagoon Total Maximum Daily Loads for Organochlorine (OC) Pesticides, Polychlorinated Byphenyls (PCB) and Siltation*, Staff Report, (2006); U.S. EPA, Technical Factsheet on: Polychlorinated Biphenyls (PCBs),
URL: http://www.epa.gov/OGWDW/dwh/t-soc/pcbs.html.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by the Code of Federal Regulations (CFR) [40 CFR 122.26(d)] are:

   (a) Adequate Legal Authority.
   (b) Fiscal Resources.
   (c) Storm Water Quality Management Program (SMP).
      (1) Public Information and Participation Program.
      (2) Industrial/Commercial Facilities Program.
      (3) Planning and Land Development Program.
      (4) Development Construction Program.
      (5) Public Agency Activities Program.
      (6) Illicit Connection and Illicit Discharges Elimination Program.
   (d) Reporting Program (Monitoring Report and Program Report).

2. The Ventura County SMP, dated November 2001 (revision 2) identifies seven program areas, which are listed below and were previously approved under Board Order No. 00-108.
   (a) Ventura County SMP
      (1) Program Management.
      (2) Programs for Residents.
      (3) Programs for Industrial/Commercial Businesses.
      (4) Programs for Planning and Land Development.
      (5) Programs for Construction Sites.

(6) Programs for Public Agency Activities.
(7) Programs for Illicit Connections/Illegal Discharges.

For purposes of region-wide consistency, the program titles are revised and consolidated into the six areas listed in the preceding C.1(c). All Permittee storm water documents submitted to the Regional Water Board are to follow the organization enumerated in C.1(c).

3. The Permittees filed a Report of Waste Discharge (ROWD), dated January 26, 2005. The Permittees applied for renewal of their waste discharge requirements for a 5-year period, which serves as an NPDES permit to discharge wastes to surface waters.

4. The Regional Water Board reviewed the ROWD and determined it to be partially complete under the reapplication policy for MS4s issued by the United States Environmental Protection Agency (REGIONAL WATER BOARD) (61 Fed. Reg. 41697). The Regional Water Board has prepared this Order so that implementation of provisions contained in this Order by Permittees will meet the requirements of the federal NPDES regulations at 40 CFR 122.26.

5. To-date, the monitoring program has consisted of mass emission, receiving water (tributaries), and land-use monitoring stations, toxicity testing, special studies for bio-assessment of the Ventura River and hydrology, identification of ESAs, implementation of the Storm Water Quality Urban Impact Mitigation Plan (SQUIMP), and provide support for volunteer monitoring programs. This Order requires a monitoring program consisting of mass emission, and tributary station(s), toxicity and total suspended solids (TSS) testing, wet weather MS4 WLA monitoring, bio-assessment of the Ventura River, Santa Clara River and Calleguas Creek, trash and debris study, a Pyrethroid assessment, continuation of the hydromodification study, low impact development study, participation in the Southern California Bight Project (SCBP), and support volunteer of monitoring programs.

6. The Principal Permittee is a member of the Southern California Coastal Water Research Project (SCCWRP) Commission. The Principal Permittee also participates in the Regional Monitoring Programs and research partnerships, such as the Southern California Storm Water Monitoring Coalition (SMC) and the Bioassessment Working Group.

D. Permit Coverage

1. The area covered by this Order includes all areas within Ventura County boundaries and all areas within the Municipalities' boundaries (see Figure 1) that are within the Regional Water Board's jurisdiction except for agricultural lands and forest lands.

Storm water runoff in these areas are discharged to the watercourses covered by this Order (see Attachment "A"). Provisions of this Order apply to discharges of pollutants from municipal separate storm sewers within the urbanized areas of the municipalities, areas undergoing urbanization and areas which the Regional Water Board Executive Officer determines are ~~discharging storm water that causes or contributes~~under the jurisdiction of Permittees and tributary to discharges from municipal separate storm sewers that cause or contribute to a violation of a water quality standard or ~~is~~are a significant contributor of pollutants to the waters of the United States pursuant to CWA § 402(p)(2)(E).

2. The Permittees covered under this Order were designated or have agreed with the Regional Water Board to be regulated on a system-wide basis under Phase I of the CWA § 402(p)(3)(B)(i). The action of covering all Ventura County municipalities under a single MS4 permit on a system-wide basis was consistent with the provisions of 40 CFR 122.26(a)(3)(iv), which states that one permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems; and the Regional Water Board may issue one system-wide permit covering all, or a portion of all municipal separate storm ~~sewers in adjacent or interconnected large or medium~~sewer or a portion of all municipal separate storm ~~sewer systems~~sewers.

3. Federal, State, ~~Regional~~regional, or local entities within the Permittees' boundaries or in jurisdictions outside the Ventura County Watershed Protection 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~~or Federal ~~constitutions~~law. The Regional Water Board will work with these entities to ensure the implementation of programs that are consistent with the requirements of this Order.

4. This Order incorporates provisions required to establish consistency with the ~~MS4~~ TMDLs' ~~WLAs~~ adopted by the Regional Water Board as required under CWA § 303 (d), 40 CFR 122.44(d)(vii)(7)(B) and 40 CFR 122.44(k)(2). This order incorporates default WLA monitoring requirements, or where approved and applicable, TMDL Implementation Plan Monitoring Program requirements to verify compliance with the adopted ~~TMDL WLAs.~~TMDLs, including implementation measures, applicable WLAs, and time schedule orders. In addition, this Order provides methods of compliance with the TMDLs and applicable WLAs.

5. Permittees are to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system through inter-agency agreements or other formal arrangements.

E. Federal, State and Regional Regulations

1. The Water Quality Act of 1987 added § 402(p) to the CWA (33 U.S.C. § 1251-1387). This section requires the U.S. EPA to establish regulations setting forth NPDES requirements for storm water discharges in 2 phases.

   (a) U.S. EPA 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 1 Final Rule was published on November 16, 1990 (55 Fed. Reg. 47990).

   (b) U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (population of less than 100,000), small construction projects (less than 5 acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA 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 US. The Phase II Final Rule was published on December 8, 1999 (64 Fed. Reg. 68722).

2. The U.S. EPA 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.

3. The U.S. EPA has entered into a Memorandum of Agreement (MOA) with the US 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, and the CWA's water quality standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the U.S. EPA, the Services, and CWA delegated States on CWA permit issuance under § 402 of the CWA [66 Fed. Reg. 11202-11217].

4. The CWA allows the U.S. EPA to delegate its NPDES permitting authority to states with an approved environmental regulatory program. The State of California is a delegated State. The Porter-Cologne Water Quality Control Act (California Water Code- CAL. WATER CODE) authorizes the State Water Resources Control Board

(State Water Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State and tributaries thereto.

5. The State Water Board submits a report (a list of water quality limited segments (§ 303[d] list)) on the State's water quality to the U.S. EPA pursuant to § 305(b) of the 1972 CWA, and Title 40, CFR § 130.7, every 2 years. The Report provides water quality information to the general public and serves as the basis for U.S. EPA's National Water Quality Inventory Report to Congress. Title 40 CFR § 130.7(b)(1) provides that waterbodies included on State § 303(d) lists are those waterbodies for which pollution controls required by local, State, or federal authority, including technology-based or more stringent point source effluent limitations or nonpoint source BMPs, are not stringent enough to implement any water quality standard applicable to such waters. Title 40 CFR § 130.7(b)(3) defines "water quality standard applicable to such waters" as "those water quality standards established under § 303 of the [Clean Water] Act, including numeric criteria, narrative criteria, waterbody uses, and antidegradation requirements."

6. Under § 303(d) of the CWA, States are required to identify a list of impaired waterbodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 USC §1313(d)(1)). The most recent 303(d) list was adopted on July, 2003. A TMDL specifies that maximum amount of a pollutant that a waterbody can receive, still meet applicable water quality objectives and protect beneficial uses. The U.S. EPA 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 Water Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This Order incorporates a provision to implement and enforce approved WLAs for municipal storm water discharges and requires amending the SMP after pollutant loads have been allocated and approved.

7. Under § 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA), US Coastal States with approved coastal zone management programs are required to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: 1) agriculture; 2) silviculture; 3) urban; 4) marinas; and 5) hydromodification. This Waste Discharge Requirement addresses the management measures required for the hydromodification category and the urban category, with the exception of septic systems.

8. The Regional Water Board addresses septic systems through the administration of non-Chapter 15 regulatory programs and the implementation of Regional Water Board Order No.R4-2004-0146. Septic systems are also addressed under State Assembly Bill (AB) 885 (2000). The Regional Water Board will implement and enforce regulations issued by the State Board pursuant to AB 885. Taken together, these State and Local agency requirements when imposed on septic system operators

are expected to reduce the bacterial contamination of storm water from improperly maintained septic systems.

9. On May 18, 2000, the U.S. EPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR) 65 Fed. Reg. 31682 (40 CFR 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 CTR (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.

10. The State Water Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) in 2005. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's coastal waters. It applies to point and nonpoint source discharges. The Ocean Plan identifies the applicable beneficial uses of marine waters that include preservation and enhancement of designated Areas of Special Biological Significance (ASBS) (now called "State Water Quality Protection Areas") and establishes a set of narrative and numerical water quality objectives designed to protect beneficial uses. The SWRCB adopts the California Ocean Plan, and both the SWRCB and the six coastal Regional Water Quality Control Boards (RWQCBs) implement and interpret the California Ocean Plan.

11. This Regional Water Board adopted a revised Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994. The Basin Plan, which is incorporated into this Order by reference, specifies the beneficial uses of Ventura County water bodies and their tributary streams, and contains both narrative and numerical water quality objectives for these receiving waters. The following beneficial uses identified in the Basin Plan apply to all or portions of each watershed covered by this Order:

    (a) Municipal and domestic supply.
    (b) Agricultural supply.
    (c) Industrial service supply.
    (d) Industrial process supply.
    (e) Ground water recharge.
    (f) Freshwater replenishment.
    (g) Navigation.
    (h) Hydropower generation.
    (i) Water contact recreation.

(j) Non-contact water recreation.
(k) Ocean commercial and sport fishing.
(l) Warm freshwater habitat.
(m) Cold freshwater habitat.
(n) Preservation of Areas of Special Biological Significance.
(o) Saline water habitat.
(p) Wildlife habitat.
(q) Preservation of rare and endangered species.
(r) Marine habitat.
(s) Fish migration.
(t) Fish spawning.
(u) Shellfish harvesting.

12. On March 22, 1999 the Consent Decree in Heal the Bay, Inc.; Santa Monica BayKeeper, Inc. v. Browner, Case No. 98-4825 SBA was approved. Under Establishment of TMDLs- The parties understand that California has the initial opportunity pursuant to § 303(d) of the CWA to adopt and submit to U.S. EPA for approval TMDLs to be established under this Consent Decree. TMDLs developed by Regional Water Boards are adopted as Basin Plan amendments in order to include implementation provisions. The TMDL process follows the procedure below:

(a) Regional Water Board adopts.
(b) State Water Board approves.
(c) Office of Administrative Law approves.
(d) U.S. EPA (Region 9) approves.
(e) State Resources Agency final fee exemption letter.

13. The Regional Water Board has adopted amendments to the Basin Plan, to incorporate TMDLs for the following:

(a) U.S. EPA approved TMDLs with storm water WLAs.
  (1) Santa Clara River and its Tributaries - Nitrogen Compounds.
    (A) Regional Water Board Resolution No. 2003-011.
    (B) State Water Board Resolution No. 2003-0073.
    (C) OAL file No. 04-0123-35.
    (D) U.S. EPA approval date March 18, 2004.
    (E) Final fee exemption date March 23, 2004 (effective date.
    (F) Compliance is 1 year after effective date.

  (2) Malibu Creek and Lagoon - Bacteria.
    (A) Regional Water Board Resolution No. 2004-019.
    (B) State Water Board Resolution No. 2005-0072.

(C) OAL file No. 05-1018-03 S.
(D) U.S. EPA approval date January 10, 2006.
(E) Final fee exemption date January 24, 2006 (effective date).
(F) Compliance for Summer Dry is 3 years after effective date.
(G) Compliance for Winter Dry is 6 years after effective date.

(3) Calleguas Creek, Its Tributaries, and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.
(A) Regional Water Board Resolution No. 2005-009.
(B) State Water Board Resolution No. 2005-0067.
(C) OAL file No. 05-1110-02 S.
(D) U.S. EPA approval date March 14, 2006.
(E) Final fee exemption date March 24, 2006 (effective date).
(F) Compliance for Toxicity and Interim WLA is effective date.
(G) Compliance for Final WLA is 2 years after effective date.

(4) Calleguas Creek, Its Tributaries, and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation.
(A) Regional Water Board Resolution No. 2005-010.
(B) State Water Board Resolution No. 2005-0068.
(C) OAL file No. 05-1206-03 S.
(D) U.S. EPA approval date March 14, 2006.
(E) Final fee exemption date March 24, 2006 (effective date).
(F) Compliance for Interim WLA is effective date.

14. The Regional Water Board adopted and approved requirements for new development and significant redevelopment projects in Ventura 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 Water Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (~~SUSMPs~~SUSMP) on March 8, 2000 for Los Angles County and the Cities in Los Angeles County. Since 2000, new development and redevelopment water quality ~~criteria~~requirements have been implemented by the Permittees to be consistent with SUSMP. The State Board affirmed the Regional Water Board action and ~~SUSMPs~~SUSMP in State Board Order No. WQ 2000-11, issued on October 5, 2000.

(a) A statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Water Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ~~ministerial~~New Development and Significant Redevelopment projects, projects in environmentally sensitive areas, and water quality design criteria for RGOs. The Regional Water Board properly

justified the extensions of SUSMPs and water quality design criteria to ~~ministerial~~New Development and Significant Redevelopment projects, projects in environmentally sensitive areas, and RGOs, during the adoption of Regional Water Board Order 01-182. The Regional Water Board's action was upheld by the County of Los Angeles Superior Court (In Re: Los Angeles County Municipal Storm Water Permit Litigation, Lead Case No. BS 080548, Statement of Decision, Superior Court Central Civil West, March 24, 2005).

(b) The State Water Board's Chief Counsel interpreted the Order to encourage regional solutions and endorsed a mitigation fund or "bank" as alternatives for new development and significant redevelopment. The Regional Water Board has included provisions ~~for~~which encourage utilization of Regional solutions and the establishment of a mitigation bank in this Order.

15. The Regional Water Board supports Watershed Management planning to address water quality protection in the region. The objective of the Watershed Management planning is to provide a comprehensive and integrated strategy towards compliance with many differing water quality control standards, objectives and requirements and 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.

16. To facilitate compliance with federal regulations, the State Board has issued the following 4 Statewide General NPDES Permits associated with storm water:

(a) Industrial General Permit (IASGP- Industrial Activities Storm Water General Permit), NPDES No. CAS000001, issued on November 19, 1991, reissued on September 17, 1992 and April 17, 1997, currently under review for reissuance.
(b) Construction General Permit (~~CASGP~~GCP- Construction Activities Storm Water General Permit), NPDES No. CAS000002, issued on August 20, 1992, reissued August 19, 1999, currently under review for reissuance.
(c) Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), NPDES No. CAS000005, issued on June 18, 2003.
(d) Small MS4 Permit WQ Order No. 2003-0005-DWQ adopted on April 30, 2003.

17. Facilities discharging storm water associated with industrial activities, construction projects that disturb 1 or more acres of soil, or construction projects that disturb less than 1 acre but are part of a larger common plan of development or sale that in total disturbs 1 or more acres, and construction activities associated with small linear underground/overhead projects that result in land disturbances greater than one acre, but less than five acres (small LUPs), are all required to obtain individual NPDES

permits for storm water discharges, or be covered by the statewide General Permits by completing and filing a Notice of Intent (NOI) with the State Board. The U.S. EPA 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.

18. State Water Board Resolution No. 68-16 contains the state Antidegradation Policy, titled "Statement of Policy with Respect to Maintaining High Quality Waters in California (Resolution 68-16), applies to all waters of the state, including ground waters of the state, whose quality meets or exceeds (is better than) water quality objectives. Resolution No. 68-16 incorporates the federal Antidegradation Policy (40 CFR Section 131.12) where the federal policy applies, (State Water Board Order WQO 86-17). Both, state and federal antidegradation policies acknowledge that an activity that results in a minor water quality lowering, even if incrementally small, can result in violation of Antidegradation Policies through cumulative effects, for example, when the waste is a cumulative, persistent, or bioaccumulative pollutant.

    (a) State Water Board Resolution No. 68-16 establishes essentially a 2-step process for compliance with the policy.
        (1) Step 1- if a discharge will degrade high quality water, the discharge may be allowed if any change in water quality:
            (A) Will be consistent with maximum benefit to the people of the State.
            (B) Will not unreasonably affect present and anticipated beneficial use of such water.
            (C) Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in Water Quality Control Plans).
        (2) Step 2- any activities that result in discharges to high quality waters are required to:
            (A) Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid a pollution or nuisance.
            (B) Maintain the highest water quality consistent with the maximum benefit to the people of the State.
                (i) If such treatment or control results in a discharge that maintains the existing water quality, then a lowering of water quality would not be consistent with state Antidegradation Policy.
                (ii) Likewise, the discharge could not be allowed under state Antidegradation Policy if:
                    (I) The discharge, even after treatment, would unreasonably affect beneficial uses; or
                    (II) The discharge, would not comply with applicable provisions of Water Quality Control Plans.

19. The Hydromodification Control and Low Impact Development (LID) provisions of this Order are intended to ~~promote the State Water Board and federal Antidegradation policies by preventing water quality and habitat (beneficial)~~prevent beneficial use degradation.

20. The State Water Board on June 17, 1999, adopted Order No. WQ 99-05, which specifies standard receiving water limitation language to be included in all municipal storm water permits issued by the State and Regional Water Boards.

21. Cal. Water Code § 13263(a) requires that waste discharge requirements issued by Water 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.

22. Cal. Water Code § 13370 et. seq. requires that waste discharge requirements issued by the Water Boards implement the provisions of the CWA (33 U.S.C. Sec. 1251 et seq.) and acts amendatory thereof or supplementary thereto, and federal regulations and guidelines issued pursuant thereto.

23. 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 F.3rd. 526 (9th Cir., 2001)). The U.S. EPA issued a Final Rule that on October 17, 2006, that exempts the application of a pesticide to or over, including near, waters of the United States if conducted consistent with all relevant requirements under the Federal Insecticide and Fungicide Rodenticide Act (FIFRA), from an NPDES permit under the Clean Water Act in the following two circumstances: (a) The application of pesticides directly to waters of the United States in order to control pests, and (b) The application of pesticides to control pests that are present over waters of the United States, including near such waters, that results in a portion of the pesticides being deposited to waters of the United States (40 CFR 122.3(h)).

24. The California State Assembly passed AB 1721 (Pavley Environmental Education) on September 8, 2005. An act to amend §.60041 of the Education Code, to amend § 71301, § 71302, § 71303, § 71304, and § 71305 of the Public Resources Code, and to add § 13383.6 to the Water Code, relating to environmental education. § 13383.6 is added to the Water Code, to read: § 13383.6. On and after January 1, 2007, if a Regional Water Board or the State Board issues a municipal storm water permit pursuant to § 402(p) of the CWA (33 U.S.C. Sec. 1342(p)) that includes a requirement to provide elementary and secondary public schools with educational materials on storm water pollution, the Permittee may satisfy the requirement, upon approval by the Regional Water Board or State Board, by contributing an equivalent

amount of funds to the Environmental Education Account established pursuant to subdivision (a) of § 71305 of the Public Resources Code.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 2100 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 (a governmental agency can use its judgment in deciding whether and how to carry out or approve a project, § 15357) and does not apply to ministerial projects (the law requires a governmental agency to act on a project in a set way without allowing the agency to use its own judgment, § 15369). ~~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 regardless of weather a project is discretionary or ministerial, the Regional Water 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. The objective of this Order is to protect the beneficial uses of receiving waters in Ventura County. To meet this objective, the Order requires that Best Management Practices (BMPs) will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and achieve water quality objectives and standards. The U.S. EPA envisioned that municipal storm water program would be implemented in an iterative manner and improved with each iteration by using information and experience gained during the previous permit term (*Interpretative Policy Memorandum on Reapplication Requirements for MS4 permits* 61 Fed. Reg. 41697).~~

2. The objective of this Order is to protect the beneficial uses of receiving waters in Ventura County. To meet this objective, the Order requires that Best Management Practices (BMPs) will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and achieve water quality objectives and standards. To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. In selecting BMPs to achieve the MEP standard a number of factors should be considered including: effectiveness, regulatory compliance, cost, public acceptance and technical feasibility. *See* February 11, 1993 memo entitled "Definition of Maximum Extent Practicable" Elizabeth Jennings, State Water Resources Control Board. The U.S. EPA envisioned that municipal storm water program would be

implemented in an iterative manner and improved with each iteration by using information and experience gained during the previous permit term (*Interpretative Policy Memorandum on Reapplication Requirements for MS4 permits* - 61 Fed. Reg. 41697). Municipalities are required to evaluate what is effective and make improvements in order to protect beneficial uses of receiving waters. This Order requires the implementation of an effective ~~combinations~~combination of pollution control and pollution prevention measures, education, public outreach, planning, and implementation of Low Impact Design strategies, source control BMPs ~~and Structural and~~, Treatment Control BMPs, and Hydromodification Control BMPs. The better-tailored BMPs combined with the performance objectives outlined in this Order have the purpose of attaining water quality objectives and standards (*Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*- 61 Fed. Reg. 43761). Where ~~WLAs~~TMDLs have been adopted ~~for Municipal storm water discharges~~, this Order requires Permittees to implement ~~controls to achieve the WLAs within the compliance schedule provided in the TMDLs.~~best management practices , monitoring and/or control measures as necessary for consistency with TMDL provisions.

The implementation of the measures set forth in this Order are reasonably expected to reduce the discharge of pollutants conveyed in storm water discharges into receiving waters, and to meet the TMDL WLAs for municipal storm water within applicable time schedules adopted by the Regional Water Board.

3. The U.S. EPA has recommended that all future TMDLs and TMDL amendments be expressed as daily increments consistent with a federal court ruling (*Friends of the Earth, Inc. v. EPA, et al.* No. 05-5015 (D.C. Cir. 2006)). However, this interpretation does not affect the discretionary authority of the Regional Water Board to express NPDES permit limits and conditions in non daily terms because there is no express or implied statutory limitation (CWA §502(11)) (*Establishing TMDL "Daily Loads" in Light of the Decision by the U.S. Court of Appeals for the D.C. Circuit in Friends of the Earth, Inc. v. EPA, et al. (April 2006) and Implications for NPDES Permits*, U.S. EPA Office of Water, memorandum, Nov 15, 2006). This Order translates MS4 TMDL WLAs adopted by the Regional Water Board into forms "consistent with the assumptions and requirements of the TMDL", by use of alternate temporal increments, concentrations, presumptive BMPs, prohibitions, and other express limitations.

4. During the term of the Order, the Permittees shall implement all necessary and available control measures to reduce pollutant(s) of concern which cause or continue to cause or contribute to water quality impairments, but for which TMDLs have not yet been developed or approved, to eliminate the water quality impairment(s) substantially resulting from MS4 discharges. Successful efforts to reverse the wet

weather impairments during the permit term for such pollutants, may avoid the need for a WLA for wet weather or the need to develop a TMDL in the future.

5. This Order promotes a land development and redevelopment strategy that considers the water quality and water management benefits associated with smart growth techniques. Such measures include ~~hydromodification mitigation requirements, minimization of impervious surfaces,~~ integrated water resources planning, ~~and~~ low impact development ~~guidelines~~strategies, hyrdomodification control requirements, and water quality source and treatment control requirements. (Reference: *Protecting Water Resources with Smart Growth*, EPA 231-R- 04-002, U.S. EPA 2004; *Using Smart Growth Techniques as Storm Water Best Management Practices,* EPA 231-B-05-002, U.S. EPA 2005; *Parking Spaces/Community Places: Finding the Balance through Smart Growth Solutions*, EPA 231-K-06-001, U.S. EPA 2006; *Protecting Water Resources with Higher-Density Development*, EPA 231-R-06-001, U.S. EPA 2006.)

6. The implementation of an effective Public Information and Participation Program is a critical component of a storm water management program. While commercial and industrial facilities are traditionally subject to multiple environmental regulations and receive environmental protection guidance from multiple sources, the general public, in comparison, receives significantly less education in environmental protection. An effective Public Information and Participation Program is required because:

   (a) Activities conducted by the public such as vehicle maintenance, improper household waste materials disposal, improper pet waste disposal and the improper application of fertilizers and pesticides have the potential to generate a significant amount of pollutants that could be discharged in storm water.

   (b) An increase in public knowledge of storm water regulations, proper storage and disposal of household wastes, proper disposal of pet wastes and appropriate home vehicle maintenance practices can lead to a significant reduction of pollutants discharged in storm water.

7. The California Supreme Court ruled in its *City of Burbank* Decision that Water Boards when issuing an NPDES permit may not consider economic factors to justify imposing pollutant restrictions that are less stringent than the applicable federal regulations require (*City of Burbank v. State Water Resources Control Bd.*, 35 Cal.4d, 618 (2005)). However, when the pollutant restrictions in an NPDES are more stringent than that which federal law requires, economic factors must be considered. ~~The requirements in this Order may be explicit or more specific than those enumerated in federal regulations under 40 CFR 122.26 or in U.S. EPA guidance. However, the requirements have been prescribed to be consistent with CWA~~

~~§402(p)(3)(B)(iii) and are necessary to reduce the discharges of pollutants to the maximum extent practicable and to meet water quality standards. Hence they are no more stringent than that required by federal law.~~

8. This Order also provides flexibility for Permittees and other regulated entities to petition the Regional Water Board Executive Officer to substitute a BMP or control strategy under this Order with an alternative BMP or control strategy, if they can provide information and documentation on the effectiveness of the alternative, equal to or greater than the prescribed BMP or control strategy in meeting the objectives of this Order. This Order also provides flexibility for Permittees and other regulated entities to petition the Regional Board Executive Officer for approval of subregional and regional storm water mitigation program. The Order also allows for Permittees and other regulated entities to apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization.

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 MEP ~~and attain water quality objectives 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. The State Water Board amended the Policy for the Implementation of Toxics Standards in Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy – SIP) on February 24, 2005. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the State Implementation Policy. The 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 interference. 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.

11.. ~~This Order establishes Municipal Action Levels (MALs) for selected pollutants based on nationwide Phase I MS4 monitoring data for pollutants in storm water. (Reference: http://unix.eng.ua.edu/~rpitt/Research/Research.shtml). The MALs were computed~~

~~using the statistical based population approach, one of three approaches recommended by the California Water Board's Storm Water Panel in its report, *'The Feasibility of Numerical Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 2006). The MALs were obtained by multiplying the Median (central tendency measure) with the Coefficient of Variance (estimate of variance measure). MALs are identified in Attachment "C". Permittees shall implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water from the permitted areas to not exceed the MALs. On or after (first October in year 3 after permit adoption), two or more exceedences of a MAL will be construed as a failure to implement adequate control measures and will be considered a violation of the MEP provisions of this Order.~~ In 2005, the State Water Board convened an expert panel ("Expert Panel") to evaluate the feasibility of developing and applying numeric effluent limitations in storm water permits, including area-wide municipal (MS4) permits. In its final report to the State Water Board,[1] the Expert Panel concluded that "it is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges." Blue Ribbon Panel Report at p. 8. The Expert Panel concluded that "the approach of setting an 'upset' value, which is clearly above the normal observed variability, may be an interim approach that would allow 'bad actor' catchments to receive additional attention." Blue Ribbon Panel Report p. 8. The expert panel termed this upset value an "action level" that should not be used to determine compliance or establish a violation of applicable regulatory requirements. The Expert Panel recommended that "the Board should set different action levels that consider the site's climate region, soil condition, and slopes, and natural background conditions (*e.g.*, vegetative cover) as appropriate and as data is [sic] available." Blue Ribbon Panel Report p. 17.

12. In 2005, the Expert Panel also noted the variability of storm water constituent concentrations and flow rates. The Expert Panel remarked that "Since the storm-to-storm variation at any outfall can be high, it may be unreasonable to expect all events to be below a numeric value. In a similar circumstance, there are a number of storms each year that are sufficiently large in volume and/or intensity, to exceed the design capacity volume or flow rates of most BMPs." Blue Ribbon Panel Report at p. 6. The Expert Panel "recommends that Numeric Limits and Action Levels not apply to storm of unusual event size and/or pattern (e.g., flood events)." Blue Ribbon Panel Report at p. 18.

[1] Storm Water Panel Recommendations to the California State Water Resources Control Board, The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Asscoiated with Municipal, Industrial and Construction Activities (June 19, 2006)("Blue Ribbon Panel Report").

13. This Order is intended to enhance the Permittees' storm water management programs by increasing monitoring, and using monitoring data and properly derived municipal action levels to identify 'bad actor' catchments needing further water quality attention. Specifically, Permittees shall implement a select number of mass emissions monitoring stations (which may include existing stations) upstream and downstream of urban areas. A comparison of monitoring data from emissions stations implemented upstream of urban areas, with data from emissions stations implemented downstream of urban areas will allow Permittees to identify reaches where urban discharges appear to be substantially causing or contributing to adverse water quality conditions in receiving waters for various pollutants of concern. For these reaches, Permittees would then develop a protocol, including preparation of indicators of bad actor catchments (or municipal actions levels) in accordance with Expert Panel recommendations, to aid and guide Permittees in the identification of outfalls warranting investigation for contribution of pollutants of concern, proper implementation of BMPs and/or opportunities for additional BMP implementation.

14. ~~12.~~ 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 CA Health and Safety Code, § 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.

15. ~~13.~~ This Order contemplates that Permittees will ensure that implemented Treatment Control BMPs will not pose a safety or health hazard to the public. This Order contemplates that Permittees will ensure that the maintenance of implemented Treatment Control BMPs will comply with all applicable health and safety regulations, such as, but not limited to requirements for worker entry into confined spaces under OSHA Safety and Training education, § 1926.21(b)(6)(i).

16. ~~14.~~ The CWA prohibits the discharge of pollutants from point sources to waters of the United States unless authorized under an NPDES permit. (33 U.S.C. §§1311, 1342). The State Water Board adopted statewide General Waste Discharge Requirements for Sanitary Sewer Systems, (WQ Order No. 2006-0003) on May 2, 2006, to provide a consistent, statewide regulatory framework to address Sanitary Sewer Overflows (SSOs). The WDR requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Board's online SSO database.

The requirements contained in this Order in Part 4.G.1. 'Sewage System Maintenance, Overflow, and Spill Prevention Response Plan' are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board recognizes that there may be some overlap between the MS4 permit provisions and the SSO WDR requirements. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of WQ Order No. 2006-0003). The Regional Water Board will accept the documentation prepared by the Permittees under the SSO WDR for compliance purposes, as satisfying the requirements in Part 4.G.1, provided any more specific or stringent provisions enumerated in this Order, have also been addressed.

17. ~~15.~~ This Order takes ~~in to~~into consideration the housing needs in the area under the Permittees' jurisdiction by balancing, on one hand, the need for different types f housing and relate infrastructure, available, projected and planned housing supply, and, common, on the other hand, the benefits associated with the implementation of Smart Growth and Low Impact Development techniques ~~with~~and other measures required by this Order for the protection of the water resources of the region. ~~Although not required, the~~The Regional Water Board considered the need for housing and ~~the appropriate~~available and feasible water quality techniques to allow for reasonable development while protecting the receiving waters from degradation. (Reference: *Considering Housing Needs in Actions Taken by the Regional Water Board: Moving from Costs to Value, 2006).*

18. ~~16.~~ This Order may have an incremental effect on costs required for compliance with the provisions contained herein. ~~Although not required,~~The Regional Water Board considered the costs set forth in Attachment I in preparing this Order. (Reference: *NPDES Stormwater Cost Survey, prepared for California State Water Resources Control Board, CSU, Sacramento 2005).*

G. Public Notification

1. ~~The~~To the extent that the issuance of waste discharge requirements ~~that~~ serve as an NPDES permit for this discharge ~~is~~, the requirements are exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 (California Environmental Quality Act) of the Public Resources Code in accordance with California Water Code Section 13389. The California Court of Appeals has affirmed the exemption~~, and ruled that the Regional Water Board's issuance of an NPDES permit is not subject to review under CEQA.~~ (County of Los Angeles et al., v. California Water Boards et al.,) (2006), (Cal.Rptr.3d 619).~~;~~ Notwithstanding, the Regional Water Board has considered the policies and requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute

environmental documents for the Ventura County MS4 TMDLs incorporated in this Order.

2. The Regional Water 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 make statements and submit their comments.

3. The Regional Water Board has conducted 4 scoping meetings with Permittees and their representatives. On Xxxxx xx, 200x, the Regional Water Board conducted a workshop on reissuance of the NPDES permit and received input from the Permittees and the public regarding proposed changes.

4. This Order shall serve as a NPDES permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 90 days from Order adoption provided the Regional Administrator of the U.S. EPA has no objections.

5. Pursuant to Cal. Water Code § 13320, any aggrieved party may seek review of this Order by filing a petition with the State Board within 30 days of adoption of the Order by the Regional Water Board. A petition must be sent to:

   State Water Resources Control Board
   Office of Chief Counsel
   P.O. Box 100
   Sacramento, CA 95812-0100

6. 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 Cal. Water Code for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Permittees, in order to meet the provisions contained in Division 7 of the Cal. Water Code and regulations adopted thereunder, and the provisions of the CWA and regulations adopted thereunder, shall comply with the following:

PART 1 - DISCHARGE PROHIBITIONS

A. Prohibitions - Discharges

1. Discharges ~~into and~~ from the MS4 in a manner causing or contributing to a condition of pollution, contamination or nuisance (as defined In Cal. Water Code § 13050), in waters of the State are prohibited.

2. Discharges from the MS4, which cause or contribute to exceedences of receiving water quality objectives for surface waters are prohibited~~.~~, and will trigger iterative procedures for improving water quality control as outlined in this Order.

~~3. Discharges to the MS4 not covered by an NPDES individual or general permit are prohibited.~~

B. Prohibitions - Non-Storm Water Discharges

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

1. Originate from a State, federal, or other ~~source~~sources which ~~they~~the Permittees are pre-empted by State or Federal law from regulating.

2. Are permitted pursuant to an NPDES individual or general permit or waste discharge requirements.

3. ~~2.~~ Fall within one of the categories below, are not ~~a~~an appreciable source of pollutants, and meet all conditions where specified by the Regional Water Board Executive Officer:
   (1) Stream diversions authorized by the State Water Board.
   (2) Natural springs and rising ground water.
   (3) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].~~12~~[12]
   (4) Flows from riparian habitats or wetlands.
   (5) Flows from emergency fire fighting activity.
   (6) Potable drinking water supply and distribution system releases.~~23~~[23]
   (7) Drains for foundation, footing and crawl drains.
   (8) Air conditioning condensate.
   (9) Water from crawl space pumps.
   (10) Reclaimed and potable landscape irrigation runoff.
   (11) Dechlorinated/debrominated swimming pool discharges [see definition Part 7].
   (12) Non-commercial car washing by residents or non-profit organizations.

~~12~~[12] NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County pursuant to _____.

~~23~~[23] Releases may occur only with the implementation of appropriate BMPs and dechlorination prior to discharge [see section G for specific BMPs]. Any agency or ~~municipal~~municipality (i.e., water dept., fire dept., etc.) that either individually or collectively discharge(s) or reasonably expects to discharge 100,000 gallons or more of potable water per year, shall submit an ROWD to obtain a separate NPDES permit under this Order [see section G.10]. Discharges from utility vaults shall be conducted under coverage of a separate NPDES permit specific to that activity. Discharges from well heads and hydrostatic pipe testing shall be subject to a separate NPDES general permit coverage (CAG674001).

(13) Sidewalk rinsing
(14) Pooled storm water from treatment BMPs.[34]

Type of Discharges:	**Conditions under which allowed:**	**Required BMPs for discharge to occur:**
Stream diversions permitted by the State Board;	Shall comply with all conditions in the authorization.	Shall comply with all conditions in the authorization.
Natural springs and rising ground water	1. Ground water dewatering requires a separate NPDES permit. 2. Segregate flow to prevent introduction of pollutants.	Shall comply with all conditions in the authorization.
Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)] (Utility vault dewatering requires a separate NPDES permit.)	NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County	Shall comply with all conditions in the authorization.
Flows from riparian habitats or wetlands	Provided that all necessary permits or authorizations are received prior to diverting the stream flow.	Shall comply with all conditions in the authorization.
Flows from emergency fire fighting activity	Pooled water after fire must be discharged or reused in a controlled manner.	
Potable drinking water supply and distribution system releases	Provided planned discharges from water lines and potable water sources shall be dechlorinated, pH adjusted if necessary, reoxygenated, and volumetrically and velocity controlled to prevent resuspension of sediments.	To be discharged, this type of water shall be dechlorinated using aeration and/or sodium thiosulfate and/or be allowed to infiltrate to the ground. BMPs such as sand or gravel bags

[34] All storm water BMPs shall ~~at a minimum~~ be maintained ~~at a frequency as specified by the manufacturer~~per an approved Operations and Maintenance Plan. All storm water BMPs shall be ~~designed to drain within 72 hours.~~maintained to prevent the growth of vectors.. Storm water treatment BMPs may be drained to the MS4 for maintenance purposes under this Order if the discharge is not ~~a~~an appreciable source of pollutants. The discharge shall cease when the discharge has become ~~a~~an appreciable source of a pollutant(s), (bottom sediment included). Sediments shall be disposed of properly, in compliance with all applicable local, state, and federal policies, acts, laws, regulations, ordinances, and statutes.

Type of Discharges:	Conditions under which allowed:	Required BMPs for discharge to occur:
	Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, even after de-chlorination.	shall be utilized to prevent sediment transport. All sediments shall be collected and disposed of in a legal and appropriate manner.
Drains for foundation, footing and crawl drains	Dewatering requires a separate NPDES permit.	Shall comply with all conditions in the authorization.
Air conditioning condensate	Segregation of flow to prevent introduction of pollutants	Infiltration whenever possible
Water from crawl space pumps	Dewatering requires a separate NPDES permit.	NPDES permit for ground water dewatering is required within the Los Angeles Region including Ventura County
Reclaimed and potable landscape irrigation runoff	~~Segregation of flow~~BMPs to prevent introduction of pollutants.	Implement conservation programs to minimize this type of discharge by using less water.
Dechlorinated / debrominated swimming pool discharges [see definition Part 7]	Provided discharge to a sanitary sewer is not available. Swimming pool discharges shall be dechlorinated, pH adjusted if necessary, reoxygenated, and volumetrically and velocity controlled to prevent resuspension of sediments. Cleaning waste water and filter back wash shall not be discharged to municipal separate storm sewers. Water that has been hyperchlorinated shall not be discharged to municipal separate storm sewers, even	Pool water may be dechlorinated using time, aeration, and/or sodium thiosulfate.

Type of Discharges:	Conditions under which allowed:	Required BMPs for discharge to occur:
	after de-chlorination. Chlorine residual in discharge shall not exceed 0.1mg/L.	

4. ~~3.~~ If the Regional Water Board Executive Officer determines that any of the preceding categories of non-storm water discharges are ~~a~~an appreciable source of pollutants, the Permittee shall either:

(a) Prohibit the discharge from entering the MS4; or
(b) Authorize the discharge category and require implementation of appropriate BMPs to ensure that the discharge will not be a source of pollutants; or
(c) Require or obtain coverage under a separate NPDES permit for discharge into the MS4.

5. ~~4.~~ The Regional Water Board Executive Officer, after providing the opportunity for public comment, may authorize or prohibit the discharge of other categories of non-storm water, after consideration of antidegradation policies and upon presentation of evidence.

PART 2 - RECEIVING WATER LIMITATIONS

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

2. 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.

3. The Permittee shall comply with the Order through timely implementation of BMPs and/or control measures and other actions to reduce pollutants in the discharges in accordance with this Order.[4] This Order shall be implemented to achieve compliance with receiving water limitations. If the discharge by Permittees causes or contributes to an exceedence(s) of water quality objectives or water quality standards or such exceedence(s) persist, notwithstanding implementation of the Order and its components and other requirements of this Order, the

[4] ~~Separately, after permit year 3 (reporting year 15 from issuance of the first permit), two or more exceedences of a Municipal Action Level (MAL) will create a presumption that the implementation of measures to reduce the pollutant(s) in MS4 discharges to the MEP are inadequate. The Permittee is affirmatively required to augment measures to reduce the discharge of the pollutant(s) to not violate the MEP. The 'end of pipe' compliance points for MALs are at 36 inches in diameter or greater discharge pipes with outfalls to the receiving waters, with receiving water mass emission measurements as default compliance points.~~

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(s) or Regional Water Board that discharges are causing or contributing to a violation of applicable water quality standards, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report to the Regional Water Board Executive Officer for approval. The RWL Compliance Report shall be included with the Annual Report, unless the Regional Water Board directs an earlier submittal.

(b) The RWL Compliance Report shall describe BMPs currently being implemented and ~~the~~any additional BMPs that will be implemented, to prevent or reduce any pollutants that are causing or contributing to the exceedences of water quality standards.

(c) The RWL Compliance Report shall include a BMP implementation schedule.

(d) Within 30 days following approval of the RWL Compliance Report the approved, modified suite of BMPs, implementation schedule, and any additional monitoring required shall be implemented.

(e) Modifications to the RWL Compliance Report, required by the Regional Water Board shall be submitted to the Regional Water Board Executive Officer within 30 days of notification.

(f) Implement the revised monitoring program according to the approved schedule.

~~4. If a member of the public has documentary evidence of RWL violations, the member of the public may petition the Regional Water Board Executive Officer in writing to review the alleged violation within 60 days to determine if Part 2 of this Order was violated.~~

4. ~~5.~~ As long as the Permittee complies with the procedures set forth above to comply with the receiving water limitations~~, is in compliance with the MALs,~~ and is implementing this Order, the Permittee does not have to repeat the procedure for continuing or recurring exceedences of the same water quality standard(s) unless directed to by the Regional Water Board to develop and implement additional BMPs.

~~6. Nothing in Part 2 shall prevent the Regional Water Board from enforcing any provision of this Order.~~

PART 3 - STORM WATER QUALITY MANAGEMENT PROGRAM IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, adopt and implement applicable terms of this Order to control discharges of runoff from MS4s within its ~~jurisdictional boundaries~~jurisdiction. The Principal Permittee shall be responsible for program coordination as described in this Order as well as compliance with applicable portions of the permit within its jurisdiction. This Order shall be implemented no later than (~~60~~90 days from Order adoption), unless a later date has been specified for a particular provision in this Order and provided the Regional Administrator of the U.S. EPA has no objections.

2. Each Permittee shall~~,~~ implement the requirements of this Order to comply with the requirements of 40 CFR 122.26(d)(2) and ~~implement programs and control measures so as to~~ reduce the discharges of pollutants in storm water to the MEP ~~and~~to achieve water quality objectives.

3. Each Permittee shall implement programs and measures to comply with the TMDLs~~' WLAs for the MS4 as follows:~~, applicable WLAs and implementation measures on a time schedule identified in the TMDLs for the MS4 by implementing best management practices and implementation measures on the time schedule identified in the TMDLs.

   ~~(1) Dry Weather Discharges achieve the concentration or load based numerical limitation for dry weather discharge identified in this Order (Part 6. Total Maximum Daily Load Provisions) through effective prohibition of dry weather discharges.~~

   ~~(2) Wet Weather Discharges achieve the concentration or load based numerical limitation or its BMPs expression for wet weather discharge identified in the Order (Part 6. Total Maximum Daily Load Provisions), or implement the BMPs specifically identified in the Order which have a reasonable expectation, when fully implemented, to achieve the WLAs in the Order (Part 6. Total Maximum Daily Load Provisions).~~

4. Permittees shall implement enhanced monitoring measures as generally described in this section and in accordance with the provisions and requirements of Attachment F.

   a. Permittees shall implement and conduct testing for pollutants of concern listed in Attachment F at a select number of additional existing and mass emissions stations to develop comparative receiving water monitoring data upstream and downstream of urban areas/ MS4 discharge locations.

   b. If comparative monitoring data appear to indicate that MS4 discharges are appreciably causing or contributing to adverse water quality conditions in receiving water reaches for pollutants of concern, then, for these reaches, Permittees shall take the following steps to identify outfalls warranting investigation for contribution of pollutants of concern, improved or proper implementation of BMPs, and/or opportunities for additional BMP implementation:

i. Preparation of indicators of bad actor catchments developed pursuant to Expert Panel recommendations, to serve as municipal action levels that will guide the Permittees in the identification of bad actor catchments contributing excessive pollutants of concern;

ii Evaluation to determine whether there are pollutant source(s) within the catchment that are associated with municipal discharges causing or contributing excessive pollutants of concern;

iii. Assessment of the Storm Water Quality Management Program and measures and their implementation to determine whether BMPs addressing the pollutant source(s) have been properly implemented within the catchment; and whether additional BMPs are possible and necessary to prevent or reduce pollutants in runoff in compliance with MEP;

c. Upon completion of the foregoing evaluation and assessment, Permittees shall identify and require implementation of additional BMPs and corrective measures to address identified pollutants of concern as soon as is practicable and within the time technically required for implementation based upon BMP specifications.

d. Within 90 days of completion of the foregoing evaluation and assessment, the Permittees shall prepare and submit a report to the Regional Water Board that describes the evaluation and assessment process, including the derivation of indicators of bad actor catchments (municipal action levels), any identified pollutant sources within a bad actor catchment, and existing and additional BMPs and corrective actions that are currently being implemented to prevent or reduce pollutants of concern in storm water discharges in compliance with MEP. An implementation schedule shall be provided for any additional BMPs or corrective actions not yet implemented as of the completion of the report. The report shall also include a certification, based upon the evaluation and assessment required above, that either:

i. There are no sources of the pollutants of concern within the control of the Permittee or there are no additional or feasible BMPs to address the pollutants of concern; or

ii. No additional BMPs or implementation measures are required to reduce or prevent pollutants of concern in compliance with MEP; or

iii. Additional BMPs and/or implementation measures have been identified and implemented in compliance with MEP.

If a Permittee incorporates finding (ii) above into the certification, the report must show why the exceedance occurred and why additional BMPs or implementation measures are not required to reduce or prevent pollutants of concern in compliance with MEP.

B. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit~~, including, but not limited to:~~ the following:

   (a) Illicit connections and illicit discharges, and to remove illicit connections.

   (b) The uncontrolled (unmitigated or without appropriate BMPs) discharge of non-storm water to the MS4 from:
   - (1) Washing or cleaning of gas stations, auto repair garages, or other types of automotive service facilities.
   - (2) Mobile auto washing, carpet cleaning, steam cleaning, sandblasting and other such mobile commercial and industrial operations.
   - (3) Areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken.
   - (4) Storage areas for materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials.
   - (5) Swimming pool(s) that have a concentration greater than:
     - (A) Chlorine/bromine- 0.1mg/L.
     - (B) Chloride- 250mg/L.
     - (C) Cyanuric acid of 50ppm;
     - (D) E. coli of 235/100 ml (fresh waters).
     - (E) Fecal coliforms of 400/100 ml (fresh waters and marine waters).
     - (F) Enterococcus of 104/100 ml (marine waters).
     - (G) Total coliforms of 10,000/100 ml, or 1,000/100 ml if the ratio of fecal-to-total coliform exceeds 0.1 (marine waters).
   - (6) Swimming pool filter backwash.
   - (7) Decorative fountains and ponds.
   - (8) Industrial/commercial areas, including restaurant mats.
   - (9) Concrete truck cement, pumps, tools, and equipment washout.
   - (10) Spills, dumping, or disposal of materials other, such as:
     - (A) Litter, landscape and construction debris, garbage, food, animal waste, fuel or chemical wastes, batteries, and any other materials which have the potential to adversely impact water quality; or
     - (B) Any pesticide, fungicide or herbicide.
   - (11) Stationary and mobile pet grooming facilities.
   - (12) Trash container leachate.

2. The Permittees shall possess adequate legal authority to:

   (a) Control to the maximum extent practicable through interagency agreement, the contribution of pollutants from one portion of the MS4 to another portion of the MS4.

(b) Require persons within their jurisdiction to comply with conditions in the Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows).

(c) Utilize enforcement measures (e.g., stop work orders, notice of violations, fines, referral to City, County, and/or District Attorneys, referral to strikeforces, etc.) by ordinances, permits, contracts, orders, administrative authority, and civil and criminal prosecution.[5]

(d) Control pollutants, including potential contribution[6] 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 subject to the Permittee's jurisdiction, including construction sites.

(e) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the MS4.

(f) Require the use of control measures to prevent or reduce the discharge of pollutants to ~~achieve water quality objectives~~the maximum extent practicable.

(g) Require that Treatment Control BMPs be properly operated and maintained.

3. Each Permittee has adopted a Storm Water Quality Ordinance based upon a countywide model. Each Permittee will update its Storm Water Quality Ordinance to be able to enforce all requirements of this Order, no later than (6 months from adoption date).

4. Each Permittee shall submit no later than (180 days after adoption date), a statement by its legal counsel that the Permittee has obtained and possesses ~~all necessary~~ legal authority to the maxium extent permitted by State and federal law to comply with this Order through adoption of ordinances and/or municipal code modifications.

C. Fiscal Resources

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[5] Where the Permittee has no direct authority, the Permittee is required to enter into an agreement, if possible, with the agency or department that has the enforcement authority. In the case of private responsible parties subject to the Permittee's jurisdiction such as, HOAs, the Permittee must retain enforcement authority.

[6] "Potential contributions" and "potential to discharge," means adequate legal authority to prevent an actual discharge of pollutants to the municipal separate storm sewer system.

1. ~~The~~To the maximum extent authorized by applicable state and federal law, the Permittees shall allocate all necessary funds to implement the activities required to comply with the provisions of this Order.[7] Each Permittee shall:

(a) Submit an Annual Budget Summary that shall include:

(1) The storm water budget for the prior report year, using actual expenditures with written explanation where necessary for the implementation of the storm water program.

(2) The storm water budget for the upcoming report year, using estimated expenditures with written explanation where necessary for the implementation of the storm water program.

(3) The summary report shall identify for both the prior report year (actual expenditure) and the upcoming report year (estimated expenditure) the following specific categories:

(A) Program Management Activities.

(i) Overall Administrative costs

(B) Program Required Activities Implementation (storm water related activities only). Provide figures breakdown of sources of funds and expenditures for the categories below:

(i) Illicit connection/illicit discharge.
(ii) Development planning.
(iii) Development construction.
(iv) Construction inspection activities.
(v) Industrial/Commercial inspection activities.
(vi) Public Agency Activities.
(I) Maintenance of Structural BMPs and Treatment Control BMPs.
(II) Inspection of Structural BMPs and Treatment Control BMPs;
(III) Municipal Street Sweeping for Commercial/Industrial land use only.
(IV) Catch basin clean-outs (include dumping fees separately).
(V) Storm drain clean-outs (include dumping fees separately).
(VI) Other costs (describe).
(vii) Public Information and Participation.
(viii) Monitoring Program.
(ix) Miscellaneous Expenditures (describe).

D. Modifications/ Revisions

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[7] ~~The sources of funding may be the general funds, and/or Benefit Assessment, plan review fees, permit fees, industrial/commercial user fee, revenue bonds, grants or other similar funding mechanism.~~

1. No later than (~~90~~150 days after Regional Water Board adoption of this Order) each Permittee shall modify storm water management programs, protocols, practices, and municipal codes to make them consistent with the requirements herein.

E. Designation and Responsibilities of the Principal Permittee

1. The Ventura County Watershed Protection District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

   (a) Participate in the County Environmental Crimes Task Force.
   (b) Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee.
   (c) Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Water Board on permitting issues.
   (d) Provide technical and administrative support for committees that will be organized to implement this Order and its requirements.
   (e) Evaluate, assess, and synthesize the results of the monitoring program and the effectiveness of the implementation of BMPs.
   (f) Convene the Management Committees (MCs) and subcommittees constituted pursuant to Part F, below, upon designation of representatives.
   (g) Implement the Countywide Monitoring Program required under the Order and evaluate, assess and synthesize the results of the monitoring program.
   (h) Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Water Board of monitoring and annual reports, and summaries of other reports required under this Order.
   (i) Comply with the "Responsibilities of the Permittees" in Part 3.F., below.

F. Responsibilities of the Permittees

1. Each Permittee is required to comply with the requirements of this Order applicable to discharges within its jurisdiction and boundaries (see Findings- Permit Coverage D.1 and D.2) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittees shall:

   (a) Comply with the requirements of this Order and any modifications thereto.
   (b) Coordinate among its internal departments and agencies, as necessary, to facilitate the implementation of the requirements of this Order applicable to such Permittees in an efficient and cost-effective manner.
   (c) Participate in intra-agency coordination (e.g., Planning Department, Fire Department, Building and Safety, Code Enforcement, Public Health, Parks and Recreation, and others) necessary to successfully implement the provisions of this Order.

(d) Report, in addition to the Budget Summary, any supplemental dedicated budgets for the same categories.
(e) Be represented at all Management Committee Meetings, which will meet at least once a month.
(f) Be represented at all subcommittee meetings. Currently there are 5 subcommittees which were functional during the second permit term:
  (1) Residential/Public Outreach.
  (2) Business & Illicit Discharge.
  (3) Planning and Land Development.
  (4) Construction.
  (5) Public Infrastructure.

PART 4 - SPECIAL PROVISIONS

A. General Requirements

1. This Order 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 and achieve water quality objectives for the permitted areas in the County of Ventura.

2. Best Management Practice Substitution

The Regional Water Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee~~(s) and after public notice,~~ or other regulated entity under this Order if the ~~Permittee~~applicant 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.~~objectives of this Order; and
~~(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.~~
(b) ~~(c)~~ The proposed alternative BMP or program will be implemented within a ~~similar~~ period of time sufficient to mitigate impacts to stormwater and receiving water quality pursuant to the requirements of this Order.

B. Watershed Initiative Participation

1. The Principal Permittee consents to participate in appropriate water quality meetings for watershed management planning, including but not limited to the following:

(a) Southern California Stormwater Monitoring Coalition (SMC).
(b) SMC Regional Monitoring Programs.

(c) Southern California Regional Bioassessment Program.
(d) Calleguas Creek Watershed Management Plan.
(e) Santa Clara River Enhancement and Management Plan.
(f) ~~Steelhead~~Steel head Restoration and Recovery Plan.
(g) Wetlands Recovery Project.
(h) Ventura County Task Force of the Wetlands Recovery Project.
(i) Southern California Bight Project.
(j) Other appropriate watershed planning groups.

C. 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 PIPP, 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 audience about the MS4, the adverse impacts of storm water pollution on receiving waters and potential solutions to mitigate the impacts.

(b) To measurably change the waste disposal and storm water pollution generation behavior of target audiences by encouraging implementation of appropriate solutions.

(c) To involve and engage communities in Ventura County to participate in mitigating the impacts of storm water pollution.

1. Residential Program

(a) "No Dumping" Message
Each Permittee shall label all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping shall be posted at designated public access points to creeks, other relevant water bodies, and channels. Signage and storm drain messages shall be legible and maintained.

(b) Public Reporting
Each Permittee will identify staff who will serve as the contact(s) person for reporting clogged catch basin inlets and illicit discharges/dumping, faded or missing catch basin labels, and general storm water management information. Permittees shall include this information, updated by July 1 of each year, in public information media such as the government pages of the telephone book, and internet web sites. The Principal Permittee shall compile a list of the general public reporting contacts submitted by all Permittees and make this information available on the web site (http://www.vcstormwater.org/contact.htm) and upon request. Each

Permittee is responsible for providing current, updated information to the Principal Permittee.

(c) Outreach and Education

(1) The Principal Permittee shall implement the following activities:

(A) Conduct a Storm Water pollution prevention advertising campaign.

(B) Conduct Storm Water pollution prevention public service announcements.

(C) Distribute storm water pollution prevention public education materials to:

(i) Automotive parts stores.

(ii) Home improvement centers/lumber yards/hardware stores.

(iii) Pet shops/feed stores.

(D) Public education materials shall include, but are not limited to information on the proper disposal, storage, and use of:

(i) Vehicle waste fluids.

(ii) Household waste materials.

(iii) Construction waste materials.

(iv) Pesticides, herbicides, and fertilizers (including integrated pest management practices-IPM).

(v) Green waste (including lawn clippings and leaves).

(vi) Animal wastes.

(E) Organize watershed Citizen Advisory Groups/Committees to develop effective methods to educate the public about storm water pollution no later than (365 days after the adoption of this Order).

(F) Organize events targeted to residents and population subgroups; and

(G) Maintain the Countywide storm water website (www.vcstormwater.org), which shall include educational material listed in the preceding section C.1(c)(1)(C).

(2) The Principal Permittee shall develop a strategy to educate ethnic communities through culturally effective methods. Details of this strategy should be incorporated into the PIPP, and implemented, no later than (180 days after the adoption of this Order).

(3) Each Permittee shall continue the existing outreach program to residents on the proper disposal of litter, green waste, pet waste, proper vehicle maintenance, lawn care and water conservation practices.

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

(5) The Permittees shall make a minimum of 10 million impressions per year to the general public related to storm water quality, with a minimum of 5 million impression via newspaper, local TV access, local radio and/or internet access.

(6) 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.

Pursuant to AB 1721 (2005), beginning January 1, 2007, the Permittees, in lieu of providing educational materials/funding to School Districts in the County, may opt to provide an equivalent amount of funds or fraction thereof to the Environmental Education Account established within the State Treasury.[8] This option requires the written approval of the Regional Water Board Executive Officer.

(7) Each Permittee shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee and contact information changes no later than 30 days after a change occurs.

(8) The Permittees shall develop and implement a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of the adverse impacts of storm water pollution and solutions before and after educational programs are conducted. The strategy shall be implemented no later than (180 days after the adoption of this Order).

(9) The Permittees shall develop and implement a behavioral change assessment strategy no later than (180 days after the adoption of this Permit), in order to ensure that the PIPP is demonstrably effective in changing the behavior of the public. The strategy shall be developed based on current sociological data and studies.

(d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants identified in Attachment "B" (Pollutants of Concern) no later than (180 days after the adoption of this Order). Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. the distribution of educational materials on appropriate BMPs for metal fabrication and recycling facilities that have been identified as a potential source). Region-wide pollutants may be included in the Principal Permittee's mass media outreach program.

2. Businesses Program

(a) Corporate Outreach

(1) The Permittees shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations and BMPs. The program shall target a minimum of four RGO franchisers and cover a minimum of 80% of RGO franchisees in the county, four retail automotive parts franchisers, two home improvement center franchisers and six restaurant franchisers. Corporate Outreach for all target facilities shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order). At a minimum, this program shall include:

(A) Conferring with corporate management to explain storm water regulations.

[8] Matching funds shall be equivalent to $10 per targeted student per year. Dollar value is to be indexed to the 2006/2007 fiscal year.

(B) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with recommendations to facilitate employee and facility compliance with storm water regulations.

(2) Corporate Outreach for all RGOs, automotive parts stores, home improvement centers and restaurant chains corporations shall be conducted not less than twice during the term of this Order, with the first outreach contact to begin no later than (2 years after the adoption of this Order).

(b) Business Assistance Program

The Permittees shall 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. The Program shall include:

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

(2) Distribution of storm water pollution prevention education materials to operators of auto repair shops, car wash facilities (including mobile car detailing), mobile carpet cleaning services, commercial pesticide applicator services and restaurants.

D. Industrial/Commercial Facilities Program

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. Except where specified otherwise in this Order, pollutant reduction and control measures may be used alone or in combination, and may include Structural Treatment Control, Source Control BMPs, and operation and maintenance procedures, which may be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Facilities Control Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance with municipal ordinances at industrial and commercial facilities that are critical sources of pollutants in storm water.

1. Inventory of 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 specified in Attachment "D":

(1) Commercial Facilities

(A) Restaurants.
(B) Automotive service facilities.
(C) RGOs and automotive dealerships.
(D) Nurseries and nursery centers.

(2) U.S. EPA Phase I, II Facilities

(3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]

(A) Municipal landfills.
(B) Hazardous waste treatment, disposal, and recovery facilities.
(C) Facilities subject to SARA Title III (also known as the Emergency Planning and Community Right-to-Know Act (EPCRA)).

(b) Each Permittee shall include the following minimum fields of information for each critical sources industrial and commercial facility:

(A) Name of facility and name of owner/operator.
(B) Address of facility.
(C) Coverage under the IASGP or other individual or general NPDES permits or any applicable waiver issued by the Regional or State Board pertaining to runoff discharges.
(D) A narrative description including Standard Industrial Classification (SIC) System/North American Industry Classification System (NAICS) Codes that best describe the industrial activities performed and principal products used at each facility and status of exposure to storm water.

(c) The Regional Water Board recommends that Permittees include additional fields of information, such as material usage and/or industrial output, and discrepancies between SIC System/NAICS Code designations (as reported by facility operators) and identify the actual type of industrial activity that has the potential to pollute storm water. In addition, the Regional Water Board recommends the use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system.

(d) 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 inter and intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, and similar information).

2. Inspect Critical Sources

(a) Commercial Facilities

Each Permittee shall inspect all facilities identified in Part 4 D.2. twice during the 5-year term of the Order, provided that the first inspection occurs no later than (2 years from the adoption of this Order). A minimum interval of six months between the first and the second mandatory compliance inspection is required. In addition, each Permittee shall implement the activities outlined in the following subsections. At each facility, inspectors shall verify that the operator is implementing the mandatory source control BMPs. The Permittees shall require implementation of additional treatment control BMPs where storm water flows from the MS4 discharge to an ESA or a CWA § 303(d) listed waterbody (see section 3(b) below).

Likewise, for those BMPs that are not adequate to achieve ~~MALs and/or~~ water quality objectives, Permittees may require additional site-specific controls, such as treatment control BMPs.

(1) Restaurants-

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 being effectively implemented in compliance with State law, County and municipal ordinances. BMPs in the following Table 1 shall be implemented, unless the pollutant generating activity does not occur.

Table 1

Pollutant-Generating Activity	**BMP Narrative Description**	**2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #**
Waste/Hazardous Materials Storage, Handling and Disposal	Distribution of educational materials on storm water pollution prevention practices to the public.	By Municipality
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures.	SC-11
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures	SC-34
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices	SC-43
Storm Water Conveyance System Maintenance	Implementation of proper conveyance system operation and maintenance protocols.	SC-44

(2) Automotive Service Facilities-

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and

municipal ordinances. The inspections shall verify that BMPs in the following Table 2 are being implemented, unless the pollutant generating activity does not occur.

Table 2

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures.	SC-11
Vehicle/Equipment Fueling.	Implementation of effective fueling source control devices and practices.	SC-20
Vehicle/Equipment Cleaning.	Implementation of effective equipment/vehicle cleaning practices and appropriate wash water management practices	SC-21
Vehicle/Equipment Repair	Implementation of effective vehicle/equipment repair practices and source control devices.	SC-22
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices.	SC-31
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures	SC-34
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices	SC-43
Storm Water Conveyance System Maintenance Practices	Implementation of proper conveyance system operation and maintenance protocols.	SC-44

(3) Retail Gasoline Outlets and Automotive Dealerships-

Level of Inspections: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and

municipal ordinances. The inspections shall verify that BMPs in the following Table 3 are being implemented, unless the pollutant generating activity does not occur.

Table 3

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures.	SC-11
Vehicle/Equipment Fueling	Implementation of effective fueling source control devices and practices.	SC-20
Vehicle/Equipment Cleaning	Implementation of effective wash water control devices.	SC-21
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures	SC-34
Building and Grounds Maintenance	Implementation of effective facility maintenance practices.	SC-41
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices	SC-43

(4) Commercial Nurseries and Nursery Centers (Merchant Wholesalers, Nondurable Goods, and Retail Trade)-

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each facility within its jurisdiction, in compliance with County and municipal ordinances. The inspections shall verify that BMPs in the following Table 4 are being implemented, unless the pollutant generating activity does not occur.

Table 4

Pollutant-Generating Activity	BMP Narrative Description	2003 California Stormwater BMP Handbook Industrial and Commercial BMP Identification #
Unauthorized Non-Storm Water Discharges	Effective elimination of non-storm water discharges.	SC-10
Outdoor Loading/Unloading	Implementation of effective outdoor loading/unloading practices.	SC-30
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices.	SC-31
Outdoor Equipment Operations	Implementation of effective outdoor equipment source control devices and practices.	SC-32
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices.	SC-33
Building and Grounds Maintenance	Implementation of effective facility maintenance practices.	SC-41

(A) For nursery operations (Agricultural Facilities) in the NAICS Code 11142x - Nursery and Floriculture Production, which are subject to the Conditional Waiver, each Permittee shall:
  (i) Verify enrollment under the Conditional Waiver by recording a valid identification number.
  (ii) Notify all nonfilers of their lawful obligation to apply for coverage under the Regional Water Board's Conditional Waiver.

(B) Permittees shall submit a list of facility names in the NAICS Code 11142x that have been notified to apply for the Conditional Waiver (nonfilers). The list of nonfilers shall be electronically sent to the Regional Water Board's Regional Programs at the following e-mail address: sunger@waterboards.ca.gov.

(b) Industrial Facilities

Each Permittee shall conduct compliance inspections at Phase I, II facilities as specified below.

(1) **Frequency of Inspection**

(A) Each Permittee shall perform an initial inspection at all industrial facilities identified by the U.S. EPA in 40 CFR 122.26(c) no later than (2 years after the adoption of the Order). After the initial inspection, all facilities determined as having exposure of industrial activities to storm water are subject to a second mandatory compliance inspection. A minimum interval of 6 months between the first and the second compliance inspection is required.

(B) Following the first mandatory compliance inspection, a Permittee shall perform a second mandatory compliance inspection yearly at a minimum of 20% of the facilities determined not to have exposure of industrial activities to storm water. The purpose of this inspection is to verify the continuity of the no exposure status. Facilities determined as having exposure will be notified that they must obtain coverage under the IASGP. A facility need not be inspected more than twice during the term of the Order unless subject to an enforcement action. A minimum interval of 6 months in between the first and the second compliance inspection is required.

(C) Applicable to all facilities: A Permittee need not inspect facilities that have been inspected by the Regional Water Board within the previous 24 month interval. However, if the Regional Water Board performed only one inspection, the Permittee shall conduct the second required mandatory compliance inspection.

(2) **Level of Inspection:** Each Permittee shall confirm that each operator:

(A) 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 (SWPPP) is available on-site; and,

(B) Is effectively implementing BMPs in compliance with County and municipal ordinances. Facilities must implement the source control BMPs identified in Part 4. D. 3. and Appendix D, *California Stormwater Industrial and Commercial BMP Handbook (2003)*. The Permittees shall require implementation of additional treatment control BMPs where the storm water from the MS4 discharges to a CWA § 303(d) listed waterbody; or.

(C) Has applied and has a current No Exposure Certification (and WDID number) for facilities subject to this requirement.

3. Ensure Compliance of Critical Sources

(a) **BMP Implementation:** In the event that a Permittee determines that a BMP is infeasible at any site, including those specified in the California Stormwater Industrial and Commercial BMP Handbook (2003), the Permittee shall require implementation of ~~similar~~ BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges~~. Likewise, for those BMPs that are not adequate to achieve MALs and/or water quality objectives, Permittees may require additional site specific controls, such as treatment control BMPs~~ to the maximum extent practicable. For those catchments determined under section C.4. to be bad actors, municipal action levels shall be identified and used to guide implementation of additional BMPs or control measures as necessary to prevent or reduce pollutants in runoff.

(b) **ESAs and Impaired Waters:** For critical sources that discharge to ESAs or that are tributary to CWA § 303(d) listed impaired waterbodies, the Permittees shall require operators to implement additional controls as necessary to reduce pollutants in storm water runoff that are causing or contributing to exceedences of ~~MALs and/or~~ 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, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement actions 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 and make them available on request to the Regional Water Board, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.

(c) ~~(d)~~ Interagency Coordination

(1) **Referral of Violations of the Municipal Storm Water Ordinances and California Water Code § 13260:** A Permittee may refer a violation(s) to the Regional Water Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must be documented with:

(A) Two follow-up inspections, and
(B) Two warning letters or notices of violation.

(2) **Referral of Violations of the Industrial Activities Storm Water General Permit (IASGP), including Requirements to File a Notice of Intent or No Exposure Certification:** For those facilities in violation of the IASGP, Permittees may escalate referral of such violations to the Regional Water Board (electronically on a quarterly basis to the Regional Water Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov) after one inspection and one written notice (copied to the Regional Water Board) to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

(A) Name of the facility.
(B) Operator of the facility.
(C) Owner of the facility.
(D) Industrial activity being conducted at the facility that is subject to the IASGP.

(E) Records of communication with the facility operator regarding the violation, which shall include at least an inspection report.

(F) The written notice of the violation copied to the Regional Water Board.

(3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:** Each Permittee shall initiate, within one business day,[9] 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 municipal storm water urban runoff ordinances, and to oversee corrective action.

(4) **Support of Regional Water Board Enforcement Actions:** As directed by the Regional Water Board Executive Officer, Permittees shall support Regional Water Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Water Board inspectors; appearing as witnesses in Regional Water Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

(5) **Participation in a Task Force:** The Permittees consent to participate with the Regional Water Board, and other public agencies on an enforcement task force such as the Storm Water Task Force, to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

E. Planning and Land Development Program

1. **Post-Construction Storm Water Planning and Land Development Program Purposes.** The Permittees shall implement a ~~development planning program that will require~~Planning and Land Development Program in accordance with and pursuant to this Section 4.E., for all New Development and Significant Redevelopment projects ~~to~~subject to this Order to satisfy the following purposes:

(a) Minimize substantial adverse impacts from storm water runoff on the ~~biological integrity of Natural Drainage Systems and~~beneficial uses of water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.

[9] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

~~(b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[10] to less than 5 percent of total project area.~~

~~(c) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.~~

(b) ~~(d) Minimize pollution emanating~~Minimize to the maximum extent practicable pollutant loading and other substantial adverse water quality affects from impervious surfaces ~~on developed land~~, such as roof-tops, parking lots, and roadways, through the use of properly designed, technically appropriate ~~Source Controls~~ (source control BMPs (including good housekeeping practices), Low Impact Development Strategies~~,~~ ~~and Treatment Control~~ that minimize the percentage of Effective Impervious Area[10], treatment control BMPs, and, for projects discharging into Natural Drainage Systems, hydromodification control BMPs.

(c) ~~(e)~~ Properly select, design and maintain ~~Treatment Control BMPs (in order~~treatment control BMPs to address those pollutants that are anticipated or potentially could be generated by the project based on the proposed land uses that have been identified by regulatory agencies as causing impairment of the project's receiving waters to assure proper function for long-term pollutant removal and to avoid the breeding of vectors~~)~~.[11]

~~[10] Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales (native vegetation) using approved dispersion techniques.~~

[10] Effective Impervious Area means that portion of the impervious area that drains directly to a receiving surface water body via a hardened storm drain conveyance system without first draining to a pervious area with some opportunity for filtration, evapotranspiration or infiltration; whereas impervious surfaces that drain through pervious or vegetated areas or infiltration facilities prior to discharge into a receiving surface water are considered "disconnected" and are not part of Effective Impervious Area. Pursuant to this Order, New Development and Significant Redevelopment shall incorporate LID strategies to the maximum extent practicable (MEP). The goal of the Planning and Land Development Program is to limit Effective Impervious Area to no more than 3% to 10% of watershed area, depending upon local conditions, but this goal may not be achievable through the implementation of control strategies and BMPs that constitute MEP.

~~[11] Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.~~

[11] Treatment BMPs that are designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors. Treatment control BMPs that are designed to have standing pools of water, such as treatment wetlands and wet ponds, shall include adequate vector control measures.

2. Post-Construction Storm Water Planning and Land Development Program Project Applicability.

(a) Single Family Hillside. To the extent that a Permittee may adopt local ordinances authorizing imposition of conditions, mitigation measures or other requirements on the development or construction of a single-family home in a hillside area as defined in the applicable Permittee's Zoning Code, each Permittee shall require that during the construction of a single-family hillside home, the following measures will be implemented to the maximum extent practicable:

(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 geotechnical instability; and

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

(b) New Development Compliance Documents - Applicability. Each Permittee shall require that the following New Development projects be subject to conditioning and approval for the preparation and implementation of Compliance Documents incorporating technically feasible and appropriate controls and BMPs pursuant to Section 4.E.3 below to mitigate storm water pollution:

(1) New development projects disturbing one acre or greater and adding 5,000 square feet or more of impervious surface;

(2) Industrial park adding 5,000 square feet or more of impervious surface area;

(3) Commercial development adding 5,000 square feet or more of surface area;

(4) Retail gasoline outlet adding 5,000 square feet or more of surface area;

(5) Restaurant (SIC 5812) adding 5,000 square feet or more of surface area;

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

(7) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;

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

(9) Projects discharging directly to an Environmentally Sensitive Area (ESA), where the development will:

i. Discharge storm water runoff that is likely to adversely impact a sensitive biological species or habitat and related beneficial uses; and

ii. Create 2,500 square feet or more of impervious surface area.

(c) Significant Redevelopment Compliance Documents - Applicability. Each Permittee shall require, in addition, that Significant Redevelopment projects be subject to conditioning and approval for the preparation and implementation of Compliance Documents incorporating technically feasible and appropriate post-construction controls and BMPs pursuant to Section 4.E.3 below to mitigate storm water pollution.

(1) Significant Redevelopment projects are projects involving 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.

(2) Where Significant Redevelopment results in an increase of more than fifty percent of the total existing impervious surface of a previously existing development that was not subject to post-development storm water quality control requirements, and the valuation of proposed improvements (including interior improvements) exceeds fifty percent of the assessed value of the existing site improvements, then the entire project must be mitigated pursuant to this section 4.E.

(3) Where Significant Redevelopment results in an increase of less than fifty percent of impervious surfaces of a previously existing development, then only the addition must be mitigated pursuant to this Section 4.E., and not the entire development.

(4) Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, or

original purpose of facility, or emergency activities required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

(5) Existing single-family structures are exempt from the Significant Redevelopment requirements unless such projects disturb one acre or greater and add 5,000 square feet or more of impervious surface.

(d) The following road maintenance practices shall not be deemed New Development or Significant Redevelopment, and are otherwise exempt from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/re-grading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

(e) The following underground utility projects shall not be deemed New Development or Significant Redevelopment, and are otherwise are exempt from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: utility maintenance or refurbishment projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

(f) Where feasible, the Permittees shall utilize the update periods specified in this Order to require preparation and implementation of Compliance Documents (as defined in Section 4.E.3.(a)(1) below) that assure that New Development and Significant Redevelopment projects undergoing approval processes include application of the new, updated requirements of Section 4.E.3. below in their plans. Notwithstanding the foregoing, New Development and Significant Redevelopment projects shall exclude, and the new Planning and Land Development requirements contained in this Order, including Section 4.E.3 of this Order below, shall not apply to projects or project phases that, prior to the effective date of the new requirements, meet any one of the following conditions:

(1) The project or phase has received tentative tract map and SQUIMP approvals; or

(2) The project or phase has begun grading or construction activities; or

(3) A Permittee determines that on a date after December 31, 1999 but prior to the effective date of this Order, a project or project phase previously obtained lawful approval rights, whereby application of the new Planning and Land

Development requirements of this Order, including Section 4.E.3. below, to the project is practically or legally infeasible.

3. Requirements for New Development and Significant Redevelopment Compliance Documents.

(a) **General Contents of** Compliance Documents.

(1) ~~(f) Select an integrated~~Each Permittee shall determine in their discretion the types of documents, plans and procedures ("Compliance Documents") that will be required of applicants seeking approvals for New Development and Significant Redevelopment projects (as specified in Section 4.E.2. above) to assure that such project employs an integrated water resources management approach to mitigate storm water pollution by utilizing a properly selected suite of ~~controls in the following order of preference~~technically feasible controls that are appropriate for the project to remove storm water pollutants, reduce post-development storm water runoff volume, velocity and duration, and beneficially reuse storm water:

i. ~~(1)~~ Low Impact Development ~~Strategies~~(LID) strategies.

~~(2) Integrated Water Resources Management Strategies.~~

~~(3) Multi-benefit Natural Feature BMPs.~~

ii. Source control BMPs.

iii. Hydromodification control BMPs.

iv. ~~(4) Prefabricated/Proprietary Treatment Control BMPs.~~Treatment control BMPs.

(2) Permittees may allow Compliance Documents to substitute the following types of control measures and BMPs for onsite and/or site specific BMPs and control measures required by Section 4.E.3(a)(1) above.

i. In any Compliance Documents, the Permittees may allow the implementation of subregional or regional LID, hydromodification control, and/or treatment control measures and BMPs, provided that the regional or subregional measures and BMPs provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if

on-site and/or site specific controls had been incorporated into the Compliance Documents.

ii. In Compliance Documents for Significant Redevelopment and infill development, the Permittees may allow the hydromodification control and treatment control requirements of this Section 4.E.3 for all or a portion of the project area to be met by controlling a substitute area that drains to the same receiving water so long as the substitute area has equivalent flow and pollutant characteristics to the project area.

iii. In Compliance Documents for Significant Redevelopment and infill development, the Permittees may allow the payment of fees toward installation, implementation , maintenance and operation of approved subregional and regional hydromodification, control and/or treatment control BMPs, provided that the subregional or regional measures and BMPs: are reasonably likely to be funded and implemented in a period of time sufficient to mitigate post-construction adverse water quality impacts, provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the Compliance Documents.

(b) **Specific** Compliance Documents **Requirements--Source Control BMPs.**

(1) Each Permittee shall require Compliance Documents to specify appropriate post-construction source control BMPs based on planned activities and uses for New Development and Significant Redevelopment projects consistent with the Technical Guidance Manual for Storm Water Quality Control Measures.

(c) **Specific** Compliance Documents **Requirements--Low Impact Development.**

(1) Compliance Documents prepared for New Development and Significant Redevelopment projects shall integrate Low Impact Development (LID) strategies into project design to infiltrate, disperse, and retain runoff onsite to the extent technically feasible and appropriate[13], as further defined by the LID guidance required by section 4.E.3.(c)(3) below. In determining the degree to

[13] Technical feasibility and appropriateness shall consider site-specific factors, including, but not limited to, high groundwater conditions, soil conditions, and geotechnical constraints that may prevent the use of infiltration practices (but not the use LID techniques).

which LID strategies must be or have been implemented, it is appropriate for Permittees to consider the scale of development, site planning BMPs employed, and volume and flow controls achieved by other BMPs and measures implemented for a project area, including, without limitation, regional, subregional and site-specific treatment control, hydromodification, and LID measures and BMPs. One or a combination of the following LID strategies shall be implemented for each project at the applicable planning scale (Master Planned Community, Tract Map, Planning Area, or Project Site) unless shown to be infeasible or inappropriate given applicable goals and constraints:

i. Master Planned Community Scale LID:
   1. Cluster development to preserve open space.
   2. Provide riparian buffers.
   3. Locate development on least infiltrative soils.
   4. Utilize infiltration properties of sandy soils for groundwater recharge.
   5. Preserve and/or restore and enhance natural slopes and native vegetation on slopes adjacent to Natural Drainage Systems.

ii. Tract Map Scale LID:
   1. Minimize impervious areas by incorporating open space and/or parks.
   2. Use vegetated or infiltration-based treatment control and/or hydromodification control BMPs (may satisfy by drainage to regional and sub-regional BMPs).
   3. In areas not subject to mass grading, delineate and flag the smallest site disturbance area possible and restrict temporary storage of construction equipment in these areas to minimize soil compaction.
   4. Provide riparian buffers and preserve, restore and/or enhance natural slopes and vegetation as required by the master plan community scale. .
   5. Construct trails with open-jointed paving materials, granular materials, or other pervious materials, in compliance with regulations for the Americans with Disabilities Act and safety requirements for fire and emergency vehicle access..
   6. Use native and/or non-native/non-invasive, climate-appropriate landscaping vegetation that requires less watering and chemical application.
   7. Minimize impervious surfaces in landscape design.

8. Use efficient irrigation technologies and centralized irrigation controls for landscape watering in common areas, commercial areas, multiple family residential areas, and parks.

~~I. Low Impact Development~~

iii. Planning Area Scale LID:

1. Construct streets, sidewalks, and parking lot aisles to the minimum widths specified in the land use code and in compliance with regulations for the Americans with Disabilities Act and safety requirements for fire and emergency vehicle access.
2. Use vegetated or infiltration-based treatment control and/or hydromodification control BMPs.
3. Construct trails with open-jointed paving materials, granular materials, or other pervious materials, in compliance with regulations for the Americans with Disabilities Act and safety requirements for fire and emergency vehicle access..
4. Use native and/or non-native/non-invasive, climate-appropriate landscaping vegetation that requires less watering and chemical application.
5. Minimize impervious surfaces in landscape design.
6. Use efficient irrigation technologies and centralized irrigation controls for landscape watering in common areas, commercial areas, multiple family residential areas, and parks.

iv. Lot Scale LID:

1. ~~All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.~~ Use vegetated or infiltration-based treatment control and/or hydromodification control BMPs (may satisfy by drainage to regional or sub-regional BMPs) located either on-site or off-site.
2. Direct runoff from roofs, sidewalks, walkways, trails, and patios into adjacent landscaping where site groundwater elevations, soils conditions and permeability and geotechnical constraints allow, and/or to vegetated or infiltration-based treatment control

and/or hydromodification control BMPs located either on-site or off-site.

3. Do not use copper or zinc building materials for roof gutters and downspouts.

4. Use efficient irrigation technologies for landscape watering.

(2) ~~2. The Permittees shall develop a LID Technical Guidance Document no later than (18 months from the Order~~ Pursuant to Section 4.E.3(c)(3) below, the Permittees shall work with other stakeholders to adopt revisions to the Technical Guidance Manual for Stormwater Quality Control Measures to incorporate guidance for integration of LID strategies into New Development and Significant Redevelopment no later than 12 months from the Order's adoption date~~)~~ for use by ~~Land Planners~~land planners and ~~Developers~~developers. The ~~LID Technical Guidance Document~~revisions shall include objectives and specifications for integration of LID strategies in the areas of:

i. ~~(a)~~ Site Assessment.

ii. ~~(b)~~ Site Planning and Layout.

iii. ~~(c)~~ Vegetative Protection, Revegetation and Maintenance.

iv. Techniques to implement LID strategies at various scales.

v. ~~(d)~~ Techniques to Minimize Land Disturbance.

vi. ~~(e)~~ Integrated Water Resources Management Practices.

vii. ~~(f)~~ LID Design and Flow Modeling Guidance.

viii. ~~(g)~~ Hydrologic Analysis.

ix. ~~(h) LID Translators.~~ LID Translators, which explain the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(3) ~~3.~~ The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with information regarding LID objectives and specifications ~~developed~~contained in the ~~LID~~revised adopted Technical Guidance ~~Document~~Manual for Stormwater Quality Control Measures through a training program. The LID training program will include the following:

i. ~~(a)~~ LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.

ii. ~~(b)~~ A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.

iii. ~~(c)~~ Materials and data from LID pilot projects and demonstration projects including case studies.

iv. ~~(d)~~ Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.

v. ~~(e) Availability of the LID Technical Guidance Document.~~ Availability of the guidance regarding integration of LID strategies at the appropriate planning scale into project planning and Compliance Documents in the revised adopted Technical Guidance Manual for Stormwater Quality Control Measures.

vi. Guidance regarding the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

~~II. Numeric Hydromodification Mitigation Criteria~~
(d) **Specific** Compliance Documents **Requirements--Hydromodification Control**

~~1. Hydrologic (Flow/Volume/Duration) Control~~
(1) Hydromodification Control Measures and BMPs.

i. ~~(a) Each~~ Unless a hydromodification control exemption applies pursuant to section 4.E.3.(d)(2) below, Permittees shall require ~~all new development and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge~~ Compliance Documents for New Development and Significant Redevelopment projects to specify hydromodification control BMPs consistent with the requirements, including numeric hydrologic control criteria, of Section 4.E.3.(d)(3), to minimize and mitigate to the maximum extent practicable substantial adverse post-development impacts due to increases in runoff rates, velocities~~, and duration. This shall be achieved by maintaining the~~

~~project's~~ and duration to the physical structure and stability, water quality and/or biological integrity of Natural Drainage Systems as necessary to protect their beneficial uses.
~~pre-development storm water runoff flow rates and durations.~~

ii. Hydromodification control BMPs may include one, or a combination of on-site, regional or subregional LID strategies and hydromodification control BMPs, as well as stream restoration-based controls. Regional and subregional controls shall be implemented prior to discharge of project runoff into the Natural Drainage System. When existing natural conditions and beneficial uses within a Natural Drainage System have not been adversely affected prior to a proposed New Development or Significant Redevelopment project, preference must be given in preparing the Compliance Documents to regional, subregional, and on-site hydromodification controls and BMPs over stream restoration-based controls as necessary to protect existing beneficial uses. Compliance Documents incorporating stream restoration-based controls shall demonstrate that the stream restoration-based controls do not significantly adversely affect existing beneficial uses within the Natural Drainage System.

iii. In determining compliance with the numeric hydrologic control criteria of Section 4.E.3(b)(3) below, peak, volume and duration reductions achieved by all BMPs and control measures cumulatively, including, without limitation, those achieved by LID strategies, treatment control BMPs, and hydromodification control BMPs, shall be considered.

iv. ~~(b) Natural drainage systems~~Natural Drainage Systems means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways, including tributaries, ~~are~~ located in the following watersheds:

a. ~~(1)~~ Ventura River.

b. ~~(2)~~ Santa Clara River.

c. ~~(3)~~ Calleguas Creek.

d. ~~(4)~~ Miscellaneous Ventura Coastal.

~~(c) Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (E_p) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat.[12]~~

~~(d) The Southern California Storm Water Monitoring Coalition (SMC) is expected to initiate a study to develop a regional methodology to eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management tools.[13] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS):~~

~~(1) Establishment of a stream classification for Southern California streams.~~

~~(2) Development of a deterministic or predictive relationship between changes in watershed impervious cover and stream bed/stream bank enlargement.~~

Hydromodification Control Exemptions.

i. Permittees may exempt the following New Development and Significant Redevelopment projects from implementation of Compliance Documents requirements mandating inclusion of hydromodification controls (but not LID strategies) where assessments of downstream channel conditions and proposed discharge hydrology clearly indicate that adverse hydromodification effects to present and future beneficial uses of Natural Drainage Systems are unlikely:

a. Projects within a watershed or sub-watershed where a geomorphically-based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present based on appropriate assessment and evaluation of relevant factors, including: runoff characteristics, soils conditions, watershed size and conditions, channel conditions, and proposed levels of development within the watershed.

b. Significant Redevelopment Projects that do not do not increase impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

~~[12] See Attachment "E" – Determination of Erosion Potential.~~

~~[13] Coleman, D., C. MacRae, and E. Stein. 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. Southern California Coastal Water Research Project. 70 pp.~~

c. Projects that discharge directly or via a storm drain to a sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

d. Projects that discharge directly or via a storm drain into concrete or significantly hardened channels (*e.g.*, rip rap, sackcretec, etc.), which, in turn, discharge into a sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

e. Single-family residential projects that disturb less than one acre or add less than 10,000 ft^2 of new impervious area.

f. Projects for which planned hydrologic control measures include sufficient, subregional, regional, or in-stream runoff control measures, or a combination thereof.

g. Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility.

(3) ~~Development of a numeric model to predict stream bed/stream bank enlargement and evaluate the effectiveness of mitigation strategies.~~ Numeric Hydrologic Control Criteria

~~(c) Until the completion of the SMC's HCS, Permittees shall continue to implement the following~~

i. **Interim Hydromodification Criteria** ~~to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are:~~

~~(1) **Projects disturbing land area of less than fifty acres** Hydrologic control for projects in this size category shall involve matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24 hour storm event (not exceeding the pre-development flows).~~. Interim hydromodification control standards are required for the protection of Natural Drainage Systems until the completion by the Permittees of the Hydromodification Management Plan (HMP) required in Section 4.E.3.d.(3)(ii)b. below.

a. Unless a hydromodification control exemption applies, Permittees shall require Compliance Documents for the following New Development and Significant Redevelopment Project categories discharging to Natural Drainage Systems to specify and require implementation of hydromodification controls:

1. New Development and Significant Redevelopment projects less than 100 acres.

(A) Until the Permittees develop the HMP, these projects shall implement hydromodification controls such that peak flow and volume of the 2-year, 24-hour storm event post-development hydrograph will match within one percent the peak flow and volume of the 2-year, 24-hour storm event pre-project hydrograph.

(B) Alternatively, these projects may elect to develop and implement a Hydromodification Analysis Study (HAS) or implementation tool pursuant to the following subsection 2.

2. ~~(2) Projects disturbing land areas of fifty~~New Development and Significant Redevelopment Projects 100 acres or greater.[14]

(A) ~~Hydrologic control for projects in this size category shall involve~~Until the completion of the HMP, these projects shall complete and implement a Hydromodification Analysis Study (HAS) ~~by the project proponent to demonstrate~~that demonstrates that post development conditions are not expected to alter the duration of sediment transporting flows in receiving ~~streams and tributaries~~waters. The HAS must demonstrate that the selected ~~hydrologic controls~~hydromodification control BMPs will maintain an Erosion Potential (Ep) value ~~of 1 unless an alternative value can be~~ shown to be protective of the ~~natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases~~

[14] ~~91st percentile of all construction projects covered under the general construction permit (CASGP) in Southern California.~~

~~from impervious surfaces and damage stream habitat in natural drainage system tributaries.~~Natural Drainage Systems from hydromodification impacts.

(B) Alternatively, these projects may elect to develop an implementation tool in accordance with the following methodology. The implementation tool shall be based on flow duration control in the form of nomographs relating planned impervious area and local soil type (infiltration rates) to determine hydromodification control BMP volume and land area requirements for the proposed project. The nomographs shall be derived from continuous simulation modeling using Ventura County specific rain gauge records and local soils types. The model shall be calibrated using data from a local undeveloped gauged watershed.

ii. **Final Hydromodification Criteria.** The Permittees shall prepare a HMP that includes final hydromodification control standards for the protection of Natural Drainage Systems.

~~(f) The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to identify effective mitigation strategies. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than (18 months from the Order's adoption).~~

a. The Permittees shall participate in the Southern California Coastal Water Research Project (SCCWRP) Hydromodification Control Study (HCS).

~~(g) Hydromodification Control Plan~~

b. ~~(1) On completion of the HCS (SMC HCS or Permittee HCS), the Permittees shall develop and implement Watershed Hydromodification Control Plans (HCPs), no later than 6 months after the completion of the HCS. The HCP~~No later than one year after completion of the HCS, the Permittees shall implement a HMP taking into account local watershed conditions. The HMP shall identify ~~tributary~~stream classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any ~~in-stream~~stream restoration-based controls, which will maintain the ~~stream and tributary~~ Erosion Potential ~~at 1 unless an~~

~~alternative~~(Ep) value ~~can be~~ shown to be protective of the ~~natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries~~Natural Drainage Systems addressed by the HMP.

c. ~~(2)~~ The ~~HCS~~HMP shall contain the following elements:

1. ~~(A)~~ Final Hydromodification Management ~~Standard: Storm water discharges from applicable new development and redevelopment projects shall not cause an increase in the erosion potential of the receiving creek over the pre-project (existing) condition~~Standards.

2. ~~(B)~~ Natural Drainage Areas and Hydromodification Management Control Areas.

3. ~~(C) Projects subject to Controls including~~The New Development and Significant Redevelopment ~~Projects~~projects subject to the HMP.

4. ~~(D)~~ Description of authorized Hydromodification ~~Management Controls~~control BMPs.

5. ~~(E)~~ Hydromodification ~~Management~~ Control ~~Design Criteria~~BMP design criteria.

~~(F) Range of flows to control namely matching post development discharge rates and durations from critical flow on up to the pre-development 10-year peak flow (or equivalent alternative criteria).~~

~~(G) Goodness of fit criteria.~~

~~(H) Allowable low flow rate.~~

6. For flow duration control methods, the range of flows to control and goodness of fit criteria. (By way of example only, appropriate criteria may be to approximate the pre-project flows and durations for the continuous range of flows from the critical flow, Qc, to the 10-year return period flow, based on long-term rainfall records. Within this range, the post-project flow duration curve shall not deviate above the pre-project flow duration curve flows by more than 10 percent, and shall not deviate above the pre-

project flow duration curve flows over more than 10 percent of the length of the curve).

7. Applicable low critical flow, Qc, which initiates sediment transport.

8. ~~(I)~~ Description of the approved Hydromodification Model.

9. ~~(J)~~ Any alternate Hydromodification Management Model and Design.

~~(K) In-Stream Measures Design Criteria.~~

10. Stream restoration-based controls design criteria.

11. Monitoring and Effectiveness Assessment.

12. ~~(L)~~ Record Keeping.

~~III. **Post-Construction Storm Water Mitigation Criteria**~~

~~1. Post-Construction Storm Water BMP Program and Project Applicability~~

~~(a) Each Permittee shall require that during the construction of a single-family hillside home, measures be taken to:~~
~~(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 all development projects equal to 1 acre or greater of disturbed area be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution.~~

~~(c) Each Permittee shall require, in addition, that the following development projects be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution:~~
~~(1) Industrial park 5,000 square feet or more of surface area;~~
~~(2) Commercial strip mall 5,000 square feet or more of surface area;~~

~~(3) Retail gasoline outlet 5,000 square feet or more of surface area;~~
~~(4) Restaurant (SIC 5812) 5,000 square feet or more of surface area;~~
~~(5) Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces;~~
~~(6) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;~~
~~(7) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; and~~
~~(8) Redevelopment projects in subject categories that meet Redevelopment thresholds (identified below in section III.4).~~

~~(d) Each Permittee shall require, in addition, that post-construction BMPs be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution at development projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will:~~
~~(1) Discharge storm water runoff that is likely to impact a sensitive biological species or habitat.~~
~~(2) Create 2,500 square feet or more of impervious surface area.~~

~~2. Tiered Numeric Water Quality Design Criteria~~
(e) **Specific** Compliance Documents **Requirements—Treatment Controls**

~~(a) **Projects disturbing land areas less than 50 acres**~~
(1) ~~Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a~~**Tiered Numeric Water Quality Design Criteria**. Compliance Documents prepared for the following categories of New Development and Significant Redevelopment projects shall incorporate treatment control BMPs that are designed in accordance with the following volumetric and/or ~~hydrodynamic (~~flow based~~)~~ treatment control design ~~standard,~~standards, which are consistent with the objectives stated in Part 4. E.1.~~ and as identified below to mitigate (infiltrate, filter or treat) storm water:~~

i. Projects less than 100 acres

a. ~~(1)~~ Volumetric Treatment Control BMP Sizing Criteria

1. ~~(A)~~ The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, using a 48-hour draw down time, from the formula recommended in *Urban Runoff Quality Management, WEF*

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

2. ~~(B)~~ The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment ~~(Ventura County Technical Manual); or~~by the method recommended in the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

~~(C) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system;[15] and/or~~

b. ~~(2) Hydrodynamic (~~Flow Based~~)~~ Treatment Control BMP Sizing Criteria

1. ~~(A)~~ The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

2. ~~(B)~~ The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity ~~for Ventura County~~as determined from the local rainfall record; or

3. ~~(C)~~ Ten percent of the 50-year storm design flow rate as determined from the methodology presented in the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

ii. ~~(b)~~ Projects ~~**disturbing land area of 50 acres or greater**~~100 acres or greater

~~Each Permittee shall require that post-construction treatment control BMPs be:~~

1. ~~(1) Designed~~Projects disturbing land area of 200 acres or greater shall implement treatment control BMPs that are sized to capture and treat 80 percent of the average annual runoff volume, using an appropriate public domain ~~hydrodynamic~~continuous flow model (such as Storm Water Management Model (SWMM) ~~5~~ or Hydrologic Engineering

~~[15] This option is not available for construction projects that disturb land area 5 acres or greater.~~

Center – Hydrologic Simulation Program – Fortran (HEC-HSPF)~~; and incorporate the following:~~) and the local rainfall record.

~~(A) Rainfall intensity based on hourly rainfall records;~~
~~(B) An adjustment factor for within hour rainfall variability; and~~
~~(C) Hydraulics of BMP Performance.~~

~~(2) Satisfy the objectives identified for storm water quality management identified in Part 4. E.1.~~

~~3. Site Specific Mitigation~~

~~(a) Each Permittee shall require the implementation of a site specific plan to mitigate post development storm water for new development and redevelopment projects not identified in Parts 4. E. III.1(b), III.1(c), and III.1(d), but which may potentially have adverse impacts on post development storm water quality, where 1 or more of 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.~~

~~4. Redevelopment Projects~~

~~(a) Each Permittee shall apply the post construction BMP requirements, or site specific requirements including post construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories.~~

~~(b) 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.~~

~~(1) 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.~~

~~(2) 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 alteration must be mitigated, and not the entire development.~~

~~(c) Redevelopment does not include routine maintenance 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. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.~~

~~(d) Existing single family structures are exempt from the Redevelopment requirements.~~

4. ~~5.~~ **Maintenance Agreement and Transfer.**

(a) Each Permittee shall require that all ~~development~~New Development and Significant Redevelopment projects subject to post-construction BMP ~~requirements and site specific plan~~ requirements provide verification of enforceable maintenance provisions for ~~Structural and Treatment Control~~structural source control, treatment control, and hydromodification control BMPs, including but not limited to final map conditions, legal agreements, covenants, conditions or restrictions, CEQA mitigation requirements, ~~and/ or~~ conditional use permits, and/or other legally binding maintenance requirements.

~~(1) Verification at a minimum shall include:~~

(1) ~~(A) The~~Verification at a minimum shall include the developer's signed statement accepting responsibility for maintenance of the BMPs until the responsibility is legally transferred~~;~~, and either;

i. ~~(B)~~ A signed statement from the public entity assuming responsibility ~~for Structural or Treatment Control~~ for structural BMP maintenance ~~and that it meets all local agency design standards~~; or

ii. ~~(C)~~ Written conditions in the sales or lease agreement, which ~~requires the recipient~~require the property owner or tenant to assume responsibility for structural BMP maintenance and agreeing to conduct a maintenance inspection at least once a year; or

iii. ~~(D)~~ Written text in project covenants, conditions, ~~covenants~~ and restrictions (CCRs) ~~for residential properties~~ assigning structural BMP maintenance responsibilities to the Home Owners Association (HOA) ~~for maintenance of the Structural and Treatment Control BMPs~~; or

~~(E) 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~~

iv. ~~(F)~~ Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of ~~post-construction Structural or Treatment Control~~ BMPs.

5. ~~6.~~ Development Planning Coordination and Enforcement.

~~(a) Each Permittee shall implement a program to inspect and enforce on new development and redevelopment projects for post-construction control BMPs.~~

~~(1) Prior to approving and signing off for occupancy and issuing the Certificate of Occupancy for all new development and redevelopment projects subject to post-construction control BMPs, each Permittee shall inspect the constructed site design, Structural control and Treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.~~

~~(b) The State/ U.S. EPA permitting authority may undertake the following actions for coordination with the post-construction BMP provisions of the State construction activity storm water general permit or individual storm water construction permits.~~

~~(1) Absence of Post-Construction BMPs~~

~~(A) If the State/U.S. EPA inspection does not readily identify the implementation of post-construction control BMPs at the site, the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.~~

~~(B) Failure to implement post-construction control BMPs, or implementing ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT).~~

~~(2) Inadequate or Ineffective Post-Construction BMPs~~

~~(A) If the State/U.S. EPA inspection identifies the implementation of post-construction BMPs, but they are determined to be~~

~~inadequate or ineffective (e.g. undersized, or non-specific to pollutants of concern, or poorly maintained), the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.~~

~~(B) Implementation of inadequate or ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT) for the project.~~

~~7. Regional and Redevelopment Area Storm Water Mitigation~~

~~(a) A Permittee or a coalition of Permittees may apply to the Regional Water Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will:~~

~~(1) Result in equivalent or improved storm water quality.~~

~~(2) Protect stream habitat.~~

~~(3) Promote cooperative problem-solving by diverse interests.~~

~~(4) Be fiscally sustainable and has secure funding.~~

~~(5) Be completed in four years or less including the construction and start-up of treatment facilities.~~

~~(b) A Permittee may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation will result in equivalent or improved storm water quality.~~

~~(1) Redevelopment Project Areas include (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the Regional Water Board.~~

~~(c) Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, as approved in this Order.~~

~~8. Mitigation Funding~~

~~(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to support regional or subregional solutions to storm water pollution, where any of the following situations occur:~~

~~(1) A waiver for impracticability is granted;~~

~~(2) Funds become available;~~

~~(3) Off-site mitigation is required because of loss of environmental habitat; or~~

~~(4) An approved watershed management plan, or an integrated water resources management plan, or a regional storm water mitigation plan, or a wetlands recovery plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.~~

~~9. Inspection and Tracking System for Post-Construction Treatment Control BMPs~~

(a) ~~Each Permittee shall develop and implement no later than (6 months from this Order's adoption) the following:~~No later than one year from the date of this Order's adoption, each Permittee shall revise its inspection and enforcement program for New Development and Significant Redevelopment post-construction structural source, treatment and hydromodification control BMPs as set forth in this subsection 4.E.3.

(b) Each Permittee shall inspect, with trained staff or consultants, all development sites upon completion of construction and prior to final approval/occupancy to ensure proper installation of permanent erosion controls, LID strategies, and structural source control, treatment control, and hydromodification control BMPs. Enforcement shall be taken as necessary based on inspection results. This inspection may be combined with other inspections, provided that it is performed by trained staff or consultants.

(c) ~~(1) A~~Each Permittee shall develop and implement a GIS or other electronic system for tracking projects that have been conditioned for construction, post-construction, structural source, treatment and/or hydromodification control BMPs. The electronic system, at a minimum, should contain the following information:

(1) ~~(A)~~ Municipal Project ID.

(2) ~~(B)~~ State WDID No.

(3) ~~(C)~~ Project Acreage.

(4) ~~(D)~~ BMP Type and Description.

(5) ~~(E)~~ BMP Location (coordinates).

(6) ~~(F)~~ Date of Acceptance.

(7) ~~(G)~~ Date of O&M Certification.

(8) ~~(H)~~ Maintenance Records.

(9) ~~(I)~~ Inspection Date and Summary.

(10) ~~(J)~~ Corrective Action.

(11) ~~(K)~~ Date Certificate of Occupancy Issued.

(12) ~~(L)~~ Replacement or Repair Date.

(d) ~~(2) A post-construction treatment control BMP inspection~~Each Permittee shall develop and implement a program to verify proper maintenance and operation of post-construction structural source, treatment and hydromodification control BMPs previously approved. The inspection program~~, at a minimum~~ shall ~~consist of~~incorporate the following elements:

~~(A) Post-construction treatment control BMP acceptance inspection to ensure proper installation.~~

~~(B) Post-construction treatment control BMP Inspection check list.~~

(1) ~~(C)~~ Inspection at least once every 2 years, beginning ~~(~~1 year after the Order's adoption~~)~~, of post-construction structural source, treatment ~~control BMPs to ensure treatment effectiveness, hydraulic function, and vector risk minimization,~~ and hydromodification control BMPs assess operational conditions with particular attention to:

i. ~~(i) Conventional Treatment~~For nonproprietary BMPs ~~– failure~~ – hydraulic function, invasive ~~species~~ vegetation, vector risk, fugitive material, sediment clogging, and improper modifications.

ii. ~~(ii) Non-Proprietary Treatment Control~~For proprietary BMPs – solids removal, pump-out, blockage and drawdown drainage~~;~~.

(2) ~~(D)~~ Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.

(e) The State Water Resources Control Board and U.S. EPA have the authority provided by law to enforce the post-construction BMP provisions of the Statewide General NPDES for Stormwater Discharges Associated with Construction Activities (GCP) or individual storm water construction permits.

6. Storm Water Mitigation Programs.

(a) A Permittee, a coalition of Permittees, or another entity or person responsible for complying with municipal requirements adopted pursuant to this Order, may apply to the Executive Officer for approval of a storm water mitigation program to substitute in part or wholly for the Compliance Documents requirements of this Order. The Executive Officer may consider for approval such a program if its implementation will:

(1) Result in equivalent or improved storm water quality to that required by this Order.

(2) Promote cooperative problem solving by diverse interests.

(3) Be fiscally sustainable and have secure funding.

(4) For New Development projects, will result in construction of regional or subregional treatment control or hydromodification control facilities prior to discharge of runoff from the region or subregion served by the facilities.

(5) For Significant Redevelopment and infill development, will result in construction of regional or subregional treatment control or hydromodification control facilities in a period of time sufficient to mitigate post-construction adverse water quality impacts.

(b) The Executive Officer shall approve or disapprove of such a storm water mitigation program within 180 days of receipt of an application pursuant to this section. If the Executive Officer disapproves a storm water mitigation program, the Executive Officer shall provide comments explaining the unacceptable aspects of the proposed program.

(c) A Permittee, a coalition of Permittees or another entity or person responsible for compliance with municipal requirements adopted pursuant to this Order, may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-

construction requirements. The Regional Water Board may consider for approval such a program if its implementation will result in improved storm water quality.

(1) Redevelopment Project Areas include: (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the Executive Officer.

(d) Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, except as expressly approved in this Order.

7. Mitigation Funding.

(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to fund regional or subregional solutions to storm water pollution, where any of the following situations occur:

(1) A waiver for impracticability is granted;

(2) Funds become available;

(3) Off-site mitigation is required because of loss of environmental habitat; or

(4) An approved watershed management plan, an integrated water resources management plan, a storm water mitigation plan, a wetlands recovery plan, or similar plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.

8. ~~10.~~ Developer Technical Guidance and Information.

(a) The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include, at a minimum, the following:

(1) ~~Hydrologic (Flow/Volume/Duration) Control~~Hydromodification control criteria described ~~herein and the interim~~in this Order, including the numerical criteria ~~based on hydrograph matching~~.

(2) Expected treatment control BMP pollutant removal performance including ~~consistent~~ effluent quality and removal efficiency ranges ~~(~~from the ASCE/EPA International BMP Database, technical reports and the scientific literature~~)~~., as well as data on observed local effectiveness and performance of implemented BMPs.

(3) ~~Appropriate BMPs for storm water POCs.~~Selection of appropriate treatment control BMPs for stormwater pollutants of concern.

(4) ~~Data on Observed Local Effectiveness and performance of implemented BMPs.~~BMP maintenance and cost considerations.

~~(5) BMP Maintenance and Cost Considerations.~~

(5) ~~(6)~~ Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits.

(6) ~~(7)~~ LID principles and specifications.

9. ~~11.~~ Project Review and Inter Department Coordination.

(a) Each Permittee shall facilitate a process for effective approval of post-construction control measures. The process shall include:

(1) Detailed BMP review including BMP sizing calculations, BMP pollutant removal effectiveness, and municipal approval.

(2) An established structure for communication and delineated authority between and among municipal departments ~~which~~that have jurisdiction over project review, plan approval, and project construction through memoranda of understanding (MOU) or an equivalent mechanism.

10. ~~12.~~ California Environmental Quality Act (CEQA) Document Update.

(a) Each Permittee shall, within six months of the adoption of this Order, incorporate into its CEQA process~~, with immediate effect,~~ those additional procedures, if any, that are necessary 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:

(1) Potential impact of project construction on storm water runoff.

(2) Potential impact of project post-construction activity on storm water runoff.

(3) 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.

(4) Potential for discharge of storm water to cause significant harm to or to impair the beneficial uses of the receiving waters ~~or areas that provide water quality benefit~~.

~~(5) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies.~~

(5) ~~(6)~~ Potential for significant changes in the flow velocity or volume of storm water runoff ~~that can cause environmental harm~~to cause significant harm to or to impair the beneficial uses of the receiving waters in Natural Drainage Systems.

~~(7) Potential for significant increases in erosion of the project site or surrounding areas.~~

11. ~~13.~~ **General Plan Update.**

(a) Each Permittee shall amend, revise or update its General Plan to include appropriate watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended:

(1) Land Use.

(2) Housing.

(3) Conservation.

(4) Open Space.

(b) Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq*.

F. Development Construction Program

~~Sediment losses due to erosion on construction sites are exacerbated during the wet season. Sediment is a primary pollutant impacting beneficial uses of watercourses. Sedimentation and siltation adversely affect fish spawning, and in time, alter aquatic habitat. Other pollutants including pesticides, herbicides, fertilizers, and metals, adsorb onto sediment particles and detrimentally impact biological systems and water quality.~~

1. ~~Grading Prohibitions~~Each Permittee must implement a construction program that meets the requirements of this section, prevents illicit construction-related discharges of pollutants into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites, reduces construction site discharges of pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

   ~~(a) Each Permittee shall implement a program to control storm water discharges from construction activity at all construction sites within its jurisdiction. During the wet season, the program shall ensure that the following requirements are effectively implemented at all of the construction site categories listed below:~~
   ~~(1) No grading shall occur between October 1 – April 15 (wet season) for construction projects in the following areas of high erosivity or receiving water impairment or sensitive habitat:~~
   ~~(A) On hillsides with slopes 20% or steeper prior to land disturbance;~~
   ~~(B) Directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment; or~~
   ~~(C) Within or adjacent to an environmentally sensitive area (ESAs).~~

   ~~(b) If grading operations in these areas are not completed before the onset of the wet season beginning October 1st, grading shall be halted and effective erosion control measures shall be put in place to minimize erosion. Grading shall not resume until after April 15th. Depending on the project area, the developer shall implement the Erosion and Sediment control BMPs listed in Tables 5, 6, and 7.~~
   ~~(1) A Grading Prohibition Variance may be granted by the Regional Water Board Executive Officer, where the Permittee can demonstrate that BMP measures proposed by the project proponent and approved by the Permittee can be reasonably expected to:~~
   ~~(A) Not cause or contribute to the degradation of water quality.~~
   ~~(B) Ensure that Total Suspended Solids discharged is 100mg/L or less.~~
   ~~(C) Ensure that Turbidity of the discharge is 50 NTU or less.~~
   ~~(D) Not impair beneficial uses.~~
   ~~(E) Includes a monitoring program to ensure effectiveness.~~

2. Minimum Construction ~~Sites Less than an Acre~~BMP Implementation

   (a) Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites ~~(see the following Table 5)~~requiring a grading permit to prevent

erosion ~~and~~, sediment loss, and the discharge of construction wastes.[16][14] ~~Where the Erosivity Factor (R) for the construction project is 50 or greater, erosion controls (erosion avoidance) will be the~~Consistently with the Statewide General NPDES Permit for Stormwater Discharges Associated with Construction Activities ("GCP"), BMPs shall be implemented to control and abate the discharge of pollutants in stormwater discharges from construction sites utilizing the best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). Erosion control BMPs (erosion avoidance) shall be preferred to sediment control BMPs.[17]

~~Table 5~~

(i) Each Permittee shall require the implementation of BMPs selected from those listed in Table 1 (and others as needed) to control pollutants in discharges from construction sites to the BAT/BCT.

(b) Each Permittee shall require the implementation of the BMPs listed in Table 1 below (and others as needed) to effectively control pollutants in discharges from construction sites. An effective combination of erosion and sediment control practices shall be implemented on disturbed areas without regard to time of season. The erosion and sediment control practices shall be selected to:

~~Minimum Set of BMPs for All Construction Sites~~	~~CASQA Handbook~~	~~Caltrans Handbook~~
~~For Erosion Control~~		
~~Scheduling~~	~~EC-1~~	~~SS-1~~
~~Preservation of Existing Vegetation~~	~~EC-2~~	~~SS-2~~
~~Sediment Controls~~		
~~Silt Fence~~	~~SE-1~~	~~SC-1~~
~~Sand Bag Barrier~~	~~SE-8~~	~~SC-8~~
~~Non-Storm Water Management~~		
~~Water Conservation Practices~~	~~NS-1~~	~~NS-1~~
~~Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004).[18]~~	~~NS-2~~	~~NS-2~~
~~Waste Management~~		
~~Material Delivery and Storage~~	~~WM-1~~	~~WM-1~~

[16][14] The BMPs are taken from the *California BMP Handbook, Construction, January 2003* and the *Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003*, and addenda. This list is not meant to endorse any specific product or manufacturer. BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

[17] ~~Fact Sheet, *Construction Rainfall Erosivity Waiver* (2001) EPA 833-F-00-014; *Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE)* (1997), USDA Agricultural Handbook No. 703.~~

[18] ~~Ponded storm water may be discharged at a concentration of Total Suspended Solids (TSS) of 100mg/L or less.~~

~~Minimum Set of BMPs for All Construction Sites~~	~~CASQA Handbook~~	~~Caltrans Handbook~~
~~For Erosion Control~~		
~~Stockpile Management~~	~~WM-3~~	~~WM-3~~
~~Spill Prevention and Control~~	~~WM-4~~	~~WM-4~~
~~Solid Waste Management~~	~~WM-5~~	~~WM-5~~
~~Concrete Waste Management~~	~~WM-8~~	~~WM-8~~
~~Sanitary/Septic Waste Management~~	~~WM-9~~	~~WM-9~~

~~3. Construction Sites 1 acre or greater but Less than 5 acres~~

~~(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 6) in addition to the ones identified in the preceding Table 5 at all construction sites 1 acre and greater but less than 5 acres to prevent erosion and sediment loss, and the discharge of construction wastes:~~

(i) Minimize exposed areas during the rainy season;

(ii) Provide erosion control practices on disturbed areas, slopes, and stockpiles;

(iii) Provide properly designed drainage facilities to control concentrated flows;

(iv) Provide sediment control practices around the perimeter of the construction site, at all transition areas within the project site (e.g., transition from slope to flat areas), and at all internal inlets to the storm drain system during the rainy season;

(v) Reduce the tracking of sediment off site at all times; and

(vi) Reduce wind erosion all year.

~~Table 6~~

Table 1

Status	Construction Site BMPs	CASQA Handbook[15]	Caltrans Handbook[16]
Erosion Control			
Required	Scheduling	EC-1	SS-1
Required	Preservation of Existing Vegetation	EC-2	SS-2
Select one (or more as needed)	Hydraulic Mulch	EC-3	SS-3
	Hydroseeding	EC-4	SS-4
	Soil Binders	EC-5	SS-5
	Straw Mulch	EC-6	SS-6
	Geotextiles and Mats	EC-7	SS-7
	Wood Mulching	EC-8	SS-8
If needed	Slope Drains	EC-10	SS-11

[15] BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

[16] BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

Status	Construction Site BMPs	CASQA Handbook[15]	Caltrans Handbook[16]
Erosion Control			
Sediment Controls			
Select one	Silt Fence	SE-1	SC-1
	Fiber Rolls	SE-5	SC-5
If needed	Sediment Basin	SE-2	SC-2
If needed	Check Dam	SE-4	SC-4
If needed	Gravel Bag Berm	SE-6	SC-6
Required	Street Sweeping and/or Vacuum	SE-7	SC-7
If needed	Sand Bag Barrier	SE-8	SC-8
Required	Storm Drain Inlet Protection	SE-10	SC-10
Additional Controls			
Required	Wind Erosion Controls	WE-1	WE-1
Required	Stabilized Construction Entrance/Exit	TC-1	TC-1
If needed	Stabilized Construction Roadway	TC-2	TC-2
If needed	Entrance/Exit Tire Wash	TC-3	TC-3
Non-Storm Water Management			
Required if applicable	Water Conservation Practices	NS-1	NS-1
	Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004)[17]	NS-2	NS-2
	Vehicle and Equipment Washing	NS-8	NS-8
	Vehicle and Equipment Fueling	NS-9	NS-9
	Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management			
Required if applicable	Material Delivery and Storage	WM-1	WM-1
	Stockpile Management	WM-3	WM-2
	Spill Prevention and Control	WM-4	WM-4
	Solid Waste Management	WM-5	WM-5
	Concrete Waste Management	WM-8	WM-8
	Sanitary/Septic Waste Management	WM-9	WM-9

(c) All disturbed areas that will not be re-disturbed shall be provided with erosion control measures. The erosion control practices should achieve control equivalent to 70-90 percent soil coverage until the permanent vegetation or other permanent stabilization provides the intended long-term erosion control function at the site.

(d) On-site drainage facilities for carrying concentrated flows shall be designed to control erosion and to prevent damage to downstream properties.

(e) Sediment control practices shall be provided around the down gradient perimeter of the construction site and at all internal inlets to the storm drain system during the rainy season. These sediment control measures may include filtration devices (such as silt fences, straw bale barriers, and inlet filters) and/or settling devices (such as sediment traps or basins). Filtration devices that are designed for sheet flow shall be installed and maintained properly in order to perform effectively (i.e., after each rain event accumulated sediments shall be removed). Sediment traps or basins shall be designed and maintained in accordance with requirements of the GCP.

(e) Practices shall be implemented and maintained to reduce the tracking of sediment off site at all times. This may be accomplished by stabilized construction entrances or other appropriate and effective measures designed in accordance with the most current CA BMP Handbooks or their equivalent.

(f) Practices shall be implemented and maintained to reduce wind erosion at all times. This may be accomplished by limiting the area of disturbance, applying dust control measures, and stabilizing disturbed areas in a timely manner, and should be designed in accordance with the most current CA BMP Handbooks or their equivalent.

3. Enhanced Construction BMP Implementation

Each Permittee shall implement, or require implementation of, the minimum BMPs listed in Table 1 above and enhanced practices to address the exceptional threat to water quality posed by all construction sites defined as being within a "hillside area" pursuant to the applicable Permittee's Zoning Code, areas directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment, or directly discharging to an environmentally sensitive area (ESA).

(a) Enhanced practices for high risk sites shall include increased BMP inspection and maintenance requirements.

(i) High risk sites shall be inspected by the SWPPP preparer/engineer of record, or qualified construction water quality compliance personnel or consultants who are Certified Professionals in Erosion and Sediment Control (CPESC) at the time of BMP installation, at least weekly during the rainy season, within the 48 hours prior to a predicted rainfall event of 0.1 inch or greater as determined by the Quantitative Precipitation Forecast, and monthly during the dry season.

~~Construction Sites 5 acres and Greater~~

(ii) During the rainy season (October 1st to April 15th), the area of disturbance shall be limited to the area that can be controlled with an effective combination of erosion and sediment control BMPs. Enhanced sediment controls should be used in combination with erosion controls and should target portions of the site that cannot be effectively controlled by standard proactive erosion controls described above. Effective sediment and erosion control BMPs proposed by the proponent shall include a combination of the following:

~~(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 7) in addition to the ones identified in the preceding Tables 5 and 6 at all construction sites 5 acres and greater to prevent erosion and sediment loss, and the discharge of construction wastes:~~

(A) Catwalking or trackwalking;
(B) Soil binders, hydraulic mulch, or other tackifiers;
(C) Sediment barriers at a minimum of 150 foot spacing;
(D) Stormdrain inlet protection;
(E) Plastic sheeting for stockpiles;
(F) Silt fences or fiber rolls;
(G) Stabilized construction entrance(s) so as to prevent the track-out of bulk material, extending 25 feet or more in cumulative length from the project site boundary, or into proximity of any connected and unprotected storm drain;
(H) Provide sediment basins when feasible and appropriate, designed pursuant to GCP standards, and incorporating enhanced sediment basin controls, such as the addition of baffles or other controls, as necessary to improve reductions in sediment load. Sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls alone, and are not necessarily required or appropriate throughout a site;
(I) Provide sediment traps when feasible and appropriate, with a minimum of 12 inches of freeboard prior to the first set of dewatering holes in riser pipe. The entire riser pipe shall be jacketed with additional protections (i.e. gravel or filter fabric). Sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls alone, and are not necessarily required or appropriate throughout a site; and/or
(J) Cessation of construction activity as necessary to prevent work past the point of effective BMP implementation.

~~Table 7~~

~~BMPs~~	~~CASQA Handbook~~	~~Caltrans Handbook~~
~~Sediment Controls~~		
~~Sediment Basin~~	~~SE-2~~	~~SC-2~~
~~Check Dam~~	~~SE-4~~	~~SC-4~~
~~Tracking Control BMPs~~		
~~Stabilized Construction Entrance/Exit~~	~~TR-1~~	~~TC-1~~
~~Non-Storm Water Management~~		
~~Vehicle and Equipment Maintenance~~	~~NS-10~~	~~NS-10~~
~~Waste Management~~		
~~Material Delivery and Storage~~	~~WM-1~~	~~WM-1~~
~~Spill Prevention and Control~~	~~WM-4~~	~~WM-4~~
~~Concrete Waste Management~~	~~WM-8~~	~~WM-8~~
~~Sanitary/Septic Waste Management~~	~~WM-9~~	~~WM-9~~

4. ~~Local Agency~~SWPPP Requirements

(a) Each Permittee shall require for all construction sites 1 acre or greater, compliance with all conditions identified in the preceding sections F.1, F.2, and F.3, and ~~F.4, and~~ the following requirements:

(1) ~~Local~~Inclusion in the project Storm Water Pollution Prevention Plan (~~Local~~ SWPPP), prepared pursuant to the GCP, of those BMPs necessary to comply with all conditions identified in the preceding sections F.1, F.2, and F.3.

(A) Each Permittee shall require the preparation and submittal of a ~~Local~~the SWPPP~~, for approval~~ as required by the GCP prior to, and as a condition of issuance of ~~a~~the first grading permit for construction projects.

(i) The ~~Permittee~~SWPPP shall ~~approve no Local SWPPP unless it includes~~include appropriate construction site BMPs and implementation and maintenance schedules as required by the GCP and this Order.

~~(ii) 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.~~

(ii) ~~(iii)~~ The ~~Local~~ SWPPP must include the rationale used for selecting or rejecting ~~BMPs.~~certain BMPs for various construction site phases and weather conditions. The project ~~architect, or~~ SWPPP preparer/engineer of record, CPESC or authorized qualified designee, must sign a statement on the ~~Local~~ SWPPP to the effect:

~~(iv)~~ *"As the ~~architect~~SWPPP preparer/engineer of record, I have selected appropriate BMPs for implementation based upon site, construction phase, and weather conditions, as necessary to effectively ~~minimize~~control the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware ~~that~~of the suite of selected BMPs that must be installed, monitored, and maintained for various project phases, site conditions and weather conditions to ensure their effectiveness. The BMPs not selected for implementation are redundant or are deemed not applicable to either the proposed or anticipated site, or weather or drainage conditions, or construction ~~activity~~activities."*

(2) Certification Statement

(A) Each Permittee shall require that each landowner or the landowner's agent sign a statement on the ~~Local~~ SWPPP 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."*

(B) The ~~Local~~ SWPPP certification shall be signed by the landowner as follows:

(i) Corporation - by a responsible corporate officer which means the following:

(I) 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

(II) Manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(ii) Partnership or sole proprietorship - by a general partner or the proprietor; or

(iii) Municipality or other public agency - by an elected official, a ranking management official (e.g., County/City Administrative Officer, City Manager, Director of Public Works, or City Engineer).

~~6.~~ 5. Permittee's Electronic Site Tracking ~~System~~Systems.

(a) Each Permittee shall use an electronic system to track grading permits, encroachment permits, demolition permits, building permits, or construction permits (and any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

~~7.~~ 6. Permittee Inspections of Construction Sites.

(a) Each Permittee shall inspect all construction sites for the implementation of storm water quality controls a minimum of once during the ~~wet~~rainy season (October 1st to April 15th). ~~Concurrently, each Permittee shall ensure that:~~

(b) Each Permittee shall inspect high risk construction sites for the implementation of storm water quality controls a minimum of once per month during the rainy season.

(c) Concurrently, each Permittee shall ensure that:

(1) The ~~Local~~ SWPPP shall be reviewed for compliance with this Order, local codes, ordinances, and permits.

(2) For inspected sites that have not adequately implemented their ~~Local~~ SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.

(3) If compliance with this Order, municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance as specified in municipal codes.

(4) If compliance has not been achieved, and the site is also covered under ~~a Construction Activities Storm Water General Permit (CASGP)~~the GCP or Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the procedures listed in section D.3.(d) - Interagency Coordination of this Order.

(b) Prior to approving and/or ~~signing~~sign off for ~~occupancy and issuing~~ the Certificate of Occupancy for all construction projects subject to post-construction controls, each Permittee shall inspect the constructed post-construction site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. The initial/ acceptance BMP verification inspection does not constitute an operation and maintenance inspection, as required in sections E.III.7.(a)(1) and G.6.(g)(1).

~~8.~~ 7. State Conformity Requirements

(a) Each Permittee shall ensure that no grading permit, encroachment permit, demolition permit, building permit, electrical permit, or construction permit (or any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the ~~CASGP~~GCP or Small LUP General Permit[~~19~~18] unless:

(1) Proof of coverage under a State NPDES permit is demonstrated (a copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site).

(2) Demonstration or 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.~~

[~~19~~18] NPDES Permit No. CAS000005, Waste Discharge Requirements For Discharges of Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (Small LUP General Permit) for any linear land disturbing activity or activities (cumulatively) that will cause one acre or more of land disturbance but not more than 5 acres.

(3) Proof of ~~an updated NOI(s~~Change of Information form (COI) and a copy of the modified SWPPP(s) 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.

~~9.~~ 8. Interagency Coordination

(a) A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with:

(1) A minimum of 2 follow-up inspection reports (inspections completed within 3 months).

(2) A minimum of 2 warning letters or Notices of Violation (NOVs).

(b) Referral of Non-filers under the ~~CASGP~~GCP or the Small LUP General Permit: Each Permittee shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) under the ~~CASGP~~GCP or Small LUP General Permit, to the Regional Water Board, no later than 15 days after making a determination of failure to file. In making such referrals, Permittees shall include, at a minimum, the following documentation:

~~(1)~~ (1) Project location address.
(2) Project description.
(3) Developer or owners name with complete mailing address.
(4) Project size.
(5) Records of communication with the developer or owner regarding filing requirements.

(c) Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:

(1) Each Permittee shall initiate, within 1 business day,[~~20~~19] an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.

[~~20~~19] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

(A) The initial investigation shall include, at a minimum, an inspection on the facility and its perimeter to confirm the complaint and to determine if the site operator is effectively complying with the municipal storm water/urban runoff ordinances, and to oversee corrective action.

(d) Support of Regional Water Board Enforcement Actions – As directed by the Regional Water Board Executive Officer:

~~(1)~~ (1) Each Permittee shall support Regional Water Board enforcement actions by:

(A) Assisting in identification of current owners, operators, and lessees of properties and sites.
(B) Providing staff, when available, for joint inspections with Regional Water Board inspectors.
(C) Appearing to testify as witnesses in Regional Water Board enforcement hearings.
(D) Providing copies of inspection reports and other progressive enforcement documentation.

G. Public Agency Activities Program

Each Permittee shall implement a Public Agency Activities 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/Municipal Operations
- Landscape and Recreational Facilities Management
- Storm Drain Operation and Management
- Streets and Roads Maintenance
- Infrastructure Maintenance - Long-term
- Public Industrial Activities Management
- Emergency Procedures
- Employee Training

1. Sewage System Maintenance, Overflow, and Spill Prevention Response Plan

(a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction. The response Plan shall clearly identify agencies responsible and telephone numbers and email for any contact and shall contain at a minimum of the following procedures for:

(1) Investigation of any complaints received within 24 hours of the incident report.
(2) Response within two hours to overflows for containment upon notification.
(3) Notification to appropriate sewer and public health agencies and the Office of Emergency Services (OES) when a sewer overflows to the MS4. This requirement includes notification to the affected public health agencies that are mandated to monitor beach conditions, within 2 hours in case a spill has the potential to be discharged through the MS4 into coastal beaches.

(b) Each Permittee which owns and/or operates a sanitary sewer system, shall in addition to the preceding section 1(a), also implement the following requirements:
(1) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.
(2) Implement procedures and maintenance on schedules to prevent sewage spills or leaks from sewage facilities from entering the MS4.

(c) Each Permittee with septic systems in their jurisdiction shall implement a response plan for overflows of septic system leachate to surface waters within their respective jurisdiction, and shall consist, at a minimum, of the following:
(1) Investigation of any complaints received.
(2) Response within two hours to overflows for containment, upon notification.
(3) Notification within 24 hours to appropriate agencies and public health agencies when a septic system fails and flows to the MS4.

(d) In addition, Regional Water Board expects that the municipal departments that have responsibilities to implement the MS4 NPDES permit, other individual NPDES permits that may contain spill prevention, sewer maintenance, pretreatment programs and the SSO WDR will coordinate their compliance activities for consistency and efficiency.

2. Public Construction Activities Management

(a) Each Permittee shall implement and comply with the Development Planning Program requirements in Part 4. E of this Order at all Permittee owned or operated public construction projects.
(b) Each Permittee shall implement and comply with the Development Construction Program requirements in Part 4.F. of this Order at all Permittee owned or operated construction projects.

(c) Each Permittee shall obtain coverage under the ~~CASGP~~GCP for construction activities and projects that are:

(1) Covered under 1 (or more) Capital Improvement Projects (including but not limited to street repaving, new streets, channel clearing[2120]) or contract, and that individually or cumulatively disturb 1 acre or more of land; or
(2) Less than 1 acre, but are part of a larger common plan of development that in total disturbs 1 or more acres of land; and
(3) Linear construction project(s) that disturb 5 or more acres of land.

(d) Each Permittee shall obtain coverage under the Small LUP General Permit when disturbing at least 1 acre, but less than 5 acres of land during linear construction (land area includes trenching and staging areas).

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management/Long Term Maintenance Programs.

(a) Each Permittee shall implement the following BMPs[2221] at all Permittee owned, leased facilities and job sites including but not limited to vehicle/ equipment maintenance facilities, material storage facilities, and corporation yards, and at any area that includes the activities as described in the following Tables. Additionally, for any activity or area described in the footnote below,[2322] each Permittee shall also implement the BMPs in the Caltrans Storm Water Quality Handbook Maintenance Staff Guide described as B-4 in Table 8.

Table 85

From the Caltrans Storm Water Quality Handbook Maintenance Staff Guide

GENERAL BMPS	B-4
Flexible Pavement	B-9
Asphalt Cement Crack and Joint Grinding/Sealing	B-9
Asphalt Paving	B-10
Structural Pavement Failure (Digouts) Pavement Grinding and Paving	B-11
Emergency Pothole Repairs	B-13
Sealing Operations	B-14
Rigid Pavement	B-15
Portland Cement Crack and Joint Sealing	B-15

[2120] A CWA §401 certification may be required separately from the Regional Water Board for activities that occur within or adjacent to Waters of the U.S.. The Permittee shall obtain all necessary permits and certifications from the State and federal permitting authorities before commencing soil disturbing activities.
[2221] These BMPs are identified in Appendix B of the *Caltrans Storm Water Quality Handbook Maintenance Staff Guide, May 2003*, and its addenda.
[2322] Scheduling and Planning; Spill Prevention and Control; Sanitary/Septic Waste Management; Material Use; Safer Alternative Products; Vehicle/Equipment Cleaning, Fueling, and Maintenance; Illicit Connections Detection, Reporting and Removal; Illegal Spill / Discharge Control and Maintenance Facility Housekeeping Practices.

Sawcutting for Loop Installation	B-65
Traffic Guidance	B-67
Thermoplastic Striping and Marking	B-67
Paint Striping and Marking	B-68
Raised/Recessed Pavement Marker Application and Removal	B-70
Sign Repair and Maintenance	B-71
Median Barrier and Guard Rail Repair	B-73
Emergency Vehicle Energy Attenuation Repair	B-75
Snow and Ice Control	B-76
Snow Removal	B-76
Ice Control	B-77
Storm Maintenance	B-78
Minor Slides and Slipouts Cleanup/Repair	B-78
Management and Support	B-80
Building and Grounds Maintenance	B-80
Storage of Hazardous Materials (Working Stock)	B-82
Material Storage Control (Hazardous Waste)	B-84
Outdoor Storage of Raw Materials	B-85
Vehicle and Equipment Fueling	B-86
Vehicle and Equipment Cleaning	B-87
Vehicle and Equipment Maintenance and Repair	B-88
Aboveground and Underground Tank Leak and Spill Control	B-90

(b) Each Permittee shall obtain coverage under the ~~CASGP~~GCP no later than (7 days of adoption of Order 07-xxx) [Note: Refer Here To Ventura Permit Adoption Date Only]) for long-term maintenance programs including maintenance of flood control channels (such as vegetation removal), maintenance or replacement of streets, sidewalks, roads, and any other project that the Permittee undertakes including all Capital Improvement Projects (CIP) if either 1 or more acres of land are disturbed by grading, clearing or excavation activities for an individual project or cumulatively as part of several projects involving a soil disturbance.

4. Vehicle and Equipment Wash Areas

(a) Each Permittee shall eliminate discharges of wash waters from vehicle and equipment washing no later than (365 days after permit adoption) by implementing any of the following measures at existing facilities with vehicle or equipment wash areas:
   (1) Self-contain, and haul off for disposal;
   (2) Equip with a clarifier;
   (3) Equip with an alternative pre-treatment device; or
   (4) Plumb to the sanitary sewer.

(b) Any municipal facilities constructed, redeveloped, or replaced shall have all vehicle and equipment wash areas plumbed to the sanitary sewer or be self contained and all wastewater/washwater hauled for legal disposal.

5. Landscape, Park, and Recreational Facilities Management

(a) Integrated Pest Management (IPM)
Each Permittee shall implement a jurisdiction-wide IPM program (an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.) and ensure that:
(1) Pesticides are used only if, after monitoring indicates they are needed according to established guidelines.
(2) Treatments are made with the goal of removing only the target organism.
(3) Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial, non-target organisms, and the environment.
(4) Its use of pesticides, including Organo-phosphates and Pyrethroids do not threaten water quality.
(5) Partner with other agencies and organizations to ensure that pesticide use within their jurisdiction does not threaten water quality.
(6) Adopt and verifiably implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and encouraging the use of IMP techniques (including beneficial insects) in the Permittees' overall operations and on municipal property.
(7) Policies, procedures, and ordinances shall include commitments and timelines to reduce and ultimately eliminate the use of pesticides that cause impairment of surface waters by implementing the following procedures:
(A) Quantify pesticide use by its staff and hired contractors.
(B) Prepare and annually update an inventory of pesticides used by all internal departments, divisions, and other operational units.
(C) Demonstrate reductions in pesticide use.

(b) Each Permittee shall implement the following requirements no later than (180 days following permit adoption):
(1) Use a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers.
(2) Comply with the provisions and the monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2004-0008-DWQ).
(3) Ensure no application of pesticides, herbicides or fertilizers are applied to an area immediately prior to, during, or immediately after a rain event, or when water is flowing off the area.

(4) Ensure that no banned or unregistered pesticides and herbicides are stored or applied.
(5) Ensure that all staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator.
(6) Implement procedures to encourage the retention and planting of native vegetation to reduce water, pesticide, herbicide and fertilizer needs; and
(7) Store pesticides, herbicides and fertilizers indoors or under cover on paved surfaces or use secondary containment.
(A) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills.
(B) Regularly inspect storage areas.

6. Storm Drain Operation and Management

(a) Catch Basin Cleaning
(1) 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.
Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.
Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.

(2) Each Permittee shall clean catch basins according to the following schedule:
Priority A: A minimum of 3 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.
(3) In addition to the preceding schedule, Permittees shall ensure that any catch basin that is at least 25% full of trash and/or debris shall be cleaned out.

(b) Trash Management at Public Events
(1) Each Permittee shall require for any event in the public right of way or wherever it is foreseeable that substantial quantities of trash and litter may be generated, that the following measures be implemented:
(A) That conditions be placed on any special use permit issued for such event; and
(B) Require the proper management of trash and litter generated; and
(C) Arrange for temporary screens to be placed on catch basins; or

(D) Clean out catch basins, trash receptacles, and grounds in the event area within 24 hours subsequent to the event.

(c) Trash Receptacles

(1) Each Permittee shall install trash receptacles at all transit stops in commercial areas and near schools within its jurisdiction no later than (6 months from the Order's adoption).

(2) Each Permittee shall ensure that all trash receptacles are cleaned out and maintained as necessary to prevent trash overflow.

(d) Catch Basin Labels

(1) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest each catch basin and inlet before the rainy season begins.

(2) Each Permittee shall record and re-stencil or re-label within 15 days of inspection, catch basins with illegible stencils.

(e) Catch Basin Excluders

(1) Each Permittee shall install trash excluders, or similar devices on catch basins to prevent the discharge of trash to the storm drain system on all catch basin inlets no later than (180 from permit adoption).

(f) Storm Drain Maintenance

(1) Each Permittee shall implement a program for Storm Drain Maintenance no later than (180 days after permit adoption) that includes the following:

(A) Visual monitoring of Permittee-owned open channels and other drainage structures for debris at least annually.

(B) Annually, based on the monitoring in the preceding section 6.(a), identify and prioritize problem areas of illicit discharge for regular inspection.

(C) Conduct a review of maintenance activities to assure that the most appropriate storm water BMPs are being utilized to protect water quality.

(D) Remove trash and debris from open channel storm drains a minimum of once per year before the storm season.

(E) Eliminate the discharge of contaminants during MS4 maintenance and clean outs.

(F) Quantify the amount of materials removed using standard measures and ensure the materials are properly disposed of.

(g) Permittee Owned Treatment Control BMPs

(1) Each Permittee shall implement an inspection and maintenance program for all Permittee owned treatment control BMPs, including post-construction treatment control BMPs.

(2) Each Permittee shall ensure proper operation of all treatment control BMPs and maintain them as necessary for proper operation, including post-construction treatment control BMPs.

(3) Treated water removed from stormwater ponds, vaults, or oversized catch basins to facilitate BMP maintenance may be discharged to the MS4. Stormwater ponds, vaults and oversized catch basins contain substantial amounts of liquid, which hampers the collection of solids and pose problems if the removed waste must be hauled away from the site. Water removed from these facilities may be discharged back into the pond, vault, or catch basin provided:

(A) Visibly clear water removed from a stormwater treatment structure may be discharged directly to a downgradient cell of a treatment pond or into the MS4.

(B) Turbid water may be discharged back into the structure it was removed from if:

a. the removed water has been stored in a clean container (eductor truck, Baker tank, or other appropriate container used specifically for handling stormwater or clean water);

b. there will be no discharge from the treatment structure for at least 24 hours; and

c. the separated solids are properly disposed.

(C) The discharge must be approved by the MS4 owner/operator.

(4) ~~(3) Any~~An additional disposal option for residual water within a treatment control BMP when being maintained ~~shall be:~~is infiltration or dispersion across adjacent disconnected vegetated area, provided this is done without causing flooding or other adverse impacts.

~~(A) Hauled away and legally disposed of;~~

~~(B) Discharged to the sanitary sewer system (with permits or authorization); or~~

~~(C) Treated to remove bacteria, sediments, nutrients, and meet the limitations set in Table 9 prior to discharge to the MS4.~~

Table 9~~6~~

Discharge Limitations for Dewatering Treatment BMPs[24~~23~~]

Parameter	Units	Limitation
Total Dissolved Solids	mg/L	1550
Nitrogen (Nitrate-nitrogen plus nitrite nitrogen)	mg/L	8
Total Suspended Solids	mg/L	100

[24~~23~~] Limits are from the Water Quality Control Plan Los Angeles Region (Basin Plan) and U.S. EPA Benchmark Values.

Turbidity	NTU	50
Oil and Grease	mg/L	10
TPH	µg/L	100
COD	mg/L	120
Cu	µg/L	22.1
Pb	µg/L	12.8
Ni	µg/L	100
Zn	µg/L	170
E. Coli	per 100 ml	235 (fresh water)
Fecal Coliform	per 100 ml	400 (fresh water)

7. Streets and Roads

(a) Maintenance

(1) Each Permittee shall perform street sweeping of curbed public streets in commercial areas to control trash and debris at least 2 times per month.

(b) Road Construction and Reconstruction

(1) Each Permittee shall implement the following BMPs for road reconstruction:

(A) Drain Inlet protection from sediments.
(B) Dewatering of below grade construction areas.
(C) Secondary containment for cold mix.
(D) Sheeting underneath cold mix (during storage) to prevent discharge of spray release, and
(E) Sheeting to cover cold mix (during storage).
(F) If street material is to be concrete, then provide a vehicle wash off area that is isolated from the MS4.

8. Infrastructure Maintenance - Long-term

(a) Each Permittee shall obtain coverage under the ~~CASGP~~GCP for all long-term maintenance programs including but not limited to any project under the Capital Improvement Program (CIP) including but not limited to: pavement replacement; sidewalk replacement; channel maintenance; roadside maintenance (such as: vegetation removal); or grading, clearing or excavation activities that disturb 1 or more acres of land either for an individual project or as part of a long-term city/county plan that may be less.

9. Public Industrial Activities Management

(a) Each Permittee shall obtain separate coverage under the IASGP for any municipal activity subject to U.S. EPA regulations at CFR 122.26 for the discharge of storm

water associated with industrial activity. These facilities include, but are not limited to:

(1) Publicly owned wastewater treatment plants with a design flow of 1 MGD or more or required to have an approved pretreatment program under 40 CFR 403.
(2) Landfills that receive or have received industrial waste or subject to regulation under Subtitle D of EPRCA.
(3) Hazardous Waste Treatment, Storage and Disposal Facilities.
(4) Steam Electric Power Generating Facilities.
(5) Airports (SIC Major Group 45).
(6) Ports (SIC Major Group 44).
(7) Local and Suburban Transit (SIC Major Group 41).

10. Municipal Potable Water Supply System and Distribution De Minimus Discharges

(a) Each Permittee which owns or operates or maintains a potable water supply system(s) and which performs maintenance of that system by flushing hydrants or other system components, may discharge such waters to the storm drain system provided:
(1) The total volume of discharges annually is no more than 100,000 gallons[~~25~~24] for the system per year.
(2) BMP(s) are implemented to ensure that:
(A) Chlorine concentration of the discharge is 0.1mg/L or less[~~26~~25].
(B) Turbidity is at 50 NTUs or less so as to minimize the discharge of sediment.
(C) No erosion is caused down side of the discharge.

11. Emergency Procedures

(a) Each Permittee may conduct repairs of essential public service systems and infrastructure in emergency situations with a self-waiver of the provisions of this Order. An emergency is a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences including riot, accident, or sabotage.

[~~25~~24] If greater than 100,000 gallons per year, then coverage under a separate NPDES permit from the Regional Water Board (NPDES Permit No. CAG674001) is required.
[~~26~~25] BMPs for dechlorination include the addition of Sodium Thiosulfate per manufacturer specifications, or aeration that will reduce residual chlorine concentration in water to 0.1mg/L or less.

(1) Where the self-waiver has been invoked, the Permittee shall submit to the Regional Water Board Executive Officer a statement of the occurrence of the emergency, an explanation of the circumstances, and the measures that were implement to reduce the threat to water quality, no later than 7 business days after the situation of emergency has passed.

12. Municipal Employee and Municipal Contractor Training

(a) Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors in targeted positions (whose interactions, jobs, and activities affect storm water quality) on the requirements of the overall storm water management program to:
(1) Promote a clear understanding of the potential for activities to pollute storm water.
(2) Identify opportunities to require, implement, and maintain appropriate BMPs in their line of work.

(b) Each Permittee shall, no later than (6 months from the permit adoption and annually thereafter before June 30), train all of their employees and contractors who use or have the potential to use pesticides, herbicides or fertilizers (whether or not they normally apply these as part of their work). Training programs shall address:
(1) The potential for pesticide-related surface water toxicity.
(2) Proper use, handling, and disposal of pesticides.
(3) Least toxic methods of pest prevention and control, including IPM.
(4) Reduction of pesticide use.

(c) Each Permittee shall, no later than (6 months from the permit adoption) and annually thereafter before June 30, train all of their employees and contractors who are responsible for illicit connections and illicit/illegal discharges. Training programs shall address:
(1) Identification.
(2) Investigation.
(3) Termination.
(4) Cleanup.
(5) Reporting of Incidents.
(6) Documentation of Incidents.

H. Illicit Connections and Illicit Discharges Elimination Program

Each Permittee shall eliminate all Illicit Connections and Illicit Discharges (IC/ID) 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 shall implement an IC/ID Program. The IC/ID procedures shall be documented and made available for review.

   (b) Tracking - All Permittees shall, no later than (2 years after the adoption of this Order), map at a scale and in a format specified by the Principal Permittee all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee incidents of illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee no later than (2 years after the adoption of this Order). Permittees shall use this information to identify priority areas for further investigation and elimination of IC/ID.

2. Public Reporting

   (a) Permittees shall establish and maintain a phone hotline and internet site to receive all reports of IC/ID complaints.

   (b) Permittees shall document the location of the reported IC/ID and the actions undertaken in response to all IC/ID complaints.

3. Illicit Connections

   (a) Screening for Illicit Connections
      (1) The Permittees shall submit to the Principal Permittee:
         (A) A GIS layer showing the location and length of underground pipes 18 inches and greater in diameter, and channels within their jurisdiction in accordance with the following schedule:
            (i) All channeled portions of the storm drain system no later than (365 days after the adoption of this Order).
            (ii) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater, (no later than 3 years after the adoption of this Order).
            (iii) All portions of the storm drain system consisting of storm drain pipes 18 inches in diameter or greater, (no later than 5 years after the adoption of this Order).
         (B) The status of suspected, confirmed, and terminated illicit connections.

(2) Permittees shall conduct field screening of their storm drain systems in accordance with screening procedures described in the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments (2004).[2726] Permittees shall conduct field screening for illicit connections in accordance with the following schedule:
   (A) All portions of the storm drain system consisting of storm drain pipes 36 inches in diameter or greater no later than (5 years after the adoption of this Order).
   (B) High priority areas identified during the mapping of illicit connections and discharges no later than (5 years after the adoption of this Order).
   (C) All portions of storm drain systems 50 years or older in age no later than (5 years after the adoption of this Order).

(3) Each Permittee shall maintain a list containing all connections under investigation for possible illicit connection and their status.

(b) Response to Illicit Connections

(1) Investigation -
Upon discovery or upon receiving a report of a suspected illicit connection, a Permittee shall complete an investigation within 21 days, to determine the following:
   (A) Source of the connection.
   (B) Nature and volume of discharge through the connection.
   (C) Responsible party for the connection.

(2) Termination -
Upon confirmation of an illicit storm drain connection, a Permittee shall ensure the following:
   (A) Termination of the connection within 180 days of completion of the investigation, using formal enforcement authority to eliminate the illicit connection.

(3) Documentation -
Permittees shall keep records of all illicit connection investigations and the formal enforcement taken to eliminate all illicit connections.

4. Illicit Discharges

(a) Investigation -
The Permittees shall investigate an illicit/illegal discharge during or immediately following containment and cleanup activities, and shall take formal enforcement action to eliminate the illegal discharge.

[2726] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4

(b) Abatement and Cleanup -
Each Permittee shall respond, within 1 business day of discovery or a report of a suspected illicit/illegal discharge, with actions to abate, contain, and clean up all illegal discharges, including hazardous substances.

(c) Documentation -
Permittees shall maintain records of all illicit/illegal discharge discoveries, reports of suspected illicit/illegal discharges, their response to the illicit/illegal discharges and suspected illicit/illegal discharges, and the formal enforcement taken to eliminate all illicit/illegal discharges.

I. REPORTING PROGRAM

1. The Principal Permittee in consultation with the Permittees and Regional Water Board staff shall convene an adhoc working group to develop an Electronic Reporting Program, the basis of which shall be the questions in the attached Monitoring Report and Program Report (Reporting Program- Attachment "H") for approval by the Regional Water Board Executive Officer. The Committee shall no later than (6 months of permit adoption):

   (a) Develop an electronic reporting format.

   (b) Include requirements as basis for reporting.

2. Each Permittee shall submit information required in the Reporting Program in a method as appropriate to the format approved by the Regional Water Board Executive Officer.

3. The Principal Permittee shall submit by December 15th of each year beginning the year of 2007, an Annual Report to the Regional Water Board Executive Officer in the form of one hard copy and three compact disk (CD) copies (or an electronic equivalent).

4. The Annual Report shall document the status of the General Storm Water Program, an integrated summary of the results of analyses from:
   (a) The monitoring program described under Part 1- Monitoring Report.

   (b) The requirements described under Part 2-Program Report.

5. Plans shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a compact disk (CD), submit 1 hard copy and 3 CD copies.

6. Study Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

7. Progress Reports shall be submitted to the Regional Water Board Executive Officer in the form of a hard copy and on a CD, submit 1 hard copy and 3 CD copies.

PART 5 - WATERSHED ECOLOGICAL RESTORATION PLANNING

Restoration of a degraded aquatic ecosystem to a close approximation of its remaining natural potential is a complex process that requires planning, implementation, monitoring, and management. The purpose of ecological restoration planning is to provide a tool that can produce improvements in the quality of our water resources to support diverse, productive communities of plants and animals that provide significant ecological and social benefits.[2827]

1. The Permittees shall develop and implement Watershed Ecological Restoration Plans (ERP) and submit Annual Watershed Ecological Restoration Status Reports (ERSR) in accordance with the requirements in Part 5 of this Order.

2. The Permittees shall develop ERPs for all Watershed Management Areas' (WMA) stream segments that have obtained a score of "poor" and "very poor" from Bioassessment Monitoring (Attachment "F", section E).

3. The ERPs shall include the following Restoration Principles:[2928]
   (a) Preserve and protect aquatic resources.
   (b) Restore ecological integrity.
   (c) Restore natural structure.
   (d) Restore natural function.
   (e) Work within the watershed and broader landscape context.
   (f) Understand the natural potential of the watershed.
   (g) Address ongoing causes of degradation.
   (h) Develop clear, achievable, and measurable goals.
   (i) Focus on feasibility.
   (j) Use a reference site.
   (k) Anticipate future changes.
   (l) Involve the skills and insights of a multi-disciplinary team (such as: Wetlands Recovery Project and Ventura County Task Force of the Wetlands Recovery Project).

[2827] U.S. EPA, 1995. *Ecological Restoration.* EPA841-F-95-007. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC.
[2928] U.S. EPA, 2000. *Principles for the Ecological Restoration of Aquatic Resources.* EPA841-F-00-003. Office of Water (4501F) United States Environmental Protection Agency, Washington, DC. 4 pp.

(m) Design for self-sustainability.
(n) Use passive restoration, when appropriate.
(o) Restore native species and avoid non-native species.
(p) Use natural fixes and bioengineering techniques, where possible.
(q) Monitor and adapt where changes are necessary.

4. Permittees within WMA, shall develop ERP for the degraded stream segments of the Ventura River, Santa Clara River and Calleguas Creek, according to the following schedule:

(a) Starting with the Ventura River, a Watershed ERP is to be developed and implemented for all river segments with a score of "poor" and "very poor" within 18 months from adoption of this Order and submitted to the Regional Water Board Executive Officer for approval.

(b) An ERP for the Santa Clara River and Calleguas Creek are to be developed and implemented for all river segments with a score of "poor" and "very poor" within 18 months from the end of their second monitoring year and submitted to the Regional Water Board Executive Officer for approval.

6. ~~5.~~ The Permittees shall submit Annual ERSR on the WMA ERP, which shall to include:
(a) Background information.
(b) Evaluation of site conditions.
(c) Progress towards goals summarized and linked to specific stressors and measurements endpoints.
(d) Bioassessment monitoring assessment(s).

PART 6 - TOTAL MAXIMUM DAILY LOAD PROVISIONS

Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing points (Waste Load Allocation) and non-point sources (Load Allocation). Municipal storm water discharges ~~are considered a point source and~~ have been assigned a WLA for certain pollutants. The objective of the TMDL is to restore the waterbody to the highest beneficial use or potential beneficial use designated by the Regional Water Board.

This Order incorporates MS4 WLAs that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA. ~~The~~For MS4 discharges, the WLAs in the Order are expressed ~~either as a numerical limitation, or~~as

a suite of BMPs that have been determined as providing a reasonable expectation that the WLAs will be achieved for wet weather flows, or as a prohibition for dry weather flows. Permittees shall implement ~~all control measures~~best management practices to the MEP to achieve the TMDL WLA(s) as stated in the TMDL by the WLA(s) effective date(s).

1. **Watershed - Pollutant**
   Santa Clara River and its Tributaries' (Reach 3) - Nitrogen Compounds (Ammonia and Nitrate plus Nitrite).

   (a) WLA Implementation
   (1) Prohibition:
   Permittees (Ventura County Watershed Protection District, and the Cities of Santa Paula and Fillmore) in the Santa Clara River and its Tributaries' (Reach 3) shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination.*[~~30~~29] Permittees shall conduct field screening for illicit connections in accordance with the following schedule:
   (A) All portions of the storm drain system consisting of storm drain pipes and open channels/drains 12 inches in diameter or greater within 5 years after the adoption of this Order.
   (B) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.
   (C) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.
   (D) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.
   (E) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/or 5 or more industrial NPDES storm water sites per square mile within 5 years after the adoption of this Order.

   ~~(2) Numerical Limits:~~
   ~~The WLAs are expressed as numerical limits in-stream for Ammonia and Nitrate within the Santa Clara River and its Tributaries' Watershed (Reach 3), established for its MS4 Permittees are following:~~
   (F) ~~(A)~~ MS4 Permittees shall ~~not exceed~~implement best management practices to the MEP for controllable sources of ammonia and nitrate +

[~~30~~29] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.* the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4

nitrite so as to maintain water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria for Ammonia and Nitrate plus Nitrite.

2. **Watershed - Pollutant**
Malibu Creek and Lagoon - Bacteria

(a) WLA Implementation

(1) Prohibition:

MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Simi Valley and Thousand Oaks) discharging to Malibu Creek and Lagoon shall conduct field screening of their storm drain systems, in accordance with screening procedures documented in *Illicit Discharge Detection and Elimination.*[3130] Permittees shall conduct screening for illicit connections in accordance with the following schedule:

(A) All portions of the storm drain system consisting of storm drain pipes 12 inches in diameter of greater within 5 years after the adoption of this Order.

(B) All portions of the storm drain system in subwatersheds with more than 5% of the area containing industrial sites 40 years or older within 5 years after the adoption of this Order.

(C) All portions of the storm drain system in subwatersheds that had septic systems but have been connected to a sanitary system since January 1976 within 5 years after the adoption of this Order.;

(D) All portions of the storm drain system in subwatersheds with a density of more than 20 outfalls per channel mile within 5 years after the adoption of this Order.

(E) All portions of the storm drain system in subwatersheds with a density of 10 or more hazardous waste generators and/or 5 or more industrial NPDES storm water sites per square mile within 5 years after the adoption of this Order.

~~(2) Numerical Limits:~~

(F) Permittees shall implement best management practices to the MEP for controllable sources of bacteria to achieve applicable WLAs. The WLAs are expressed as exceedence days in-stream for Bacteria within Malibu Creek and Lagoon Watershed, established for its MS4 Permittees ~~are the following (see Table 10):~~

[3130] *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments*. the Center for Watershed Protection, Pitt R., October 2004. Chapter 13, 13.1,13.2, 13.3, 13.4.

~~**Table 10**~~

~~**Bacteria (ml) in stream**~~

~~**Weather**~~	~~**Summer Dry (April 1 – October 31)**~~
~~WLA~~	~~Daily Exceedence Sampling Days = 0~~ ~~Weekly Exceedence Sampling Days = 0~~
~~**Weather**~~	~~**Winter Dry (November 1 – March 31)**~~
~~WLA~~	~~Daily Exceedence Sampling Days = 3~~ ~~Weekly Exceedence Sampling Days = 1~~
~~**Weather**~~	~~**Wet (November 1 – October 31)**~~
~~WLA~~	~~Daily Exceedence Sampling Days = 17~~ ~~Weekly Exceedence Sampling Days = 3~~
~~**Marine Water**~~	
~~Geometric Mean~~	~~Total coliform density not to exceed 1,000/100 ml~~
	~~Fecal coliform density not to exceed 200/100ml~~
	~~Enterococcus density not to exceed 35/100 ml~~
~~Single Sample~~	~~Total coliform density not to exceed 1,000/100 ml~~
	~~Fecal coliform density not to exceed 200/100ml~~
	~~Enterococcus density not to exceed 35/100 ml~~
	~~Total coliform density not to exceed 1,000/100 ml, if the ratio of fecal to total coliform > 1~~
~~**Fresh Water**~~	
~~Geometric Mean~~	~~E. coli not density to exceed 126/100 ml~~
	~~Fecal coliform density not to exceed 200/100ml~~
~~Single Sample~~	~~E. coli density not to exceed 235/100 ml~~
	~~Fecal coliform density not to exceed 400/100ml~~

3. **Watershed - Pollutant**
   Calleguas Creek, its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.

(a) WLA Implementation

(1) ~~Numerical Limits:~~Permittees shall implement best management practices to the MEP for controllable sources of toxicity, chlorpyrifos, and diazinon to achieve applicable WLAs.

~~The WLAs are expressed as numerical limits in stream for Toxicity, Chlorpyrifos and Diazinon within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 11):~~

~~**Table 11**~~

~~**Toxicity (TUc) in-stream**~~

~~Weather~~	~~Dry~~
~~WLA~~	~~1.0~~

~~**Chlorpyrifos (ug/L) in-stream**~~

~~Weather~~	~~Dry~~	~~Dry~~
~~WLA~~	~~Interim~~	~~Final~~
~~Chronic (4 day)~~	~~0.45~~	~~0.014~~

~~**Diazinon (ug/L) in-stream**~~

~~Weather~~	~~Dry~~	~~Dry~~
~~WLA~~	~~Interim~~	~~Final~~
~~Acute (1hr.)~~	~~1.73~~	~~0.10~~
~~Chronic (4 day)~~	~~0.556~~	~~0.10~~

4. **Watershed - Pollutant**

Calleguas Creek, its Tributaries and Mugu Lagoon[~~32~~31] - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB), and Siltation.

(a) WLA Implementation

(1) ~~Numerical Limits:~~Permittees shall implement best management practices to the MEP for controllable sources of OC pesticides, PCBs and siltation to achieve applicable WLAs.

~~The WLAs expressed as numerical limits in sediment for Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCB) and Siltation within Calleguas Creek, its Tributaries and Mugu Lagoon established for the MS4 Permittees (Ventura County Watershed Protection District, County of~~

[~~32~~31] Point Mugu Naval Air Weapons Station is not a Phase I MS4 Permittee.

~~Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are the following (see Table 12):~~

~~**Table 12**~~

~~**OC Pesticides and PCBs (ng/g) in-sediment**~~

~~**Weather**~~	~~Dry~~	~~Dry~~	~~Dry~~	~~Dry~~	~~Dry~~
~~WLA~~	~~Interim~~	~~Interim~~	~~Interim~~	~~Interim~~	~~Interim~~
	~~Calleguas Creek~~	~~Revolon Slough~~	~~Arroyo Las Posas~~	~~Arroyo Simi~~	~~Conejo Creek~~
~~Chlordane~~	~~17.0~~	~~48.0~~	~~3.3~~	~~3.3~~	~~3.4~~
~~4,4 DDD~~	~~66.0~~	~~400.0~~	~~290.0~~	~~14.0~~	~~5.3~~
~~4,4 DDE~~	~~470.0~~	~~1,600.0~~	~~950.0~~	~~170.0~~	~~20.0~~
~~4,4 DDT~~	~~110.0~~	~~690.0~~	~~670.0~~	~~25.0~~	~~2.0~~
~~Dieldrin~~	~~3.0~~	~~5.7~~	~~1.1~~	~~1.1~~	~~3.0~~
~~PCBs~~	~~3,800.0~~	~~7,600.0~~	~~25,700.0~~	~~25,700.0~~	~~3,800.0~~
~~Toxaphene~~	~~260.0~~	~~790.0~~	~~230.0~~	~~230.0~~	~~260.0~~

~~**OC Pesticides and PCBs (ng/g) in-sediment**~~

~~**Weather**~~	~~Dry~~	~~Dry~~	~~Dry~~	~~Dry~~	~~Dry~~
~~WLA~~	~~Final~~	~~Final~~	~~Final~~	~~Final~~	~~Final~~
	~~Calleguas Creek~~	~~Revolon Slough~~	~~Arroyo Las Posas~~	~~Arroyo Simi~~	~~Conejo Creek~~
~~Chlordane~~	~~3.3~~	~~0.9~~	~~3.3~~	~~3.3~~	~~3.3~~
~~4,4 DDD~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~
~~4,4 DDE~~	~~1.4~~	~~1.4~~	~~1.4~~	~~1.4~~	~~1.4~~
~~4,4 DDT~~	~~0.3~~	~~0.3~~	~~0.3~~	~~0.3~~	~~0.3~~
~~Dieldrin~~	~~0.2~~	~~0.1~~	~~0.2~~	~~0.2~~	~~0.2~~
~~PCBs~~	~~120.0~~	~~130.0~~	~~120.0~~	~~120.0~~	~~120.0~~
~~Toxaphene~~	~~0.6~~	~~1.0~~	~~0.6~~	~~0.6~~	~~0.6~~

~~**Siltation (tons/yr.)**~~

~~WLA~~	~~Per year~~
~~To Mugu Lagoon~~	~~2,496.0~~

PART 7 - DEFINITIONS

The following are definitions for terms in this Order:

43,560 Square Foot Commercial Development - means any commercial development that creates at least 43,560 square feet of surface area, including parking areas (43,560 sq. ft. equals 1 acre).

Adverse Impact - means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

Agriculture - means the science, art, and business of cultivating the soil, producing crops, and raising livestock.

Antidegradation Policies - refers to the State (*Statement of Policy with Respect to Maintaining High Quality Water in California*, State Board Resolution No. 68-16), which protects high quality surface and ground waters from degradation, and federal policies, which protects high quality surface waters. 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 § 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.

Areas Subject to Storm Water Mitigation Requirements - means areas designated as an Area of Special Biological Significance (ASBS) by the State Board, an area designated as a significant natural resource by the California Resources Agency, or an area identified by the discharger as environmentally sensitive for water quality purposes, based on the Regional Water Board Basin Plan and CWA § 303(d) Impaired Water-bodies List for the County of Ventura.

Authorized Discharge - means any discharge that is authorized pursuant to an NPDES permit, waste discharge requirements, or meets the conditions set forth in this Order.

Authorization to discharge ~~storm water~~runoff from ~~storm water treatment~~ BMPs - This Order authorizes discharges from ~~storm water treatment~~ BMPs implemented or installed by the Permittees to reduce the discharge of pollutants in ~~storm water discharges during rain events~~runoff. All ~~storm water~~ BMPs shall be maintained at a frequency as specified by the manufacturer or more frequently. All ~~storm water~~ BMPs shall be ~~drained~~operated and maintained as necessary to avoid stagnation or breeding of vectors.

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.

Automotive Service Facilities - means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes. 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.

SIC Code	Corresponding NAICS Code
5013	425120, 441310, 425110, & 423120
5014	425120, 425110, 423130, & 441320
5511	441110
5541	447110, & 447190
7532	811121
7533	811112
7534	326212, & 811198
7536	811122
7537	811113
7538	811111
7539	811198, & 811118

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 Water 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 Water 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.

California Environmental Quality Act (CEQA) - means a California statute that requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible (Reference: California Public Resources Code § 21000 et seq.)

Commercial Area(s) - means any geographic area of the Permittees' jurisdiction that is not heavy industrial or residential. A commercial area includes, but is not limited to areas surrounding: commercial activity, 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.

Commercial Development - means any development on private land that is not ~~heavy~~industrial, open space recreational, 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 and, public warehouses ~~and other light industrial complexes.~~.

Construction - means any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction also includes structure tear down, routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility; but does not 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.

Construction Activities Storm Water General Permit (~~CASGP~~GCP) - means the general NPDES
permit adopted by the State Board, which authorizes the discharge of storm water from construction activities under certain conditions.

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 any swimming pool discharge with a residual chlorine or bromine level of 0.1mg/L; and does not contain any detergents, wastes, algaecides, or cyanuric acid in excess of 50 ppm, or any other additional chemicals including salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash or swimming pool water containing bacteria.

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 any 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.

Directly Discharging - means outflow from a drainage conveyance system that is composed entirely or predominately of flows from the subject, property, development, subdivision, or industrial facility and not commingled with the flows from adjacent lands.

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 any area that is altered as a result of land disturbance. Examples include but are not limited to: clearing, grading, grubbing, stockpiling and/or excavation, etc...

Effluent limitation - means any restriction imposed by the Permitting Authority (PA) on quantities, discharge rates, concentrations, and/or mass loadings of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Emergency - means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage (Reference: California Public Resources Code § 21060.3. Emergency).

Environment - means the physical conditions, which exist within the area which, will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

Environmentally Sensitive Area - 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" (Reference: California Public Resources Code § 30107.5). ESAs subject to storm water mitigation requirements are:

1. Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use.

2. California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

Federal Clean Water Act (CWA) - means (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92—500, as amended by Public Law 95—217, Public Law 95—576, Public Law 96—483 and Public Law 77—117, 33 U.S.C. 1251 et seq.

First Storm Event - means the first storm event of the wet season that produces at least 0.25 inches of rain.

Forest Land - means land at least 10 percent stocked with live trees, or land that had this minimum tree stocking in the past and is not currently developed for nonforest use. The minimum area recognized is 1 acre.

Geotechnical instability - means locations susceptible to natural or human-induced events or forces which are capable of rupturing the site, such as landsliding, settlement, fault rupture, and soil liquefaction impact.

Groundwater Dewatering - means the active practice of removing standing water from soil excavations using a pump(s) or other means.

HCS – means the Hydromodification Control Study as further defined in Section 4.E.3.(d)(3)(ii) of this Order.

Hillside - means property located in an area ~~with known erosive soil conditions, where the~~designated by the applicable Permittee's Zoning Code as a "hillside area" or equivalent. ~~development contemplates grading on any natural slope that is 20% or greater and where grading contemplates cut or fill slopes.~~

HMP – means the Hydromodification Control Plan as further defined by Section 4.E.3.(d)(3)(ii) of this Order.

Horse Stables - means a property where at least one horse is stabled at least part of the year.

Hydromodification - means the alteration away from a natural state of stream flows or the beds or banks of rivers, streams, or creeks, including ephemeral washes, which results in hydrogeomorphic changes.

Hydromodification Control – means practices and facilities designed and constructed or implemented to mitigate adverse impacts of hydromodification.

Illegal Discharge - means any discharge to the municipal separate storm sewer (storm drain system) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations, including discharges that are identified in Part 1, "Discharge Prohibitions" of this Order. The term illegal discharge includes all non-storm water discharges not composed entirely of storm water except discharges pursuant to this Order or to an NPDES permit~~, discharges that are identified in Part 1, "Discharge Prohibitions" of this order,~~ or other waste discharge requirements or discharges authorized by the Regional Water Board Executive Officer.

Illicit Connection - means any engineered conveyance that is connected to the storm drain system without a permit or municipal authorization. It also means any engineered conveyance through which illegal discharges of pollutants to the separate storm drainage systems~~, which are not composed entirely of storm water or are not authorized by an NPDES permit~~ occur.

~~**Illicit Discharge** – means any discharge to a municipal separate storm sewer (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 not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or authorized by the Regional Water Board Executive Officer.~~

Illicit Discharge - means any Illegal Discharge.

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 either the Standard Industrial Classifications (SIC) or the North American Industry Classification System (NAICS). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Industrial Activities Storm Water General Permit (IASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Industrial Park - means a land development that is set aside for industrial development. Industrial parks are usually located close to transport facilities, especially where more than one transport modalities coincide: highways, railroads, airports, and navigable rivers. It includes office parks, which have offices and light industry.

Infill – means projects in highly developed watersheds that are ninety percent or more built out or more than sixty-five percent impervious in the existing condition.

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).
9. Report preparation, and if appropriate, recommendations for coming into compliance.

Integrated Pest Management (IPM) - means a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

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 Water Board designated Ventura County as a large MS4 in 1990, based on: (i) the U.S.

Census Bureau 1990 population count of 669,016 thousand, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

~~**Local SWPPP** - means the Local Storm Water Pollution Prevention Plan (LSWPPP) required by the local agency for a project that disturbs one or more acres of land. Shall mean a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred as a Storm Water Pollution Control Plan (SWPCP).~~
LID – means low impact development strategies as further defined in section 4.E.3.(c) of this Order.

Maximum Extent Practicable (MEP) - means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 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." Also, see State Board Order WQ 2000-11, page 20 and Browner decision (Defenders of Wildlife v. Browner (1999), 191 F.3d 1159). To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. In selecting BMPs to achieve the MEP standard a number of factors should be considered including: effectiveness, regulatory compliance, cost, public acceptance and technical feasibility. *See* February 11, 1993 memo entitled "Definition of Maximum Extent Practicable" Elizabeth Jennings, State Water Resources Control Board.

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 "G" of this Order.

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. The ML value represents 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. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique.

Municipal Separate Storm Sewer System (MS4) - means a public conveyance or system of conveyances (including roads w/drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), as defined in 40 CFR 122.26(b)(8):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under § 208 of the Federal Clean Water Act (CWA) that discharges into waters of the United States.
2. Designed or used for collecting or conveying storm water.
3. Which is not a combined sewer.
4. Which is not part of a Publicly Owned Treatment Works (POTW), as defined in 40 CFR 122.2.

NAICS - means North American Industry Classification System.

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,~~is defined in Section 4.E.3.(d)(1)iv.
~~rivers or similar waterways.~~

New Development - means land disturbing activities; structural development, including addition, construction or installation of a building or structure, creation and replacement of impervious surfaces; and land subdivision~~.~~, except for those projects specified in Section 4.E.2.(d) and 4.E.2.(e).

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.

Nursery - The NAICS will be used to classify nursery operations and determine the type of operations covered under this Order and those covered under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver).

(a) There are 3 broad NAICS sectors available to classify nurseries:
  (1) 111xxx - Crop Production - Agriculture.
  (2) 424xxx - Merchant Wholesalers, Nondurable Goods.
  (3) 44xxxx - Retail Trade.
    (A) **Nursery (Agricultural Facilities - Crop Production)** - means Nursery and Floriculture Production under NAICS Code 11142x. These operations are subject to the **Conditional Waiver**. This industry comprises establishments primarily engaged in (1) growing nursery and floriculture products (e.g., nursery stock, shrubbery, cut flowers, flower seeds, foliage plants, sod) under cover or in open fields and/or (2) growing short rotation woody trees with a growing and harvesting cycle of 10 years or less for pulp or tree stock (e.g., cut Christmas trees, cottonwoods).
    (B) **Nursery (Commercial Facilities - Merchant Wholesalers, Nondurable Goods, and Retail Trade)** - means industries Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers under NAICS Code 424930; and Nursery, Garden Center, and Farm Supply Stores under NAICS Code 444220. This Order covers these types of operations. The industry in NAICS Code 424930 comprises establishments primarily engaged in the merchant wholesale distribution of flowers, florists' supplies, and/or nursery stock (except plant seeds and plant bulbs). The industry in NAICS Code 444220 comprises establishments primarily engaged in retailing nursery and garden products, such as trees, shubs, plants, seeds, bulbs, floriculture products and sod, which are predominantly grown elsewhere. These establishments may sell a limited amount of a product they grow themselves.

Open Channel – means a storm drainage channel that is not a natural water course

Parking Lot - means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use.

Permit - means an authorization, license, or equivalent control document issued by EPA 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-Permittee(s) and any agency named in this Order as being responsible for permit conditions within its jurisdiction, as defined by Federal Regulation. Permittees to this Order include the Ventura Water Protection District, Ventura County, and the

cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley and Thousand Oaks.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

~~**Point Zero** - means in the context of the TMDLs, the point at which water from the storm drain or creek initially mixes with water. Point zero has been selected as the compliance point for the TMDL numeric target because access to these drains is, on the whole, not restricted.~~

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 Drinking Water Supply - means potable drinking water supply releases that are consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Drinking Water Supply Releases - means potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Water Distribution Systems Releases - means releases of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, 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 nor discharge of water from a line that has come into contact with soil as in a trench. Nonetheless, all potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy

Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion at the discharge point or downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

~~**Pre-Developed Condition** - means native vegetation and soils that existed at a site prior to first development. The pre-developed condition may be assumed to be an area with the typical vegetation, soil, and storm water runoff characteristics of open space areas in coastal Southern California unless reasonable historic information is provided that the area was atypical.~~

Priority Pollutants - means those constituents referred to in 40 CFR 401.15 and listed in the U.S. EPA 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 (Reference: California Public Resources Code § 21065).

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 supports 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.

~~**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 U.S. EPA or the authorized representative of the Regional Administrator.

Report of Waste Discharge (ROWD) - means an application for renewal of the NPDES Permit for Waste Discharge Requirements for Municipal Separate Storm Sewer Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein.

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).

Restoration - means the reestablishment of ~~predisturbance~~natural aquatic functions and related physical, chemical and biological characteristics and values (Reference: National Research Council. 1992. Restoration of Aquatic Ecosystems: Science, Technology and Public Policy. National Academy Press, Washington, D.C.)

Retail Gasoline Outlet (RGO) - means any facility engaged in selling gasoline and lubricating oils- SIC 5541 and NAICS 447110 & 447190.

- RGOs: 447190 Other Gasoline Stations:
  This industry comprises establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/or providing food services.
- RGOs: 447110 Gasoline Stations with Convenience Stores:
  Retailing automotive fuels in combination with a convenience store or food mart.

Runoff - means any runoff including storm water ~~and dry weather flows from a drainage areathat reaches a receiving water body or subsurface. It is typically comprised of~~. It may include nuisance flows contaminated with pollutants.

SARA Title III - is the Superfund Amendment and Reauthorization Act of 1986 also known as the Emergency Planning and Community Right-To-Know Act (EPCRA). This act mandated the establishment of State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), and Local Emergency Planning Committees (LEPCs) who are responsible for preparing for hazardous materials emergencies through planning and training.

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 only sidewalk rinsing using high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed. Any waste generated from the activity must be collected and properly and legally disposed of. It does not mean hosing of any sidewalk nor street with a garden hose with a pressure nozzle.

Significant Redevelopment - means projects involving land-disturbing activity that ~~results~~result in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency activities required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity. Significant Redevelopment does not include the projects described in sections 4.E.2.(c), 4.E.2.(d) and 4.E.2.(e) of this Order.

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.

SMC - means Southern California Stormwater Monitoring Coalition. The Stormwater Monitoring Coalition is a collaborative research/monitoring partnership of the Southern California Water Boards, Municipal Storm Water Agencies, and municipalities to develop the methodologies and assessment tools to more effectively understand urban storm water and non-storm water (anthropogenic) impacts to receiving waters and to conduct research/monitoring through Subsequent Research Implementation Agreements. The first original cooperative agreement was entered into on February 8, 2001.

Small Construction - means any soil disturbing activities less than 5 acres.

SoCal B-IBI - means Southern California Benthic Index of Biological Integrity.

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.

Stream - means a body of flowing water; natural water course containing water at least part of the year. In hydrology, it is generally applied to the water flowing in a natural channel as distinct from a canal (Reference: US Geological Survey).

Strip Mall - means a commercial development that is a shopping center where the stores are arranged in a row, with a sidewalk in front. Strip malls are typically developed as a unit and have large parking lots in front. They face major traffic arterials and tend to be self-contained with few pedestrian connections to surrounding neighborhoods. It is also called a plaza.

Storm Sampling Event - means a rainfall event that produces more than 0.25 inch of precipitation and that, which is separated from the previous storm event by at least 1 week of dry weather, for the purpose of monitoring.

Storm Water - means storm water runoff, snow melt runoff, and surface runoff and drainage, as

defined in 40 CFR 122.26(b)(13).

Storm Water Discharge Associated with Industrial Activity - means industrial discharge, as defined in 40 CFR 122.26(b)(14).

~~**Storm Water Pollution Control Plan (SWPCP)** - means a plan~~**SWPPP** - means the Storm Water Pollution Prevention Plan (SWPPP) identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. ~~Also referred to as a Local Storm Water Pollution Prevention Plan (LSWPPP).~~ Prepared pursuant to the GCP and modified to include the information measures required pursuant to section 4.F. of this Order.

~~**Storm Water Quality Management Program** - means the Ventura Countywide Storm Water Quality Management Plan, 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 runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

SWAMP - means the State and Regional Water Boards' Surface Water Ambient Monitoring Program.

Targeted Employees - means management and staff who perform or direct activities that directly or indirectly have an effect of storm water quality. The employees generally are employed in the following areas: department of public works, or engineering, or sanitation, or storm water maintenance, drainage and flood control, transportation, streets and roads, parks and recreation, public landscaping and corporation yards, planning or community development, code enforcement, building and safety, harbor dept, airports, buses and trains, and/or general services and fleet services.

Total Maximum Daily Load (TMDL) - means the ~~sum of the individual~~total amount of pollutant load assigned to an impaired waterbody and related waste load allocations~~for point sources and~~, load allocations ~~for nonpoint sources and natural background.~~, implementation measures and time schedules.

Total Maximum Daily Load (TMDL) Dry Weather- defined in the Bacteria TMDLs as the TMDLS for those days with less than 0.1 inch of rainfall and those days occurring within three days after a rain.

Toxicity Identification Evaluation (TIE) - means a set of procedures to identify the specific chemical(s) responsible for toxicity through a process of chemical/physical manipulations of samples followed by toxicity tests. These procedures are performed in 3 phases (Phase I- Toxicity Characterization Procedure, Phase II- Toxicity Identification Procedure, and Phase III- Toxicity Confirmation Procedure) 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.

Urbanization - means the process of changing of land use and land patterns from rural characteristics to urban (city-like) characteristics. These changes include (i) the replacement of pervious surfaces with impervious surfaces such as rooftops and buildings, and impervious materials such as asphalt and concrete; and (ii) the conversion of rural land to house new residents, support new businesses, and facilitate vehicular traffic flow.

U.S. EPA 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:

- Facilities subject to storm water effluent limitation guidelines, new source performance.
- Standards, or toxic pollutant effluent standards (40 CFR N).
- Manufacturing facilities.
- Oil and gas/mining facilities.
- Hazardous waste treatment, storage, or disposal facilities.
- Landfills, land application sites, and open dumps.
- Recycling facilities.
- Steam electric power generating facilities.
- Transportation facilities.
- Sewage of wastewater treatment works.
- Light manufacturing facilities.

Vehicle Maintenance/Material Storage Facilities/Corporation Yards - means any Permittee owned or operated facility or portion thereof that:

1. Conducts industrial activity, operates or stores equipment, materials, and provides services similar to Federal Phase I facilities;
2. Performs fleet vehicle service/maintenance including repair, maintenance, washing, or fueling;
3. Performs maintenance and/or repair of machinery/equipment; or
4. Stores chemicals, raw materials, or waste materials.

Waste Load Allocations (WLAs) - means a portion of a receiving water's Total Maximum Daily Pollutant Load (TMDL) that is allocated to one of its existing or future point sources of pollution together with applicable implementation measures and time schedule orders (Reference: 40 CFR § 130.2(h)).

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 Water Board to regulate ~~all discharges, including storm water discharges.~~receiving water quality.

Water Quality Standards - means the State Water Quality Standards, which are comprised of beneficial uses, water quality objectives and the State's Antidegradation Policy.

Waters of the State - means any surface water or groundwater, including saline waters, within boundaries of the state (Reference: California Water Code § 13050).

Waters of the United States or Waters of the US - 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 impoundment's of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in the preceding paragraph (a) through (d) of this definition;

f. The territorial sea; and
g. "Wetlands" that are adjacent to traditional navigable waters ~~(other than waters that are themselves wetlands)identified in the preceding 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 U.S. EPA. SOLID WASTE AGENCY OF NORTHERN COOK CTY. V.ARMY CORPS OF ENGINEERS (531 U.S. 159 (2001)) The U.S. Supreme Courts SWANCC Decision upheld the primary rights and responsibilities of States over land and water but limited the water and wetland areas subject to federal regulation under the Clean Water Act.

Watercourse - means any natural or artificial channel for passage of water, including the VCFCD jurisdictional channels included in the List of Channels within the Comprehensive Plan of the VCFCD, as approved by the Board of Supervisors of the VCFCD on October 4, 1993, and any amendments thereto.

Watershed Management - means approach for water resources protection. It is a strategy for integrating and managing resources, both human and fiscal that focuses on regulation of point sources, to a more regional approach that acknowledges environmental impacts from other activities.

Watershed Management Areas (WMA) - means the geographically-defined watershed areas where the Regional Water Board will implement the watershed approach. These generally involve a single large watershed within which exists smaller subwatersheds but in some cases may be an area that does not meet the strict hydrologic definition of a watershed e.g., several small Ventura coastal waterbodies in the region are grouped together into one WMA.

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 8 - STANDARD PROVISIONS

A. General Requirements

1. The Permittee shall comply with all provisions and requirements of this Order.

2. Should the Permittee discover that it failed 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 Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes Attachment "F", the Reporting Program, which is a part of this Order and must be complied with.

B. Regional Water Board Review

1. The Regional Water Board may review any formal determinate or approval made by the Regional Water Board Executive Officer pursuant to the provisions of this Order.

   (a) Permittee(s) or a member of the public may request such review upon petition within 30 day of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Water Board.
   (b) Upon request for Regional Water Board review, the Regional Water Board shall conclude its review before any appeal to the State Water Resources Control Board is permitted. Appeal to the SWRCB shall be filed within 30 days of any action by the Regional Water Quality Control Board.

C. Public Review

1. All documents submitted to the Regional Water 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 (California Government Code § 6250 et seq.).

2. All documents submitted to the Regional Water 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 [40 CFR 122.41(a)]

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/or 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), CAL. WATER CODE § 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

4. ~~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)]

1. Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of significantly adversely affecting human health or the environment.

F. Inspection and Entry; Investigations; Responsibilities [40 CFR 122.41(i), Cal. Water Code § 13225 and § 13267]

1. The Regional Water Board, U.S. EPA, and other authorized representatives shall be allowed:

   (a) Entry upon premises where a ~~regulated~~Permittee facility is located or conducted, or where records are kept under conditions of this Order;

   (b) Access to copy any Permittee records, at reasonable times that are kept under the conditions of this Order;

   (c) To inspect at reasonable times any Permittee facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order;

   (d) To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CAL. WATER CODE;

   (e) To review any water quality control plan or waste discharge requirements, or in connection with any action relating to any plan or requirement to investigate the quality of any waters of the state within its region pursuant to the CWA and the Cal. Water Code; and,

(f) To require as necessary any state or local agency to investigate and report on any technical factors involved in water quality control or to obtain and submit analyses of water- pursuant to the CWA and the Cal. Water Code.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), Cal. Water Code § 13263(f)]

1. 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:
   (a) adequate laboratory controls; and
   (b) appropriate quality assurance procedures.

2. 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]

1. Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Water 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 Water Board, in accordance with the procedural requirements of the CAL. WATER CODE and CCR Title 23 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 Water Board;
   (b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan, including TMDLs;
   (c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA § 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. 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.

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 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

1. The provisions of this Order are severable; and if any provision of this Order or the application of any provision of this Order to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected. Any violation of this Order by one Permittee shall not be considered a violation by another Permittees. This Order shall remain in full force and effect for any Permittee who is not in violation of its requirements.

K. Duty to Provide Information [40 CFR 122.41(h)]

1. ~~The~~Pursuant to applicable provisions of the CWA and Cal. Water code, the Permittees shall furnish, within a reasonable time, any information the Regional Water Board or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order.

2. ~~The~~Pursuant to applicable provisions of the CWA and Cal. Water code, the Permittees shall also furnish to the Regional Water Board, upon request, copies of records required to be kept by this Order.

L. Twenty-Four Hour Reporting [40 CFR 122.41(l)(6)]~~33~~32

1. The Permittees shall report to the Regional Water 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

~~33 This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Ventura County SMP are exceeded, and which endanger public health or the environment.~~

submission shall also be provided within 5 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 Water Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)]~~[34]~~[33]

1. Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Water Board may take enforcement action against Permittees for bypass unless:

   (a) 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.);

   (b) 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;

   (c) The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or,

   (d) 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.

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[1]This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the Ventura County SMP.
[2]This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Ventura County SMP are exceeded, and which endanger public health or the environment.

N. Upset [40 CFR 122.41(n)][2]

1. 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.

2. 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.

3. 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.

4. 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)]

1. 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 CWA provides the following:

   (a) Criminal Penalties for:
      (1) Negligent Violations:
      The CWA provides that any person who negligently violates permit conditions implementing CWA § 301, 302, 306, 307, 308, 318, or 405 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 CWA § 301, 302, 306, 307, 308, 318, or 405 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 CWA § 301, 302, 307, 308, 318, or 405 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 CWA § 309(c)(4))

(b) Civil Penalties
The CWA provides that any person who violates a permit condition implementing CWA § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed $27,500 per day for each violation.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

1. 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 of Board Order

1. Regional Water Board Order No. 00-108 is hereby rescinded.

S. Board Order Expiration Date

1. This Order expires on **Xx xx, 200x**. The Permittees must submit a Report of Waste Discharge (ROWD) and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than 180 days in advance of such date (**Xx xx, 200x**).

T. MS4 Annual Reporting Program [40 CFR 122.42(c)]

1. The Annual Program Reporting shall include the following information:

   (a) *Municipal separate storm sewer systems.*
   The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director under 40 CFR 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:
   (1) The status of implementing the components of the storm water management program that are established as permit conditions;
   (2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii) of this part;
   (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (d)(2)(v) of this part;
   (4) A summary of data, including monitoring data that is accumulated throughout the reporting year;
   (5) Annual expenditures and budget for year following each annual report;
   (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
   (7) Identification of water quality improvements or degradation.

I, Jonathan S. Bishop, Regional Water Board 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 **Xx xx, 200x**.

Jonathan S. Bishop

Executive Office

December 27, 2006

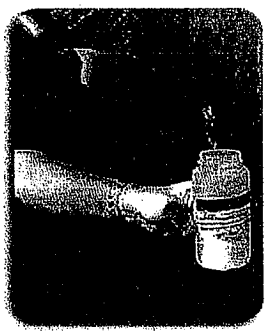
STATE OF CALIFORNIA

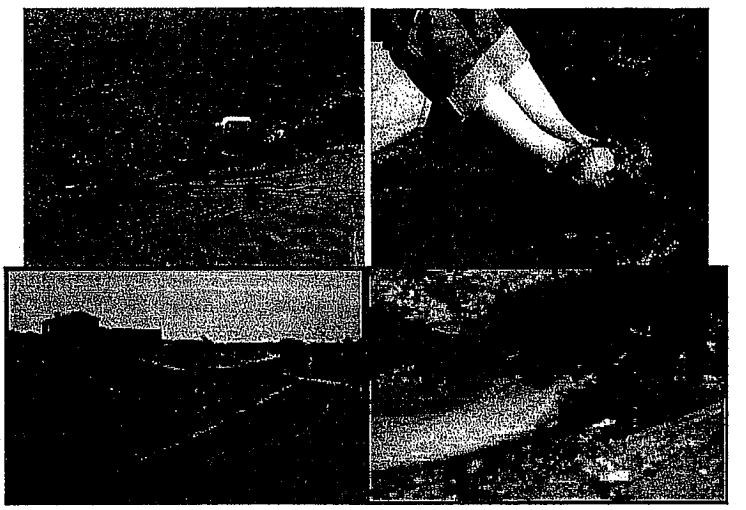
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING PROGRAM - No. CI 7388
FOR
ORDER 07-xxxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS

MUNICIPAL SEPARATE STORM SEWER SYSTEM DISCHARGES WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

Xxxxx xx, 200x





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Monitoring Program

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing the chemical, physical, and biological impacts of urban runoff on receiving waters ~~resulting from urban runoff.~~
- Characterization of the quality of storm water discharges.
- Identifying sources of pollutants.
- Assessing the overall health and evaluating long-term trends in receiving water quality.
- Assessing compliance ~~with effluent limitations and~~of receiving waters with applicable water quality objectives.
- Measuring and improving the effectiveness of measures implemented under this Order.

The results of the monitoring requirements outlined below shall be used to refine BMPs for the reduction of pollutant loading and the protection and enhancement of the beneficial uses of the receiving waters in Ventura County.

The 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:

- Estimate the mass emissions from the MS4.
- Assess trends in the mass emissions over time.
- ~~Determine if the MS4 is contributing to exceedences of water quality objectives~~
- Determine if the MS4 is a significant contributor to exceedences of water quality objectives by comparing results and receiving water conditions to applicable water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria.

1. The Santa Clara River mass emission station (ME-SCR) shall be relocated so that mass emissions measurements include urban storm water discharges from the cities of San Buenaventura and Oxnard. Until the ME-SCR station is relocated, the Principal Permittee in coordination with the cities of San Buenaventura (ME-SB) and Oxnard (ME-OX) shall separately monitor mass emissions from the two urbanized areas.

   (a) Monitor the largest representative drainage systems transporting 60 percent or more of flow from the Municipal drainage area to the Santa Clara River for

the city of San Buenaventura and the city of Oxnard, and upstream of discharges from these Cities, to estimate the total mass emissions for these cities.

2. The Principal Permittee shall monitor mass emissions from the following 5 mass emission stations:
   (a) ME-VR for Ventura River.
   (b) ME-SCR for Santa Clara River.
   (c) ME-SB for Santa Clara River (until ME-SCR is relocated).
   (d) ME-OX for the Santa Clara River (until ME-SCR is relocated).
   (e) ME-CC for Calleguas Creek.

3. Samples for mass emission monitoring may be taken with the same type of automatic sampler used under Order 00-108.

4. Samplers shall be set to monitor storms that produce 0.25 inches or greater of rainfall.

5. Samples are to be flow-weighted composites and can be collected manually or automatically for ME-SB and ME-OX (see section A.6).

6. 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, unless the Regional Water Board Executive Officer approves an alternate protocol.

7. Flow may be estimated using EPA methods at sites where flow measurement devices are not in place.

8. The Principal Permittee shall monitor:

   (a) The first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events.

   (b) Also, 2 dry weather flow events shall be monitored.
      (A) Monitor 1 prior to the onset of wet weather- October 1st (during the months of May - June).
      (B) Monitor 1 post wet weather- April 15th (during the months of August - September).

   (c) A total of 5 monitoring events (3 storm and 2 dry weather) shall be sampled per mass emission station.

9. 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 total suspended solids (TSS). Results shall be used to assess the variability of storm water constituents and provide an accurate estimate of mass emissions (pollutant correlation with TSS).

10. Grab samples shall be taken for pathogen indicators and oil and grease, only.

11. All samples taken shall be analyzed for all constituents listed in Attachment "G" (Storm Water Monitoring Program's Constituents with Associated Minimum Levels). If a constituent is not detected at the Method Detection Limit (MDL) for its respective test method in more than 75 percent of the first 48 sampling events at a station, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality objective. The Principal Permittee shall conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

12. At a minimum a sufficient sample volume must be collected to perform all of the required chemical and biological tests, including toxicity.

13. When monitoring can not be performed to comply with the requirements of this Order due to circumstances beyond the Permittees control, then within 48 hours the following shall be submitted to the Regional Water Board Executive Officer:

    (a) Statement of situation.
    (b) Explanation of circumstance(s) with documentation.
    (c) Statement of corrective action for the future.

14. Monitoring results submitted for compliance shall include:

    (a) Statement that a sample is either a wet or dry weather sample.
    (b) Rain totals and hydrographs for monitoring events in both narrative and graphic formats.
    (c) All applicable Standard Monitoring Provisions listed in section "J".

15. Monitoring results from each station shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and its updates.[1]

16. The Principal Permittee shall perform an annual analysis, to be included in the Annual Storm Water Report, of the correlation between POC (including, but not limited to metals and PAHs) and TSS loading for the sampling events that are analyzed for the complete list of constituents in Attachment "G".

[1] The SMC developed a SDTFs for use by member agencies for electronic recording and transfer of storm water monitoring data. Southern California Coastal Water Research Project, Technical Report 421 (August, 2004).

17. A summary of the years' mass emission station's monitoring results highlighting exceedences (POC) to Basin Plan, the Ocean Plan, and the CTR for both acute and chronic criteria with corresponding sampling dates shall be included with the Annual Storm Water Report.

B. Aquatic Toxicity Monitoring

The objective of aquatic toxicity monitoring is to evaluate if storm water and non-storm water discharges are causing or ~~contributing~~are significant contributors to acute and/ or chronic toxic impacts on aquatic life by the following:

- Toxicity at the mass emission stations is to be evaluated using marine test organisms to assess impacts on the marine or estuarine environments.
- Toxicity at tributary stations is to be evaluated using freshwater test organisms to assess impacts on the freshwater environment.

The Principal Permittee shall analyze mass emission samples and tributary samples for aquatic toxicity to evaluate the extent and causes of toxicity in receiving waters. Permittees shall utilize documents such as: Ventura County's Technical Guidance Manual for Storm Water Quality Control Measures and U.S. EPA's National Management Measures to Control Nonpoint Source Pollution from Urban Areas to implement measures to eliminate or reduce sources of toxicity in storm water.

1. The Principal Permittee shall analyze samples for toxicity from 2 storm events (including, the first storm event that produces a rainfall of at least 0.25 inches) for each mass emission station and tributary station per wet season.

   (a) A minimum of 1 marine species shall be used for toxicity testing for each mass emission station event. Specifically, ***Strongylocentrotus purpuratus*** (sea urchin) fertilization/ development tests shall be used. This test 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) too less than or equal to 6% sample. In no case shall the toxicity test species ***Strongylocentrotus purpuratus*** (sea urchin) be substituted with another organism unless Permittees receive written authorization from the Regional Water Board Executive Officer.

   (b) A minimum of 1 freshwater species shall be used for toxicity testing for each tributary station event. Specifically, ***Ceriodaphnia dubia*** (water flea) 7-day survival/ reproduction tests shall be used. In no case shall the toxicity test species ***Ceriodaphnia dubia*** (water flea) be substituted with another organism unless Permittees receive written authorization from the Regional Water Board Executive Officer.

2. Toxicity Identification Evaluations (TIE)

   The Principal Permittee shall complete acute and/ or chronic Phase I (Toxicity Characterization Procedures) TIEs for all sites showing 90 percent or more toxicity to any 1-test organism in the first year. For all sites showing a 20 percent or more toxicity to any 1-test organism an acute and/ or chronic Phase I TIE shall be completed in the second year. The acute and chronic Phase I TIEs 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.
   (f) Inhibition of Organophosphate (OP) pesticide activation using piperonyl butoxide addition to the raw sample (crustacean toxicity tests only).

3. A TIE Prioritization Metric may be utilized to rank sites for TIEs. [2]

4. 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 2 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. TRE development shall be performed by a neutral third party (retained by the Permittees), in consultation with the Regional Water 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. No later than 30 days after the source of toxicity and appropriate BMPs are identified, the Permittees shall submit the TRE Corrective Action Plan to the Regional Water Board Executive Officer for approval. At a minimum, the Plan 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 post construction control measures to reduce the pollutant(s) causing toxicity.
      (5) Follow-up monitoring to demonstrate that toxicity has been removed.

[2] Appendix 5. SMC Model Monitoring Program.

(b) Phase I results are intended as a first step in specifically identifying the toxicants but the data generated can also be used to develop treatment methods to remove toxicity without specific identification of the toxicants. Since Phase I TIEs characterize the physical/ chemical nature of the constituents which cause toxicity, additional TIE (Phase II- Toxicity Identification Procedures- identify non-polar organics, ammonia, or metals, and Phase III- Toxicity Confirmation Procedures) analyses may be required in order to identify and/ or confirm the identity of the pollutants causing toxicity before the TRE can be completed.

(c) If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.

(d) Upon approval by the Regional Water 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.

(e) The Principal Permittee shall be responsible for the development of a maximum of 2 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 4,4'-DDD is being implemented when a TRE for 4,4'-DDD is required, the efforts shall be coordinated to avoid overlap).

(f) The Principal Permittee shall report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

(g) Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).

5. At a minimum a sufficient sample volume shall be collected to perform the required toxicity test. When using the toxicity test species the following is required:
   (a) ***Ceriodaphnia dubia*** (water flea) a minimum sample volume of 4 liters;
   (b) ***Strongylocentrotus purpuratus*** (sea urchin) a minimum sample volume of 2 liters.

6. Sample storage (holding time) time shall not exceed 72 hours (from collection through lab processing).

7. The same refrigerated sample showing toxicity shall be used for the TIE, even though the holding time may exceed 72 hours.

8. Toxicity monitoring results shall be sent to the Regional Water Board in the same electronic format and time period as provided for the mass emission monitoring results in section A.10.

9. The Principal Permittee shall report on the development, implementation, and results for each TRE Corrective Action Plan in the Annual Storm Water Report, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

10. All constituents (POC) that caused toxicity or exceeded in receiving waters any applicable water quality objectives at the associated mass emission station the previous year shall be listed in each Annual Storm Water Report.

11. A summary of the years' mass emission station's Aquatic Toxicity monitoring results with corresponding sampling dates and ToxCalc output shall be included with the Annual Storm Water Report.

12. When the SMC Standardized Toxicity Testing Protocol is completed, the Regional Water Board Executive Officer may direct Permittees to replace the current toxicity program with the standardized procedure.

C. Tributary Monitoring

The Principal Permittee shall monitor tributary emissions to accomplish the following objectives:

- Identify sub-watersheds where storm water discharges are ~~causing or contributing~~significant contributors to exceedences of water quality objectives.
- Prioritize drainage and sub-drainage areas where control measures need to be implemented.
- ~~Determine if the MS4 is contributing to exceedences of water quality objectives~~
- Determine if the MS4 is a significant contributor to exceedences of water quality objectives by comparing receiving waters results up and downstream of MS4 discharges to applicable water quality objectives in the Basin Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria.

1. In selecting sites to conduct tributary monitoring, Permittees shall review existing monitoring programs in the watersheds by other public and private entities, watershed coalitions, and citizen volunteers so as to complement and not duplicate efforts.

2. The Principal Permittee shall develop a watershed-based tributary monitoring program no later than (6 months after adoption of this Order) and submit it for approval to the Regional Water Board Executive Officer. The tributary monitoring program shall include the following:

   (a) A description of the program, map and coordinates of the location for each of the proposed monitoring stations.

   (b) Monitoring dates (years) for all stations.

3. The Principal Permittee shall develop and implement a tributary monitoring program based on the following requirements:

   (a) No later than (2nd year of this Order), monitoring within a Watershed Management Area (WMA) shall begin in at least 1 of the WMAs listed below (C.3.b) for a period of 2 years. Monitoring stations shall be rotated to the remaining WMA(s) when the current monitoring at each station is completed, as approved by the Regional Water Board Executive Officer.

   (b) The WMAs listed below shall have the following major tributaries monitored:
   (1) Ventura River- 2 tributaries (San Antonio Creek and McDonald Creek).
   (2) Santa Clara River- 3 tributaries (Santa Paula, Sespe Creek and Piru).
   (3) Calleguas Creek- 2 tributaries (Revolon Slough and Conejo Creek).

   (c) The Principal Permittee shall monitor the first storm event of the wet season that produces at least 0.25 inches of rain, and 2 additional storm events per tributary station, for a total of 3 sampling events.

   (d) Samples taken during the first storm event of the wet season shall be analyzed for all constituents listed Attachment "G".

   (e) Samples taken during the 2 additional storm events of the wet season shall be analyzed for:
   (1) All constituents for which the water body is impaired downstream of the monitoring station (303(d) list of water quality limited segments).
   (2) The POC listed for its associated mass emission station.

   (f) Samples shall be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).

   (g) Provisions enumerated in the Mass Emission sections' A.5 through A.7, A.10, A.12, A.13, A.14(b), A.14(c), and A.15.

(h) Samples shall be taken no further than 0.25 mile upstream of the tributary's confluence with the mainstem, when applicable, but outside of the influence of the mainstem. Sampling shall occur down stream of all potential pollutant sources (i.e., discharge pipes, channels, ditches, creeks, etc.).

(i) Incorporate Pyrethroid sampling (Pyrethroid Insecticides Study- section "H") into all sampling events.

4. If exceedences of applicable water quality objectives occur in at least ~~2~~4 storm events greater than the design storm or design hydrologic condition at a single major tributary station, the Permittees shall initiate a focused effort to identify the source(s) of pollutant(s) within that subwatershed. A corrective action plan to assess and identify the source(s) of pollutant(s) shall be submitted within 90 days after the ~~exceedence~~analytical result is received to the Regional Water Board Executive Officer. The assessment shall be conducted consistent with the guidelines described in the Model MS4 Monitoring Program for assessment of urban runoff contribution.

5. Tributary monitoring within the Malibu Creek WMA shall be coordinated with the Malibu Creek Total Maximum Daily Load (TMDL) Monitoring Program.

6. All constituents (POC) that caused toxicity or exceeded in the receiving water any applicable water quality objectives at the associated mass emission station the previous year shall be listed in the Annual Report.

7. A summary of the years' tributary station's monitoring results with corresponding sampling dates and ToxCalc output shall be included in the Annual Report.

D. TMDL Monitoring

This Monitoring section incorporates the TMDL MS4 Waste Load Allocations (WLAs) that have been adopted by the Regional Water Board and have been approved by the Office of Administrative Law and the U.S. EPA.

- See Part 6 - Total Maximum Daily Load Provisions for prohibition field screening criteria and WLAs.
- See section E. Federal, State and Regional Regulations, #13 for effective dates.
- All Mass Emission monitoring shall be conducted in accordance with the Mass Emission sections' A.3., A.5., A.6., and A.7.
- Grab samples shall be taken for pathogen indicators.
- Samples for toxicity are to be flow-weighted composites and can be collected manually or automatically (see section A.6 and A.7).

- ***Ceriodaphnia dubia*** (water flea) 7-day survival/ reproduction tests shall be used for toxicity testing.
- Monitoring results for each TMDL shall be sent electronically to the Regional Board's Storm Water Site at MS4stormwaterrb4@waterboards.ca.gov, no later than 45 days from sample collection date. The sample data transmitted shall be in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and its updates.
- A summary of the years' monitoring results for each TMDL with corresponding sampling dates and ToxCalc output (if applicable) shall be included in the Annual Monitoring Report.

1. **Watershed - Pollutant**
   Santa Clara River and its Tributaries (Reach 3) - Nitrogen Compounds (Ammonia and Nitrate plus Nitrite).

   (a) Waste Load Implementation
   Permittees shall implement BMPs to the MEP to achieve WLAs in TMDLS. The WLAs are expressed as numerical limits in-stream for Ammonia and Nitrate within the Santa Clara River and its Tributaries' Watershed (Reach 3), established for its MS4 Permittees (Ventura County Watershed Protection District, and the Cities of Santa Paula and Fillmore) are to be implemented through the following:
   (1) Dry weather - ~~Upon adoption of the Order (Xx xx, 200x), the discharge of dry weather flows from the MS4 to Santa Clara River that exceed the WLA is prohibited.~~ Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Ammonia and Nitrate plus Nitrite to the MS4, and shall monitor a minimum of 2 dry weather flow events at the Santa Clara River mass emission station (ME-SCR). The MS4 Permittees shall monitor 1 dry weather flow event prior to the onset of wet weather- October 1st (during the months of May - June); and monitor 1 dry weather flow event post wet weather- April 15th (during the months of August - September).
   (2) MS4 Permittees shall ~~not exceed~~implement BMPs to the MEP designed to treat constituents regulated by water quality objectives in the Water Quality Control Plan Los Angeles Region (Basin Plan), the Ocean Plan, and the California Toxics Rule (CTR) for both acute and chronic criteria for Ammonia and Nitrate plus Nitrite.

   (b) The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.
   (1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Santa Clara River and its Tributaries' Nitrogen Compounds TMDL, then the TMDL

Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

2. **Watershed - Pollutant**
Malibu Creek and Lagoon - Bacteria.

(a) Waste Load Implementation
The WLAs are expressed as exceedence days in-stream for Bacteria within Malibu Creek and Lagoon Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Simi Valley and Thousand Oaks) shall be implemented through the following:

(1) Summer Dry Weather (April 1 - October 31) - Upon adoption of the Order (**Xx xx, 200x**), ~~the discharge of summer dry weather flows from the MS4 to Malibu Creek and Lagoon is prohibited.~~ Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Bacteria to the MS4, and shall monitor weekly from April 1 - October 31, weeks that contain days with less than 0.1 inch of rainfall (events separated by 3 days of dry weather) for exceedences to the WLAs in-stream at point zero of all publicly owned storm drain pipes and open channels/ drains discharging to the following:

Table 1

1. Potrero Valley Creek to the Ventura County Line
2. Las Virgenes Creek to the Ventura County Line

(2) Winter Dry Weather (November 1 to March 31) - Upon adoption of the Order (**Xx xx, 200x**), ~~the discharge of winter dry weather flows from the MS4 to Malibu Creek and Lagoon is prohibited.~~ Permittees shall implement an illicit connection/ discharge elimination (ICIDE) program to detect and eliminate the discharge of Bacteria to the MS4, and shall monitor weekly from November 1 to March 31, weeks that contain days with less than 0.1 inch of rainfall (events separated by 3 days of dry weather) for exceedences to the WLAs in-stream at point zero of all publicly owned storm drain pipes and open channels/ drains discharging to the following:

Table 2

1. Potrero Valley Creek to the Ventura County Line
2. Las Virgenes Creek to the Ventura County Line

(3) Wet Weather (November 1 - October 31) - This portion of the TMDL must be achieved within 10 years from the effective date of the TMDL, which is beyond the term of this Order and therefore is not covered under this Order.

(b) The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.

(1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Malibu Creek and Lagoon - Bacteria TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

3. **Watershed - Pollutant**
Calleguas Creek, its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon.

(a) Waste Load Implementation
Permittees shall implement BMPs intended to reduce concentrations of diazinon and chlorpyrifos, and to reduce toxicity, to the MEP. The WLAs are expressed as numerical limits in-stream for Toxicity, Chlorpyrifos and Diazinon within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:

(1) Wet Weather - Upon adoption of the Order (**Xx xx, 200x**), the MS4 Permittees shall develop wet weather toxicity testing and compliance protocol and procedures. This may be accomplished by participating in the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Toxicity Testing Protocol study. After the completion of the SMC study, the Permittees shall submit a report to the Regional Water Board Executive Officer identifying the testing protocol and compliance criteria, for consideration and approval. The Regional Water Board Executive Officer will approve a toxicity testing protocol and compliance criteria after providing the opportunity for public comment.

(2) The MS4 Permittees, thereafter shall conduct toxicity testing for WLA compliance with both acute and chronic criteria for Chlorpyrifos and Diazinon on the first storm event of the wet season that produces at least

0.25 inches of rain, and 2 additional storm events per wet season (events separated by 7 days of dry weather), at the Calleguas Creek mass emission station (ME-CC).

(b) The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.

(1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Calleguas Creek, its Tributaries and Mugu Lagoon - Toxicity, Chlorpyrifos and Diazinon TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

4. **Watershed - Pollutant**

Calleguas Creek, its Tributaries and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation.

(a) Waste Load Implementation

Permittees shall implement BMPs intended to reduce concentrations of Organochlorines, PCBs, and Siltation, and to reduce toxicity, to the MEP. The WLAs are expressed as numerical limits in-sediment for OC Pesticides, PCBs and Siltation within Calleguas Creek, its Tributaries and Mugu Lagoon's Watershed, established for its MS4 Permittees (Ventura County Watershed Protection District, County of Ventura, and the Cities of Camarillo, Moorpark, Simi Valley, and Thousand Oaks) are to be implemented through the following:

(1) Dry Weather - Upon adoption of the Order (**Xx xx, 200x**), the MS4 Permittees shall participate in the 2008 Southern California Bight Project (SCBP) to evaluate the distribution and fate of contaminated sediments. Also, the MS4 Permittees shall monitor a minimum of 2 dry weather flow events, 1 dry weather flow event prior to the onset of wet weather- October 1st (during the months of May - June); and monitor 1 dry weather flow event post wet weather- April 15th (during the months of August - September), for OC Pesticides and PCBs exceedences to the TMDL interim WLAs in-sediment at the base of the following Hydrologic Units:

Table 3

Hydrologic Unit	403.12	403.68	403.62	403.63	403.67
Subwatershed	Calleguas	Revolon	Arroyo	Arroyo	Conejo

	Creek	Slough	Las Posas	Simi	Creek

(2) Final WLAs - This portion of the TMDL must be achieved within 20 years from the effective date of the TMDL, which is beyond the term of this Order and therefore is not covered under this Order.

(3) Siltation Special Study - This portion of the TMDL is 8 years in duration, which is beyond the term of this Order and therefore is not covered under this Order.

(b) When The implementation plan must be submitted to the Regional Water Board Executive Officer 30 days prior to TMDL compliance date.

(1) After the Regional Water Board considers and approves the stakeholder submitted implementation plan for the Calleguas Creek, its Tributaries and Mugu Lagoon - Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs), and Siltation TMDL, then the TMDL Implementation Plans' monitoring program may be substituted for the compliance monitoring stated herein. The Regional Water Board (or Regional Water Board Executive Officer, when duly delegated), consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment.

SPECIAL STUDIES

E. Bioassessment Monitoring

The Principal Permittee shall perform Bioassessment monitoring to accomplish the following objectives:

- Detect biological responses to pollution.
- Detect biological trends in receiving waters.
- Assess the biological integrity of receiving waters.
- Assess river segments impaired to restore.
- Identify probable causes of impairment not detected by physical and chemical water quality measurements.

1. The Principal Permittee shall continue the following:
   (a) Coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being implemented by the State Water Board;

   (b) Participate in the Southern California Coastal Water Research Project's (SCCWRP) Bioassessment Working Group to develop:
   (1) QA/ QC protocols.
   (2) Formalize a taxonomic workgroup for biological identification.
   (3) Create standard operation procedures (SOP) for field activities.

2. The SWAMP and SCCWRP's Bioassessment Work Group shall be coordinated with to identify the most appropriate locations for Bioassessment stations within Ventura County.

3. Bioassessment monitoring shall begin the first spring/ fall following adoption of the Order, (**Xx xx, 200x**).

4. Bioassessment monitoring shall occur for 1 year in 1 WMA and then rotate to another WMA for 1 year, among the following WMAs:
   (a) Ventura River - ongoing.
   (b) Santa Clara River - 2008.
   (c) Calleguas Creek - 2009.

5. A minimum of 10 Bioassessment stations shall be monitored per WMA during the spring season of each year.

6. Beginning in 2010, the Principal Permittee shall satisfy the Bioassessment requirement by participating in the Southern California Regional Bioassessment Program directed by the SMC or alternate plan approved by the Regional Board, using both random and targeted sites.

7. The Principal Permittee in consultation with the SMC shall be lead for the Ventura River Watershed within the Southern California Regional Bioassessment Program, or alternate plan approved by the Regional Board. The Principal Permittee shall develop a Ventura River Watershed wide monitoring plan and submit it to the Executive Officer for approval, at least 6 months prior to the start of the Southern California Regional Bioassessment Program or alternate plan approved by the Regional Board.

8. The Principal Permittee shall use the California Stream Bioassessment Procedure (CSBP) Stream Habitat Characterization Form (revision date: April 25, 2005), or other method(s) approved by the Regional Board.

9. Samples shall be collected according to the CSBP for Measuring Basic Characterization of Stream Habitat and Sampling Benthic Macroinvertebvrates (revision date: May 5, 2005), or other method(s) approved by the Regional Board.

10. The Principal Permittee shall use the Bioassessment In Low Gradient Streams Quality Assurance Project Plan by the SCCWRP (August 2005), or other method(s) approved by the Regional Board.

11. The SOP developed by the Bioassessment Technical Subcommittee shall be used, when available. The SOP is to describe all procedures and responsible parties. It

is to contain step-by-step field, laboratory and data entry procedures, as well as, related QA/ ~~QCprocedures~~QC procedures. There is to be specific information about the Bioassessment program relating to: 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 SOP be used shall be available to the Regional Water Board Executive Officer upon request.

12. Field sampling shall conform to the SOP established for the Bioassessment Technical Subcommittee. 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 the Regional Water Board Executive Officer and the California Department of Fish and Game (DFG) upon request. Personnel from the Principal Permittee or an independent auditor that has been properly trained in CSBP methods should perform Field inspections. Visits should report on all aspects of the field procedure with corrective action occurring immediately.

13. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures.

14. 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/ QCresults 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 10% as long as there are no substantial QA/ QCproblems. If there are substantial QA/ QCproblems, the level of external validation shall be increased to a level of 20% for 2 years. If there are no substantial QA/ QC problems within the 2 years, the level of external validation may be decreased to 10% upon approval from the Regional Board. External QA/ QC should be arranged through the California DFG's Aquatic Bioassessment Laboratory in Rancho Cordova.

15. The Southern California Benthic Index of Biological Integrity (SoCal B-IBI) shall be used to develop a score for assessed sites.

16. The Principal Permittee at end of every monitoring year shall evaluate the WMA to estimate the percentage of stream segments that are in "very good", "good", "fair", "poor" and "very poor" condition based on the SoCal B-IBI.

(a) All stream segments within the WMAs that score "poor" or "very poor" are to have the stream segment(s) resampled the following year. If a "poor" or "very poor" is scored 2 years in a row in the same stream segment then the Permittees shall meet the following requirements:
   (1) Develop a Watershed Ecological Restoration Plans (ERP) as listed in Part 5 - Watershed Ecological Restoration Planning, which shall be submitted to the Regional Water Board Executive Officer.

17. The Principal Permittee shall continue to perform yearly Bioassessment monitoring as outlined above (Special Studies- section "E" Bioassessment Monitoring), for all stream segments within the WMA that have an ERP developed for them, until the Plan's project goals (e.g., measurement endpoints) are achieved.

    (a) All stream segments within the WMA that are being sampled under an ERP shall meet the following requirements:
       (1) The Permittees shall develop Annual Watershed Ecological Restoration Status Reports (ERSR) as listed in Part 5 - Watershed Ecological Restoration Planning, which shall be submitted to the Regional Water Board Executive Officer.

18. The following results and information shall be included in the Annual Storm Water 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 physical/ habitat assessment metric values between stations and year-to-year trends.
    (f) Comparison of biological and physical/ habitat data to the SoCal IBI.
    (g) Electronic data formatted to the California DFG Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database.

F. Trash and Debris Study

The Principal Permittee shall perform the trash and debris study to accomplish the following objectives:

- Quantitatively assess the types and amount of trash and debris on the coastal areas and beaches within the County of Ventura.
- Identify areas impaired for trash and debris, and to develop control strategies.

1. The Principal Permittee and Permittees shall implement a trash and debris study for the following areas:
   (a) San Buenaventura Seaside Park Shoreline.
   (b) San Buenaventura Marina Park.
   (c) Ventura Keys.
   (d) Ventura Harbor/ Marina.
   (e) Channel Island Waterfront.
   (f) Channel Island Harbor.
   (g) Hollywood Beach (Hollywood-By-The-Sea & Hollywood Beach).
   (h) Silver Strand Beach.
   (i) Port Hueneme Harbor/ Marina.
   (j) Hueneme Beach Park.
   (k) Ormond Wetland/ Lagoon/ Beach.

2. Trash and debris study shall be implemented in 2 segments:

   (a) Coastal waters/ Inland waters -
      (1) Ventura Keys.
      (2) Ventura Harbor/Marina.
      (3) Channel Island Waterfront.
      (4) Channel Island Harbor.
      (5) Port Hueneme Harbor/ Marina.

   (b) Beaches -
      (1) San Buenaventura Seaside Park Shoreline.
      (2) San Buenaventura Marina Park.
      (3) Hollywood Beach (Hollywood-By-The-Sea & Hollywood Beach).
      (4) Silver Strand Beach.
      (5) Hueneme Beach Park.
      (6) Ormond Wetland/ Lagoon.

3. Coastal waters/ Inland waters shall quantify trash and debris types collected from its waters.

4. Beaches shall quantify trash and debris distribution and types by sampling stratified random sites.

5. Trash and debris from coastal waters inland waters and beaches shall be documented accordingly:

   (a) Trash and debris is to be bagged according to location;

   (b) Bagged trash and debris to be identified and quantified by:

(1) Sort debris into broad categories used by the Center for Marine Conservation during their Coastal Cleanup days (i.e., glass, metal, plastics, foamed plastics, rubber, paper, wood, cloth, etc.).
(2) The broad categories are to be recorded, enumerated and weighed.
(3) Each broad category of debris is to be further sorted into specific subcategories (e.g., cups, buoys, toys, fishing line, trash bags, etc.).
(4) The subcategories are to be recorded and enumerated.
(5) Within the subcategories brand names are to be recorded when possible, to estimate their percent of total and establish cross-brand trends.

6. Use of the sampling methodology described in *Composition and Distribution of Beach Debris in Orange County*[3] shall be followed. The sampling methodology can be modified when applicable (i.e., on rocks).

7. Trash and debris study shall begin no later than the second October following adoption of the Order, (**Xx xx, 200x**).

8. Trash and debris study Final Report shall be completed and submitted to the Regional Water Board Executive Officer no later than 18 months from the study's start date.

9. Trash and debris collected in the study shall be disposed of in compliance with applicable State, Federal, and Local regulations.

G. Pyrethroid Insecticides Study

The Principal Permittee shall perform a Pyrethroid Insecticides study to accomplish the following objectives:

- Evaluate whether creek/ river sediments are toxic to aquatic organisms.
- Evaluate whether pyrethroid insecticide concentrations are at or approaching levels known to be toxic to sediment-dwelling aquatic organisms.
- Prioritize drainage and sub-drainage areas where control measures need to be implemented if necessary.

1. The Permittees shall incorporate the Pyrethroid Insecticides monitoring within the Tributary Monitoring programs' schedule and sampling stations, as applicable.

2. The Principal Permittee shall monitor the Pyrethroid Insecticides stations according to the following:

   (a) Provisions enumerated in the Mass Emission sections' A.12 and A.15.

[3] *Composition and Distribution of Beach Debris in Orange County, California;* Moore, S. L., Gregorio D., Carreon, M, Weisberg, S.B. and Leecaster, M.K; Marine Pollution Bulletin Vol. 42, No. 3, pp. 241-245 (2001).

(b) Provisions enumerated in the Tributary Monitoring sections' C.1, C.3(a), C.3(c), and C.4.

(c) Establish 2 to 6 stations along the mainstream of each major WMA tributary.

(d) Establish 2 to 3 stations along secondary tributaries (originate at the outfall of storm drains) entering each major tributary in a WMA.

(e) Approximately 3 L of sediment is to be collected at each station in a pre-cleaned glass jar by skimming the upper 1 cm of the sediment column with a steel scoop, and held on ice until return to the laboratory. Sediment shall be homogenized in the laboratory by hand mixing, then held at 4 °C (toxicity samples) or -20 °C (chemistry samples).

(f) All samples taken shall be analyzed for the following Pyrethroids:
(1) biefenthrin.
(2) cyfluthrin.
(3) cypermethrin.
(4) deltamethrin.
(5) esfenvalerate.
(6) lambda-cyhalothrin.
(7) permethrin.
(8) tralomethrin (if laboratory is capable of analyzing for it).

(g) Detection limits for all Pyrethroids shall be as close to 1ng/g (dry weight) as reasonably achievable.

(h) Each sediment sample is to measure the following:
(1) total organic carbon (OC).

4. All samples shall be tested for toxicity to 7 to 10 day old ***Hyalella azteca*** according to standard U.S. EPA testing methods.[4] Use of the approach described in *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*[5] for toxicity testing shall be used.

5. Analyses is preferred to be conducted at a laboratory that has performed sediment toxicity testing for Pyrethroid Insecticides;

[4] *U.S. EPA. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-Associated Contaminants with Freshwater Invertebrates*; EPA Publication 600/R-99/064; U.S. Environmental Protection Agency: Washington, DC, 2000; 192 pp.

[5] *Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides*; Weston, D.P.; Holmes, R.W.; You, J.; Lydy, M.J. Environ. Sci. Technol.; (Article); 2005; 39(24); 9780 pp.

6. Pyrethroid Insecticides study Final Report shall contain the following:

   (a) Executive summary.
   (b) Methods.
   (c) Results.
   (d) Discussion.
   (e) Recommendations to mitigate Pyrethroids.

7. If toxicity is attributed to Pyrethroids then consultation with staff at U.S. EPA, the California Department of Pesticide Regulations and the California Stormwater Quality Association's (CASQA) pesticides committee (UP3 Project web site), shall be required to obtain relevant information to use in developing the recommendations to mitigate Pyrethroids.

8. The Final Report shall be completed and submitted to the Executive Officer of the Regional Water Board no later than 8 months after completion of the study.

H. Hydromodification Control Study

The Principal Permittee shall conduct or participate in special studies to develop tools to predict and mitigate the adverse impacts of Hydromodification, and to comply with hydromodification control criteria. These are the following:

- Develop a mapping and classification system for streams based on their susceptibility to the effects of hydromodification.
- Establish protocols for ongoing monitoring to assess the effects of hydromodification.
- Develop dynamic models to assess the effects of hydromodification on stream condition.
- Develop a series of tools that managers can easily apply to make recommendations or set requirements relative to hydromodification for new development and redevelopment.

1. The Principal Permittee may satisfy this requirement by participating in the 'Development of Tools for Hydromodification Assessment and Management' Project undertaken by the SMC and coordinated by the SCCWRP.

2. The Principal Permittee shall continue to partner with the SMC and collect data or sponsor its collection for the Ventura County sites to reduce statistical uncertainty and/ or improve model predictability.

3. The Principal Permittee shall submit a letter to the Regional Water Board Executive Officer stating how they are satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special studies.

I. Low Impact Development

The Principal Permittee shall conduct or participate in a special study to assess the effectiveness of low impact development techniques in semi-arid climate regimes such as in Southern California.

1. The Principal Permittee may satisfy this requirement by participating in the SMC project titled "Quantifying the Effectiveness of Site Design/ Low Impact Development Best Management Practice in Southern California".

2. The Principal Permittee shall submit a letter to the Regional Water Board Executive Officer stating how they are satisfying this requirement, no later than 2 months after deciding to either conduct or participate in special study.

J. Southern California Bight Project

The Principal Permittee and Permittees shall participate with other government organizations regulating discharges in southern California in the collaboration to conduct a regional monitoring survey (Southern California Bight Project (SCBP)) anticipated to be held in 2008. The survey's primary objective is to assess the spatial extent and magnitude of ecological disturbances on the mainland continental shelf of the SCB and to describe relative conditions among different regions of the SCBP.

The Principal Permittee shall participate on the Steering Committee for the bight-wide monitoring project, and complete the estuary and nearshore sampling effort requirement of the proposed monitoring project for Ventura County as defined in the SCBP plan. The Principal Permittee shall be responsible up to a dollar amount of $250,000 for monitoring in the SCBP.

K. Volunteer Monitoring Programs

The Principal Permittee and Permittees shall participate in the development and implementation of volunteer monitoring programs in the Ventura watersheds. These include, but are not limited to the following:

1. Ventura River - (Ventura Stream Team).
2. Santa Clara River - (Santa Clara River Stream Team).
3. Calleguas Creek - (Calleguas Creek Watershed Quality Monitoring Program).
4. Malibu Creek - (Malibu Creek Watershed Quality Monitoring Program).

L. Standard Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Monitoring and Records [40 CFR 122.41(j)(1)]

   (a) 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)] [CWC §13383(a)]

   (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 (ROWD) 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 Water Board or U.S. 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)]

   (a) Records of monitoring information shall include:
   (1) The date, time of sampling or measurements; exact place, weather conditions, and rain fall amount.
   (2) The individual(s) who performed the sampling or measurements.
   (3) The date(s) analyses were performed.
   (4) The individual(s) who performed the analyses.
   (5) The analytical techniques or methods used.
   (6) The results of such analyses.
   (7) The data sheets showing toxicity test results.

4. Monitoring and Records [40 CFR 122.21(j)(4)]

   (a) 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. If a particular Minimum Level (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.

5. Monitoring and Records [40 CFR 122.21(j)(5)]

   (a) 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 2 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:

   (a) Certified for such analyses by an appropriate governmental regulatory agency.

   (b) Which has participated in 'Intercalibration Studies' for storm water pollutant analysis conducted by the SMC [6].

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* (SIP) shall be used for all analyses, unless otherwise specified. The MLs from the SIP are incorporated into Attachment "G".

8. The Monitoring Report shall specify the analytical method used, the Method Detection Level (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 1 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.

   (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

[6] The 'Intercalibration Studies' are conducted periodically by the SMC to establish a consensus based approach for achieving minimal levels of comparability among different testing laboratories for storm water samples to minimize analytical procedure bias. Stormwater Monitoring Coalition Laboratory Document, Technical Report 420 (2004) and subsequent revisions and augmentations.

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 Water Board Executive Officer for approval prior to raising the ML for any constituent.

10. Monitoring Reports [40 CFR 122.41(I)(4)(ii)]

    (a) If the Principal Permittee monitors any pollutant more frequently than required by the Order 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(I)(4)(iii)]

    (a) 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 Water 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 submittal of the 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 Water Board Executive Officer following notice to the Principal Permittee.

Ordered by:

Jonathan S. Bishop
Executive Officer
Date: **Xx xx, 200x**

December 27, 2006

Document comparison done by DeltaView on Friday, July 20, 2007 2:12:57 PM

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ATTACHMENT B

Mass Emission and Receiving Water Wet Weather Pollutants of Concern[1]

Comment: [MAP1]: This foot needs further clarification

Anion	Bacteriological
Chloride	E. Coli
	Fecal Coliform

Conventional	Metal
Residual Chlorine	Aluminum -Total
TDS	Arsenic - Total
	Cadmium - Total
	Chromium - Total
	Cooper - Dissolved
	Mercury - Total
	Nickel - Total
	Selenium - Total
	Zinc - Dissolved

Deleted: Barium - Total

Comment: [MAP2]: These are not standard dry weather POCs. Please explain why appropriate to include.

Deleted: Beryllium - Total

Nutrient	Organic
Nitrate as Nitrogen	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Bis(2-ethylhexyl)phthalate
	Chrysene
	Indeno(1,2,3-cd)pyrene

Pesticide
4,4'-DDD
4,4'-DDE

[1] Mass Emission and Receiving Water monitoring site's wet weather Pollutants of Concern (POC) classification and exceedences (Basin Plan Objective and CTR-Acute Objective) based on data from Ventura Countywide NPDES Stormwater Monitoring Program Water Quality Monitoring Reports (2003/04 through 2005/06). Data for 2000/01 through 2002/03 was either presented with exceedences not analyzed or by percent exceedence, so data could not be compared to 2003/04 through 2005/06 exceedence data.

ATTACHMENT B
Mass Emission Dry Weather Pollutants of Concern[1]

Comment [MAP3]: This footnote needs further clarification

Anion	Bacteriological
Chloride	E. Coli
	Fecal Coliform

Conventional	Metal
TDS	
	Cadmium - Dissolved
	Cadmium - Total
	Selenium - Total

Comment [MAP4]: Al (Total) is not appropriate as the standard is based on a secondary drinking water MCL and because it is a natural component of soil/dirt, so it may routinely be exceeded

Deleted: Aluminum -Total

Nutrient	Organic
Nitrate as Nitrogen	Bis(2-ethylhexyl)phthalate

Pesticide
4,4'-DDD
4,4'-DDE
4,4'-DDT

[1] Mass Emission monitoring site's dry weather Pollutants of Concern (POC) classification and exceedences (Basin Plan Objective and CTR-Chronic Objective) based on data from Ventura Countywide NPDES Stormwater Monitoring Program Water Quality Monitoring Reports (2003/04 through 2005/06). Data for 2000/01 through 2002/03 was either presented with exceedences not analyzed or by percent exceedence, so data could not be compared to 2003/04 through 2005/06 exceedence data.

ATTACHMENT B
Land Use Wet Weather Pollutants of Concern[1]

Comment [MAP5]: This tool needs further clarification

Bacteriological	Conventional
E. Coli	Ph
Fecal Coliform	TDS

Metal	Nutrient
Aluminum -Total	Nitrate as Nitrogen
Cooper - Dissolved	
Mercury - Total	
Selenium - Total	
Zinc - Dissolved	

Organic	Pesticide
Benzo(a)anthracene	4,4'-DDD
Benzo(a)pyrene	4,4'-DDE
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Bis(2-ethylhexyl)phthalate	
Chrysene	
Dibenz(a,h)anthracene	
Hexachlorobenzene	
Indeno(1,2,3-cd)pyrene	
Pentachlorophenol	

[1] Land Use monitoring site's wet weather Pollutants of Concern (POC) classification and exceedences (Basin Plan Objective and CTR- Acute Objective) based on data from Ventura Countywide NPDES Stormwater Monitoring Program Water Quality Monitoring Reports (2003/04 through 2005/06). Data for 2000/01 through 2002/03 was either presented with exceedences not analyzed or by percent exceedence, so data could not be compared to 2003/04 through 2005/06 exceedence data.

From: "Gerhardt Hubner" <Gerhardt.Hubner@ventura.org>
To: "Tracy Woods" <twoods@waterboards.ca.gov>
Date: 7/19/2007 5:32:43 PM
Subject: Fwd: City of Ventura Hillside and Grading Policies

Forwarding as part of our discussion we had on July 5th

>>> "Broschart, Nancy" <nbroschart@ci.ventura.ca.us> 7/13/2007 4:25 PM >>>
Hi-

Vicki Musgrove asked me to forward you information regarding the City of Ventura's grading policies and restrictions. I've attached two documents - a PDF of Project Review Standards for Grading and Site Design which are included in the City's Hillside Management Program and a word document of the Grading Permit limitations and conditions from the Municipal Code.

Hopefully these will be helpful. If you have any questions, please feel free to contact me.

Thank you so much.

Nancy Broschart
City of Ventura, Maintenance Services
Management Analyst
(805) 654-7526
(805) 223-4378 cell
nbroschart@ci.ventura.ca.us

<<Ventura Hillside Management Plan Grading Policies.pdf>>

<<Ventura Grading Conditions.doc>>

6. PROJECT REVIEW STANDARDS

Grading and Site Design

Objectives

A. To preserve the natural character and appearance of the hillsides.

B. To use to the best possible advantage the limited resource of hillside view lots.

Policies

1. Hillside development should minimize grading, terracing, padding and cut and fill to the maximum extent possible. Where grading, terracing, padding or cut and fill is unavoidable, it should be shaped and rounded to simulate natural-appearing contours.

2. Cut and fill slopes will be limited to a maximum slope angle of two horizontal to one vertical.

3. No grading is permitted on any slope greater than 30%, except in limited cases for street or access purposes as approved by the City Engineer and City Planner.

4. Units should be sited on lots in such a way that the living areas take maximum advantage of the views afforded by the lot.

5. Each unit should be located so that it will not, to the maximum extent possible, interfere with the view from adjoining lots.

City of Ventura
Municipal Code
July 2007

Chapter 12.215 Grading Permits

Sec. 12.215.030. Permit limitations and conditions.

A. *General* . The issuance of a grading permit shall constitute an authorization to do only that work which is described on or illustrated on the application for the permit or on the site plans and specifications approved by the city engineer.

B. *Responsibility of permittee* . The permittee and the permittee's agents shall carry out the proposed grading in accordance with approved plans and specifications, the conditions of the permit and with the requirements of this part and all other applicable laws. The permittee and the permittee's agents shall maintain all required protective devices and temporary drainage, maintain dust control and methods of hauling, and observe approved hours of work during the progress of the grading work. The permittee or the permittee's agents shallbe responsible for maintenance of the site until such time as a notice of completion/final acceptance has been issued by the city engineer. The permittee, permittee's agents, and each or all of them shall become subject to the penalties set forth herein in the event of failure to comply with this part and other applicable laws of the City of San Buenaventura. No approval shall exonerate the permittee or the permittee's agents from the responsibility of complying with the provisions and intent of this part.

C. *Jurisdiction of other agencies* . Permits under the requirements of this part shall not relieve the owner of responsibility for securing required permits for work to be accomplished which is regulated by any other code, department or division of the city or any other governing agency.

D. Tract/parcel map requirements . If a final tract/parcel map is required under the San Buenaventura Municipal Code or Subdivision Map Act, no grading permit shall be issued for import or export of earth materials to or from, and no grading shall be conducted on, any grading site in the Hillside area unless a final tract/parcel map has been approved by the city council. The city engineer may waive the requirement that the final tract/parcel map be approved prior to issuance of a grading permit if the city engineer determines that such waiver will not endanger life, limb, health, property, safety, or public welfare.

In cases where a waiver is granted in the Hillside area, a grading permit will not be issued until all required plans are approved by the city engineer and community development director, following the payment of necessary fees and submittal of any or all required bonding.

E. *Conditions of* permit . The city engineer and community development director may impose such regulations with respect to access routes to and from grading sites in the Hillside area as they shall determine are required in the interest of public health, safety, and welfare and safety precautions involving pedestrian or vehicular traffic.

F. *Haul* . No permit shall be issued for the export or import of earth materials to or from a grading site in areas involving ingress or egress on streets having less than 17 feet (5.18 meters) in useable width, except upon the following conditions:

(1) The size or type of hauling equipment shall be limited in accordance with the width and conditions of the street.

(2) Traffic control devices, including flagmen, signs and markers shall be utilized at appropriate places along the designated routes of access to such sites.

(3) Temporary no parking restrictions may be imposed with the approval of the city engineer along such routes when determined necessary.

(4) Such other conditions as may be determined necessary for the public health, safety and welfare shall be imposed.

(5) In no event shall any export or import of earth materials to or from a grading site in hillside areas be undertaken or conducted except by use of equipment which complies in all respects with the state vehicle code.

(6) All loads shall be properly trimmed and watered, or otherwise secured so as to prevent spillage from the equipment.

(7) In all cases where the city engineer designates the "haul" routes, such designation of routes shall take into consideration the most practical means of transporting the earth materials to or from the grading site consistent with the safety and welfare of residents along the routes.

G. *Conformance with general plan, policies and the zoning regulations required* . No permit shall be issued for any grading or export or import of earth materials for any grading site except in compliance with the zoning, private street and division of land regulations contained in the San Buenaventura Municipal Code, the Subdivision Map Act of the State of California, the general plan, the HMP, the local coastal program, the specific plan for the area in which the grading is to be accomplished and local, state, and federal environmental laws and guidelines.

H. *Time limitations.* The permittee shall fully perform and complete all of the work proposed pursuant to the grading permit within the time limit specified in the permit.

If the permittee is unable to complete the work within the specified time, the permittee may, prior to the expiration of the permit, submit a written request for an extension of time in which to complete the work. If, in the opinion of the city engineer, sufficient justification is shown, the time specified on the permit may be extended for a period of not more than 180 days, but no such extension shall release any surety upon the bond.

I. *Entry upon premises* . The city engineer, the surety company or the duly authorized representative of either, shall have access to the premises described in the permit for the purpose of inspecting the progress of the work.

In the event of default in the performance of any term or condition of the permit, the surety or any person employed or engaged on behalf of the surety shall have the right to go upon the premises to complete the required work.

It shall be unlawful for the owner or any other person to interfere with the ingress or egress, from such premises of any authorized representative or agent of any surety company or the city engaged in the work ordered by the city engineer.

J. *Consent of adjacent property owner* . Whenever any excavation or fill requires entry onto adjacent property for any reason, the permit applicant shall obtain the written consent of the adjacent property owner or their authorized representative, and shall file a copy of said consent with the city engineer before a permit for such grading work will be issued.

K. *Restrictions during rainy season* .

(1) That period between the first day of November and the following 15th day of April is hereby determined to be the period in which heavy rainfall normally occurs in the City of San Buenaventura. During this period no grading work in excess of 250 cubic yards (191.15 cubic meters) will be authorized to start on any single grading site under permit where the city engineer determines that such work will endanger the public health or safety.

(2) Previously authorized grading work which extends into the rainy season shall be protected by incorporating temporary erosion control devices.

(3) Plans for erosion control devices shall be submitted to the city engineer and design approval obtained not later than the first day of October of the coming rainy season. The design of desilting basins which discharge into city streets or natural watercourses shall be under the control of the city engineer.

(4) All persons performing any grading operations during that period designated as the rainy season shall put into effect all safety precautions which are necessary in the opinion of the city engineer. All loose dirt shall be removed from the grading site and adequate anti-erosion or drainage devices, debris basins or other safety devices to protect the life, limb, health and welfare of private and public property of others from damage of any kind. All temporary erosion control devices, including desilting basins, shall be installed not later than the first day of November of each year.

(5) No persons shall excavate or fill so as to cause falling rocks, soil or debris in any form to fall, slide or flow onto adjoining properties.

(6) All grading activity shall conform to the requirements of the Ventura Countywide Stormwater Quality Management Program, the National Pollutant Discharge Elimination System (NPDES) and applicable NPDES permit issued by the State of California Regional Water Quality Control Board including the State General Permit for construction activity, the San Buenaventura Municipal Code and the California Storm Water Best Management Practices. When a notice of intent is required under applicable laws or regulations, the city engineer will require that a copy of the notice of intent be submitted to the city engineer prior to issuance of a grading permit.

(Ord. No. 2007-011, § 1, 4-16-07)

From: "Gerhardt Hubner" <Gerhardt.Hubner@ventura.org>
To: "Tracy Woods" <twoods@waterboards.ca.gov>
Date: 7/11/2007 4:56:17 PM
Subject: Development Construction Program Issue Paper and Section F Language

Tracy,

On behalf of the Ventura Countywide Program, please find attached our Issue Paper for the Development Construction program and language change recommendations on Section F of the draft permit. Let me know if you can't access the documents or have any questions 805-654-5051.

Gerhardt

CC: <Dsmith@waterboards.ca.gov>, "Xavier Swamikannu" <Xswamikannu@waterboards.ca.gov>

ISSUE PAPER
FOR
DEVELOPMENT CONSTRUCTION PROGRAM

Statement of Issue: Absent a prohibition variance, the Draft Ventura Stormwater MS4 Permit prohibits construction site grading during the "wet season" (October 1 – April 15) on "hillsides," from areas discharging to water bodies listed as impaired under CWA Section 303(d), and within or adjacent to environmentally sensitive areas. If adopted, this restriction on grading operations would (1) improperly give the Regional Board a de facto permitting power over local land use decisions, (2) impose unnecessary burdens upon the Permittees authority to permit local land uses, (3) create unnecessary delays and unjustified costs in construction projects, (4) impose procedural uncertainties in the granting of variances from the grading prohibition, and (5) create inconsistencies with State Water Resource Control Board policy in relation to numeric limits on construction site discharges,

Discussion

The Permittees and other interested parties have identified a number of significant issues with the Draft Permit's Development Construction Program. These issues are delineated below with a discussion of the problems that may result from adoption of the Draft Permit, as well as suggested alternative approaches aimed at addressing these problems. In addition, an underline-strikeout version of Part 4 Section F, which illustrates the recommended changes to the permit, is included in Attachment 1.

The wet season grading prohibition in Section F.1(a)(1) improperly gives the RWQCB a de facto power to grant construction permits, a function properly reserved to Permittees. Under the proposed terms of the Draft Permit, this de facto power is created because:

1. The authority of the Permittees to grant variances from the grading prohibition is sidestepped in favor of the RWQCB with no exception. (Section F.1(b)(1))
2. The RWQCB would have the final authority in deciding whether a grading project can occur during the wet season. (*Ibid.*)
3. Use of the term "prohibition" in the grading authorization reinforces the notion that the RWQCB is the final decision maker for construction projects occurring during the wet season. (Section F.1)

The Draft Permit essentially requires the MS4s to implement the State Constructin General Permit. In addition to the new permitting powers discussed above, Section F.1(b) is problematic for several other reasons. First, it places the Permittees in the conflicting role of acting as the "middle man" between the project proponents and the RWQCB. Thus, Section F.1(b) sets up the Permittee to act as an advocate of the project proponent before the RWQCB because the Permittee, instead of the project proponent, must petition the RWQCB to grant the variance based on site BMPs the Permittee has already approved. Under the practical terms of this provision, as a condition for the

Board's granting of the variance, the Permittee must make the case for the project proponent that proposed BMP measures will meet the specified water quality standards in Section F.1(b)(1). This process will effectively dismantle the local agencies' role as the final authority in the permitting of grading operations.

In addition, Section F.1(b)(1) creates severe procedural uncertainties because it is unclear whether the RWQCB would grant the variance to the Permittee or the project proponent. Thus, it is unclear whether the Permittee would receive the variance and subsequently authorize the project proponent to conduct wet season grading, or whether the variance would be granted to the project proponent who would then provide it to the Permittee as a condition for grading authorization.

The Permittees firmly believe the public interest would be better served if the Draft Permit gave Permittees the power to grant or deny variances along with primary responsibility for compliance monitoring. This practical approach would reaffirm the local agency as having primary responsibility local land use decisions. In the alternative and if the Regional Board is unwilling to accommodate this request, the Permittees should be removed from the role of "middle men" and instead the project proponents should apply directly to the RWQCB for the variance. In this alternative is pursued, the RWQCB should also have primary responsibility for inspecting, enforcing, and the monitoring BMPs implemented as part of the variance.

The "wet season" grading prohibition and requirement for variance from the prohibition represents unreasonable bureaucratic requirements and restrictions on project proponents and Permittees, and will unnecessarily create delays and excessive costs on project development on a regional basis. Under the Draft Permit, before a project could be authorized to conduct grading operations during the "wet season" several unnecessary hurdles would need to be met. First the project proponent would have to demonstrate to the Permittee it qualifies for a discharge prohibition variance. This would require a demonstration that proposed project BMPs meet the four requirements in Section F.1.(b), which would entail, among other requirements, a showing by Permittees that project BMPs will ensure that discharges contain less than 100 mg/L TSS and less than 50 NTU turbidity. Next, the Permittee would have to demonstrate (to the RWQCB) it has approved the BMPs for the project and the BMPs will meet the Section F.1(b) requirements. And as noted above, the RWQCB would have to grant the variance. These problematic restrictions would apply even to projects that are anticipated to have little or no discharge to the waterbody such as sites with properly designed and constructed detention basins. In addition the restrictions would apply over a six and one-half month period (from October 1 to April 15), which is primarily devoid of precipitation based on historical rainfall data for Ventura County.

To address these concerns, the RWQCB should restructure the prohibition/variance provisions to a strategy similar to the approach on other regional MS4 permits, which do not have such provisions. For example, Tentative Order No. R9-2007-002 (County of Orange MS4) avoids the burdens inherent in finding exceptions to a grading prohibition, and instead requires measures aimed at ensuring Permittees take direct steps to prevent

and control erosion and sediment runoff. This permit simply requires Permittees to incorporate into construction permits requirements for BMPs to reduce pollutant discharge to the maximum extent practicable with advanced sediment treatment for impaired water bodies and environmentally sensitive areas as necessary. While the Draft Permit is designed to accomplish similar goals, the approach it utilizes to achieves these goals is unnecessarily cumbersome and should be changed to reflect a more streamlined approach such as the approach taken on the Orange County MS4 Permit.

Another alternative would be to require BMP implementation in two tiers, with more stringent BMPs employed during the wet season for sites with high erosion potential and for sites tributary to Section 303(d) water bodies impaired for sediment or turbidity or environmentally sensitive areas. Examples include increasing the inspection frequency and enhancing corrective action measures, deadlines, and follow-up inspections, requiring stabilization of graded soils, and requiring advanced treatment for sediment at construction sites determined by the Permittee to be exceptional threats to water quality, as appears on the Orange County MS4 permit.

It would appear to the Permittees that the long term solution for this concern is to modify the State Construction General Permit to address wet season grading restrictions. Such an approach would provide Statewide consistency to the construction program.

The numeric effluent limitations on construction site runoff that must be met to obtain a variance from the wet season grading prohibition cannot be achieved without advanced treatment methods, which would result in substantial costs to construction projects. According to research conducted by the Construction Industry Coalition on Water Quality (CICWQ), achieving the 50 NTU turbidity requirement under Section F.11(b)(1)(C) will likely require both the existing BMPs required in Ventura County and the advanced treatment methods.[1] Using reasonable assumptions, implementation of these strategies the combined cost of construction phase erosion and sediment control BMPs plus advanced treatment on a per acre basis is approximately $28,000 per acre according to the CICWQ study.[2] The Permittees believe these cost represent substantial burdens and should have been considered in establishing the effluent limitations in accordance with both MEP principles and State law. In addition, the Regional Board should provide some evidence that the turbidity and TSS effluent limitations are necessary to protect beneficial uses and ensure compliance with applicable water quality objectives.

In establishing the turbidity and TSS limits as a condition for variance, the Regional Board has not made the prerequisite findings and recommendations of the State

[1] See Building Industry Legal Defense Foundation, Building Industry Association of Greater Los Angeles and Ventura Counties Major Issues and Comments on the 12.27.06 Draft NPDES MS4 Permit for Ventura County, Ventura Watershed Protection District, and Incorporated Cities.
[2] *Ibid.* at p 20.

Water Resources Control Board Blue Ribbon Panel Report.[3] This Report establishes at least five pre-requisites studies and conditions that must precede imposition of numeric limits on construction site run-off. These include consideration of the toxicity of active treatment systems, issues associated with long-term use of chemicals, and consideration of run-off flow and peak volume.

The wet season grading prohibition and variance requirements for hillsides with slopes 20% or steeper is excessive and vague and would subject project proponents and Permittees to unreasonable procedural burdens. The term "hillside" is defined in Part 7 as "property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 20% or greater and where grading contemplates cut or fill slopes." Under this definition, even sites where insignificant portions have a 20% slope could be subject to the grading prohibition. The Permittees believe these requirements are excessive and should be amended. The provision is also unnecessarily vague because it is unclear what constitutes "known" erosive conditions. The RWQCB should address these concerns by eliminating the prohibition and variance provisions altogether, or if this is not possible, the RWQCB should:

1. Amend the definition of "hillside" to establish readily verifiable standards for erosive conditions including a requirement that "areas of known erosive conditions" be identified before the effective date of the "hillside" provision;
2. Authorize an exemption from the prohibition and variance provisions for properties with relatively small portions meeting the 20% slope trigger as determined necessary by the RWQCB, or
3. Clarify what area or portion of a site must have a 20% slope before the provisions would apply.

The Draft Permit is unclear as to whether the Permittee must require project proponents to implement all of the BMPs in Tables 5, 6, and 7 or some of the BMPs depending on site conditions. For example, Section F.2 does not state in plain terms that *all* of the BMPs in Table 5 must be implemented at construction sites less than one acre. Thus, it is unclear whether the language, "Each permittee shall require the implementation of a minimum set of BMPs at all construction sites (See the following Table 5) to prevent erosion . . ." is intended to require that *all* of the BMPs in Table 5 are required. In addition, Tables 6 and 7 list duplicative BMPs designed to solve similar problems. For example, Table 6 has six erosion control BMPs, which each would independently solve erosion problems if properly implemented. Because it does not appear the RWQCB intends to require Permittees to require all the BMPs in these tables for each project, Sections F.2 and F.3 should be changed to clarify this point. In addition, since the selection of BMPs should depend on the specific site characteristics for activities one acre or greater, Tables 6 and 7 should be combined and the Permittees

[3] *Storm Water Panel Recommendations to the California State Water Resources Control Board – The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 19, 2006) ("Blue Ribbon Panel Report").

should be able to work with the applicant to choose the appropriate combination of BMPs. To achieve these objectives, the language in Part F.2 and F.3 might read:

"Depending on project type and area, each Permittee shall require the implementation of an effective combination of appropriate erosion and sediment control ~~following~~ BMPs chosen from the table below. . ."

The language used in the Certification Statement in Section F.4(a)(2) is difficult to interpret and excessively harsh to the extent that the landowners may refuse to sign the statement or will not reasonably understand what they are certifying by signing the statement. A better certifications statement would read: *"I, (owner's name or owner's representative/designee), am the property owner and agree to implement and maintain the SWPPP as prepared by (name of engineer or architect) for the duration of my construction project. I further understand that my failure to provide adequate sediment and erosion control in accordance with the requirements of my grading and/or building permit from the Local Agency could lead to a stop work order and possible citation by the Local Agency and RWQCB. I further agree to grant access to my property to the Local Agency to conduct all grading and building permit inspections including the mandatory rainy season inspection to verify that I am implementing and maintaining the proper BMPs that my SWPPP requires."*

The specifications of titles that are required to sign the certification statement in Section F.5(a)(2)(B) is unnecessary and should be eliminated in favor of more simplified language. If would be preferable if this section were revised to read: *The Local SWPPP certification shall be signed by the property owner or owner's representative/designee. If the Local SWPPP is being prepared by the Local Agency then the appropriate authority for the Local Agency shall sign the document.*"

Section F.7(b) would unnecessarily shift the burden of inspecting and maintaining post construction controls on private property from the property owners and their engineers and architects to the Permittee. Section F.7(b) states that "[p]rior to approving and/or signing off for occupancy or issuing a Certificate of Occupancy for *all construction projects* subject to post construction controls, each permittee shall inspect the constructed site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and [the draft Permit]." (emphasis added). The Permittees believe this language represents an unreasonable shift in responsibility and should be changed to read: "*Prior to the release of the grading permit or building permit, the Engineer or Architect of record who prepared the SWPPP, shall provide a letter to the Local Agency that states that all the temporary BMPs implemented by the property owner worked satisfactorily and will be removed by (date) and that post control devices will be in place and satisfactorily working by (date).*" This language will not only remedy the aforementioned burden shift, but will address the fact that not all construction projects obtain a certificate of occupancy at the completion of the permit, as Section F.7(b) would require.

Requiring proof of coverage under a State NPDES permit as a condition for issuance of specified permit types in Section F.8(a)(1) for projects requiring coverage under the CASGP or Small LUP General Permit could unnecessarily delay construction projects which have already applied for coverage and are waiting for the SWQCB to reviews and respond to the Notice of Intent. These changes can be accommodated amending Section F.8(a)(1) read:

"Proof of application for coverage or coverage under a State NPDES is demonstrated ..."

Similarly, Section F.9(b) should be revised to exclude from referral to the RWQCB projects that have applied for coverage and are awaiting issuance of a valid Waste Discharger Identification Number (WDID). This change to Section F.9(b) could be accommodated as follows:

"Each Permittee shall refer to the Regional Water Board any ~~non-filers (i.e., those~~ projects ~~which~~ that cannot demonstrate that ~~they~~ it either ha~~ves~~ a WDID number under the CASGP or Small LUP General Permit or that a Notice of Intent (NOI) application has been submitted to the ~~Regional~~ State Water Quality Control Board . .."

References

Region 9 Board (2007) California Regional Water Quality Control Board San Diego Region. Tentative Permit No. R9-2007-0002 NPDES No. CAS0108740 (Orange County MS4 Permit), February 9, 2007.

Building Industry Legal Defense Foundation, Building Industry Association of Greater Los Angeles and Ventura Counties Major Issues and Comments on the 12/27/06 Draft NPDES MS4 Permit for Ventura County, Ventura Watershed Protection District, and Incorporated Cities

F. Development Construction Program

1. Each Permittee shall implement a program to control storm water discharges from construction activity at all construction sites requiring a grading permit within its jurisdiction.

2. BMP Implementation - Construction Sites Less Than One Acre
   (a) Each Permittee shall require the implementation of BMPs at all construction sites to prevent erosion and sediment loss, and the discharge of construction wastes.[1]
   (b) Each Permittee shall require the implementation of BMPs shown in Table 6 and others as needed to control the discharge of pollutants from construction sites.

Table 6

BMPs for All Construction Sites	**CASQA Handbook**	**Caltrans Handbook**
For Erosion Control		
Scheduling	EC-1	SS-1
Preservation of Existing Vegetation	EC-2	SS-2
Sediment Controls		
Silt Fence	SE-1	SC-1
Sand Bag Barrier	SE-8	SC-8
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004).[2]	NS-2	NS-2
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-2
Spill Prevention and Control	WM-4	WM-4
Solid Waste Management	WM-5	WM-5
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

3. BMP Implementation - Construction Sites One Acre or Greater.
   (a) Each Permittee shall require the implementation of an effective combination of appropriate erosion and sediment control BMPs from Table 7 to prevent erosion and sediment loss, and the discharge of construction wastes:

[1] The BMPs are taken from the *California BMP Handbook, Construction, January 2003* and the *Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003*, and addenda.

2 Ponded storm water may be discharged at a concentration of Total Suspended Solids (TSS) of 100mg/L or less.

Table 7

BMPs	CASQA Handbook	Caltrans Handbook
For Erosion Control		
Hydraulic Mulch	EC-3	SS-3
Hydroseeding	EC-4	SS-4
Soil Binders	EC-5	SS-5
Straw Mulch	EC-6	SS-6
Geotextiles and Mats	EC-7	SS-7
Wood Mulching	EC-8	SS-8
Sediment Controls		
Fiber Rolls	SE-5	SC-5
Gravel Bag Berm	SE-6	SC-6
Street Sweeping and/or Vacuum	SE-7	SC-7
Storm Drain Inlet Protection	SE-10	SC-10
Additional Controls		
Wind Erosion Controls	WE-1	WE-1
Stabilized Construction Entrance/Exit	TC-1	TC-1
Stabilized Construction Roadway	TC-2	TC-2
Entrance/Exit Tire Wash	TC-3	TC-3
Non-Storm Water Management		
Vehicle and Equipment Washing	NS-8	NS-8
Vehicle and Equipment Fueling	NS-9	NS-9
Sediment Controls		
Sediment Basin	SE-2	SC-2
Check Dam	SE-4	SC-4
Tracking Control BMPs		
Stabilized Construction Entrance/Exit	TR-1	TC-1
Non-Storm Water Management		
Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Spill Prevention and Control	WM-4	WM-4
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

4. Enhanced Construction BMP Implementation.
   (a) Each Permittee shall implement, or require implementation of, enhanced practices to address the exceptional threat to water quality posed by all construction sites on hillsides with slopes 20% or steeper prior to land disturbance, directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment, or within or adjacent to an environmentally sensitive area (ESAs).
   (b) Enhanced practices for high risk sites shall include increased BMP inspection and maintenance requirements.
      (1) High risk sites shall be inspected by the SWPPP preparer/engineer or other construction water quality compliance consultant at the time of BMP installation, at least biweekly during the rainy season, and monthly during the dry season.

(2) During the rainy season, the area of disturbance shall be limited to the area that can be controlled with an effective combination of erosion and sediment control BMPs. Enhanced sediment controls should be used in combination with erosion controls and should target portions of the site that cannot be effectively controlled by standard proactive erosion controls described above. Effective sediment and erosion control BMPs proposed by the proponent shall include one or a combination of the following:

i. Trackwalking;
ii. Soil binders, hydraulic mulch, or other tackifiers
iii. Stormdrain inlet protection;
iv. Silt fence, fiber rolls sediment basins, and baffles;
v. Stabilized construction entrance and tire washes; and/or Advanced Treatment Systems if appropriate given natural background stormwater runoff and receiving water quality conditions.

5. Local Agency Requirements

(a) Each Permittee shall require for all construction sites of one acre or greater to be in compliance with all the conditions identified in the preceding F.3, and F.4, and the following requirements:

(1) Local Storm Water Pollution Prevention Plan (Local SWPPP). Each Permittee shall require the preparation and submittal of a Local SWPPP, for approval prior to issuance of a grading permit for construction projects.

i The Permittee shall approve no Local SWPPP unless it includes appropriate construction site BMPs and maintenance schedules.

ii. 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.

iii 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."

(2) Certification Statement

i Each Permittee shall require that each landowner or the landowner's agent sign a statement on the Local SWPPP to the effect:

"I, (owner's name or owner's representative/designee), am the property owner and agree to implement and maintain the SWPPP as prepared by (name of engineer or architect) for the duration of my construction project. I further understand that my failure to provide adequate sediment and erosion control in accordance with the requirements of my grading and/or building permit from the Local Agency could lead to a stop work order and possible citation by the Local Agency and RWQCB. I further agree to grant access to my property to the Local Agency to conduct all grading and building permit inspections including the mandatory rainy season inspection to verify that I am implementing and maintaining the proper BMPs that my or SWPPP requires."

ii The Local SWPPP certification shall be signed by the property owner or owner's representative/designee. If the Local SWPPP is being prepared by the Local Agency then the appropriate authority for the Local Agency shall sign the document.

6. Electronic Site Tracking System

(a) Each Permittee shall use an electronic system to track grading permits, demolition permits, , or construction permits (and any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

7. Inspections

(a) Each Permittee shall inspect all construction sites with active grading permits for the implementation of storm water quality controls a minimum of once during the wet season. Concurrently, each Permittee shall ensure that:

(1) The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits.

(2) For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.

(3) If compliance with municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance in accordance with the municipal Enforcement Response Plans and/or municipal codes

(4) If compliance has not been achieved, and the site is also covered under a Construction Activities Storm Water General Permit (CASGP) or Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the

procedures listed in section D.3. (d)- Interagency Coordination of this Order.

(b) Prior to the release of the grading permit or building permit, the Engineer or Architect of record who prepared the local SWPPP , shall provide a letter to the Local Agency that states that all the temporary BMPs implemented by the property owner worked satisfactorily and will be removed by (date) and that post control devices will be in place and satisfactorily working by (date)

(c) The Permittees shall ensure compliance with the following requirements:

(1) Sediments generated on the project site shall be retained using structural drainage controls;

(2) No construction-related materials, wastes, spills, or residuals shall be discharged from the project site to streets, drainage facilities or adjacent properties by wind or runoff;

(3) Non-storm water runoff equipment and vehicle washing and any other activity shall be contained at the project site; and

(4) Erosion from slopes and channels will be eliminated, by implementing BMPs, including, but not limited to, limiting of grading scheduled during the wet season, inspecting graded areas during rain events, plating and maintenance of vegetation on slopes, and covering erosion susceptible slope.

(d) Each Permitteee must inspect all construction sites as needed during the dry season.

8. State Conformity Requirements

(a) Each Permittee shall ensure that no grading permit, demolition permit, or construction permit (or any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the CASGP or Small LUP General Permit[6](3?) unless:

(1) It is demonstrated that a Notice of Intent (NOI) application has been submitted requesting coverage under the State NPDES permit (a

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(3?)[6] NPDES Permit No. CAS000005, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (Small LUP General Permit) for any linear land disturbing activity or activities (cumulatively) that will cause one acre or more of land disturbance but not more than 5 acres.

copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site).

(2) Demonstration or 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) Proof of an updated NOI(s) and a copy of the modified SWPPP(s) 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.

9. Interagency Coordination

(a) A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with:

(1) A minimum of 2 follow-up inspection reports (inspections completed within 3 months).

(2) A minimum of 2 warning letters or NOVs.

(b) Referral of Non-filers under the CASGP or the Small LUP General Permit:

Each Permittee shall refer to the Regional Water Board any project that cannot demonstrate that it either has a WDID number under the CASGP or Small LUP General Permit, or that a Notice of Intent (NOI) application has been submitted to the State Water Quality Control Board , no later than 15 days after making a determination of failure to file. In making such referrals, Permittees shall include, at a minimum, the following documentation:

(1) Project location address.
(2) Project description.
(3) Developer or owners name with complete mailing address.
(4) Project size.
(5) Records of communication with the developer or owner regarding filing requirements.

(c) Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:

(1) Each Permittee shall initiate, within 1 business day, (4?)[7] an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.

(4?)[7] Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

(A) The initial investigation shall include, at a minimum, an inspection on the facility and its perimeter to confirm the complaint and to determine if the site operator is effectively complying with the municipal storm water/urban runoff ordinances, and to oversee corrective action.

(d) Support of Regional Water Board Enforcement Actions – As directed by the Regional Water Board Executive Officer:

(1) Each Permittee shall support Regional Water Board enforcement actions by:

(A) Assisting in identification of current owners, operators, and lessees of properties and sites.

(B) Providing staff, when available, for joint inspections with Regional Water Board inspectors.

(C) Appearing to testify as witnesses in Regional Water Board enforcement hearings.

(D) Providing copies of inspection reports and other progressive enforcement documentation.

From: "Poole, Melissa A" <MPoole@Nossaman.com>
To: "Tracy Woods" <twoods@waterboards.ca.gov>, <xswamikannu@waterboards.ca.gov>
Date: 6/29/2007 7:07:23 PM
Subject: Ventura County MS4 Permit

Attached please find a red-line of Sections 4.E. and 4.F. (including related definitions) and Appendix E of the Draft Ventura County MS4 Permit and a chart containing active NOI statistics, submitted on behalf of the Building Industry Association of Southern California (BIASC), the Building Industry Association of Southern California/Greater Los Angeles Ventura Chapter (BIAGLAV) and the Construction Industry Coalition on Water Quality (CICWQ). The remainder of the red-line will be submitted next week. Please let us know if you have trouble opening any of the attached documents.

Thank you,

Melissa Poole

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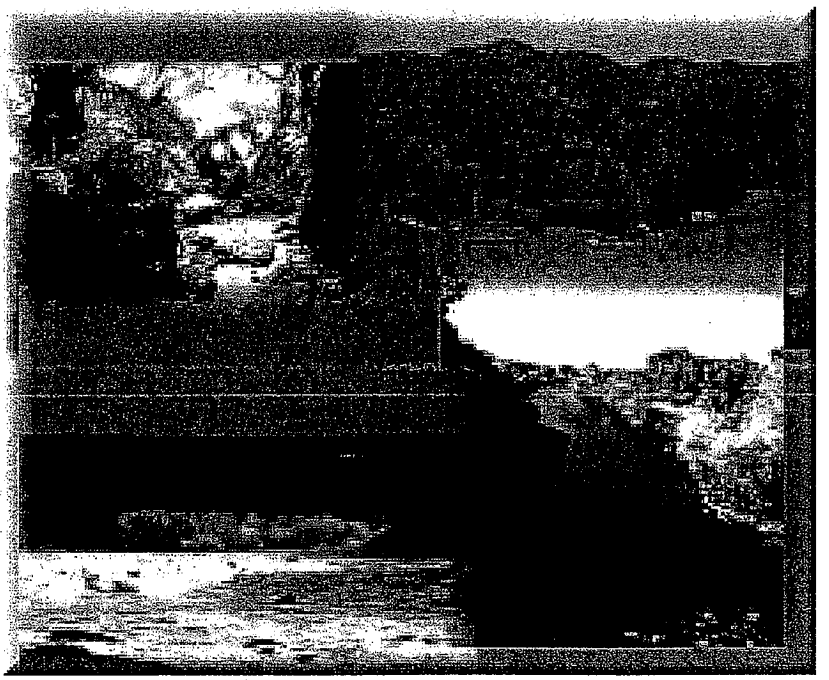
STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER 07-xxx
NPDES PERMIT NO. CAS004002
WASTE DISCHARGE REQUIREMENTS
FOR
STORM WATER DISCHARGES FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEM WITHIN THE VENTURA COUNTY WATERSHED PROTECTION DISTRICT, COUNTY OF VENTURA AND THE INCORPORATED CITIES THEREIN.

Xxxxx xx, 200x



December 27, 2006

E. Planning and Land Development Program

1. **Post-Construction Storm Water Planning and Land Development Program Purposes.** The Permittees shall implement a ~~development planning program that will require~~Planning and Land Development Program in accordance with and pursuant to this Section 4.E., for all New Development and Significant Redevelopment projects ~~to~~subject to this Order to satisfy the following purposes:

(a) Minimize substantial adverse impacts from storm water runoff on the ~~biological integrity of Natural Drainage Systems and~~beneficial uses of water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CAL. WATER CODE §13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.

~~(b) Minimize pollutants emanating from impervious surfaces by reducing the percentage of Effective Impervious Area[‡] to less than 5 percent of total project area.~~

~~(c) Minimize the percentage of impervious surfaces on development lands to support the percolation and infiltration of storm water into the ground.~~

(b) ~~(d) Minimize pollution emanating~~Minimize to the maximum extent practicable pollutant loading and other substantial adverse water quality affects from impervious surfaces ~~on developed land~~, such as roof-tops, parking lots, and roadways, through the use of properly designed, technically appropriate ~~Source Controls~~ (source control BMPs (including good housekeeping practices), Low Impact Development Strategies~~, and Treatment Control~~ that reduce the percentage of Effective Impervious Area[1], treatment control BMPs, and, for projects discharging into Natural Drainage Systems, hydromodification control BMPs.

(c) ~~(e)~~ Properly select, design and maintain ~~Treatment Control BMPs (in order~~treatment control BMPs to address those pollutants of concern identified for

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~~[‡] Effective Impervious Area means that portion of the impervious area that is hydrologically connected via sheet flow or a discrete hardened conveyance to a drainage system or a receiving water body. Impervious surfaces may be rendered "ineffective" if the storm water runoff is dispersed through properly designed vegetated swales (native vegetation) using approved dispersion techniques.~~

[1] Effective Impervious Area means that portion of the impervious area that drains directly to a receiving surface water body via a hardened storm drain conveyance system without first draining to a pervious area with some opportunity for filtration evapotranspiration, infiltration; whereas impervious surfaces that drain through pervious or vegetated areas or infiltration facilities prior to discharge into a receiving surface water are considered "disconnected" and are not part of Effective Impervious Area. Pursuant to this Order, New Development and Significant Redevelopment shall incorporate LID strategies to the maximum extent practicable (MEP). The goal of the Planning and Land Development Program is to limit Effective Impervious Area to no more than 3% to 10% of watershed area, depending upon local conditions, but this goal may not be achievable through the implementation of control strategies and BMPs that constitute MEP.

particular projects to assure proper function for long-term pollutant removal and to avoid the breeding of vectors~~)~~.[2]

2. Post-Construction Storm Water Planning and Land Development Program Project Applicability.

(a) Single Family Hillside. To the extent that a Permittee may lawfully impose conditions, mitigation measures or other requirements on the development or construction of a single-family home in a hillside area as defined in the applicable Permittee's Zoning Code, each Permittee shall require that during the construction of a single-family hillside home, the following measures will be implemented to the maximum extent practicable:

(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 geotechnical instability; and

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

(b) New Development SQUIMP Applicability. Each Permittee shall require that the following New Development projects be subject to conditioning and approval for the preparation and implementation of a Storm Water Quality Urban Impact Mitigation Plan (SQUIMP) incorporating technically feasible and appropriate controls and BMPs pursuant to Section 4.E.3 below to mitigate storm water pollution:

(1) New development projects disturbing one acre or greater and adding 5,000 square feet or more of impervious surface;

(2) Industrial park adding 5,000 square feet or more of impervious surface area;

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[2] ~~Treatment BMPs when designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors.~~
[2] Treatment BMPs that are designed to drain within 72 hours of the end of rainfall minimize the potential for the breeding of vectors. Treatment control BMPs that are designed to have standing pools of water, such as treatment wetlands and wet ponds, shall include adequate vector control measures.

(3) Commercial development adding 5,000 square feet or more of surface area;

(4) Retail gasoline outlet adding 5,000 square feet or more of surface area;

(5) Restaurant (SIC 5812) adding 5,000 square feet or more of surface area;

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

(7) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;

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

(9) Projects discharging directly to an Environmentally Sensitive Area (ESA), where the development will:

i. Discharge storm water runoff that is likely to adversely impact a sensitive biological species or habitat and related beneficial uses; and

ii. Create 2,500 square feet or more of impervious surface area.

(c) Significant Redevelopment SQUIMP Applicability. Each Permittee shall require, in addition, that Significant Redevelopment projects be subject to conditioning and approval for the preparation and implementation of a SQUIMP incorporating technically feasible and appropriate post-construction controls and BMPs pursuant to Section 4.E.3 below to mitigate storm water pollution.

(1) Significant Redevelopment projects are projects involving 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.

(2) Where Significant Redevelopment results in an increase of more than fifty percent of the total existing impervious surface of a previously existing development that was not subject to post development storm water quality control requirements, and the valuation of proposed improvements (including interior improvements) exceeds fifty percent of the assessed value of the existing site improvements, then the entire project must be mitigated.

(3) Where Significant Redevelopment results in an increase of less than fifty percent of impervious surfaces of a previously existing development, then only the addition must be mitigated, and not the entire development.

(4) Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, or original purpose of facility, or emergency activities required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

(5) Existing single-family structures are exempt from the Significant Redevelopment requirements unless such projects disturb one acre or greater and add 5,000 square feet or more of impervious surface.

(d) The following road maintenance practices shall not be deemed New Development or Significant Redevelopment, and are otherwise exempt from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: pothole and square cut patching, overlaying existing asphalt or concrete pavement with asphalt or concrete without expanding the area of coverage, shoulder grading, reshaping/re-grading drainage systems, crack sealing, resurfacing with in-kind material without expanding the road prism, and vegetation maintenance.

(e) The following underground utility projects shall not be deemed New Development or Significant Redevelopment, and are otherwise are exempt from the imposition of conditions, mitigation measures or other requirements under this Section 4.E: utility maintenance or refurbishment projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

(f) Where feasible, the Permittees shall utilize the update periods specified in this Order for preparation and implementation of new SQUIMP requirements to ensure that projects undergoing approval processes include application of the new, updated SQUIMP requirements in their plans. Notwithstanding the foregoing, the New Development and Significant Redevelopment shall exclude, and the new SQUIMP requirements contained in this Order, including Section 4.E.3 of this Order below, shall not apply to projects or project phases that, prior to the effective date of the new SQUIMP requirement, meet any one of the following conditions:

(1) The project or phase has received tentative tract map and SQUIMP approvals; or

(2) The project or phase has begun grading or construction activities; or

(3) A Permittee determines that lawful prior approval rights for a project or project phase exist, whereby application of a new SQUIMP requirement to the project is practically or legally infeasible.

3. SQUIMP Requirements.

(a) **General Contents of SQUIMP.**

(1) ~~(f) Select an integrated~~Each Permittee shall require applicants seeking approvals for the New Development and Significant Redevelopment projects (as specified in Section 4.E.2. above) to prepare a site and activity specific SQUIMP that employs an integrated water resources management approach to mitigate storm water pollution by utilizing a properly selected suite of ~~controls in the following order of preference~~technically feasible controls that are appropriate for the project to remove storm water pollutants, reduce post-development storm water runoff volume, velocity and duration, and beneficially reuse storm water:

i. ~~(1)~~ Low Impact Development ~~Strategies~~(LID) strategies.

ii. Source control BMPs.

iii. Hydromodification control BMPs.

iv. Treatment control BMPs.

(2) ~~Integrated Water Resources Management Strategies.~~ Permittees may allow SQUIMPs to substitute the following types of control measures and BMPs for onsite and/or site specific BMPs and control measures required in SQUIMPs by Section 4.E.3(a)(1) above.
~~(3) Multi-benefit Natural Feature BMPs.~~

i. In any SQUIMP, the Permittees may allow the implementation of subregional or regional LID, hydromodification control, and/or treatment control measures and BMPs, provided that the regional or subregional measures and BMPs provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the SQUIMP.

ii. In SQUIMPs for Significant Redevelopment and infill development, the Permittees may allow the hydromodification control

and treatment control requirements of this Section 4.E.3 for all or a portion of the project area to be met by controlling a substitute area that drains to the same receiving water so long as the substitute area has equivalent flow and pollutant characteristics to the project area.

iii. In SQUIMPs for Significant Redevelopment and infill development, the Permittees may allow the payment of fees toward installation, implementation , maintenance and operation of approved subregional and regional hydromodification, control and/or treatment control BMPs, provided that the subregional or regional measures and BMPs: are reasonably likely to be funded and implemented in a period of time sufficient to mitigate post-construction adverse water quality impacts, provide the level of pollutant and flow control mandated by this Section 4.E.3., and discharge to the same receiving water as would have been the case if on-site and/or site specific controls had been incorporated into the SQUIMP.

(b) ~~(4) Prefabricated/Proprietary Treatment~~**Specific SQUIMP Requirements--Source Control BMPs.**

(1) Each Permittee shall require SQUIMPs to specify appropriate post-construction source control BMPs based on planned activities and uses for New Development and Significant Redevelopment projects consistent with existing adopted Permittee SQUIMP manuals.

~~I. Low Impact Development~~

(c) **Specific SQUIMP Requirements--Low Impact Development.**

~~1. All new development and redevelopment projects shall integrate Low Impact Development (LID) principles into project design. LID is a storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions. LID is primarily a source control strategy, and minimizes the need for large sub-regional and regional treatment control BMPs.~~

(1) SQUIMPs prepared for New Development and Significant Redevelopment projects shall integrate Low Impact Development (LID) strategies into project design to infiltrate, disperse, and retain runoff onsite to the extent technically feasible and appropriate, as further defined by the LID guidance required by section 4.E.3.(c)(3) below, taking into account existing groundwater conditions, and flood control, hydrology, geotechnical, and channel stability goals and constraints. In determining the degree to which LID strategies must be or have

been implemented, it is appropriate for Permittees to consider the scale of development, site planning BMPs employed, and volume and flow controls achieved by other BMPs and measures implemented for a project area, including, without limitation, regional, subregional and site-specific source control, treatment control, hydromodification, and LID measures and BMPs. One or a combination of the following LID strategies shall be implemented unless shown to be infeasible or inappropriate given applicable goals and constraints. [List to be provided]

(2) ~~2. The Permittees shall develop a LID Technical Guidance Document no later than (18 months from the Order~~Pursuant to Section 4.E.3(c)(3) below, the Permittees shall work with other stakeholders to adopt revisions to the Technical Guidance Manual for Stormwater Quality Control Measures to incorporate guidance for integration of LID strategies into New Development and Significant Redevelopment no later than 12 months from the Order's adoption date~~)~~ for use by ~~Land Planners~~land planners and ~~Developers~~developers. The ~~LID Technical Guidance Document~~revisions shall include objectives and specifications for integration of LID strategies in the areas of:

i. ~~(a)~~ Site Assessment.

ii. ~~(b)~~ Site Planning and Layout.

iii. ~~(c)~~ Vegetative Protection, Revegetation and Maintenance.

iv. ~~(d)~~ Techniques to Minimize Land Disturbance.

v. ~~(e)~~ Integrated Water Resources Management Practices.

vi. ~~(f)~~ LID Design and Flow Modeling Guidance.

vii. ~~(g)~~ Hydrologic Analysis.

viii. ~~(h) LID Translators.~~ LID Translators, which explain the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(3) ~~3.~~ The Permittees will facilitate implementation of LID by providing key industry, regulatory, and stakeholders with information regarding LID objectives and specifications ~~developed~~contained in the ~~LID~~revised adopted Technical Guidance ~~Document~~Manual for Stormwater Quality Control Measures through a training program. The LID training program will include the following:

i. ~~(a)~~ LID targeted sessions and materials for builders, design professionals, regulators, resource agencies, and stakeholders.

ii. ~~(b)~~ A combination of awareness on national efforts and local experience gained through LID pilot projects and demonstration projects.

iii. ~~(c)~~ Materials and data from LID pilot projects and demonstration projects including case studies.

iv. ~~(d)~~ Guidance on how to integrate LID requirements into the local regulatory program(s) and requirements.

v. ~~(e)~~ Availability of the ~~LID~~ guidance regarding integration of LID strategies into project planning and SQUIMPs in the revised adopted Technical Guidance ~~Document~~Manual for Stormwater Quality Control Measures.

vi. Guidance regarding the relationship between LID strategies and source control, treatment control, and hydromodification control requirements of this Order.

(d) **Specific SQUIMP Requirements--Hydromodification Control**

(1) Hydromodification Control Measures and BMPs.

~~II. Numeric Hydromodification Mitigation Criteria~~

i. Unless a hydromodification control exemption applies pursuant to section 4.E.3.(d)(2) below, Permittees shall require SQUIMPs to specify hydromodification control BMPs consistent with the requirements, including numeric hydrologic control criteria, of Section 4.E.3.(d)(3), to minimize and mitigate to the maximum extent practicable substantial adverse post-development impacts due to increases in runoff rates, velocities and duration to the physical structure and stability, water quality and/or biological integrity of Natural Drainage Systems as necessary to protect their beneficial uses.

~~1. Hydrologic (Flow/Volume/Duration) Control~~

ii. Hydromodification control BMPs may include one, or a combination of on-site, regional or subregional LID strategies and hydromodification control BMPs, as well as in-stream controls.

Regional and subregional controls shall be implemented prior to discharge of project runoff into the Natural Drainage System. When existing natural conditions and beneficial uses within a Natural Drainage System have not been adversely affected prior to a proposed New Development or Significant Redevelopment project, preference must be given in preparing the SQUIMP to regional, subregional, and on-site hydromodification controls and BMPs over in-stream controls as necessary to protect existing beneficial uses. SQUIMPs incorporating in-stream controls shall demonstrate that the in-stream controls do not significantly adversely affect existing beneficial uses within the Natural Drainage System.

~~(a) Each Permittees shall require all new development and redevelopment projects to implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, velocities, and duration. This shall be achieved by maintaining the project's pre-development storm water runoff flow rates and durations.~~

iii. In determining compliance with the numeric hydrologic control criteria of Section 4.E.3(b)(3) below, peak, volume and duration reductions achieved by all BMPs and control measures cumulatively, including, without limitation, those achieved by LID strategies, treatment control BMPs, and hydromodification control BMPs, shall be considered.

iv. ~~(b) Natural drainage systems~~Natural Drainage Systems means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways, including tributaries, ~~are~~ located in the following watersheds:

a. ~~(1)~~ Ventura River.

b. ~~(2)~~ Santa Clara River.

c. ~~(3)~~ Calleguas Creek.

d. ~~(4)~~ Miscellaneous Ventura Coastal.

~~(c) Hydrologic Control in natural drainage systems shall be achieved by maintaining the Erosion Potential (E_p) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage~~

~~systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat.[3]~~

~~(d) The Southern California Storm Water Monitoring Coalition (SMC) is expected to initiate a study to develop a regional methodology to eliminate or mitigate the adverse impacts of hydromodification as a result of urbanization, including hydromodification assessment and management tools.[4] The SMC has identified the following objectives for the second Phase of the Hydromodification Control Study (HCS):~~

~~(1) Establishment of a stream classification for Southern California streams.~~

(2) ~~Development of a deterministic or predictive relationship between changes in watershed impervious cover and stream bed/stream bank enlargement.~~ Hydromodification Control Exemptions.

i. Permittees may exempt the following New Development and Significant Redevelopment projects from implementation of SQUIMP requirements mandating inclusion of hydromodification controls (but not LID strategies):

a. Projects within a natural watershed where a geomorphically-based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present or where in-stream controls have been identified as the best course of action.

b. Significant Redevelopment Projects that do not do not increase impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

c. Projects that discharge directly or via a storm drain to a sump, a lake, area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

d. Projects that discharge directly or via a storm drain into concrete or significantly hardened channels (*e.g.*, rip rap, sackcretec, etc.), which, in turn, discharge into a lake, area under

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[3] ~~See Attachment "E" - Determination of Erosion Potential.~~

[4] ~~Coleman, D., C. MacRae, and E. Stein. 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. Southern California Coastal Water Research Project. 70 pp.~~

tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

e. Single-family residential projects that disturb less than one acre or add less than 10,000 ft^2 of new impervious area.

f. Projects for which a geomorphically-based study shows that there is no potential at the subwatershed or watershed scale for significant hydromodification impact downstream.

g. Projects for which planned hydrologic control measures include sufficient, subregional, regional, or in-stream runoff control measures, or a combination thereof.

h. Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility.

(3) ~~Development of a numeric model to predict stream bed/stream bank enlargement and evaluate the effectiveness of mitigation strategies.~~ Numeric Hydrologic Control Criteria

~~(e) Until the completion of the SMC's HCS, Permittees shall continue to implement the following~~

i. **Interim Hydromodification Criteria** ~~to control the adverse impacts of changes in hydrology that result from new development and redevelopment projects. The Interim Hydromodification Impact Criteria are:~~

~~(1) **Projects disturbing land area of less than fifty acres** Hydrologic control for projects in this size category shall involve matching the Hydrograph for the 2-year post development peak flow, volume, and duration to the pre-development peak flow, volume, and duration for the 2-year 24-hour storm event (not exceeding the pre-development flows).~~. Interim hydromodification control standards are required for the protection of Natural Drainage Systems until the completion by the Permittees of the Hydromodification Management Plan (HMP) required in Section 4.E.3.(ii)b. below.

a. Unless a hydromodification control exemption applies, Permittees shall require SQUIMPs for the following New Development and Significant Redevelopment Project categories

discharging to Natural Drainage Systems to specify and require implementation of hydromodification controls:

1. New Development and Significant Redevelopment projects less than 200 acres.

(A) Until the Permittees develop the HMP, these projects shall implement hydromodification controls such that peak flow and volume of the 2-year, 24-hour storm event post-development hydrograph will match within one percent the peak flow and volume of the 2-year, 24-hour storm event pre-project hydrograph.

(B) Alternatively, these projects may elect to develop and implement a Hydromodification Analysis Study (HAS) or implementation tool pursuant to the following subsection 2.

2. ~~(2) **Projects disturbing land areas of fifty**~~New Development and Significant Redevelopment Projects 200 acres or greater.[5]

(A) ~~Hydrologic control for projects in this size category shall involve~~Until the completion of the HMP, these projects shall complete and implement a Hydromodification Analysis Study (HAS) ~~by the project proponent to demonstrate~~that demonstrates that post development conditions are not expected to alter the duration of sediment transporting flows in receiving ~~streams and tributaries~~waters. The HAS must demonstrate that the selected ~~hydrologic controls~~hydromodification control BMPs will maintain an Erosion Potential (Ep) value ~~of 1 unless an alternative value can be~~ shown to be protective of the ~~natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and damage stream habitat in natural drainage system tributaries.~~Natural Drainage Systems from hydromodification impacts.

[5] ~~91st percentile of all construction projects covered under the general construction permit (CASGP) in Southern California.~~

(B) Alternatively, these projects may elect to develop an implementation tool in accordance with the following methodology. The implementation tool shall be based on flow duration control in the form of nomographs relating planned impervious area and local soil type (infiltration rates) to determine hydromodification control BMP volume and land area requirements for the proposed project. The nomographs shall be derived from continuous simulation modeling using Ventura County specific rain gauge records and local soils types. The model shall be calibrated using data from a local undeveloped gauged watershed.

ii. **Final Hydromodification Criteria.** The Permittees shall prepare a HMP that includes final hydromodification control standards for the protection of Natural Drainage Systems.

~~(f) The Permittees shall participate in the second phase of the SMC's HCS to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from new development and to identify effective mitigation strategies. Should the SMC not proceed with the HCS, Permittees shall complete a similar study limited to the area of Ventura County no later than (18 months from the Order's adoption).~~

a. The Permittees shall participate in the Southern California Coastal Water Research Project (SCCWRP) Hydromodification Control Study (HCS).

~~(g) Hydromodification Control Plan~~

b. ~~(1) On completion of the HCS (SMC HCS or Permittee HCS), the~~ No later than one year after completion of the HCS, the Permittees shall develop and implement ~~Watershed Hydromodification Control Plans (HCPs), no later than 6 months after the completion of the HCS. The HCP shall identify tributary~~a Hydromodification Management Plan (HMP) taking into account local watershed conditions. The HMP shall identify stream classifications, flow rate and duration control methods, sub-watershed mitigation strategies, and any in-stream controls, which will maintain the ~~stream and tributary~~ Erosion Potential ~~at 1 unless an alternative~~(Ep) value ~~can be~~ shown to be protective of the ~~natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious~~

~~surfaces and damage stream habitat in natural drainage system tributaries~~Natural Drainage Systems addressed by the HMP.

c. ~~(2)~~ The ~~HCS~~HMP shall contain the following elements:

1. ~~(A)~~ Final Hydromodification Management ~~Standard: Storm water discharges from applicable new development and redevelopment projects shall not cause an increase in the erosion potential of the receiving creek over the pre-project (existing) condition~~Standards.

2. ~~(B)~~ Natural Drainage Areas and Hydromodification Management Control Areas.

3. ~~(C) Projects subject to Controls including~~The New Development and Significant Redevelopment ~~Projects~~projects subject to the HMP.

4. ~~(D)~~ Description of authorized Hydromodification ~~Management Controls~~control BMPs.

5. ~~(E)~~ Hydromodification ~~Management~~ Control ~~Design Criteria~~BMP design criteria.

~~(F) Range of flows to control namely matching post development discharge rates and durations from critical flow on up to the pre-development 10-year peak flow (or equivalent alternative criteria).~~

~~(G) Goodness of fit criteria.~~

~~(H) Allowable low flow rate.~~

6. For flow duration control methods, the range of flows to control and goodness of fit criteria (by way of example only, appropriate criteria may be to approximate the pre-project flows and durations for the continuous range of flows from the critical flow, Qc, to the 10-year return period flow, based on long-term rainfall records. Within this range, the post-project flow duration curve shall not deviate above the pre-project flow duration curve flows by more than 10 percent, and shall not deviate above the pre-project flow duration curve flows over more than 10 percent of the length of the curve).

7. Applicable low critical flow, Qc, which initiates sediment transport.

8. ~~(I)~~ Description of the approved Hydromodification Model.

9. ~~(J)~~ Any alternate Hydromodification Management Model and Design.

~~(K) In-Stream Measures Design Criteria.~~

10. In-stream controls design criteria.

11. Monitoring and Effectiveness Assessment.

12. ~~(L)~~ Record Keeping.

~~III. Post-Construction Storm Water Mitigation Criteria~~

~~1. Post-Construction Storm Water BMP Program and Project Applicability~~

~~(a) Each Permittee shall require that during the construction of a single-family hillside home, measures be taken to:~~
~~(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 all development projects equal to 1 acre or greater of disturbed area be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution.~~

~~(c) Each Permittee shall require, in addition, that the following development projects be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution:~~
~~(1) Industrial park 5,000 square feet or more of surface area;~~
~~(2) Commercial strip mall 5,000 square feet or more of surface area;~~
~~(3) Retail gasoline outlet 5,000 square feet or more of surface area;~~
~~(4) Restaurant (SIC 5812) 5,000 square feet or more of surface area;~~

~~(5) Parking lot 5,000 square feet or more of surface area or with 25 or more parking spaces;~~
~~(6) Streets, roads, highways, and freeway construction of 5,000 square feet or more of surface area;~~
~~(7) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area]; and~~
~~(8) Redevelopment projects in subject categories that meet Redevelopment thresholds (identified below in section III.4).~~

~~(d) Each Permittee shall require, in addition, that post-construction BMPs be subject to conditioning and approval for the design and implementation of post-construction treatment controls and BMPs to mitigate storm water pollution at development projects located in or directly adjacent to, or discharging directly to an Environmentally Sensitive Area (ESA), where the development will:~~
~~(1) Discharge storm water runoff that is likely to impact a sensitive biological species or habitat.~~
~~(2) Create 2,500 square feet or more of impervious surface area.~~

~~2. Tiered Numeric Water Quality Design Criteria~~
(e) **Specific SQUIMP Requirements—Treatment Controls**

~~(a) **Projects disturbing land areas less than 50 acres**~~
(1) ~~Each Permittee shall require that post-construction treatment control BMPs incorporate, at a minimum, a~~**Tiered Numeric Water Quality Design Criteria**. SQUIMPs prepared for the following categories of New Development and Significant Redevelopment projects shall incorporate treatment control BMPs that are designed in accordance with the following volumetric and/or ~~hydrodynamic~~ (flow based) treatment control design ~~standard,~~standards, which are consistent with the objectives stated in Part 4. E.1. ~~and as identified below to mitigate (infiltrate, filter or treat) storm water:~~

i. Projects less than 200 acres

a. ~~(1)~~ Volumetric Treatment Control BMP Sizing Criteria

1. ~~(A)~~ The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, using a 48-hour draw down time, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998)*; or

2. ~~(B)~~ The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment ~~(Ventura County Technical Manual); or~~by the method recommended in the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

~~(C) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system;~~[6] ~~and/or~~

b. ~~(2) Hydrodynamic (~~Flow Based~~)~~ Treatment Control BMP Sizing Criteria

1. ~~(A)~~ The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

2. ~~(B)~~ The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity ~~for Ventura County~~as determined from the local rainfall record; or

3. ~~(C)~~ Ten percent of the 50-year storm design flow rate as determined from the methodology presented in the Technical Guidance Manual for Stormwater Quality Control Measures (July 2002 or revised).

ii. ~~(b)~~ Projects ~~**disturbing land area of 50 acres or greater**~~200 acres or greater

~~Each Permittee shall require that post-construction treatment control BMPs be:~~

1. ~~(1) Designed~~Projects disturbing land area of 200 acres or greater shall implement treatment control BMPs that are sized to capture and treat 80 percent of the average annual runoff volume, using an appropriate public domain ~~hydrodynamic~~continuous flow model (such as Storm Water Management Model (SWMM) ~~5~~ or Hydrologic Engineering Center – Hydrologic Simulation Program – Fortran (HEC-

[6] ~~This option is not available for construction projects that disturb land area 5 acres or greater.~~

HSPF); and incorporate the following:) and the local rainfall record.

(A) Rainfall intensity based on hourly rainfall records;
(B) An adjustment factor for within-hour rainfall variability; and
(C) Hydraulics of BMP Performance.

(2) Satisfy the objectives identified for storm water quality management identified in Part 4. E.1.

3. Site Specific Mitigation

(a) Each Permittee shall require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment projects not identified in Parts 4. E. III.1(b), III.1(c), and III.1(d), but which may potentially have adverse impacts on post-development storm water quality, where 1 or more of 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.

4. Redevelopment Projects

(a) Each Permittee shall apply the post-construction BMP requirements, or site specific requirements including post-construction storm water mitigation to all projects that undergo significant Redevelopment in their respective categories.

(b) 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.

(1) 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.

~~(2) 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 alteration must be mitigated, and not the entire development.~~

~~(c) Redevelopment does not include routine maintenance 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. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.~~

~~(d) Existing single family structures are exempt from the Redevelopment requirements.~~

4. ~~5.~~ Maintenance Agreement and Transfer.

(a) Each Permittee shall require that all ~~development~~New Development and Significant Redevelopment projects subject to post-construction BMP ~~requirements and site specific plan~~ requirements provide verification of enforceable maintenance provisions for ~~Structural and Treatment Control~~structural source control, treatment control, and hydromodification control BMPs, including but not limited to final map conditions, legal agreements, covenants, conditions or restrictions, CEQA mitigation requirements, ~~and/ or~~ conditional use permits, and/or other legally binding maintenance requirements.

~~(1) Verification at a minimum shall include:~~

(1) ~~(A) The~~Verification at a minimum shall include the developer~~'~~s signed statement accepting responsibility for maintenance of the BMPs until the responsibility is legally transferred~~;~~, and either;

i. ~~(B)~~ A signed statement from the public entity assuming responsibility ~~for Structural or Treatment Control~~ for structural BMP maintenance ~~and that it meets all local agency design standards~~; or

ii. ~~(C)~~ Written conditions in the sales or lease agreement, which ~~requires the recipient~~require the property owner or tenant to assume responsibility for structural BMP maintenance and agreeing to conduct a maintenance inspection at least once a year; or

iii. ~~(D)~~ Written text in project conditions, covenants and restrictions (CCRs) ~~for residential properties~~ assigning structural BMP maintenance responsibilities to the Home Owners Association (HOA) ~~for maintenance of the Structural and Treatment Control BMPs~~; or

~~(E) 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~~

iv. ~~(F)~~ Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of ~~post-construction Structural or Treatment Control~~ BMPs.

5. ~~6.~~ **Development Planning Coordination and Enforcement.**

(a) ~~Each Permittee shall implement a program to inspect and enforce on new development and redevelopment projects for~~No later one year from the date of this Order's adoption, each Permittee shall revise its inspection and enforcement program for New Development and Significant Redevelopment post-construction structural source, treatment and hydromodification control BMPs~~.~~ as set forth in this subsection 4.E.3.

(b) Each Permittee shall inspect, with trained staff or consultants, all development sites upon completion of construction and prior to final approval/occupancy to ensure proper installation of permanent erosion controls, LID strategies, and structural source control, treatment control, and hydromodification control BMPs. Enforcement shall be taken as necessary based on inspection results. This inspection may be combined with other inspections, provided that it is performed by trained staff or consultants.

(c) Each Permittee shall develop and implement a GIS or other electronic system for tracking projects that have been conditioned for post-construction construction structural source, treatment and hydromodification control BMPs. The electronic system, at a minimum, should contain the following information:

(1) Municipal Project ID.

(2) State WDID No.

(3) Project Acreage.

(4) BMP Type and Description.

(5) BMP Location (coordinates).

(6) Date of Acceptance.

(7) Date of O&M Certification.

(8) Maintenance Records.

(9) Inspection Date and Summary.

(10) Corrective Action.

(11) Date Certificate of Occupancy Issued.

(12) Replacement or Repair Date.

(d) Each Permittee shall develop and implement a program to verify proper maintenance and operation of post-construction structural source, treatment and hydromodification control BMPs previously approved. The inspection program shall incorporate the following elements:

(1) ~~Prior to approving and signing off for occupancy and issuing the Certificate of Occupancy for all new development and redevelopment projects subject to post-construction control BMPs, each Permittee shall inspect the constructed site design, Structural control and Treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order.~~Inspection at least once every 2 years, beginning 1 year after the Order's adoption, of post-construction structural source, treatment, and hydromodification control BMPs assess operational conditions with particular attention to:

i. For nonproprietary BMPs – hydraulic function, invasive vegetation, vector risk, fugitive material, sediment clogging, and improper modifications.

ii. For proprietary BMPs – solids removal, pump-out, blockage and drawdown drainage.

(2) Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.

(e) ~~(b)~~ The State~~/~~ Water Resources Control Board and U.S. EPA ~~permitting~~have the authority ~~may undertake the following actions for coordination with~~provided by law to enforce the post-construction BMP provisions of the ~~State construction activity storm water general permit~~Statewide General NPDES for Stormwater Discharges Associated with Construction Activities (GCP) or individual storm water construction permits.

~~(1) Absence of Post-Construction BMPs~~

~~(A) If the State/U.S. EPA inspection does not readily identify the implementation of post-construction control BMPs at the site, the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.~~

~~(B) Failure to implement post-construction control BMPs, or implementing ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT).~~

~~(2) Inadequate or Ineffective Post-Construction BMPs~~

~~(A) If the State/U.S. EPA inspection identifies the implementation of post-construction BMPs, but they are determined to be inadequate or ineffective (e.g. undersized, or non-specific to pollutants of concern, or poorly maintained), the Regional Water Board will start progressive enforcement action against the Permittee and/or project owner/developer.~~

~~(B) Implementation of inadequate or ineffective BMPs may be grounds for the State/U.S. EPA permitting authority to deny the Notice of Termination (NOT) for the project.~~

6. ~~7.~~ **Regional and Redevelopment Area Storm Water Mitigation.**

(a) A Permittee ~~or~~, a coalition of Permittees, or another entity or person responsible for complying with municipal requirements adopted pursuant to this Order, may apply to the ~~Regional Water Board~~Executive Officer for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly for ~~on-site post-construction~~the SQUIMP requirements. ~~Upon review and a determination by the Regional Water Board~~ of this Order. The Executive Officer ~~that the proposal is technically valid and appropriate, the Regional Water Board~~ may consider for approval such a program if its implementation will:

(1) Result in equivalent or improved storm water quality as provided for in the SQUIMP requirements of this Order.

~~(2) Protect stream habitat.~~

(2) ~~(3)~~ Promote cooperative problem solving by diverse interests.

(3) ~~(4)~~ Be fiscally sustainable and ~~has~~have secure funding.

(4) For New Development projects, will result in construction of regional or subregional treatment control or hydromodification control facilities prior to discharge of runoff from the region or subregion served by the facilities.

(5) ~~Be completed in four years or less including the~~ For Significant Redevelopment and infill development, will result in construction ~~and start up of treatment facilities~~of regional or subregional treatment control or hydromodification control facilities in a period of time sufficient to mitigate post-construction adverse water quality impacts.

(b) The Executive Officer shall approve or disapprove of such a regional storm water mitigation program within 180 days of receipt of an application pursuant to this section.

(c) ~~(b)~~ A Permittee, a coalition of Permittees or another entity or person responsible for compliance with municipal requirements adopted pursuant to this Order, may apply to the Regional Water Board for approval of a Redevelopment Project Area Master Plan (RPAMP) for redevelopment projects within Redevelopment Project Areas, in consideration of balancing the environment with the needs for adequate housing, population growth, public transportation and management, land recycling, and urban revitalization. The RPAMP may substitute in part or wholly for on-site post-construction requirements. ~~Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the~~The Regional Water Board may consider for approval such a program if its implementation will result in ~~equivalent or~~ improved storm water quality.

(1) Redevelopment Project Areas include: (a) City Center areas, (b) Historic Districts areas, (c) Brownfield areas, (d) Urban Transit Villages; and (e) any other redevelopment area so designated by the ~~Regional Water Board~~Executive Officer.

(d) ~~(c)~~ Nothing in these provisions shall be construed as to delay the implementation of post-construction control requirements, except as expressly approved in this Order.

7. ~~8.~~ **Mitigation Funding.**

(a) The Permittees may propose a management framework, for approval by the Regional Water Board Executive Officer, to ~~support~~fund regional or subregional solutions to storm water pollution, where any of the following situations occur:

(1) A waiver for impracticability is granted;

(2) Funds become available;

(3) Off-site mitigation is required because of loss of environmental habitat; or

(4) An approved watershed management plan, ~~or~~ an integrated water resources management plan, ~~or~~ a regional or subregional storm water mitigation plan, ~~or~~ a wetlands recovery plan, or similar plan exists that incorporates an equivalent or improved strategy for storm water pollution mitigation.

~~9. Inspection and Tracking System for Post-Construction Treatment Control BMPs~~

~~(a) Each Permittee shall develop and implement no later than (6 months from this Order's adoption) the following:~~

~~(1) A GIS or other electronic system for tracking projects that have been conditioned for post-construction treatment control BMPs. The electronic system, at a minimum, should contain the following information:~~

~~(A) Municipal Project ID.~~
~~(B) State WDID No.~~
~~(C) Project Acreage.~~
~~(D) BMP Type and Description.~~
~~(E) BMP Location (coordinates).~~
~~(F) Date of Acceptance.~~
~~(G) Date of O&M Certification.~~
~~(H) Maintenance Records.~~
~~(I) Inspection Date and Summary.~~
~~(J) Corrective Action.~~
~~(K) Date Certificate of Occupancy Issued.~~
~~(L) Replacement or Repair Date.~~

~~(2) A post-construction treatment control BMP inspection program to verify proper maintenance and operation of post-construction treatment control BMPs previously approved. The inspection program, at a minimum shall consist of the following elements:~~

~~(A) Post-construction treatment control BMP acceptance inspection to ensure proper installation.~~
~~(B) Post-construction treatment control BMP Inspection check list.~~
~~(C) Inspection at least once every 2 years, beginning (1 year after the Order's adoption), of post-construction treatment control BMPs to ensure treatment effectiveness, hydraulic function, and vector risk minimization, with particular attention to:~~

~~(i) Conventional Treatment BMPs – failure, invasive species vegetation, fugitive material, sediment clogging, and improper modifications.~~

~~(ii) Non-Proprietary Treatment Control BMPs – solids removal, pump-out, blockage and drawdown drainage;~~

~~(D) Criteria and procedures for Treatment Control BMP repair, replacement, or re-vegetation.~~

8. ~~10.~~ Developer Technical Guidance and Information.

(a) The Ventura County Technical Guidance Manual for Storm Water Quality Control Measures shall be updated to include, at a minimum, the following:

(1) ~~Hydrologic (Flow/Volume/Duration) Control~~Hydromodification control criteria described ~~herein and~~in this Order, including the ~~interim~~numeric criteria ~~based on hydrograph matching~~.

(2) Expected treatment control BMP pollutant removal performance including ~~consistent~~ effluent quality and removal efficiency ranges ~~(~~from the ASCE/EPA International BMP Database, technical reports and the scientific literature~~).~~, as well as data on observed local effectiveness and performance of implemented BMPs.

(3) ~~Appropriate BMPs for storm water POCs.~~Selection of appropriate treatment control BMPs for stormwater pollutants of concern.

(4) ~~Data on Observed Local Effectiveness and performance of implemented BMPs.~~BMP maintenance and cost considerations.

~~(5) BMP Maintenance and Cost Considerations.~~

(5) ~~(6)~~ Criteria to facilitate integrated water resources planning and management in the selection of BMPs, including water conservation, groundwater recharge, public recreation, multipurpose parks, open space preservation, and redevelopment retrofits.

(6) ~~(7)~~ LID principles and specifications.

9. ~~11.~~ Project Review and Inter Department Coordination.

(a) Each Permittee shall facilitate a process for effective approval of post-construction control measures. The process shall include:

(1) Detailed BMP review including BMP sizing calculations, BMP pollutant removal effectiveness, and municipal approval.

(2) An established structure for communication and delineated authority between and among municipal departments ~~which~~that have jurisdiction over project review, plan approval, and project construction through memoranda of understanding (MOU) or an equivalent mechanism.

10. ~~12.~~ **California Environmental Quality Act (CEQA) Document Update.**

(a) Each Permittee shall, within six months of the adoption of this Order, incorporate into its CEQA process~~, with immediate effect,~~ those additional procedures, if any, that are necessary 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:

(1) Potential impact of project construction on storm water runoff.

(2) Potential impact of project post-construction activity on storm water runoff.

(3) 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.

(4) Potential for discharge of storm water to cause significant harm to or to impair the beneficial uses of the receiving waters ~~or areas that provide water quality benefit~~.

~~(5) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies.~~

(5) ~~(6)~~ Potential for significant changes in the flow velocity or volume of storm water runoff ~~that can cause environmental harm~~to cause significant harm to or to impair the beneficial uses of the receiving waters in Natural Drainage Systems.

~~(7) Potential for significant increases in erosion of the project site or surrounding areas.~~

11. ~~13.~~ **General Plan Update.**

(a) Each Permittee shall amend, revise or update its General Plan to include appropriate watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended:

(1) Land Use.

(2) Housing.

(3) Conservation.

(4) Open Space.

(b) Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq*.

F. Development Construction Program

~~Sediment losses due to erosion on construction sites are exacerbated during the wet season. Sediment is a primary pollutant impacting beneficial uses of watercourses. Sedimentation and siltation adversely affect fish spawning, and in time, alter aquatic habitat. Other pollutants including pesticides, herbicides, fertilizers, and metals, adsorb onto sediment particles and detrimentally impact biological systems and water quality.~~

1. ~~Grading Prohibitions~~Each Permittee must implement a construction program that meets the requirements of this section, prevents illicit construction-related discharges of pollutants into the MS4, implements and maintains structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites, reduces construction site discharges of pollutants from the MS4 to the MEP, and prevents construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

~~(a) Each Permittee shall implement a program to control storm water discharges from construction activity at all construction sites within its jurisdiction. During the wet season, the program shall ensure that the following requirements are effectively implemented at all of the construction site categories listed below:~~
~~(1) No grading shall occur between October 1 – April 15 (wet season) for construction projects in the following areas of high erosivity or receiving water impairment or sensitive habitat:~~
~~(A) On hillsides with slopes 20% or steeper prior to land disturbance;~~
~~(B) Directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment; or~~
~~(C) Within or adjacent to an environmentally sensitive area (ESAs).~~

~~(b) If grading operations in these areas are not completed before the onset of the wet season beginning October 1st, grading shall be halted and effective erosion control measures shall be put in place to minimize erosion. Grading shall not resume until after April 15th. Depending on the project area, the developer shall implement the Erosion and Sediment control BMPs listed in Tables 5, 6, and 7.~~

~~(1) A Grading Prohibition Variance may be granted by the Regional Water Board Executive Officer, where the Permittee can demonstrate that BMP measures proposed by the project proponent and approved by the Permittee can be reasonably expected to:~~

~~(A) Not cause or contribute to the degradation of water quality.~~

~~(B) Ensure that Total Suspended Solids discharged is 100mg/L or less.~~

~~(C) Ensure that Turbidity of the discharge is 50 NTU or less.~~

~~(D) Not impair beneficial uses.~~

~~(E) Includes a monitoring program to ensure effectiveness.~~

2. Minimum Construction ~~Sites Less than an Acre~~BMP Implementation

(a) Each Permittee shall require the implementation of a minimum set of BMPs at all construction sites ~~(see the following Table 5)~~requiring a grading permit to prevent erosion~~and~~, sediment loss, and the discharge of construction wastes.[73] ~~Where the Erosivity Factor (R) for the construction project is 50 or greater, erosion controls (erosion avoidance) will be the~~Consistently with the Statewide General NPDES Permit for Stormwater Discharges Associated with Construction Activities ("GCP"), BMPs shall be implemented to control and abate the discharge of pollutants in stormwater discharges from construction sites utilizing the best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). Erosion control BMPs (erosion avoidance) shall be preferred to sediment control BMPs.[8]

~~**Table 5**~~

~~**Minimum Set of BMPs for All Construction Sites**~~	~~**CASQA Handbook**~~	~~**Caltrans Handbook**~~
~~**For Erosion Control**~~		
~~Scheduling~~	~~EC-1~~	~~SS-1~~

[73] The BMPs are taken from the *California BMP Handbook, Construction, January 2003* and the *Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual, March 2003*, and addenda. This list is not meant to endorse any specific product or manufacturer. BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

[8] ~~Fact Sheet, *Construction Rainfall Erosivity Waiver* (2001) EPA 833-F-00-014; *Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE)* (1997), USDA Agricultural Handbook No. 703.~~

~~Minimum Set of BMPs for All Construction Sites~~	~~CASQA Handbook~~	~~Caltrans Handbook~~
~~For Erosion Control~~		
~~Preservation of Existing Vegetation~~	~~EC-2~~	~~SS-2~~
~~Sediment Controls~~		
~~Silt Fence~~	~~SE-1~~	~~SC-1~~
~~Sand Bag Barrier~~	~~SE-8~~	~~SC-8~~
~~Non-Storm Water Management~~		
~~Water Conservation Practices~~	~~NS-1~~	~~NS-1~~
~~Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG994004)[9]~~	~~NS-2~~	~~NS-2~~
~~Waste Management~~		
~~Material Delivery and Storage~~	~~WM-1~~	~~WM-1~~
~~Stockpile Management~~	~~WM-3~~	~~WM-2~~
~~Spill Prevention and Control~~	~~WM-4~~	~~WM-4~~
~~Solid Waste Management~~	~~WM-5~~	~~WM-5~~
~~Concrete Waste Management~~	~~WM-8~~	~~WM-8~~
~~Sanitary/Septic Waste Management~~	~~WM-9~~	~~WM-9~~

~~3. Construction Sites 1 acre or greater but Less than 5 acres~~

~~(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 6) in addition to the ones identified in the preceding Table 5 at all construction sites 1 acre and greater but less than 5 acres to prevent erosion and sediment loss, and the discharge of construction wastes:~~

~~Table 6~~

(i) Each Permittee shall require the implementation of BMPs selected from those listed in Table 1 (and others as needed) to control pollutants in discharges from construction sites to the BAT/BCT.

Table 1

Construction Site BMPs	**CASQA Handbook[4]**	**Caltrans Handbook[5]**
~~For~~ Erosion Control		
~~Scheduling~~	~~EC-1~~	~~SS-1~~
~~Preservation of Existing Vegetation~~	~~EC-2~~	~~SS-2~~
Hydraulic Mulch	EC-3	SS-3
Hydroseeding	EC-4	SS-4

~~[9] Ponded storm water may be discharged at a concentration of Total Suspended Solids (TSS) of 100mg/L or less.~~

[4] BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

[5] BMPs of equivalent effectiveness from other Construction Sediment and Erosion control guidance documents may also be utilized.

Construction Site BMPs	CASQA Handbook[4]	Caltrans Handbook[5]
~~For~~ Erosion Control		
Soil Binders	EC-5	SS-5
Straw Mulch	EC-6	SS-6
Geotextiles and Mats	EC-7	SS-7
Wood Mulching	EC-8	SS-8
Slope Drains	EC-11	SS-11
Sediment Controls		
Silt Fence	SE-1	SC-1
Sediment Basin	SE-2	SC-2
Check Dam	SE-4	SC-4
Fiber Rolls	SE-5	SC-5
Gravel Bag Berm	SE-6	SC-6
Street Sweeping and/or Vacuum	SE-7	SC-7
Sand Bag Barrier	SE-8	SC-8
Storm Drain Inlet Protection	SE-10	SC-10
Additional Controls		
Wind Erosion Controls	WE-1	WE-1
Stabilized Construction Entrance/Exit	TC-1	TC-1
Stabilized Construction Roadway	TC-2	TC-2
Entrance/Exit Tire Wash	TC-3	TC-3
Non-Storm Water Management		
Water Conservation Practices	NS-1	NS-1
Dewatering Operations (Groundwater dewatering only under NPDES Permit No. CAG914004)	NS-2	NS-2
Vehicle and Equipment Washing	NS-8	NS-8
Vehicle and Equipment Fueling	NS-9	NS-9
Vehicle and Equipment Maintenance	NS-10	NS-10
Waste Management		
Material Delivery and Storage	WM-1	WM-1
Stockpile Management	WM-3	WM-3
Spill Prevention and Control	WM-4	WM-4
Solid Waste Management	WM-5	WM-5
Concrete Waste Management	WM-8	WM-8
Sanitary/Septic Waste Management	WM-9	WM-9

(b) An effective combination of erosion and sediment control practices shall be implemented on disturbed areas without regard to time of season. The six major objectives of combined erosion and sediment control practices to control pollutants in discharges from construction sites to the BAT/BCT at every construction site shall be:

(i) Minimize exposed areas during the rainy season;
(ii) Provide erosion control practices on disturbed areas, slopes, and stockpiles;
(iii)Provide properly designed drainage facilities to control concentrated flows;
(iv)Provide sediment control practices around the perimeter of the construction site, at all transition areas within the project site (e.g., transition from slope to flat areas), and at all internal inlets to the storm drain system during the rainy season;
(v) Reduce the tracking of sediment off site at all times; and
(vi)Reduce wind erosion all year.

(c) All disturbed areas that will not be re-disturbed for 20 days (inactive) shall be provided with erosion control measures within 14 days from last disturbance, or within the 48 hours prior to a predicted rainfall event of 0.1 inch or greater as determined by the Quantitative Precipitation Forecast. The erosion control practices should achieve control equivalent to 70-90 percent soil coverage until the permanent vegetation or other permanent stabilization provides the intended long-term erosion control function at the site.

(d) On-site drainage facilities for carrying concentrated flows shall be designed to control erosion and to prevent damage to downstream properties.

(e) Sediment control practices shall be provided around the down gradient perimeter of the construction site and at all internal inlets to the storm drain system during the rainy season. These sediment control measures may include filtration devices (such as silt fences, straw bale barriers, and inlet filters) and/or settling devices (such as sediment traps or basins). Filtration devices that are designed for sheet flow shall be installed and maintained properly in order to perform effectively (i.e., within 48 hours after each rain event accumulated sediments shall be removed). Sediment traps or basins shall be designed and maintained in accordance with requirements of the GCP.

(e) Practices shall be implemented and maintained to reduce the tracking of sediment off site at all times. This may be accomplished by stabilized construction entrances or other appropriate and effective measures designed in accordance with the most current CA BMP Handbooks or their equivalent.

(f) Practices shall be implemented and maintained to reduce wind erosion at all times. This may be accomplished by limiting the area of disturbance, applying dust control measures, and stabilizing disturbed areas in a timely manner, and should be designed in accordance with the most current CA BMP Handbooks or their equivalent.

3. Enhanced Construction BMP Implementation

Each Permittee shall implement, or require implementation of, enhanced practices to address the exceptional threat to water quality posed by all construction sites defined as being within a "hillside area" pursuant to the applicable Permittee's Zoning Code, areas directly discharging to a waterbody listed on the CWA § 303 (d) list for siltation or sediment, or directly discharging to an environmentally sensitive area (ESA).

(a) Enhanced practices for high risk sites shall include increased BMP inspection and maintenance requirements.

(i) High risk sites shall be inspected by the SWPPP preparer/engineer of record, or qualified construction water quality compliance personnel or consultants who are Certified Professionals in Erosion and Sediment Control (CPESC) at the time of BMP installation, at least weekly during the rainy season, within the 48 hours prior to a predicted rainfall event of 0.1 inch or greater as determined by the Quantitative Precipitation Forecast, and monthly during the dry season.

~~Construction Sites 5 acres and Greater~~

(ii) During the rainy season (October 1st to April 15th), the area of disturbance shall be limited to the area that can be controlled with an effective combination of erosion and sediment control BMPs. Enhanced sediment controls should be used in combination with erosion controls and should target portions of the site that cannot be effectively controlled by standard proactive erosion controls described above. Effective sediment and erosion control BMPs proposed by the proponent shall include a combination of the following:

~~(a) Each Permittee shall require the implementation of the following BMPs (see the following Table 7) in addition to the ones identified in the preceding Tables 5 and 6 at all construction sites 5 acres and greater to prevent erosion and sediment loss, and the discharge of construction wastes:~~

(A) Catwalking or trackwalking;
(B) Soil binders, hydraulic mulch, or other tackifiers;
(C) Sediment barriers at a minimum of 150 foot spacing;
(D) Stormdrain inlet protection;
(E) Plastic sheeting for stockpiles;
(F) Silt fences or fiber rolls;
(G) Stabilized construction entrance(s) so as to prevent the track-out of bulk material, extending 25 feet or more in cumulative length from the

project site boundary, or into proximity of any connected and unprotected storm drain;

(H) Provide sediment basins when feasible and appropriate, designed pursuant to GCP standards, and incorporating enhanced sediment basin controls, such as the addition of baffles or other controls, as necessary to improve reductions in sediment load. Sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls alone, and are not necessarily required or appropriate throughout a site;

(I) Provide sediment traps when feasible and appropriate, with a minimum of 12 inches of freeboard prior to the first set of dewatering holes in riser pipe. The entire riser pipe shall be jacketed with additional protections (i.e. gravel or filter fabric). Sediment basin controls should target portions of the site that cannot be effectively controlled by standard proactive erosion and sediment controls alone, and are not necessarily required or appropriate throughout a site; and/or

(J) Cessation of construction activity as necessary to prevent work past the point of effective BMP implementation.

~~**Table 7**~~

~~**BMPs**~~	~~**CASQA Handbook**~~	~~**Caltrans Handbook**~~
~~**Sediment Controls**~~		
~~Sediment Basin~~	~~SE-2~~	~~SC-2~~
~~Check Dam~~	~~SE-4~~	~~SC-4~~
~~**Tracking Control BMPs**~~		
~~Stabilized Construction Entrance/Exit~~	~~TR-1~~	~~TC-1~~
~~**Non-Storm Water Management**~~		
~~Vehicle and Equipment Maintenance~~	~~NS-10~~	~~NS-10~~
~~**Waste Management**~~		
~~Material Delivery and Storage~~	~~WM-1~~	~~WM-1~~
~~Spill Prevention and Control~~	~~WM-4~~	~~WM-4~~
~~Concrete Waste Management~~	~~WM-8~~	~~WM-8~~
~~Sanitary/Septic Waste Management~~	~~WM-9~~	~~WM-9~~

4. ~~Local Agency~~SWPPP Requirements

(a) Each Permittee shall require for all construction sites 1 acre or greater, compliance with all conditions identified in the preceding sections F.1, F.2, and F.3, and ~~F.4, and~~ the following requirements:

(1) ~~Local~~Inclusion in the project Storm Water Pollution Prevention Plan (~~Local~~ SWPPP), prepared pursuant to the GCP, of those BMPs necessary to comply with all conditions identified in the preceding sections F.1, F.2, and F.3.

(A) Each Permittee shall require the preparation and submittal of ~~a Local~~the SWPPP~~, for approval~~ as required by the GCP prior to, and as a condition of issuance of ~~a~~the first grading permit for construction projects.

(i) The ~~Permittee~~SWPPP shall ~~approve no Local SWPPP unless it includes~~include appropriate construction site BMPs and implementation and maintenance schedules as required by the GCP and this Order.

~~(ii) 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.~~

(ii) ~~(iii)~~ The ~~Local~~ SWPPP must include the rationale used for selecting or rejecting ~~BMPs.~~certain BMPs for various construction site phases and weather conditions. The project ~~architect, or~~ SWPPP preparer/engineer of record, CPESC or authorized qualified designee, must sign a statement on the ~~Local~~ SWPPP to the effect:

> ~~(iv)~~ *"As the ~~architect~~SWPPP preparer/engineer of record, I have selected appropriate BMPs for implementation based upon site, construction phase, and weather conditions, as necessary to effectively ~~minimize~~control the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware ~~that~~of the suite of selected BMPs that must be installed, monitored, and maintained for various project phases, site conditions and weather conditions to ensure their effectiveness. The BMPs not selected for implementation are redundant or are deemed not applicable to either the proposed or anticipated site, or weather or drainage conditions, or construction ~~activity~~activities."*

(2) Certification Statement

(A) Each Permittee shall require that each landowner or the landowner's agent sign a statement on the ~~Local~~ SWPPP 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."*

(B) The ~~Local~~ SWPPP certification shall be signed by the landowner as follows:

(i) Corporation - by a responsible corporate officer which means the following:

(I) 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

(II) Manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(ii) Partnership or sole proprietorship - by a general partner or the proprietor; or

(iii) Municipality or other public agency - by an elected official, a ranking management official (e.g., County/City Administrative Officer, City Manager, Director of Public Works, or City Engineer).

~~6.~~ 5. Permittee's Electronic Site Tracking ~~System~~Systems.

(a) Each Permittee shall use an electronic system to track grading permits, encroachment permits, demolition permits, building permits, or construction

permits (and any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

~~7.~~ 6. Permittee Inspections of Construction Sites.

(a) Each Permittee shall inspect all construction sites for the implementation of storm water quality controls a minimum of once during the ~~wet~~rainy season (October 1st to April 15th). ~~Concurrently, each Permittee shall ensure that:~~

(b) Each Permittee shall inspect high risk construction sites for the implementation of storm water quality controls a minimum of once per month during the rainy season.

(c) Concurrently, each Permittee shall ensure that:

(1) The ~~Local~~ SWPPP shall be reviewed for compliance with this Order, local codes, ordinances, and permits.

(2) For inspected sites that have not adequately implemented their ~~Local~~ SWPPP, a follow-up inspection to ensure compliance shall take place within 2 weeks.

(3) If compliance with this Order, municipal codes, ordinances, or permits has not been attained, the Permittee shall take additional enforcement actions to achieve compliance as specified in municipal codes.

(4) If compliance has not been achieved, and the site is also covered under ~~a Construction Activities Storm Water General Permit (CASGP)~~the GCP or Small Linear Underground/Overhead Construction Projects General Permit (small LUPs), each Permittee shall notify the Regional Water Board for further joint enforcement actions in conformance with the procedures listed in section D.3.(d) - Interagency Coordination of this Order.

(b) Prior to approving and/or ~~signing~~sign off for ~~occupancy and issuing~~ the Certificate of Occupancy for all construction projects subject to post-construction controls, each Permittee shall inspect the constructed post-construction site design, source control and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. The initial/ acceptance BMP verification inspection does not constitute an operation and maintenance inspection, as required in sections E.III.7.(a)(1) and G.6.(g)(1).

~~8.~~ 7. State Conformity Requirements

(a) Each Permittee shall ensure that no grading permit, encroachment permit, demolition permit, building permit, electrical permit, or construction permit (or any other municipal authorization to move soil and/or construct or destruct that involves land disturbance) is issued for any project requiring coverage under the ~~CASGP~~GCP or Small LUP General Permit[~~107~~] unless:

(1) Proof of coverage under a State NPDES permit is demonstrated (a copy of a letter from the State Water Board showing a valid Waste Discharger Identification Number (WDID) for that site).

(2) Demonstration or 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) Proof of ~~an updated NOI(s~~Change of Information form (COI) and a copy of the modified SWPPP(s) 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.

~~9.~~ 8. Interagency Coordination

(a) A Permittee may refer a violator to the Regional Water Board provided that the Permittee has made a good faith effort at progressive enforcement consistent with the preceding section F.7. At a minimum, the Permittee's good faith effort shall be documented with:

(1) A minimum of 2 follow-up inspection reports (inspections completed within 3 months).

(2) A minimum of 2 warning letters or Notices of Violation (NOVs).

(b) Referral of Non-filers under the ~~CASGP~~GCP or the Small LUP General Permit:

[~~107~~] NPDES Permit No. CAS000005, Waste Discharge Requirements For Discharges of Storm Water Runoff Associated with Small Linear Underground/Overhead Construction Projects (Small LUP General Permit) for any linear land disturbing activity or activities (cumulatively) that will cause one acre or more of land disturbance but not more than 5 acres.

Each Permittee shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) under the ~~CASGP~~GCP or Small LUP General Permit, to the Regional Water Board, no later than 15 days after making a determination of failure to file. In making such referrals, Permittees shall include, at a minimum, the following documentation:

~~(1)~~ (1) Project location address.

(1) ~~(2)~~ Project description.
(2) ~~(3)~~ Developer or owners name with complete mailing address.
(3) ~~(4)~~ Project size.
(4) ~~(5)~~ Records of communication with the developer or owner regarding filing requirements.

(c) Investigation of Complaints Regarding Facilities – Transmitted by the Regional Water Board Staff:

(1) Each Permittee shall initiate, within 1 business day,~~118~~ an initial investigation of complaint(s) (other than non-storm water discharges) on the construction site(s) within its jurisdiction.

(A) The initial investigation shall include, at a minimum, an inspection on the facility and its perimeter to confirm the complaint and to determine if the site operator is effectively complying with the municipal storm water/urban runoff ordinances, and to oversee corrective action.

(d) Support of Regional Water Board Enforcement Actions – As directed by the Regional Water Board Executive Officer:

~~(1)~~ (1) Each Permittee shall support Regional Water Board enforcement actions by:

(A) Assisting in identification of current owners, operators, and lessees of properties and sites.
(B) Providing staff, when available, for joint inspections with Regional Water Board inspectors.
(C) Appearing to testify as witnesses in Regional Water Board enforcement hearings.
(D) Providing copies of inspection reports and other progressive enforcement documentation.

~~118~~ Permittees may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days.

PART 7 - DEFINITIONS

The following are definitions for terms in this Order:

43,560 Square Foot Commercial Development - means any commercial development that creates at least 43,560 square feet of surface area, including parking areas (43,560 sq. ft. equals 1 acre).

Adverse Impact - means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

Agriculture - means the science, art, and business of cultivating the soil, producing crops, and raising livestock.

Antidegradation Policies - refers to the State (*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, and federal policies, which protects high quality surface waters. 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 § 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.

Areas Subject to Storm Water Mitigation Requirements - means areas designated as an Area of Special Biological Significance (ASBS) by the State Board, an area designated as a significant natural resource by the California Resources Agency, or an area identified by the discharger as

environmentally sensitive for water quality purposes, based on the Regional Water Board Basin Plan and CWA § 303(d) Impaired Water-bodies List for the County of Ventura.

Authorized Discharge - means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

Authorization to discharge storm water from storm water treatment BMPs - This Order authorizes discharges from storm water treatment BMPs implemented or installed by the Permittees to reduce the discharge of pollutants in storm water discharges during rain events. All storm water BMPs shall be maintained at a frequency as specified by the manufacturer or more frequently. All storm water BMPs shall be drained to avoid stagnation or breeding of vectors.

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.

Automotive Service Facilities - means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) codes. 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.

SIC Code	Corresponding NAICS Code
5013	425120, 441310, 425110, & 423120
5014	425120, 425110, 423130, & 441320
5511	441110
5541	447110, & 447190
7532	811121
7533	811112
7534	326212, & 811198
7536	811122
7537	811113
7538	811111
7539	811198, & 811118

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 Water 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 Water 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.

California Environmental Quality Act (CEQA) - means a California statute that requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible (Reference: California Public Resources Code § 21000 et seq.)

Commercial Area(s) - means any geographic area of the Permittees' jurisdiction that is not heavy industrial or residential. A commercial area includes, but is not limited to areas surrounding: commercial activity, 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.

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 any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in a land disturbance. Construction also includes structure tear down, routine maintenance to maintain original line and grade if greater than 5 acres total but not necessarily at once, hydraulic capacity, or original purpose of facility; but does not 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.

Construction Activities Storm Water General Permit (CASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from construction activities under certain conditions.

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 any swimming pool discharge with a residual chlorine or bromine level of 0.1mg/L; and does not contain any detergents, wastes, algaecides, or cyanuric acid in excess of 50 ppm, or any other additional chemicals including salts from pools commonly referred to as "salt water pools". The term does not include swimming pool filter backwash or swimming pool water containing bacteria.

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 any 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.

Directly Discharging - means outflow from a drainage conveyance system that is composed entirely or predominately of flows from the subject, property, development, subdivision, or industrial facility and not commingled with the flows from adjacent lands.

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 any area that is altered as a result of land disturbance. Examples include but are not limited to: clearing, grading, grubbing, stockpiling and/or excavation, etc...

Effluent limitation - means any restriction imposed by the Permitting Authority (PA) on quantities, discharge rates, concentrations, and/or mass loadings of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Emergency - means a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. "Emergency" includes such occurrences as fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage (Reference: California Public Resources Code § 21060.3. Emergency).

Environment - means the physical conditions, which exist within the area which, will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions.

Environmentally Sensitive Area - 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" (Reference: California Public Resources Code § 30107.5). ESAs subject to storm water mitigation requirements are:

1. Regional Water Board's areas listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" Beneficial Use.

2. California Coastal Commission's Environmentally Sensitive Habitat Areas as delineated on maps in Local Coastal Plans (LCPs).

Federal Clean Water Act (CWA) - means (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92—500, as amended by Public Law 95—217, Public Law 95—576, Public Law 96—483 and Public Law 77—117, 33 U.S.C. 1251 et seq.

First Storm Event - means the first storm event of the wet season that produces at least 0.25 inches of rain.

Forest Land - means land at least 10 percent stocked with live trees, or land that had this minimum tree stocking in the past and is not currently developed for nonforest use. The minimum area recognized is 1 acre.

~~**Groundwater Dewatering**~~ - means the active practice of removing standing water from soil excavations using a pump(s) or other means.

~~**Hillside**~~ - means property located in an area ~~with known erosive soil conditions, where the~~designated by the applicable Permittee's Zoning Code as a "hillside area" or equivalent. ~~development contemplates grading on any natural slope that is 20% or greater and where grading contemplates cut or fill slopes.~~

Horse Stables - means a property where at least one horse is stabled at least part of the year.

Hydromodification - means the alteration away from a natural state of stream flows or the beds or banks of rivers, streams, or creeks, including ephemeral washes, which results in hydrogeomorphic changes

Illegal Discharge - means any discharge to the municipal separate storm sewer (storm drain system) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illegal discharge includes all non-storm water discharges not composed entirely of storm water except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or discharges authorized by the Regional Water Board Executive Officer.

Illicit Connection - means any engineered conveyance that is connected to the storm drain system without a permit or municipal authorization. It also means any engineered conveyance through which discharges of pollutants to the separate storm drainage systems, which are not composed entirely of storm water or are not authorized by an NPDES permit.

Illicit Discharge - means any discharge to a municipal separate storm sewer (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 not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges that are identified in Part 1, "Discharge Prohibitions" of this order, or authorized by the Regional Water 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 either the Standard Industrial Classifications (SIC) or the North American Industry Classification System (NAICS). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Industrial Activities Storm Water General Permit (IASGP) - means the general NPDES permit adopted by the State Board, which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Industrial Park - means a land development that is set aside for industrial development. Industrial parks are usually located close to transport facilities, especially where more than one transport modalities coincide: highways, railroads, airports, and navigable rivers. It includes office parks, which have offices and light industry.

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).
9. Report preparation, and if appropriate, recommendations for coming into compliance.

Integrated Pest Management (IPM) - means a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

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 Water Board designated Ventura County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 669,016 thousand, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

Local SWPPP - means the Local Storm Water Pollution Prevention Plan (LSWPPP) required by the local agency for a project that disturbs one or more acres of land. Shall mean a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred as a Storm Water Pollution Control Plan (SWPCP).

Maximum Extent Practicable (MEP) - means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 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." Also, see State Board Order WQ 2000-11, page 20 and Browner decision (Defenders of Wildlife v. Browner (1999), 191 F.3d 1159). To achieve the MEP standard, municipalities must employ whatever BMPs are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. In selecting BMPs to achieve the MEP standard a number of factors should be considered including: effectiveness, regulatory compliance, cost, public acceptance and technical feasibility. *See* February 11, 1993 memo entitled "Definition of Maximum Extent Practicable" Elizabeth Jennings, State Water Resources Control Board.

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 "G" of this Order.

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. The ML value represents 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. Assuming that all method-specific analytical steps are followed, the ML value will also represent, after the appropriate application of method-specific factors, the lowest standard in the calibration curve for that specific analytical technique.

Municipal Separate Storm Sewer System (MS4) - means a conveyance or system of conveyances (including roads w/drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), as defined in 40 CFR 122.26(b)(8):

1. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under § 208 of the Federal Clean Water Act (CWA) that discharges into waters of the United States.
2. Designed or used for collecting or conveying storm water.
3. Which is not a combined sewer.
4. Which is not part of a Publicly Owned Treatment Works (POTW), as defined in 40 CFR 122.2.

NAICS - means North American Industry Classification System.

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,~~is defined in Section 4.E.3.(d)(1)iv.
~~rivers or similar waterways.~~

New Development - means land disturbing activities; structural development, including construction or installation of a building or structure, creation and replacement 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.

Nursery - The NAICS will be used to classify nursery operations and determine the type of operations covered under this Order and those covered under the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver).

(a) There are 3 broad NAICS sectors available to classify nurseries:
   (1) 111xxx - Crop Production - Agriculture.
   (2) 424xxx - Merchant Wholesalers, Nondurable Goods.
   (3) 44xxxx - Retail Trade.
      (A) **Nursery (Agricultural Facilities - Crop Production)** - means Nursery and Floriculture Production under NAICS Code 11142x. These operations are subject to the **Conditional Waiver**. This industry comprises establishments primarily engaged in (1) growing nursery and floriculture products (e.g., nursery stock, shrubbery, cut flowers, flower seeds, foliage plants, sod) under cover or in open fields and/or (2) growing short rotation woody trees with a growing and harvesting cycle of 10 years or less for pulp or tree stock (e.g., cut Christmas trees, cottonwoods).
      (B) **Nursery (Commercial Facilities - Merchant Wholesalers, Nondurable Goods, and Retail Trade)** - means industries Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers under NAICS Code 424930; and Nursery, Garden Center, and Farm Supply Stores under NAICS Code 444220. This Order covers these types of operations. The industry in NAICS Code 424930 comprises establishments primarily engaged in the merchant wholesale distribution of flowers, florists' supplies, and/or nursery stock (except plant seeds and plant bulbs). The industry in NAICS Code 444220 comprises establishments primarily engaged in retailing nursery and garden products, such as trees, shubs, plants, seeds, bulbs, floriculture products and sod, which are predominantly grown elsewhere. These establishments may sell a limited amount of a product they grow themselves.

Open Channel – means a storm drainage channel that is not a natural water course

Parking Lot - means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use.

Permit - means an authorization, license, or equivalent control document issued by EPA 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-Permittee(s) and any agency named in this Order as being responsible for permit conditions within its jurisdiction, as defined by Federal Regulation. Permittees to this Order include the Ventura Water Protection District, Ventura County, and the cities of Camarillo, Fillmore, Moorpark, Ojai, Oxnard, Port Hueneme, San Buenaventura, Santa Paula, Simi Valley and Thousand Oaks.

Point Source - means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural storm water discharges and return flows from irrigated agriculture.

Point Zero - means in the context of the TMDLs, the point at which water from the storm drain or creek initially mixes with water. Point zero has been selected as the compliance point for the TMDL numeric target because access to these drains is, on the whole, not restricted.

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 Drinking Water Supply - means potable drinking water supply releases that are consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Drinking Water Supply Releases - means potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Potable Water Distribution Systems Releases - means releases of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, 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 nor discharge of water from a line that has come into contact with soil as in a trench. Nonetheless, all potable drinking water supply releases shall be consistent with the *Guidance Manual for Disposal of Chlorinated Water* sponsored by the American Water Works Association (AWWA) Research Foundation, 6666 West Quincy Avenue, Denver, CO 80235 and published by the AWWA Research Foundation and the AWWA in 2001 (ISBN 1-58321-143-8). The discharges shall be controlled and shall not cause erosion at the discharge point or downstream nor have a residual chlorine concentration greater than 0.1 mg/L at the entry to the storm drain system or channel or natural system.

Pre-Developed Condition - means native vegetation and soils that existed at a site prior to first development. The pre-developed condition may be assumed to be an area with the typical vegetation, soil, and storm water runoff characteristics of open space areas in coastal Southern California unless reasonable historic information is provided that the area was atypical.

Priority Pollutants - means those constituents referred to in 40 CFR 401.15 and listed in the U.S. EPA 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 (Reference: California Public Resources Code § 21065).

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 supports 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.

~~**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 U.S. EPA or the authorized representative of the Regional Administrator.

Report of Waste Discharge (ROWD) - means an application for renewal of the NPDES Permit for Waste Discharge Requirements for Municipal Separate Storm Sewer Discharges Within the Ventura County Watershed Protection District, County of Ventura and the Incorporated Cities Therein.

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).

Restoration - means the reestablishment of predisturbance aquatic functions and related physical, chemical and biological characteristics (Reference: National Research Council. 1992. Restoration of Aquatic Ecosystems: Science, Technology and Public Policy. National Academy Press, Washington, D.C.)

Retail Gasoline Outlet (RGO) - means any facility engaged in selling gasoline and lubricating oils- SIC 5541 and NAICS 447110 & 447190.

- RGOs: 447190 Other Gasoline Stations:
  This industry comprises establishments known as gasoline stations (except those with convenience stores) primarily engaged in one of the following: (1) retailing automotive fuels (e.g., diesel fuel, gasohol, gasoline) or (2) retailing these fuels in combination with activities, such as providing repair services; selling automotive oils, replacement parts, and accessories; and/or providing food services.
- RGOs: 447110 Gasoline Stations with Convenience Stores:
  Retailing automotive fuels in combination with a convenience store or food mart.

Runoff - means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. It is typically comprised of nuisance flows contaminated with pollutants.

SARA Title III - is the Superfund Amendment and Reauthorization Act of 1986 also known as the Emergency Planning and Community Right-To-Know Act (EPCRA). This act mandated the establishment of State Emergency Response Commissions (SERCs), Tribal Emergency Response Commissions (TERCs), and Local Emergency Planning Committees (LEPCs) who are responsible for preparing for hazardous materials emergencies through planning and training.

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 only sidewalk rinsing using high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed. Any waste generated from the activity must be collected and properly and legally disposed of. It does not mean hosing of any sidewalk nor street with a garden hose with a pressure nozzle.

Significant Redevelopment - means projects involving land-disturbing activity that ~~results~~result in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Significant Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency activities required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways, is not considered a routine maintenance activity.

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.

SMC - means Southern California Stormwater Monitoring Coalition. The Stormwater Monitoring Coalition is a collaborative research/monitoring partnership of the Southern California Water Boards, Municipal Storm Water Agencies, and municipalities to develop the methodologies and assessment tools to more effectively understand urban storm water and non-storm water (anthropogenic) impacts to receiving waters and to conduct research/monitoring through Subsequent Research Implementation Agreements. The first original cooperative agreement was entered into on February 8, 2001.

Small Construction - means any soil disturbing activities less than 5 acres.

SoCal B-IBI - means Southern California Benthic Index of Biological Integrity.

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.

Stream - means a body of flowing water; natural water course containing water at least part of the year. In hydrology, it is generally applied to the water flowing in a natural channel as distinct from a canal (Reference: US Geological Survey).

Strip Mall - means a commercial development that is a shopping center where the stores are arranged in a row, with a sidewalk in front. Strip malls are typically developed as a unit and have large parking lots in front. They face major traffic arterials and tend to be self-contained with few pedestrian connections to surrounding neighborhoods. It is also called a plaza.

Storm Sampling Event - means a rainfall event that produces more than 0.25 inch of precipitation and that, which is separated from the previous storm event by at least 1 week of dry weather, for the purpose of monitoring.

Storm Water - means storm water runoff, snow melt runoff, and surface runoff and drainage, as defined in 40 CFR 122.26(b)(13).

Storm Water Discharge Associated with Industrial Activity - means industrial discharge, as defined in 40 CFR 122.26(b)(14).

Storm Water Pollution Control Plan (SWPCP) - means a plan identifying potential pollutant sources from a construction site and describing proposed design, placement and implementation of BMPs, to effectively prevent non-storm water Discharges and reduce Pollutants in Storm Water Discharges to the Storm Drain System, during construction activities. Also referred to as a Local Storm Water Pollution Prevention Plan (LSWPPP)

Storm Water Quality Management Program - means the Ventura Countywide Storm Water Quality Management Plan, 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 runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

SWAMP - means the State and Regional Water Boards' Surface Water Ambient Monitoring Program.

Targeted Employees - means management and staff who perform or direct activities that directly or indirectly have an effect of storm water quality. The employees generally are employed in the following areas: department of public works, or engineering, or sanitation, or storm water maintenance, drainage and flood control, transportation, streets and roads, parks and recreation, public landscaping and corporation yards, planning or community development, code enforcement, building and safety, harbor dept, airports, buses and trains, and/or general services and fleet services.

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.

Total Maximum Daily Load (TMDL) Dry Weather- defined in the Bacteria TMDLs as those days with less than 0.1 inch of rainfall and those days occurring within three days after a rain.

Toxicity Identification Evaluation (TIE) - means a set of procedures to identify the specific chemical(s) responsible for toxicity through a process of chemical/physical manipulations of samples followed by toxicity tests. These procedures are performed in 3 phases (Phase I- Toxicity Characterization Procedure, Phase II- Toxicity Identification Procedure, and Phase III- Toxicity Confirmation Procedure) 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.

Urbanization - means the process of changing of land use and land patterns from rural characteristics to urban (city-like) characteristics. These changes include (i) the replacement of pervious surfaces with impervious surfaces such as rooftops and buildings, and impervious materials such as asphalt and concrete; and (ii) the conversion of rural land to house new residents, support new businesses, and facilitate vehicular traffic flow.

U.S. EPA 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:

- Facilities subject to storm water effluent limitation guidelines, new source performance.
- Standards, or toxic pollutant effluent standards (40 CFR N).
- Manufacturing facilities.
- Oil and gas/mining facilities.
- Hazardous waste treatment, storage, or disposal facilities.
- Landfills, land application sites, and open dumps.
- Recycling facilities.
- Steam electric power generating facilities.
- Transportation facilities.

- Sewage of wastewater treatment works.
- Light manufacturing facilities.

Vehicle Maintenance/Material Storage Facilities/Corporation Yards - means any Permittee owned or operated facility or portion thereof that:

1. Conducts industrial activity, operates or stores equipment, materials, and provides services similar to Federal Phase I facilities;
2. Performs fleet vehicle service/maintenance including repair, maintenance, washing, or fueling;
3. Performs maintenance and/or repair of machinery/equipment; or
4. Stores chemicals, raw materials, or waste materials.

Waste Load Allocations (WLAs) - means a portion of a receiving water's Total Maximum Daily Pollutant Load (TMDL) that is allocated to one of its existing or future point sources of pollution (Reference: 40 CFR § 130.2(h)).

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 Water Board to regulate all discharges, including storm water discharges.

Water Quality Standards - means the State Water Quality Standards, which are comprised of beneficial uses, water quality objectives and the State's Antidegradation Policy.

Waters of the State - means any surface water or groundwater, including saline waters, within boundaries of the state (Reference: California Water Code § 13050).

Waters of the United States or Waters of the US - 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 impoundment's of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in the preceding paragraph (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 the preceding 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 U.S. EPA. SOLID WASTE AGENCY OF NORTHERN COOK CTY. V.ARMY CORPS OF ENGINEERS (531 U.S. 159 (2001)) The U.S. Supreme Courts SWANCC Decision upheld the primary rights and responsibilities of States over land and water but limited the water and wetland areas subject to federal regulation under the Clean Water Act.

Watercourse - means any natural or artificial channel for passage of water, including the VCFCD jurisdictional channels included in the List of Channels within the Comprehensive Plan of the VCFCD, as approved by the Board of Supervisors of the VCFCD on October 4, 1993, and any amendments thereto.

Watershed Management - means approach for water resources protection. It is a strategy for integrating and managing resources, both human and fiscal that focuses on regulation of point sources, to a more regional approach that acknowledges environmental impacts from other activities.

Watershed Management Areas (WMA) - means the geographically-defined watershed areas where the Regional Water Board will implement the watershed approach. These generally involve a single large watershed within which exists smaller subwatersheds but in some cases may be an area that does not meet the strict hydrologic definition of a watershed e.g., several small Ventura coastal waterbodies in the region are grouped together into one WMA.

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.

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ATTACHMENT G

Storm Water Monitoring Program's Constituents with Associated Minimum Levels (MLs)[1]

The Erosion Potential, E_p[1] (McRae (1992, 1996) is used as a metric to predict the likelihood of channel adjustment given watershed and stream hydrologic and geomorphic variables. Ep is defined as the ratio of the long-term effective work done on the channel under proposed project conditions to that done under pre-project conditions. An Ep value of one (1) means that long term effective work is predicted to remain the same between pre-project and post-project conditions. An Ep value greater than one means that long-term effective work is predicted to increase due to post-project conditions, with increased likelihood of channel impacts. Ep is determined as follows:

1. The *total effective work* done on the channel boundary, W, is calculated for both pre-project and post project conditions. Several work equations, or indices, can be used for this calculation, each of which incorporates an integration over time of the shear stresses that exceed a critical value for streambed mobility or bank material erosion. For example, the following is an equation for Total Work Done (ft-lbs / sq-ft):

$$W = \sum_{i=1}^{n} (\tau_i - \tau_c)^{1.5} \cdot V \cdot \Delta t_i \qquad (1)$$

Where τ_c = critical shear stress that erodes the weakest bank layer (lbs/sq-ft), τ_i = applied hydraulic shear stress (lbs/sq-ft), V = mid-channel velocity (ft/sec), Δt = duration of flows (hours), and n = length of flow record.

Other work indices may be more appropriate for mobile bed streams, such as the Wilcock-Crowe dimensionless sediment transport function, which incorporates grain size distribution. The Hydromodification Management Plan shall contain a list of acceptable work indices and guidelines as to the appropriateness of their application based on the receiving watercourse.

2. The Erosion Potential, Ep, is calculated as:

$$Ep = \frac{W_{post}}{W_{pre}} \qquad (2)$$

where:

W_{post} = work index estimated for the post-project condition
W_{pre} = work index estimated for the pre-project condition

[1] MacRae, C.R. 1992. The Role of Moderate Flow Events and Bank Structure in the Determination of Channel Response to Urbanization. Resolving conflicts and uncertainty in water management: Proceedings of the 45th Annual Conference of the Canadian Water Resources Association. Shrubsole, D, ed. 1992, pg. 12.1-12.21; MacRae, C.R. 1996. Experience from Morphological Research on Canadian Streams: Is Control of the Two-Year Frequency Runoff Event the Best Basis for Stream Channel Protection. Effects of Watershed Development and Management on Aquatic Ecosystems, ASCE Engineering Foundation Conference, Snowbird, Utah, pg. 144-162

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Ventura County Active NOI Statistics

Total Project in Acres	Percentile	# of Projects ≥Area
50	89%	47
100	94%	25
200	98%	11

Statewide Active NOI Statistics

Total Project in Acres	Percentile	# of Projects ≥Area
50	88%	2069
100	94%	1027
200	97%	492

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July 9, 2007

Ms. Deborah Smith
Interim Executive Officer
Los Angeles Regional Water Quality Control Board
320 West Fourth Street, Suite 200
Los Angeles, CA 90013

Re: Draft Ventura County MS4 Comments

Dear Ms. Smith:

The comment period on the Draft Ventura County MS4 Permit ("Permit") closed on February 26, 2007. Since this deadline, there have been several stakeholder meetings held to discuss various aspects of the Permit. At these meetings several stakeholders submitted suggested changes to the Permit and provided "issue papers" dealing with sections of the Permit. On July 3, 2007, the Regional Board sent an email to stakeholders saying that comments on the BIASC/BIAGLAV/CICWQ documents could be submitted to Regional Water Board staff via email.

While we appreciate the County and other stakeholders sharing their concerns with the group, Ventura County's comments were submitted outside of the formal comment period. As such, Heal the Bay believes that it is inappropriate to provide feedback on Ventura County's comments at this time. We look forward to submitting comments on the next draft version of the Permit.

If you have any questions or would like to discuss any of these comments, please feel free to contact us at (310) 451-1500. Thank you for your consideration of these comments.

Sincerely,

Mark Gold

Mark Gold, D. Env.
President

From: "Geoff Brosseau" <geoff@brosseau.us>
To: "'Xavier Swamikannu'" <Xswamikannu@waterboards.ca.gov>
Date: 2/12/2007 10:40:01 AM
Subject: Runoff reduction - Planning principles guidance

Xavier - Attached are the documents I mentioned Friday that relate to the subject. One is an excerpt from the CASQA New Development BMP Handbooks (2003) regarding planning principles for reducing runoff and the other is the BASMAA booklet that was in development at the same time as the CASQA BMP Handbooks and from which the CASQA excerpt was based. I believe you are already aware of these. Thank you again for the discussion Friday. Geoff

Geoff Brosseau
Executive Director
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Menlo Park, CA 94026-2105
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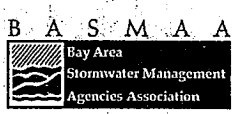
CC: "Jonathan Bishop" <JBISHOP@waterboards.ca.gov>, <DSmith@waterboards.ca.gov>, "Mack Walker" <MackW@LWA.com>

Using Site Design Techniques to Meet Development Standards for Stormwater Quality

A Companion Document to Start at the Source

May 2003

Bay Area Stormwater Management Agencies Association



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Using Site Design Techniques to Meet Development Standards for Stormwater Quality

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1 Introduction

1.1 Start at the Source Approach

To address stormwater quality during the planning and design phase of new development and redevelopment projects, the Bay Area Stormwater Management Agencies Association (BASMAA) developed *Start at the Source – Residential Site Planning and Design Guidance Manual for Stormwater Quality Protection* (BASMAA, 1997). This first edition introduced design concepts that could reduce the impact of new development and redevelopment on water quality by addressing pollutants at their source. The manual focused on implementation of Best Management Practices (BMPs) for complying with *qualitative* land development requirements contained within first and second generation NPDES stormwater permits. In 1999, BASMAA prepared a second edition titled *Start at the Source – Design Guidance Manual for Stormwater Quality Protection.* This second edition expanded on the first edition in two ways – by covering industrial/commercial and institutional development, and by providing more detailed technical information.

Recent stormwater permits have evolved to include more specific *quantitative* requirements regarding development and redevelopment. This document demonstrates ways to utilize the techniques described in BASMAA's second edition of *Start at the Source* to help comply with these quantitative permit requirements.

The development and redevelopment planning process involves not only planning, engineering, and landscape architect professionals, but also staff and elected and appointed officials from cities, counties, and local agencies. To address stormwater quality issues during the process, the *Start at the Source* approach aims to convey basic stormwater management concepts that can be adapted to site and project specific conditions.

Development and redevelopment projects that incorporate site design techniques such as detention, retention, and infiltration of runoff, like concave medians, permeable pavements, and conservation of natural areas, exhibit reduced runoff volumes and rates when compared to projects of similar magnitude where the techniques are not utilized. The runoff volume and rate reductions achieved with site design techniques translate directly to reductions in the amount of runoff that must be treated to comply with permit requirements and managed to protect streams from erosion. See Figure 1-1.

1.2 More Information

This manual does not provide detailed information on how to select or size specific site design techniques or other stormwater treatment measures. Sources for stormwater quality design information to supplement this manual include:

- California Stormwater Best Management Practice Handbooks (California Stormwater Quality Association, 2003)
- Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87, 1998

These sources will help you complete the design calculations discussed in this document.

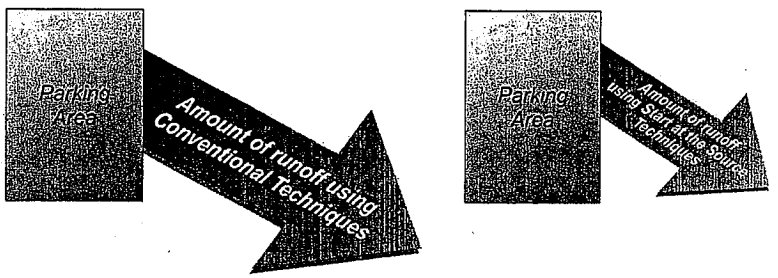


Figure 1-1
***Start at the Source* Reduces Post Development Runoff Volumes**

2 Current Land Development Requirements

2.1 Overview of General Requirements

Recently issued municipal stormwater discharge permits now contain quantitative requirements regarding stormwater controls for new development and redevelopment. Most new development and redevelopment projects must now treat runoff prior to being discharged to storm drains. The requirements set forth minimum standards for sizing newly constructed treatment controls. Sizing standards are prescribed for both:

- Volume-Based BMPs
- Flow-Based BMPs

Volume-based BMP design standards generally call for the capture and infiltration and/or treatment of the 80th to 85th percentile runoff volume. While this requirement may seem as if it calls for capturing the runoff from large, infrequent storms, in most areas it merely amounts to capturing the runoff from relatively small storms that occur several times per year. Such small storms produce more total runoff than larger more infrequent storms. See Figure 2-1. Local development requirements should be referenced for the specific percentile runoff volume that must be addressed.

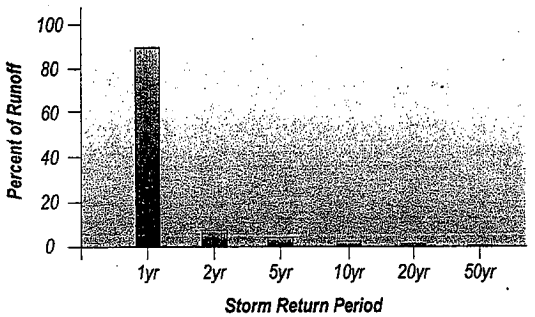


Figure 2-1
Small Storms Add Up

Flow-based BMP design standards generally call for the capture and infiltration and/or treatment of runoff flows produced by the 85th percentile hourly rainfall intensity plus a safety factor. As mentioned above, this requires treating flows from only small, frequent storm events.

Start at the Source provides many site design techniques directly applicable to meeting these land development requirements.

2.2 Volume-Based BMP Design Standards

According to current municipal permits, treatment BMPs whose primary mode of action depends on volume capacity to remove pollutants, such as retention or infiltration structures, shall be designed to treat a volume of stormwater runoff equal to:

- The maximized stormwater quality capture volume for the area, based on historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998), pages 175-178; or
- 80 percent of the volume of annual runoff, determined by using local rainfall data in accordance with methodology set forth in Appendix D of the California Stormwater Best Management Practices New Development and Redevelopment Handbook (2003). The BMP Handbooks have recently been revised.

2.3 Flow Based BMP Design Standards

Current municipal stormwater permits also require that treatment BMPs whose primary mode of action depends on flow capacity, such as swales, sand filters, or wetlands, be sized to treat:

- 10% of the 50-year design flow rate; or
- The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or
- The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.

2.4 Which Design Approach to Use?

Some BMPs are designed based on volume, flow, or a combination of both. The design basis is dependent upon the primary mode of action for the specific BMP. For example, the design of extended detention (dry) ponds requires a volume-based design approach, vegetated swales require a flow-based design approach, and concave medians require a combination of volume-based and flow-based design approaches. Table 3-1 lists various site design and landscape techniques and indicates whether a volume-based approach, flow-based approach, or both, is appropriate for the design of each technique.

In determining which design approach to use, apply the locally approved design standards to the BMP design guidance found in the references noted in Section 1.2.

3 Site Design for Stormwater Quality Protection

3.1 Site Design for Stormwater Quality Protection

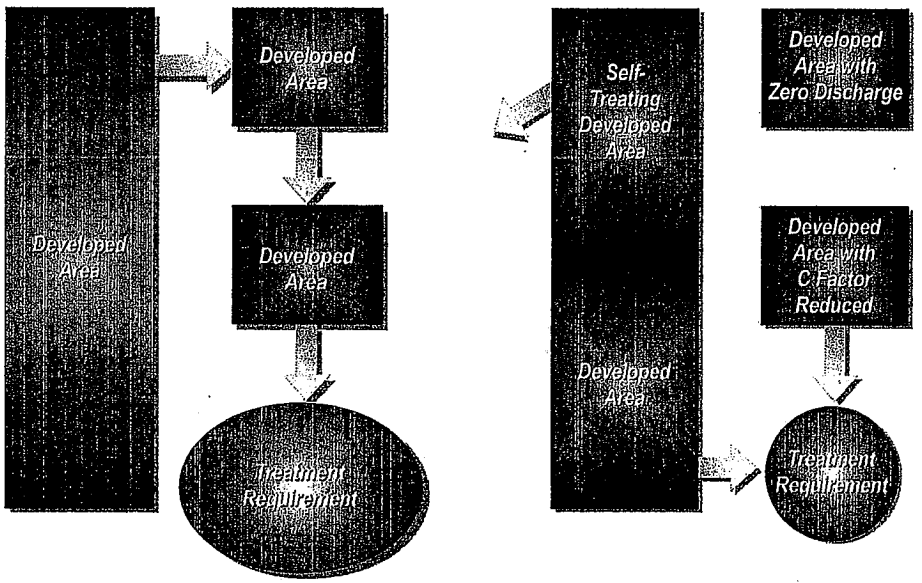
Reducing the amount of runoff required to be captured and infiltrated and/or treated may be achieved by applying the following design philosophies during the planning and design stage of development:

- **Zero Discharge Areas** – areas that have been designed to infiltrate or retain the volume of runoff requiring treatment
- **Self-Treating Areas** – areas that have been designed to provide "self-treatment" without additional BMPs
- **Runoff Reduction Areas** – areas that have been designed using alternative materials or surfaces that may reduce the volume of runoff

Figure 3-1 conceptually illustrates how these philosophies may be used to reduce treatment requirements during development and redevelopment. The design philosophies are explained in detail in the following sections.

The site design techniques do not require radical changes in design methods or development planning. The techniques may simply be incorporated into the standard features of a development, requiring only small changes or refinements in design. For example, an area reserved to meet landscaping requirements can also be used to meet stormwater treatment requirements. The key is to incorporate these changes early on in the planning and design process. Appropriately applied, these techniques can reduce runoff volume and flow rate, which reduces the infrastructure necessary to treat and convey stormwater.

Table 3-1 presents a list of site design and landscaping techniques and indicates whether they are applicable for use in Zero Discharge Areas, Self-Treating Areas, and Runoff Reduction Areas. Several different techniques may be implemented within the same design philosophy. Some techniques may be used to implement more than one design philosophy. Where feasible, combinations of multiple techniques may be incorporated into new development and redevelopment projects to minimize the amount of treatment required.



Conventional Design Approach **_Start at the Source_ Design Approach**

Figure 3-1
Reducing the Size of Treatment Requirements

Table 3-1
Site Design and Landscaping Techniques

	Design Criteria		Design Philosophy [1,2]		
Site Design and Landscape Techniques	**Volume-Based Design**	**Flow-Based Design**	**Zero Discharge**	**Self – Treating**	**Runoff Reduction**
Permeable pavements					
Pervious concrete	X				X
Pervious asphalt	X				X
Turf block	X			X	X
Un-grouted brick [3]	X				X
Un-grouted natural stone [3]	X				X
Un-grouted concrete unit pavers [3]	X				X
Unit pavers on sand	X				X
Crushed aggregate	X				X
Cobbles	X				X
Wood mulch	X				X
Streets					
Urban curb/swale system	X	X			X
Rural swale system	X	X			X
Dual drainage systems	X	X			X
Concave median	X	X	X	X	X
Pervious island	X	X		X	X
Parking lots [4]					
Hybrid surface parking lot	X				X
Pervious parking grove	X				X
Pervious overflow parking	X			X	X
Driveways [4]					
Not directly connected impervious driveway		X			X
Paving only under wheels	X			X	X
Flared driveways	X				X
Buildings					
Dry-well	X		X	X	X
Cistern	X	X	X	X	X
Foundation planting	X	X			X
Pop-up drainage emitters		X			X
Blue roofs [5]	X		X	X	X
Green roofs [5]	X		X	X	X
Landscape					
Grass/vegetated swales	X	X		X	X
Extended detention (dry) ponds	X		X	X	X
Wet ponds	X		X	X	X
Bio-retention areas	X		X	X	X
Fountains	X		X		

Notes:
(1) The above site design and landscape techniques may be applicable to more than one design philosophy; for example, turf block may be used as part of a self-treating area or runoff reduction area.

(2) These techniques must be designed and located properly to achieve the desired treatment requirement reduction.

(3) The open area between brick, stone, and pavers design techniques is critical, as the spaces provide perviousness.

(4) Options for parking lot and driveway surface treatments are covered under permeable pavements. See Start at the Source for details.

(5) Green roofs are vegetative, landscaped rooftops. Blue roofs are rooftops designed to detain or retain stormwater.

4 Zero Discharge Areas

4.1 Design Philosophy

An area within a development or redevelopment project can be designed to infiltrate or retain the volume of runoff requiring treatment from that area.

The term "zero discharge" in this philosophy applies at stormwater treatment design storm volumes. For example, consider an area that functionally captures and then infiltrates the 80th percentile storm volume. If permits require treatment of the 80th percentile storm volume, the area generates no *treatment-required* runoff.

Site design techniques available for designing areas that produce no treatment-required runoff include:

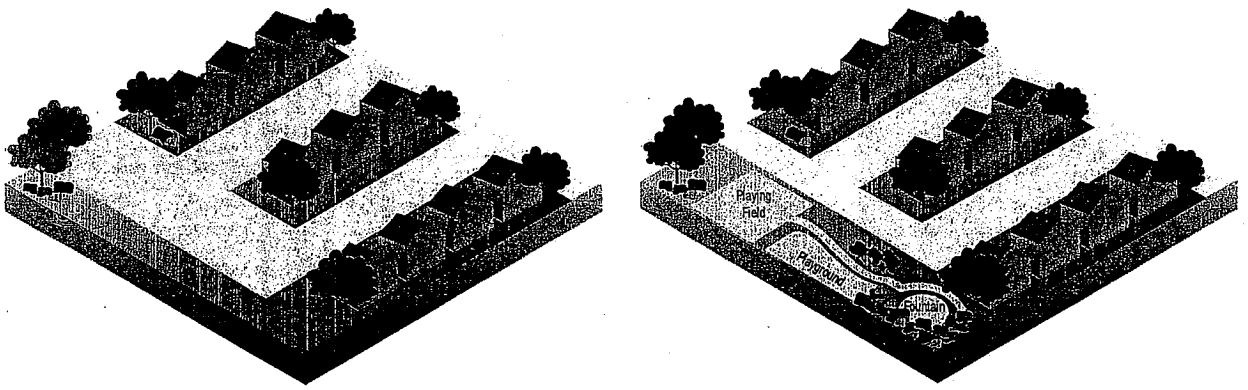
- Retention Ponds
- Wet Ponds
- Infiltration Areas
- Large Fountains
- Retention Rooftops
- Green and/or Blue Roofs

Infiltration areas, ponds, fountains, and green/blue roofs can provide "dual use" functionality as stormwater retention measures and development amenities. Retention ponds and infiltration areas can double as playing fields or parks. Wet ponds and infiltration areas can serve dual roles when meeting landscaping requirements.

When several "zero discharge" areas are incorporated into a development design, significant reductions in volumes requiring treatment may be realized.

"Zero discharge" areas such as wet ponds, retention ponds, and infiltration areas can be designed to provide treatment over and above the storm volume captured and infiltrated. For example, after a wet pond area has captured its required storm volume, additional storm volume may be treated via settling prior to discharge from the pond. In this case, the "zero discharge" area converts automatically into a treatment device for runoff from other areas, providing settling for storm volumes beyond treatment requirements. Another example is a grassy infiltration area that converts into a treatment swale after infiltrating its area-required treatment volume. The grassy infiltration area in this example becomes a treatment swale for another area within the development.

Figure 4-1 illustrates a residential tract, and a tract incorporating Zero Discharge Area techniques (infiltration areas). The Zero Discharge Area designed tract represents a design to infiltrate (i.e., achieve zero discharge from) a portion of the tract's runoff, reducing total runoff from the tract.



Conventional Design Approach **Start at the Source Design Approach**

Figure 4-1
Zero Discharge Area Usage

4.2 Zero Discharge Area Example

The following example problem compares sizing a retention basin using conventional design methods, to sizing the basin using *Start at the Source* design techniques. Figure 4-2 represents a conventionally designed residential tract with a retention basin.

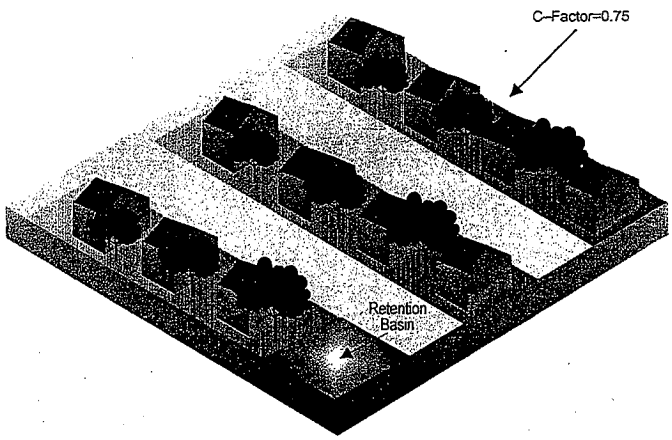


Figure 4-2
Conventional Design

Conventionally Designed Residential Tract:
Assume a 10-acre residential tract has a coefficient of runoff (C-Factor) of C=0.75

Start at the Source Designed Residential Tract:

- Redesign the 10-acre residential tract using the Zero Discharge Area *Start at the Source* technique. Figure 43 represents the residential tract with a 2-acre Zero Discharge Area incorporated into the development. To accommodate the Zero Discharge Area, the residential units were constructed at a higher density, resulting in a C-factor increase in the remaining 8-acre portion of the tract. Assume the redesign is comprised of:

- 2-acre portion with Zero Discharge Areas (fountains, playgrounds, wetlands, parks) with a runoff coefficient of C = 0.00

- 8-acre portion with a runoff coefficient of C = 0.85

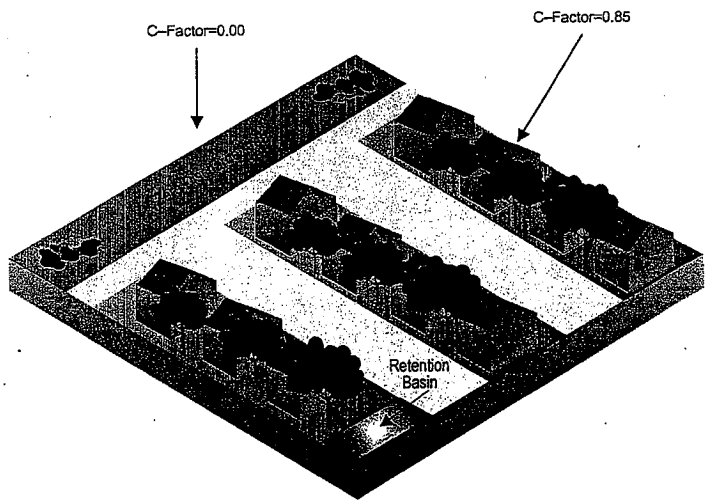


Figure 4-3
Start at the Source Design Approach

Calculating Retention Basin Size – Conventional Design:
Using Figure 4-4, San Jose Capture Curve developed using techniques set forth in the California Storm Water BMP Handbooks (CDM, et al. 2003):

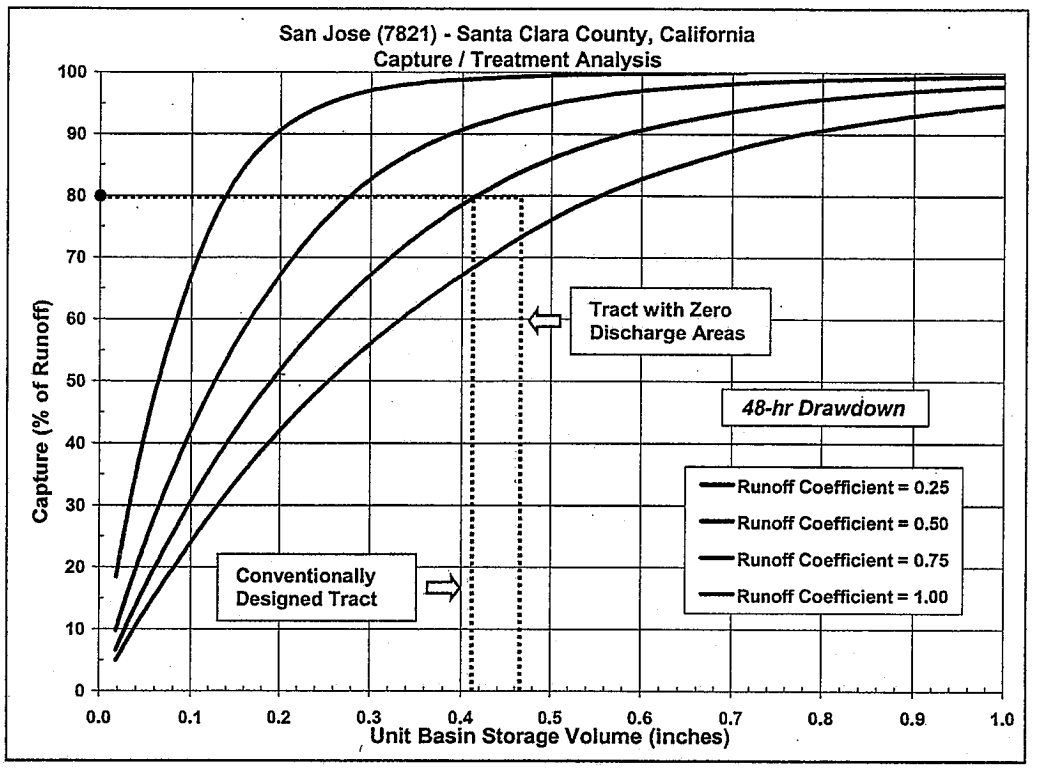


Figure 4-4
San Jose Capture Curve (California Stormwater BMP Handbooks)

By choosing the curve corresponding to a runoff coefficient of C=0.75, the Unit Basin Storage Volume is determined to be 0.41 inches, at the 80th percentile capture. Calculate the capacity of the retention basin required to treat runoff from the 10-acre residential tract:

Volume: $\forall_{Basin}$ = 10 acres × 0.41 inches = 4.10 acre -inches

Calculating Retention Basin Size – *Start at the Source* Design:
Using Figure 4-4 San Jose Capture Curve, by interpolation, the appropriate curve corresponding to a runoff coefficient of C = 0.85, would lie between the C=0.75 curve and the C=1.0 curve. For the 80th percentile capture, the Unit Basin Storage Volume is 0.46 inches.

Though use of the *Start at the Source* design technique has increased the required Unit Basin Storage Volume from 0.41 inches to 0.46 inches, the technique has reduced the total acreage of the residential tract that will produce treatment-required runoff from 10 acres to 8 acres.

Calculate the capacity of the retention basin required to treat runoff from the 8-acre portion of the tract (2-acres has zero treatment-required runoff).

Volume: $\forall_{Basin}$ = 8 acres × 0.46 inches = 3.68 acre -inches

By designing the 10-acre residential parcel using the *Start at the Source* design approach, a **10.2% reduction in treatment requirement** can be achieved.

5 Self-Treating Areas

5.1 Design Philosophy

Developed areas may provide "self-treatment" of runoff if properly designed and drained.

Self-treating site design techniques include:

- Conserved Natural Spaces
- Large Landscaped Areas (including parks and lawns)
- Grass/Vegetated Swales
- Turf Block Paving Areas

The infiltration and bio-treatment inherent to such areas provides the treatment control necessary. These areas therefore act as their own BMP, and no additional BMPs to treat runoff should be required.

As illustrated in Figure 5-1, site drainage designs must direct runoff from self-treating areas away from other areas of the site that require treatment of runoff. Otherwise, the volume from the self-treating area will only add to the volume requiring treatment from the impervious area.

Likewise under this philosophy, self-treating areas receiving runoff from treatment-required areas would no longer be considered self-treating, but rather would be considered as the BMP in place to treat that runoff. These areas could remain as self-treating, or partially self-treating areas, if adequately sized to handle the excess runoff addition.

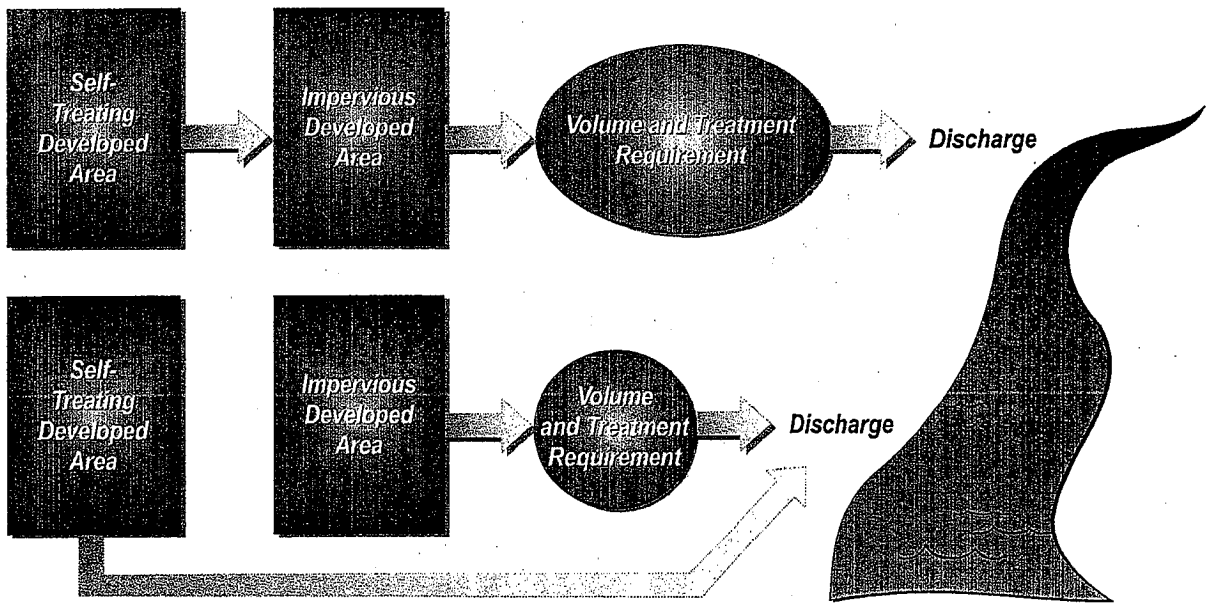
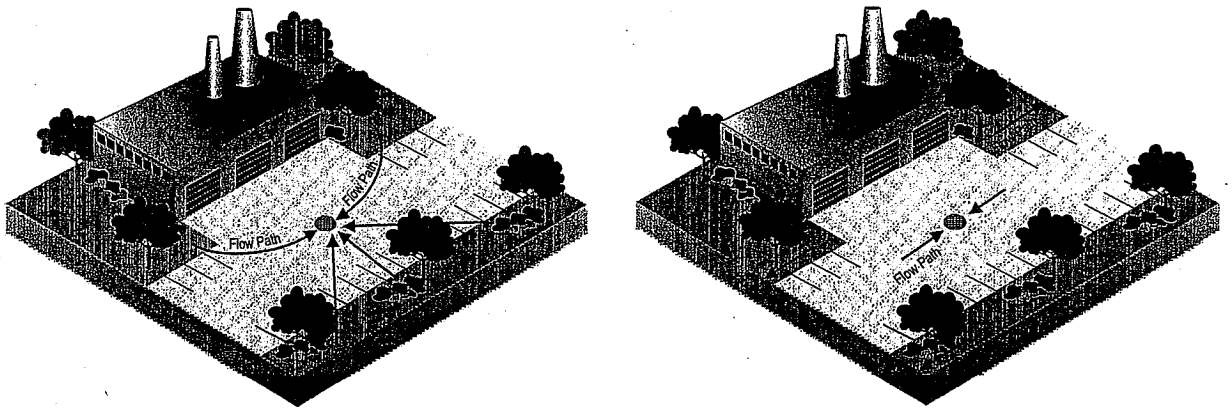


Figure 5-1
Self-Treating Area Usage

5.2 Self-Treating Area Example

The following example problem compares sizing a retention basin using conventional design methods, to sizing the basin using *Start at the Source* design techniques. Figure 5-2 represents a conventionally designed commercial/industrial lot and a commercial/industrial lot designed using the Self-Treating Area *Start at the Source* design approach. Assume the example lot is one of many similar lots making up a 100-acre commercial industrial site.



Conventional Design Approach **Start at the Source Design Approach**

Figure 5-2
Commercial/Industrial Site vs. Commercial/Industrial Site with Self-Treating Areas

Conventionally Designed Commercial/Industrial Site:
Assume a 100-acre commercial/industrial area comprised of:

- 80 acres with a runoff coefficient of 0.95 (roofs, parking lots, etc.)
- 20 acres with a runoff coefficient of 0.50 (landscape areas)

$$C_{combined} = \frac{(80 \text{ acres} \times 0.95) + (20 \text{ acres} \times 0.50)}{100 \text{ acres}} = 0.86$$

Commercial/Industrial Site Using *Start at the Source* Techniques (Self-Treating Areas):
100-acre commercial/industrial area comprised of:

- 80 acres with a runoff coefficient of 0.95 (roofs, parking lots, etc.)
- 20 acres of self-treating areas (landscape buffers, grassy areas, etc.) Note: These 20-acres do not drain to the retention basin as they are self treating. All runoff draining to the retention basin is from roofs, parking lots, etc.

Calculating Retention Basin Size – Conventional Design:
Using Figure 5-3, San Jose Capture Curve developed using techniques set forth in the California Storm Water BMP Handbooks (CDM, et al. 2003):

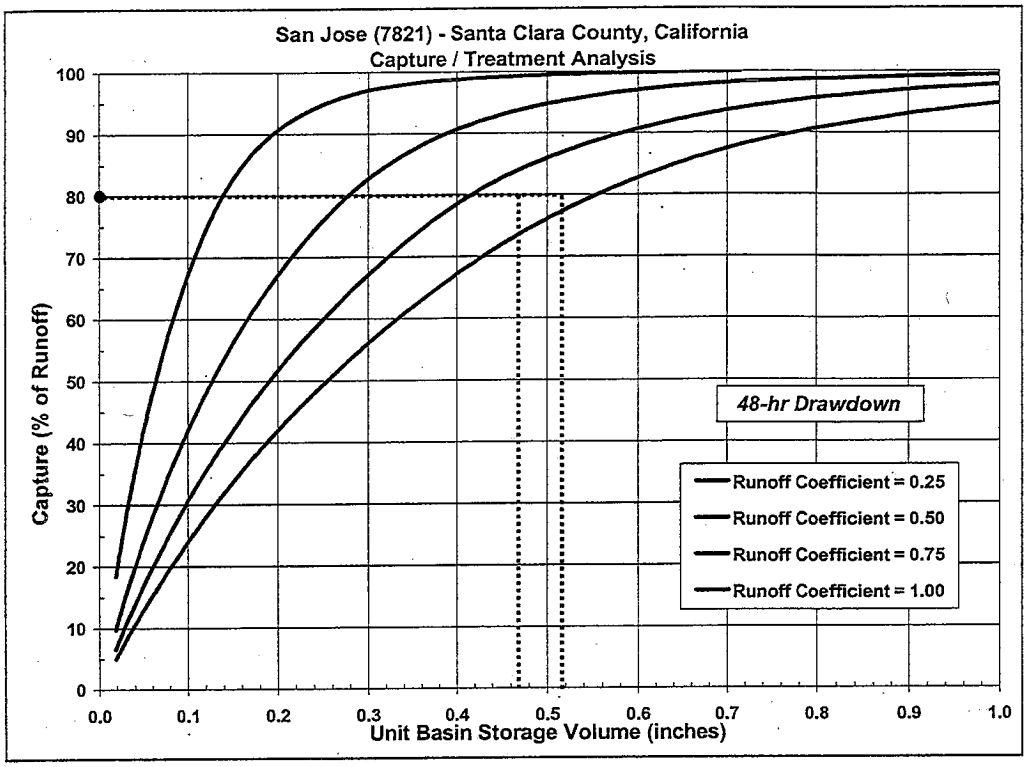


Figure 5-3
San Jose Capture Curve (California Stormwater BMP Handbooks)

By interpolation, the appropriate curve corresponding to a runoff coefficient of C combined = 0.86, would lie between the C=1.0 curve and the C=0.75 curve. For the 80th percentile runoff capture, the Unit Basin Storage Volume is 0.47 inches.

The capacity of the retention basin required to treat runoff from the 100-acre commercial/industrial area is calculated as follows:

$$\forall_{Basin} = 100 \text{ acres} \times 0.47 \text{ inches} = 47 \text{ acre-inches}$$

Calculating Retention Basin Size – *Start at the Source* Design:
Using Figure 5-3, San Jose Capture Curve:

By interpolation, the appropriate curve corresponding to a runoff coefficient of 0.95, would lie between the C=1.0 curve and the C=0.75 curve. For the 80th percentile runoff capture, the Unit Basin Storage Volume is 0.52 inches.

The capacity of the retention basin required to treat runoff from the 80-acre commercial/industrial area (excludes the 20-acres of self-treating areas) is calculated as follows:

$$\forall_{Basin} = 80 \text{ acres} \times 0.52 \text{ inches} = 41.6 \text{ acre-inches}$$

By designing the 100-acre commercial/industrial area using the *Start at the Source* design approach, an **11.5% reduction in treatment requirement** can be achieved.

6 Runoff Reduction Areas

6.1 Design Philosophy

Using alternative surfaces with a lower coefficient of runoff or "C-Factor" helps reduce runoff from developed areas. The C-Factor is a representation of a surface's ability to produce runoff. Surfaces that produce higher volumes of runoff are represented by higher C-Factors, such as impervious surfaces. Surfaces that produce smaller volumes of runoff are represented by lower C-Factors, such as more pervious surfaces. See Table 6-1 for typical C-Factor values for various surfaces during small storms.

Table 6-2 compares the C-Factors of conventional paving surfaces to alternative, lower C-Factor paving surfaces. By incorporating more pervious, lower C-Factor surfaces into a development, lower volumes of runoff are produced. Lower volumes and rates of runoff translate directly to lower treatment requirements.

Site design techniques may be used to reduce the C-Factor of a developed area, reducing the amount of runoff requiring treatment, including:

- Pervious Concrete
- Pervious Asphalt
- Turf Block
- Brick (un-grouted)
- Natural Stone
- Concrete Unit Pavers
- Crushed Aggregate
- Cobbles
- Wood Mulch

Other site design techniques such as disconnecting impervious areas, preservation of natural areas, and designing concave medians may be used to reduce the overall C-Factor of development areas.

Table 6-1
Estimated C-Factors for Various Surfaces During Small Storms

Paving Surface	*C-Factor*
Concrete	0.80
Asphalt	0.70
Pervious Concrete	0.60
Cobbles	0.60
Pervious Asphalt	0.55
Natural Stone without Grout	0.25
Turf Block	0.15
Brick without Grout	0.13
Unit Pavers on Sand	0.10
Crushed Aggregate	0.10
Grass	0.10
Grass Over Porous Plastic	0.05
Gravel Over Porous Plastic	0.05

Note: C-Factors for frequent small storms used to size water quality BMPs are likely to differ (be lower) than C-Factors developed for infrequent, large storms used to size flood control facilities. The above C-Factors were produced by selecting the lower end of the best available C-Factor range for each paving surface. These C-Factors are only appropriate for small storm treatment design, and should not be used for flood control sizing. Where available, locally developed small storm C-Factors for various surfaces should be utilized.

Table 6-2
Conventional Paving Surface Small Storm C-Factors vs. Alternative Paving C-Factors

Conventional Paving Surface C-Factors	*Reduced C-Factor Paving Alternatives*
Asphalt Parking Area (0.70)	Crushed Aggregate (0.10)
Concrete Patio/Plaza (0.80)	Decorative Unit Pavers on Sand (0.10)
	Turf Block Overflow Parking Area (0.15)
	Pervious Asphalt (0.55)
	Pervious Concrete (0.60)

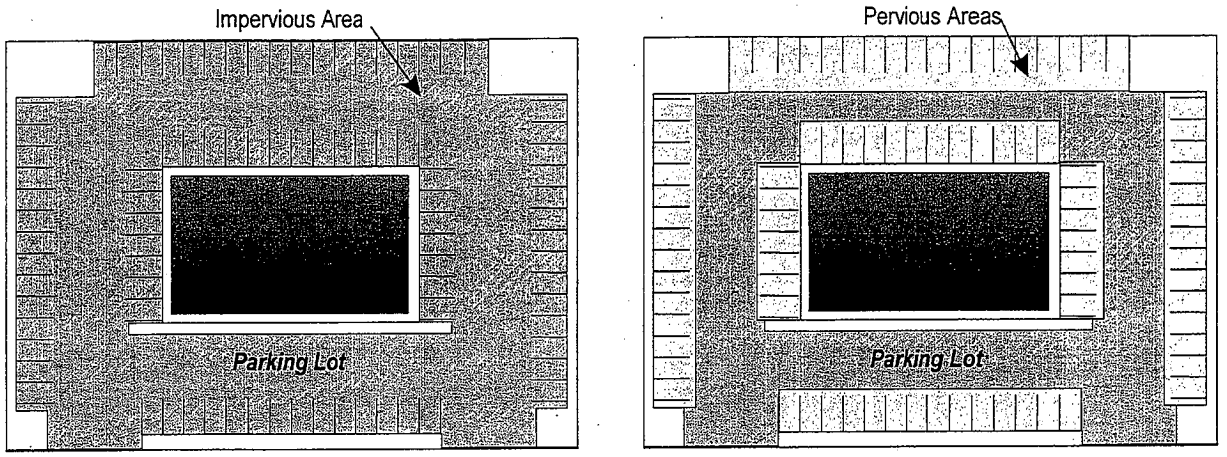


Figure 6-1
Impervious Parking Lot vs. Parking Lot with Some Pervious Surfaces

6.2 Runoff Reduction Area Example

The following example problem compares sizing a treatment swale using conventional design methods, to sizing the swale using *Start at the Source* design techniques.

Conventionally Designed Paved Parking Lot:
1-acre parking lot with a C-Factor of 0.80

Paved Parking Lot Using *Start at the Source* Techniques (Porous Pavement – See Figure 6-2):
1-acre parking lot with a C-Factor of 0.60

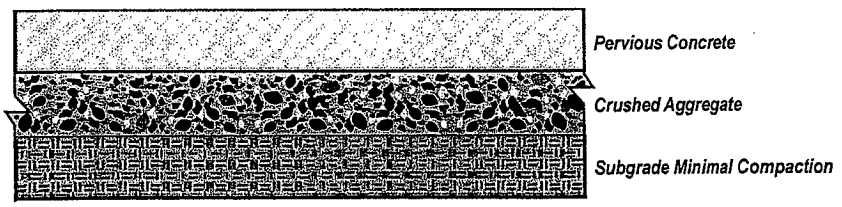


Figure 6-2
Porous Pavement

Calculating Swale Size:
Using the Urban Runoff Quality Management ASCE/WEF Manual guidelines for Selection and Design of Passive Treatment Controls:

Step 1: Determine Runoff
Using the Rational Method Q = CIA to solve for Q, given a rainfall intensity of 0.2 inches/hour

Where Q = Flow (cubic feet/second, cfs)

C = Runoff Coefficient

I = Rainfall Intensity (inch/hour)

A = Total Site Area (acres)

Calculating Runoff – Conventional Design:

Q = CIA
= 0.80 × 0.2 inches/hour × 1 acre
= 0.16 cubic feet/second

Calculating Runoff – *Start at the Source* Design:

Q = CIA
= 0.60 × 0.2 inches/hour × 1 acre
= 0.12 cubic feet/second

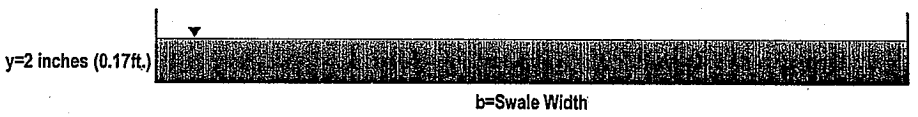
Step 2: Determine swale slope
Assume 1% or 0.01

Step 3: Select vegetation cover
Assume grass-lined swale

Step 4: Determine vegetation height
Assume 2 inches or 0.17 feet

Step 5: Select Manning's n value
Manning's n = 0.20, for routinely mowed grass-lined channels

Step 6: Select cross-sectional shape of swale
A typical swale cross-section is parabolic or trapezoidal in shape. The 2-inch (0.17 ft) flow depth in this example allows a rectangular cross-sectional approximation.



Step 7 Use Manning's equation to determine swale width
Manning's equation: $Q = 1.49/n \times R^{2/3} \times S^{1/2} \times A$

Where Q = Flow

n = Manning's n

R = Hydraulic Radius = A / (b + 2y) for rectangular channels

S = Slope of swale

A = Cross-sectional Area = b × y for rectangular channels

y = Flow Depth = Vegetation Height for Treatment Swale

b = Swale Width

Using Manning's equation to solve for Swale Width, b:

Swale Width = 4.3 feet (Conventional Design)

Swale Width = 3.3 feet (*Start at the Source* Design)

Step 8: Determine flow velocity

Flow Velocity – Conventional Design:

Velocity = Runoff / Cross-sectional Area
= Q / A
= 0.16 cfs / (0.17 feet × 4.3 feet)
= 0.22 feet/second

Flow Velocity – *Start at the Source* Design:

Velocity = Runoff / Cross-sectional Area
= Q / A
= 0.12 cfs / (0.17 feet × 3.3 feet)
= 0.21 feet/second

Step 9: Determine swale length

Using Urban Runoff Quality Management Manual guidelines (p195), assume swale detention time of 7 minutes = 420 seconds

Swale Length – Conventional Design:

Length = Velocity × Detention Time
= 0.22 feet/second × 420 seconds
= 92.4 feet

Swale Length – *Start at the Source* Design:

Length = Velocity × Detention Time
= 0.21 feet/second × 420 seconds
= 88.2 feet

Step 10: Determine swale size (surface area)

Swale Size – Conventional Design:

Swale Size = Swale Length × Swale Width
= 92.4 feet × 4.3 feet
= 397 square feet

Swale Size – *Start at the Source* Design:

Swale Size = Swale Length × Swale Width
= 88.2 feet × 3.3 feet
= 291 square feet

By designing the parking lot using the *Start at the Source* design approach, a **27% reduction in treatment requirement** can be achieved.

valuating properties for acquisition, allowing long-term costs associated with BMPs to be factored into the property purchase agreement.

A more extensive discussion of long-term BMP maintenance is included in Section 6.

2.4 Planning Principles

Planning and design for water quality protection employs three basic strategies in the following order of relative effectiveness: 1) reduce or eliminate post-project runoff; 2) control sources of pollutants, and 3) treat contaminated stormwater runoff before discharging it to natural water bodies. See Figure 2-5. These principles are consistent with the typical permit and local program requirements for Priority Projects that require a consideration of a combination of source control BMPs (that reduce or eliminate runoff and control pollutant sources) and treatment control BMPs with specific quantitative standards. The extent to which projects can incorporate strategies that reduce or eliminate post project runoff will depend upon the land use and local site characteristics of each project. Reduction in post project runoff offers a direct benefit by reducing the required size of treatment controls to meet the numeric standard included in the local permit. Therefore, project developers can evaluate tradeoffs between the incorporation of alternative site design and source control techniques that reduce runoff and pollutants, and the size of required treatment controls either included as part of the project or as a commitment to an offsite watershed-based program.

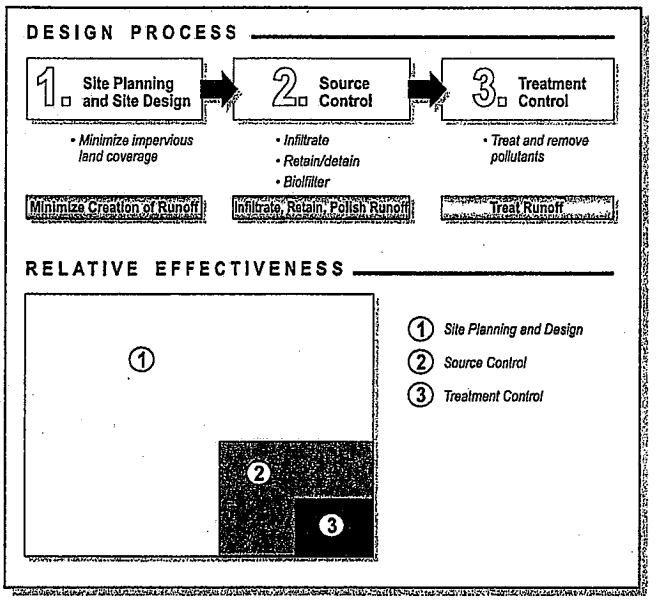


Figure 2-5
Planning Principles

2.4.1 Reduce Runoff

The principle of runoff reduction starts by recognizing that developing or redeveloping land within a watershed inherently increases the imperviousness of the areas and therefore the volume and rate of runoff and the associated pollutant load; and outlines various approaches to reduce or minimize this impact through planning and design techniques.

The extent of impervious land covering the landscape is an important indicator of stormwater quantity and quality and the health of urban watersheds. Impervious land coverage is a fundamental characteristic of the urban and suburban environment -- rooftops, roadways, parking areas and other impenetrable surfaces cover soils that, before development, allowed rainwater to infiltrate.

Without these impervious coverings, inherent watershed functions would naturally filter rainwater and prevent receiving water degradation. Impervious surfaces associated with urbanization can cause adverse receiving water impacts in four ways:

- Rainwater is prevented from filtering into the soil, adversely affecting groundwater recharge and reducing base stream flows.
- Because it cannot filter into the soil, more rainwater runs off, and runs off more quickly, causing increased flow volumes, accelerating erosion in natural channels, and reducing habitat and other stream values. Flooding and channel destabilization often require further intervention. As a result, riparian corridors are lost to channelization, further reducing habitat values.
- Pollutants that settle on the impervious pavements and rooftops are washed untreated into storm sewers and nearby stream channels, increasing pollution in receiving water bodies.
- Impervious surfaces retain and reflect heat, increasing ambient air and water temperatures. Increased water temperature negatively impacts aquatic life and reduces the oxygen content of nearby water bodies.

Techniques for reducing runoff range from land use planning on a regional scale by permittees or other local planning agencies, to methods that can be incorporated into specific projects. These techniques include actions to:

- Manage watershed impervious area
- Minimize directly connected impervious areas
- Incorporate zero discharge areas
- Include self-treatment areas
- Consider runoff reduction areas.

Brief summaries of the following techniques are presented:

Manage Watershed Impervious Area

Land use planning on the watershed scale is a powerful tool to manage the extent of impervious land coverage. This planning has two elements. First, identify open space and sensitive resource areas at the regional scale and target growth to areas that are best suited to development, and second, plan development that is compact to reduce overall land conversion to impervious surfaces and reliance on land-intensive streets and parking systems.

Impervious land coverage is a practical measure of environmental quality because:

- It is quantifiable, meaning that it can be easily recognized and calculated.

- It is integrative, meaning that it can estimate or predict cumulative water resource impacts independent of specific factors, helping to simplify the intimidating complexity surrounding non-point source pollution.

- It is conceptual, meaning that water resource scientists, municipal planners, landscape architects, developers, policy makers and citizens can easily understand it.

Water resource protection at the local and regional level is becoming more complex. A wide variety of regulatory agencies, diverse sources of non-point source pollution, and a multitude of stakeholders make it difficult to achieve a consistent, easily understandable strategy for watershed protection. Impervious land coverage is a scientifically sound, easily communicated, and practical way to measure the impacts of new development on water quality.

Impervious area reductions also provide additional benefits such as reduced urban heat island effect, resulting in less energy use to cool structures and more efficient irrigation use by plants. Reductions have also be attributed to more human-scale landscaper and higher property values.

Minimize Directly Connected Impervious Areas (DCIA)

Impervious areas directly connected to the storm drain system are the greatest contributor to non-point source pollution. The first effort in site planning and design for stormwater quality protection is to minimize the "directly connected impervious area (DCIA)" as shown in Figure 2-6.

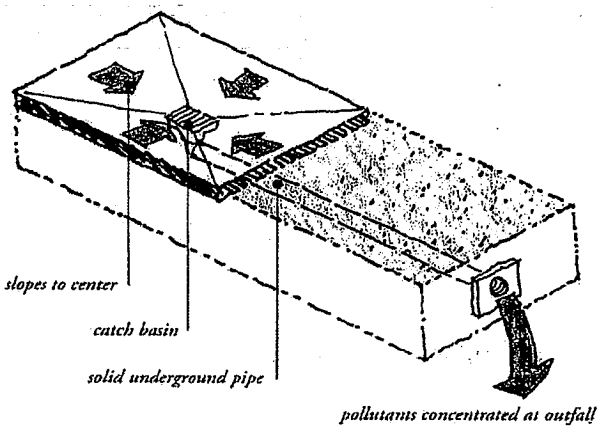


Figure 2-6
Directly Connected Impervious Area

Any impervious surface that drains into a catch basin, area drain, or other conveyance structure is a "directly connected impervious area." As stormwater runoff flows across parking lots, roadways, and paved areas, the oils, sediments, metals and other pollutants are collected and concentrated. If this runoff is collected by a drainage system and carried directly along impervious gutters or in closed underground pipes, it has no opportunity for filtering by plant material or infiltration into the soil. It also increases in speed and volume, which may cause higher peak flows downstream, and may require larger capacity storm drain systems, increasing flood and erosion potential.

Minimizing directly connected impervious areas can be achieved in two ways:

- Limiting overall impervious land coverage

- Directing runoff from impervious areas to pervious areas for infiltration, retention/detention, or filtration

Strategies for reducing impervious land coverage include:

- Cluster rather than sprawl development
- Taller narrower buildings rather than lower spreading ones
- Sod or vegetative "green roofs" rather than conventional roofing materials
- Narrower streets rather than wider ones
- Pervious pavement for light duty roads, parking lots and pathways

Example strategies for infiltration, retention/detention, and bio-filtration include:

- Vegetated swales
- Vegetated basins (ephemeral- seasonally wet)
- Constructed ponds and lakes (permanent- always wet)
- Crushed stone reservoir base rock under pavements or in sumps
- Cisterns and tanks
- Infiltration basins
- Drainage trenches
- Dry wells
- Others

Unlike conveyance storm drain systems that convey water beneath the surface and work independently of surface topography, a drainage system for stormwater infiltration can work with natural landforms and land uses to become a major design element of a site plan. Solutions that reduce DCIA prevent runoff, detain or retain surface water, attenuate peak runoff rates, benefit water quality and convey stormwater. Site plans that apply stormwater management techniques use the natural topography to suggest the drainage system, pathway alignments, optimum locations for parks and play areas, and the most advantageous locations for building sites. In this way, the natural landforms help to generate an aesthetically pleasing urban form integrated with the natural features of the site.

Incorporate Zero Discharge Areas

An area within a development project can be designed to infiltrate, retain, or detain the volume of runoff requiring treatment from that area.

The term "zero discharge" in this philosophy applies at stormwater treatment design storm volumes. For example, consider an area that functionally captures and then infiltrates the 80th

percentile storm volume. If permits require treatment of the 80th percentile storm volume, the area generates no treatment-required runoff.

Site design techniques available for designing areas that produce no treatment-required runoff include:

- Retention/Detention Ponds
- Wet Ponds
- Infiltration Areas
- Large Fountains
- Retention Rooftops
- Green roofs (roofs that incorporate vegetation) and blue roofs (roofs, that incorporate detention or retention of rain).

Infiltration areas, ponds, fountains, and green/blue roofs can provide "dual use" functionality as stormwater retention measures and development amenities. Detention ponds and infiltration areas can double as playing fields or parks. Wet ponds and infiltration areas can serve dual roles when meeting landscaping requirements.

When several "zero discharge" areas are incorporated into a development design, significant reductions in volumes requiring treatment may be realized.

"Zero discharge" areas such as wet ponds, detention ponds, and infiltration areas can be designed to provide treatment over and above the storm volume captured and infiltrated. For example, after a wet pond area has captured its required storm volume, additional storm volume may be treated via settling prior to discharge from the pond. In this case, the "zero discharge" area converts automatically into a treatment device for runoff from other areas, providing settling for storm volumes beyond treatment requirements. Another example is a grassy infiltration area that converts into a treatment swale after infiltrating its area-required treatment volume. The grassy infiltration area in this example becomes a treatment swale for another area within the development.

Figure 2-7 illustrates a residential tract, and a tract incorporating Zero Discharge Area techniques (infiltration areas). The Zero Discharge Area designed tract represents a design to infiltrate (i.e., achieve zero discharge from) a portion of the tract's runoff, reducing total runoff from the tract.

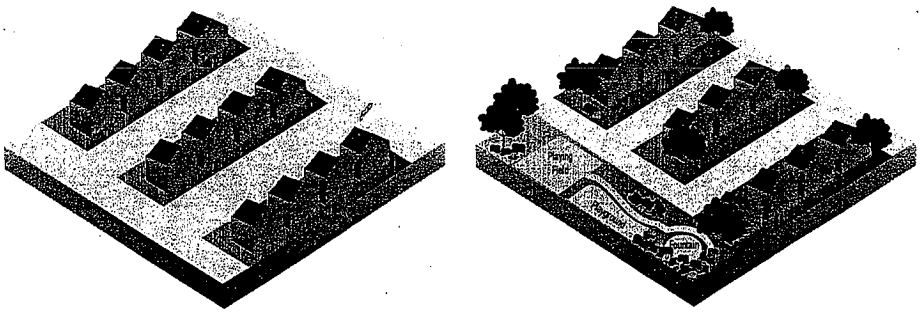


Figure 2-7
Zero Discharge Area Usage

Include Self-Treatment Areas

Developed areas may provide "self-treatment" of runoff if properly designed and drained.

Self-treating site design techniques include:

- Conserved Natural Spaces
- Large Landscaped Areas (including parks and lawns)
- Grass/Vegetated Swales
- Turf Block Paving Areas

The infiltration and bio-treatment inherent to such areas provides the treatment control necessary. These areas therefore act as their own BMP, and no additional BMPs to treat runoff should be required.

As illustrated in Figure 2-8, site drainage designs must direct runoff from self-treating areas away from other areas of the site that require treatment of runoff. Otherwise, the volume from the self-treating area will only add to the volume requiring treatment from the impervious area.

Likewise, under this philosophy, self-treating areas receiving runoff from treatment-required areas would no longer be considered self-treating, but rather would be considered as the BMP in place to treat that runoff. These areas could remain as self-treating, or partially self-treating areas, if adequately sized to handle the excess runoff addition.

Consider Runoff Reduction Areas

Using alternative surfaces with a lower coefficient of runoff or "C-Factor" may reduce runoff from developed areas. The C-Factor is a representation of the surface's ability to produce runoff. Surfaces that produce higher volumes of runoff are represented by higher C-Factors, such as impervious surfaces. Surfaces that produce smaller volumes of runoff are represented by lower C-Factors, such as more pervious surfaces. See Table 2-2 for typical C-Factor values for various surfaces during small storms.

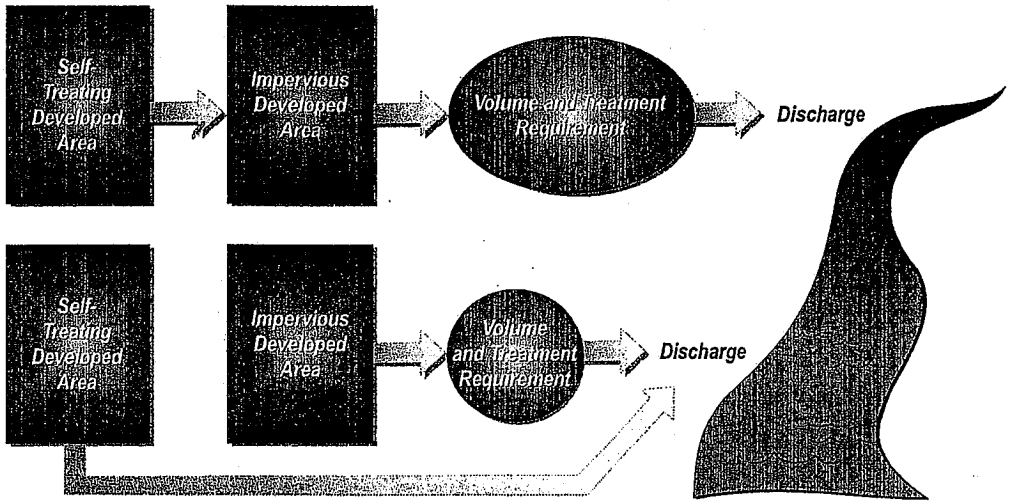


Figure 2-8
Self-Treating Area Usage

Table 2-2 Estimated C-Factors for Various Surfaces During Small Storms

Paving Surface	C-Factor
Concrete	0.80
Asphalt	0.70
Pervious Concrete	0.60
Cobbles	0.60
Pervious Asphalt	0.55
Natural Stone without Grout	0.25
Turf Block	0.15
Brick without Grout	0.13
Unit Pavers on Sand	0.10
Crushed Aggregate	0.10
Grass	0.10
Grass Over Porous Plastic	0.05
Gravel Over Porous Plastic	0.05

Note: C-Factors for small storms are likely to differ (be lower) than C-Factors developed for large, flood control volume size storms. The above C-Factors were produced by selecting the lower end of the best available C-Factor range for each paving surface. These C-Factors are only appropriate for small storm treatment design, and should not be used for flood control sizing. Where available, locally developed small storm C-Factors for various surfaces should be utilized.

Table 2-3 compares the C-Factors of conventional paving surfaces to alternative, lower C-Factor paving surfaces. By incorporating more pervious, lower C-Factor surfaces into a development (see Figure 2-9), lower volumes of runoff may be produced. Lower volumes and rates of runoff translate directly to lower treatment requirements.

Table 2-3 Conventional Paving Surface Small Storm C-Factors vs. Alternative Paving C-Factors

Conventional Paving Surface C-Factors	Reduced C-Factor Paving Alternatives
Concrete Patio/Plaza (0.80)	Decorative Unit Pavers on Sand (0.10)
Asphalt Parking Area (0.70)	Turf Block Overflow Parking Area (0.15)
	Pervious Concrete (0.60)
	Pervious Asphalt (0.55)
	Crushed Aggregate (0.10)

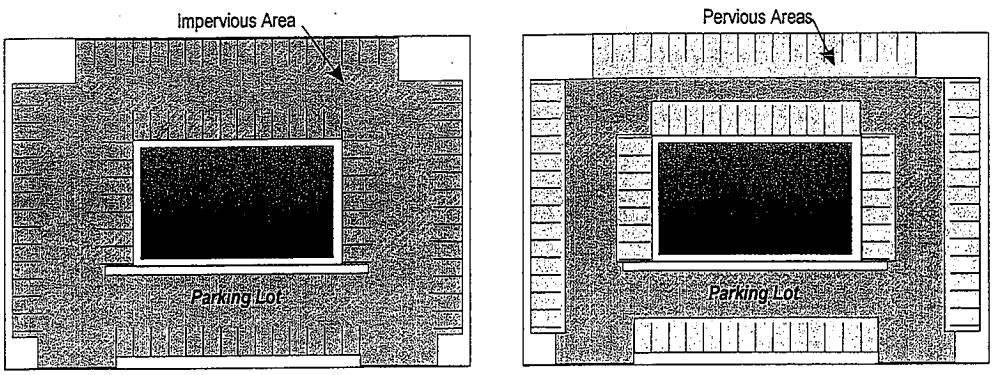


Figure 2-9
Impervious Parking Lot vs. Parking Lot with Some Pervious Surfaces

Site design techniques that incorporate pervious materials may be used to reduce the C-Factor of a developed area, reducing the amount of runoff requiring treatment. These materials include:

- Pervious Concrete
- Pervious Asphalt
- Turf Block
- Brick (un-grouted)
- Natural Stone
- Concrete Unit Pavers
- Crushed Aggregate
- Cobbles
- Wood Mulch

Other site design techniques such as disconnecting impervious areas, preservation of natural areas, and designing concave medians may be used to reduce the overall C-Factor of development areas.

Table 2-4 presents a list of site design and landscaping techniques and indicates whether they are applicable for use in Zero Discharge Areas, Self-Treating Areas, and Runoff Reduction Areas. Several different techniques may be implemented within the same design philosophy. Some techniques may be used to implement more than one design philosophy. Where feasible, combinations of multiple techniques may be incorporated into new development and redevelopment projects to minimize the amount of treatment required.

Table 2-4 Site Design and Landscaping Techniques

Site Design and Landscape Techniques	Design Criteria		Design Philosophy		
	Volume-Based Design	Flow-Based Design	Zero Discharge	Self – Treating	Runoff Reduction
Permeable Pavements					
Pervious concrete	X				X
Pervious asphalt	X				X
Turf block	X			X	X
Un-grouted brick	X				X
Un-grouted natural stone	X				X
Un-grouted concrete unit pavers	X				X
Unit pavers on sand	X				X
Crushed aggregate	X				X
Cobbles	X				X
Wood mulch	X				X
Streets					
Urban curb/swale system	X	X			X
Rural swale system	X	X			X
Dual drainage systems	X	X			X
Concave median	X	X	X		X
Pervious island	X	X			X
Parking Lots					
Hybrid surface parking lot	X				X
Pervious parking grove	X				X
Pervious overflow parking	X			X	X
Driveways					
Not directly connected impervious driveway		X			X
Paving only under wheels	X			X	X
Flared driveways	X				X
Buildings					
Dry-well	X		X		X
Cistern	X	X	X		X
Foundation planting	X	X			X
Pop-up drainage emitters		X			
Landscape					
Grass/vegetated swales	X	X		X	X
Extended detention (dry) ponds	X		X	X	X
Wet ponds	X		X	X	X
Bio-retention areas	X		X	X	X

Local Government Commission – Project White Paper Final
Integration of Water and Land Use Ordinances for Ventura County

The purpose of this white paper is to constructively define issues, challenges and opportunities related to integrating land use codes with the current draft stormwater permit for Ventura County. The paper synthesizes analysis of the draft stormwater permit for Ventura County and input from local stakeholders through the Ventura County Watershed Planning Project.

The Los Angeles Regional Water Quality Control Board (LARWQCB) has released a draft of one of the more advanced stormwater permits in the country under the National Pollutant Discharge Elimination System (NPDES). The draft permit introduces and would codify many new and innovative concepts for managing stormwater and watershed health, such as smart growth and low impact development. These new concepts have, in a rather short time frame, integrated stormwater management with common planning and zoning structures.

Ventura County and its cities are recognized throughout the country for efforts to balance land development with preservation of the County's natural beauty and important agricultural heritage. This balance has not been achieved overnight, but rather over time with the input of many citizens and stakeholders. The results include the Guidelines for Orderly Development, the nationally recognized land preservation program Save Open-Space and Agricultural Resources (SOAR), and continuous fine-tuning of land development programs, standards, and codes.

While all stakeholders involved recognize the need to better manage land and water resources, there is concern that the requirements of the permit will not only trump longstanding elements of planning efforts related to economic development, housing, and redevelopment, but undermine a wider realm of environmental protection goals and outcomes.

This paper explores the permit requirements, challenges and opportunities that the County and each of its cities can use to craft local ordinances that meet the permit standards and the wider range of economic, community and environmental goals.

Background and History of the Project

In 2004, the California Water Boards funded the Local Government Commission (LGC) to spearhead development of the Ahwahnee Water Principles, a set of integrated policy guidelines for linking water and land use planning decisions[1]. In 2006, in partnership with local governments in Ventura County, the LGC received additional funding from the Water Boards to conduct a watershed planning project to help communities in Ventura

[1] For more information on linking water resources and land development codes, the U.S. Environmental Protection Agency has an extensive collection of materials. . . . . See http://epa.gov/smartgrowth/publications.htm#water and www.epa.gov/nps/urban.html

County implement the Ahwahnee Water Principles ("Water Principles"). The "Water Principles," which have been adopted by the county and some cities therein, formed the basis for the proposal and the project work plan. More information about the project: water.lgc.org/ventura.

On December 27, 2006, the LARWQCB released a draft stormwater permit for Ventura County. During a "project scoping meeting" in February 2007, local partners identified the draft permit as a pressing issue. With the permit as a backdrop, local partners helped LGC identify people to involve in a Stakeholder Advisory Committee (SAC) that would help steer the project.

The SAC held a kick-off meeting on April 19th, 2007. It was agreed that the permit provided an important bridge between water and land use policy in Ventura County, that policy gaps between the permit and local planning efforts needed to be addressed, and that the LGC project would focus on the subset of potential permit requirements with a land use and water nexus.

With this input, initial analysis and policy recommendations are being directed towards the Los Angeles Regional Board's permit revision process. Board staff agreed that the project provided a venue to vet ideas about the permit.

The SAC met again on June 15th, 2007 to continue dialogue about the permit and provide direction regarding recommendations to the Regional Board. This paper outlines the issues and opportunities within the permit identified through stakeholder meetings, and provides an in-depth review of those parts of the permit that fall within the scope of the project (primarily post-construction measures).

Stormwater Regulation Background and Issues

States and localities across the country are developing stormwater management plans and ordinances under the NPDES stormwater permits. Larger cities and counties such as Ventura County, which have been regulated under NPDES Phase I since the early 1990s, are engaged in permit review and renewal efforts (note that NPDES permits must be renewed every five years).

The practice and regulation of stormwater management has evolved since the introduction of the first requirements in 1991. Stormwater control prior to that time focused almost exclusively on drainage and conveyance. However, now several important concepts are making their way into permits. First, the idea of post-construction, or permanent stormwater control for development and redevelopment projects, is replacing the practice of diverting almost all runoff into storm drains. Green building techniques, green roofs and low impact development have emerged as post-construction practices.

Secondly, stormwater management at not only the site scale, but at the district (or subwatershed) and regional (or watershed) scales is surfacing within technical manuals.

Managing stormwater at these larger scales is being used to control the overall footprint of development, extent of impervious cover, and amount of land disturbance. Examples of district scale BMPs include compact development, mixed-use districts, infill and redevelopment of already-impervious development sites.

Finally, federal regulations now stipulate that stormwater practices be implemented "by ordinance or other regulatory mechanism." Many (if not most) regulated cities and counties have established land development regulations, for example, zoning, commercial landscaping codes, and the like. These codes have been crafted over time, with any number of compromises, revisions and challenges. It is important to recognize that NPDES is effecting an already complex and controversial policy environment.

Before describing the issues in detail, it is important to reiterate that addressing the built environment to support the natural environment is not just a component of permit compliance, but is intertwined with sustaining the quality of life in Ventura County.

Examining Issues in the Draft Permit

Based on input from the SAC and analysis of the permit, the LGC Team explored the following issues:

1) Focusing on site-scale practices only may create unforeseen impacts,
2) Treatment of Redevelopment in the draft permit, and
3) Treatment of New Development in the draft permit.

Issue 1: Focusing on site-scale practices only may create unforeseen impacts

The first issue is not isolated to the Ventura draft permit, but one that bedevils the effective translation of stormwater requirements into local ordinances nationwide. A number of green strategies have evolved for addressing stormwater impacts at a site scale, and these are encouraged in the draft permit. However, at a larger scale, development patterns can lead to creation of more or less impervious surface area for a given amount of growth. Thus, addressing stormwater impacts at larger scales through district and regional approaches can be as vital as ensuring good site-scale approaches. The current policy environment is composed of several factors, including:

1) While EPA listed district-wide stormwater solutions and coordinated smart growth techniques, the system of designing and approving development projects is still carried out one site or project at a time.
2) As such, it is far easier to analyze and assign stormwater mitigation one site (or project) at a time.
3) The current method for looking at stormwater impacts and potential on-site mitigation focuses on site coverage, degree of impervious cover and/or the role of pervious areas on-site.
4) However, planning techniques that intuitively lessen the pressure to develop natural lands, such as infill projects, mixed-use communities, "Main Street" rehabilitation and redevelopment, and compact footprints, are not easily defined conceptually, much less within the engineering models used for site plan

approval. These and other techniques are contained in several General Plans within Ventura County largely for their environmental benefits, yet they are not included within the permit's official legal structure.

5) Moreover, redevelopment, identified within State, Federal and local plans as an environmentally preferred option, is typically more expensive to undertake than new development. Small sites, land constraints, working in a built-out district, multiple stakeholders and financing barriers all contribute to the challenges. Because land is expensive or otherwise constrained, infiltration and storage requirements will add to the complex nature of redevelopment.
6) On the other hand, many LID techniques for greenfields development tend to lower developer costs. Elimination of sidewalk requirements and clustering reduce roadway costs, one of the largest expenses, and are commonly recommended as a way to reduce impervious cover within subdivisions.
7) For communities that have well-planned greenfields growth, the new on-site rules can reduce impacts. However, while many designs are "low impact' for stormwater, they can carry significant impacts for congestion, road widening, water use, vehicle miles traveled, school location transportation, and habitat loss.
8) Because these other impacts are typically addressed in larger plans and funding formulae and not in codes, the new stormwater rules and ordinances will exert control closest to project design. In short, there is the potential that stormwater infiltration will trump the consideration of other environmental factors.

The interplay of considerations contained in this list leads to what might be called the "On-site stormwater management" conundrum. For impaired waterways in *built out* areas, the major path to watershed clean up under NPDES permitting[2] will almost completely rely on addressing impacts of existing impervious surfaces. This can be most easily accomplished through retrofitting those areas with green practices via redevelopment projects. However, the new rules, depending on how they are written and carried out, can erect even more barriers to redevelopment, forcing consideration of other options. If the option is a more readily developable greenfields site unprepared for urbanization, the stormwater outcomes can actually worsen watershed health, even if LID standards are applied.

Issue 2: Treatment of Redevelopment in the Draft Permit

The draft permit recognizes the role of redevelopment in addressing stormwater impacts. The inclusion of "Redevelopment Project Area Management Plans," or RPAMPs, is visionary in that it recognizes that various factors within districts work to facilitate development demand on a small footprint. For example, compact districts are used to shrink the footprint of development. This requires planning strategies that place buildings close together, that foster walkability, that foresee a mix of uses to satisfy daily trips, that install a safe and convenient infrastructure for walking, and that integrate parking and

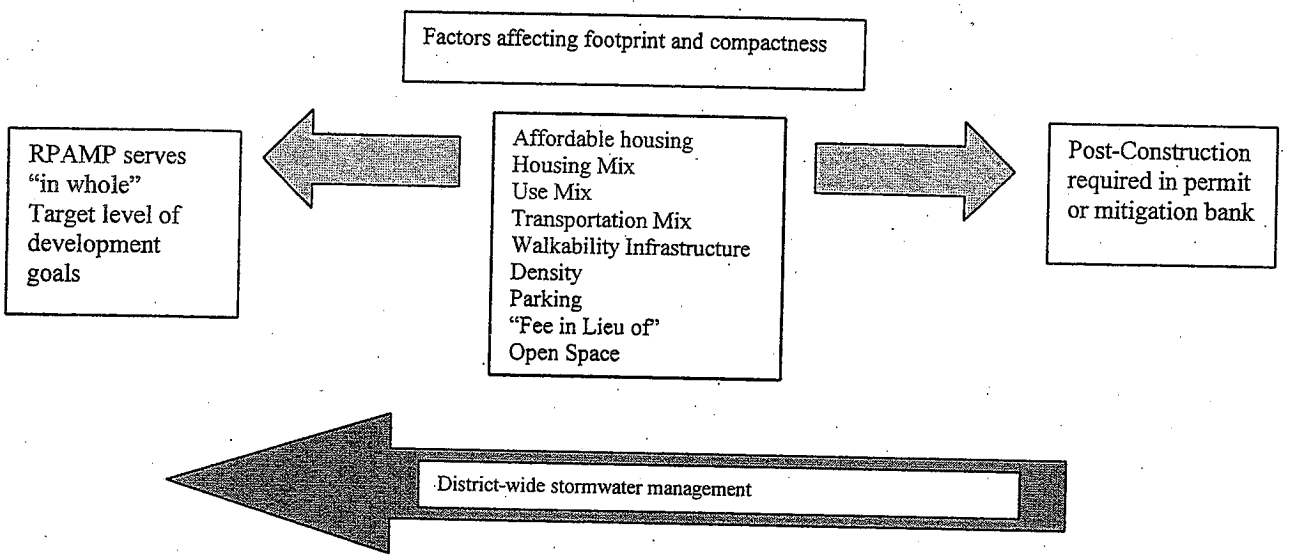
[2] There are other avenues for mitigation, including homeowner and commercial education, public retrofits, and voluntary mitigation. However, NPDES permitting is focused on new development and redevelopment, and thus improvements hinge on a construction permit.

auto access discretely into overall planning. Overall, this can result in a net reduction of impervious surface cover for a given amount of development.

The LGC team has begun looking at workable options for using RPAMPs, and has discovered several challenges with this new approach.

(1) According to the permit, the RPAMP "may substitute *in part* or wholly for on-site post-construction requirements." The situation for "in part" or "wholly" will likely be a case-by-case determination, in consultation with LARWQB staff. However, this adds to the workload of a city or developer seeking this option.

One of the more complicated tasks will be to judge when a redevelopment district serves "in part" or "wholly" as a substitution and what defines the gradations in between. The LGC team developed a conceptual "sliding scale" to assess those gradations. The following graphic provides a starting point for such an approach.



An RPAMP could work as a stormwater BMP to reduce runoff by housing a workable intensity of development on a compact footprint. The factors affecting the performance of this footprint and workable intensity model are recognized within studies of walkability. In particular, the work of Larry Frank[3] has revealed important factors, such as the condition of the walking infrastructure, the use mix and presence of multiple modes of transportation.

The LGC team recognizes that sensitive factors, such as affordable housing and density, are included in the "sliding scale" presented above. While RPAMPs can be drawn at the discretion of individual cities, the permit also lists priorities for transit stations and

[3] See the latest King County report on factors related to compact neighborhoods - http://www.metrokc.gov/exec/news/2006/pdf/LUTAQHupdated.pdf

downtowns, which tend to be geared towards density in a way most other areas of a city are not.

During the June 15 SAC meeting, the discussion soon focused on:

- Picking an indicator that includes these factors (Or more to the point, the combination of factors), and
- Doing so in a manner that does not further complicate site plan review and permit compliance.

The LGC team is going to further research use of the RPAMP through a system of simplified indicators. Early candidates include a measure of "Project impervious cover per unit of development" or a model that identifies "imperviousness avoided" compared to typical build out. The SAC has concluded that, while the RPAMPs are innovative, they might not be practical given the following constraints: 1) administrative complexity / time needed to develop and implement; 2) lack of clarity regarding how the RPAMP could be used and its relationship to other requirements [e.g. 5%EIA]; and 3) the need for measurability. However, further work to clarify and improve the RPAMP concept could yield a useful tool that creates district-scale BMPs to accomplish both water and community planning goals.

It should be noted that other communities in California, notably San Jose and the Santa Clara Valley Urban Pollution Prevention Program (SCVURPPP) have identified certain redevelopment and housing districts within stormwater plans. However, their approach, described in "Opportunities" below, does not attach numerical factors to the performance. It is understood that the same level of development, exerted elsewhere in the watershed, would have far larger, adverse impacts.

Issue 3: Treatment of New Development within the Permit

There is no counterpart of "RPAMP" for new development, even though the same interplay is needed to produce compact districts that consume less land per new project, specific plans, and/or master planned communities.

New development, or greenfields development, is also expected to meet the performance measures, such as the effective impervious cover standard. However, since most developers in greenfields areas have a larger, undeveloped piece of land to design than their urban counterparts, BMP selection can be geared towards open spaces, swales, and landscape design. Certainly green roofs, vaults, and other common urban practices are available and even attractive where undeveloped land is costly. However, the use of open land to slow, infiltrate and filter stormwater is, in general, a popular, rather uncomplicated BMP for new development projects.

As urbanization takes place with large portions of land left undeveloped to meet BMP requirements, the development footprint and public imperviousness in the form of roads and highways, tends to grow. Although each development project meets the engineering

specifications and drains less than 5% of the project's runoff to the public conveyance system, the end result can be widespread land disturbance and sprawl.

For Ventura County this is important as new development projects break ground inside the SOAR boundaries. The more dispersed the development, the sooner pressure will be applied to increase the boundaries. While much of the future development will match the rural setting, many cities and counties are trying to concentrate services, retail, housing, and government offices in rural growth centers. Again, there is no provision that supports this environmental planning on a smaller footprint.

The SAC was emphatic during the June 15 meeting that a "smart growth" approach should be supported within the permit provisions, if not only because it is central to many local planning strategies, then because it has the potential to yield high water resource benefits if correctly implemented based on local development contexts. The permit has the capacity to advance rather than detract from smart growth practices, in both new and redevelopment contexts. The RPAMPs provide a potential gateway for redevelopment, but an effort to limit the expansion of imperviousness by applying smart growth strategies in new development is also needed. Such a strategy would compliment existing efforts to limit and mitigate imperviousness through 5% EIS standards, but would add a broader planning component that over the long term may yield more extensive reductions in overall impervious surface coverage in effected areas.

Role of Regulation – The Permit and Sustainable Development

The SAC has devoted discussion to the purpose and role of the permit. Like any environmental permit, the main objective is to establish a policy structure that results in, and ideally encourages, the environmental outcomes sought.

With that as the backdrop, there is concern among group members that the permit may actually establish barriers to sustainable development options while spurring growth that meets the letter of the permit but which introduces an array of adverse environmental impacts, including induced flows.

Among the impacts:

While other counties in Southern California have little green field areas left, Ventura County has over 20,000 acres left to develop within SOAR boundaries. While growth in these boundaries will eventually occur, the permit may drive development outcomes that induce premature pressure on the SOAR boundaries, as discussed above.

It is widely recognized among planning professionals that the best way to stimulate desired development is to make decisions streamlined or as-of-right (i.e., ministerial). The structure of RPAMPs adds another step, and requires coordination and review by the LARWQCB. Keep in mind that recent legislation on eminent domain will also introduce additional steps to coordinated redevelopment.

Infill and redevelopment projects tend to have higher densities. Instead of one-story buildings, many urban projects are two to three stories high (or higher in commercial core districts), though they may cover the entire site with building footprint, parking and pedestrian access. The draft permit focuses on the footprint, while ignoring the watershed benefit of placing additional stories of development demand under one roof (instead of several roofs).

Infill and redevelopment projects do not all start at the same level of interest or funding. While many redevelopers will recognize the value of LID and begin to assimilate the cost of new BMPs with the cost of existing landscaping or building systems, there are many vacant or abandoned properties that are not drawing investment even under current rules. Observers have noted that the stringency of the new permits may be poised to drive development to greenfields. However, land owners and developers may also choose to rehabilitate their building rather than redevelop. In these cases, there will be no mechanism for mitigation since trigger levels of land disturbance are not met. Note this also means that other benefits accruing from redevelopment will not materialize as well, such as introduction of use mix, shared parking, housing, an enhanced tax base and so on.

The Opportunities

While performance standards and details are included in the rules, cities are also delegated the opportunity to develop policies based on local conditions and priorities. During the June SAC meeting, three avenues were raised: Redevelopment Project Area Management Plans (RPAMPs), alternative compliance and a credit system.

Redevelopment Project Area Master Plans

RPAMPs present a unique opportunity to define, assess and demonstrate the stormwater benefits of a coordinated redevelopment district. As noted above, this is new territory for stormwater management, and is only now being quantified for transportation and economic development purposes (though these share the same goal in a smaller, more intense footprint). In the short term, smaller exercises that examine "imperviousness avoided" or imperviousness per unit may help lead into the larger questions of which variables would need to be included, what data are needed and what sets of measures would be included for compliance, monitoring and reporting.

For purposes of the draft permit, some SAC members have raised the possibility of one or more demonstration projects, which may help navigate some of challenges in measuring the power of mixed use or daily trip-making as they relate to watershed outcomes.

Alternative (or Parallel) Compliance

Alternative compliance measures are a standard section within any regulation, and are a prominent feature in land use regulations.

As noted above, one model of using alternative compliance measures to develop joint land use and stormwater/watershed ordinances is the San Jose model. San Jose, a co-permittee under the latest 2001 SCVURPPP permit, established a structure under the "C.3" provisions under Orders from the California Water Quality Control Board. The following language is from the City's C.3. regulations:

> Redevelopment - Where a redevelopment project has no stormwater controls, and where a redevelopment project increases (or replaces) more than 50% of the site area with impervious surface, then the project needs to meet the standards established for sizing BMPs to meet rules on hydromodification.
>
> Finding of Impracticality - San Jose structured its policy so that deviations from the standard requirements could be established through a finding of impracticality. San Jose's policy includes some of the more common challenges, such as soil type or legacy pollutants. The City echoed the regional policy of favoring landscape-based controls, such as biofiltering and swales.
>
> Flexibility - The San Jose policy allows flexibility in meeting alternative compliance rules. First, a project can participate in a regional or shared Treatment Control Measure (TCM). Instead of requiring each and every project to address its own stormwater on-site, a shared TCM can lower costs and make more efficient use of land in urban areas. The City also established a category of off-site projects, and projects called "Water Quality Benefit Projects."
>
> Water Quality Benefit Project - In its discretion, the City may find that Smart Growth Projects provide equivalent water quality benefit. For other projects the City may find that equivalent benefit is where the project sponsor provides project and/or environmental documentation showing that the development of the site itself, the nature of the site design, its location in the watershed and/or proposed change in use protects/enhances water quality/beneficial uses such that post-project water quality/beneficial uses conditions are likely to equal or exceed pre-project condition.
>
> Further, the City defined "Smart Growth Projects" as projects meeting one or more of the following criteria:
>
> a) Significant Redevelopment Project within the Urban Core;
> b) Low-income, moderate income, or senior housing Development Project, meeting one of the criteria listed in other sections of the City's code; and/or
> c) Brownfields Projects.

No projects were submitted upon release of the ordinance since the original threshold was 300,000 square feet. The City expects projects to be submitted in the near future as the threshold has been lowered to 30,000 square feet[4].

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[4] Telephone conversation, Laurel Prevetti, San Jose Director of Community Planning, April 18, 2007.

Administratively, alternative compliance adds step(s). The developer or landowner must create the finding of impracticability. In some cases, cities may streamline the finding by marking "districts of impracticability" where known constraints or pollutants exist.

In addition, the classification of affordable housing and redevelopment projects as "BMPs" is not universally supported among stakeholders. Nonetheless, the policy is widely used by US EPA as a model for integrating land development and water objectives to comply with stormwater permits.

Alternative compliance can also be used to fund priority projects on an expedited timeline. This is best accomplished when a plan is in place that identifies and quantifies the off-site projects.

Development of a Credit Program

During the meeting, Carlos Santos from the LARWQCB raised the use of "Credits" for permit compliance. The State of Maryland has instituted the use of credits, and the practice is gaining acceptance. Credits have the advantage of recognizing stormwater and watershed benefits that may not be captured in impervious cover models. Credits, when properly developed, may also help avoid the "precision penalty" that can arise when measures that are not easily measured are not widely adopted for reporting purposes, even though they may be highly effective.

In Maryland, there are essentially two types of credits. First, the State allows special treatment for redevelopment under the Code of Maryland Regulations (COMAR). As explained in the State's Stormwater manual, the COMAR policy for redevelopment specifies a 20% reduction in impervious surface area below existing conditions. Because this may be impractical due to site constraints, the Maryland Department of Environment requires the use of BMPs to meet the equivalent in water quality control of a 20% decrease in impervious surface area.

Chapter Five of the Stormwater manual contains several practices that can receive credits. Certain credits can be assumed to fully meet the requirements (for example Credit 6, Environmentally Sensitive Development, is assumed to meet all water quality volume requirements). Others allow a reduction in impervious area for purposes of designing best management practices.

Credit 1. Natural Area Conservation
Credit 2. Disconnection of Rooftop Runoff
Credit 3. Disconnection of Non-Rooftop Runoff
Credit 4. Sheet Flow to Buffers
Credit 5. Open Channel Use
Credit 6. Environmentally Sensitive Development

A credit policy may help Ventura in several areas: (1) to initiate a RPAMP, (2) for non-RPAMP redevelopment projects that have other beneficial attributes, (3) for individual

new development projects, and (4) for large scale new development on a compact footprint that otherwise cannot meet the 5% EIA requirements. Likewise, the cities could develop Ventura-specific credits to stimulate and mainstream the use of certain BMPs or address critical pollutants. The list above is heavily geared towards greenfields development. Ventura could add a credit list for urban areas that addresses the benefits of "smart growth" development and redevelopment otherwise not recognized in standard runoff models and compliance reporting formats.

On the plus side, credits are often easier to administer than alternative compliance, since the presumption is granted early in the site design and approval process.

The word "credit" also implies beneficial aspects. However, given the stringency of the permit, credits may be viewed negatively by stakeholders wishing to maximize BMP performance at each and every site.

Conclusions

The draft permit has tremendous potential to shape the environmental effects of development and redevelopment, not only for individual sites, but for entire watersheds as well. The draft permit represents the latest evolution of NPDES permit requirements, including the recognition that stormwater is at the base of managing watershed health, recharging drinking water supplies, supporting recreational areas, supporting habitat, and reducing flood damage. This full array of water resource protection relies, however, on assessing and managing stormwater at several scales, from the watershed down to individual sites.

The draft permit's focal point is impervious surface, which is widely acknowledged as a major factor in the ultimate degree of stormwater impacts. The size of the imperviousness and the extent of connections among impervious roofs, parking lots, streets, and gutters influences the ultimate volume of stormwater, the pollutants contained in the runoff, and the rate of flow into receiving waterbodies. Thus, the first consideration for any new development or redevelopment site plan is keeping effective impervious surface at or below 5%.

While the draft permit includes other considerations, such as smart growth and housing, the legal reality is that they are non-binding due to their position in the draft permit's "Introduction" section. Instead, the sole focus for regulatory compliance is what happens within the boundaries of individual projects. Unfortunately, the main driver of watershed impairment emanates from impervious-generating development patterns, which can only be addressed at a larger scale of assessment, design and implementation.

While the RPAMPs are a good idea and support the assessment of a larger scale of development, the development reality is that the draft permit makes sustainable options more difficult, even as highly dispersed development is poised to become easier to undertake, and in some instances, less expensive.

Note that redevelopment projects not included in an RPAMP are treated as equals in the eyes of the draft permit. Redevelopment of a one-acre parking lot is essentially the same as new development of one acre of a forest, as long as the impervious surface and hydromodification formulae are met (and in the case of TMDLs, water quality measures).

This does not mean that setting the environmental "bar" high is not a good idea. In fact, technology, landscaping trends, and site design options are constantly evolving to meet the challenge of treating and holding more stormwater on site. However the promise of the permit will not be met unless its provisions are linked to broader planning and management efforts underway in Ventura County. EPA documents have noted that a good comprehensive plan is the first and best BMP.

Fortunately, the linkages are available. As with many other NPDES permitting structures, the ability to provide credits, alternative compliance schemes, and innovative methods to assess watershed-wide imperviousness are not only accepted, but encouraged. As such, this White Paper includes examples and possible applications for Ventura County, which will inform the next steps in the project:

- Shaping a workable option through the RPAMP process, which may include a pilot or demonstration project.
- Shaping an alternative compliance program.
- Shaping a credit program similar to Maryland's to form a useful and easily-implemented process that recognizes the watershed benefits of land planning and smart growth techniques, which are not readily inserted into conventional site-based runoff models.
- Shaping programs for new development that result in better planning and watershed outcomes simultaneously.

The permit has tremendous power to shape future development outcomes to the benefit of water quality and other environmental values. However, these outcomes may be lost if the permit is not synchronized with broader planning and management efforts ongoing in Ventura County, and if the permit does not institute BMPs across more than one (site) scale of planning and development. This paper is intended to provide a basis for this alignment to ensure the most beneficial outcomes are reached in bridging water and planning.

LGC welcomes the opportunity to work wih the Regional Board and partners in Ventura County to develop mechanisms (e.g. measurement and performance criteria) for instituting an array of BMPs that fit needs at site, neighborhood, district, and regional scales.